Understanding and supporting the flood recovery process

FCRM Research and Development Programme research report

Environment Agency

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Executive summary

This research examines how affected communities experience flood recovery and to what extent institutional recovery arrangements provide support to those communities.

Background and context

Flooding has significant and long-lasting effects on individuals, communities, businesses, and local economies across England and Wales. As climate change increases the frequency and severity of flood events, there is growing recognition of the importance of effective recovery alongside established flood risk management activity. Within the flood and coastal erosion risk management (FCERM) framework, recovery supports the ability of people, places, and economies to function following flooding. However, there remains limited consolidated evidence on how recovery is experienced in practice and how the institutional support aligns with longer-term recovery processes.

This research project, commissioned by the Environment Agency and conducted by Eunomia Research & Consulting in partnership with the National Flood Forum, examines how individuals and communities, experience flooding, and institutions respond to flooding, with a concentration on identifying opportunities to enhance support mechanisms and recovery outcomes. The study addresses a fundamental gap in understanding between institutional flood recovery processes—the formal activities undertaken by organisations to mitigate flood impacts—and the actual lived experiences of flood-affected communities. While institutions concentrate on procedures, plans, and statutory responsibilities, communities face complex, long-term challenges that extend far beyond the immediate emergency response phase.

Research approach

The study adopted a multi-stage approach, combining evidence review and qualitative research. This included:

- a systematic review of over 100 academic and non-academic literature sources
- interviews with 10 national stakeholders from government, local councils, and non-governmental organisations
- in-depth case study research in 4 locations in England: Sparkhill, Bewdley, Stockdalewath, and Looe

Case studies involved a mix of interviews and focus groups with residents, business owners, and local stakeholders. The analysis focused primarily on recovery processes within one to two years following flood events.

Main findings

Recovery as a prolonged process: flood recovery is not experienced as a discrete or linear phase but as a prolonged process extending well beyond the emergency response period. Recovery involves sustained practical, emotional, and administrative work, including managing repairs,

navigating insurance and grant processes, and re-establishing everyday routines. For many, recovery lacks a clear endpoint, particularly in areas affected by repeated flooding.

Adaptation rather than return to normal: for many individuals and communities, recovery is characterised by adaptation rather than a return to pre-flood conditions. Flooding can result in lasting changes to perceptions of home, place, and future risk, as well as changes to behaviour and livelihoods. In areas with frequent flooding, adaptive responses have become normalised, though cumulative emotional, financial, and social impacts remain.

Uneven effects and recovery experiences: flood effects and recovery experiences vary significantly across social groups and places. Evidence indicates that low-income households, tenants, rural communities, and some minority communities often face longer recovery times and greater barriers to accessing support. Mental health impacts are widespread and persistent, with anxiety and stress frequently reported long after physical repairs are completed. Business owners experience distinct recovery challenges, including loss of income, disruption to trading, and insurance complexity, affecting local economic recovery and place-based resilience.

Institutional support: strengths and gaps: the research identified examples of effective institutional practice, including improved multi-agency coordination, faster activation of recovery arrangements in recent flood events, increased insurance affordability through Flood Re, and growing uptake of property flood resilience measures through the Build Back Better scheme. Where recovery support works well, it is typically characterised by clear coordination, visible institutional presence, accessible points of contact, and engagement beyond the immediate response period.

Despite this progress, persistent gaps remain, including fragmented communication, complexity and perceived inequity in grant eligibility, inconsistent provision for mental health support, variable approaches to resilient repair, and limited visibility of business recovery within wider recovery frameworks.

Overall conclusion

Flood recovery is a complex, long-term process shaped by individual circumstances, local context, and institutional engagement. While improvements in recovery support are evident, outcomes continue to vary across places and social groups. Recognising recovery as an integral component of FCERM, rather than a time limited activity, is important to supporting resilient outcomes for communities, businesses, and institutions.

1 Introduction

1.1 Background and context

Floods can be destructive to people and the natural environment, causing a wide range of social, economic, and environmental effects in both the short and long term. In the UK, individuals, communities, government bodies, non-governmental organisations (NGOs) and emergency services devote a significant amount of time preparing for, and responding to, floods to try and mitigate the effects. With flooding set to increase in the future due to climate change, improving the flood recovery process is an important goal in both the English and Welsh FCERM strategies. This project aimed to explore understandings and experiences of the flood recovery process at individual, community and institutional levels (see Glossary for full definitions), and identify how institutions such as the Environment Agency and local authorities, who have statutory responsibility for a wide range of localised risks, could better support these processes. In particular, the project had an emphasis on the recovery processes within 1 to 2 years after the flood. While the original concentration on community wellbeing and mental health was still a part of the research, it did not play as big a role as anticipated. To concentrate more closely on those processes would require a more detailed health effects emphasis.

1.1.1 Locating recovery within a wider framework of resilience and adaptation

To locate flood recovery within the wider work of resilience and adaptation to climate change connects the work of recovery to change and future thinking. It should also encourage adaptive resilience 'bouncing forward'. In previous work, members of the project team (Twigger-Ross and others, 2019; 2015) have used Cutter and other's (2010) Disaster Resilience of Place (DROP) model to describe disaster resilience, adaptation and its relation to recovery. This is presented as Figure 1:

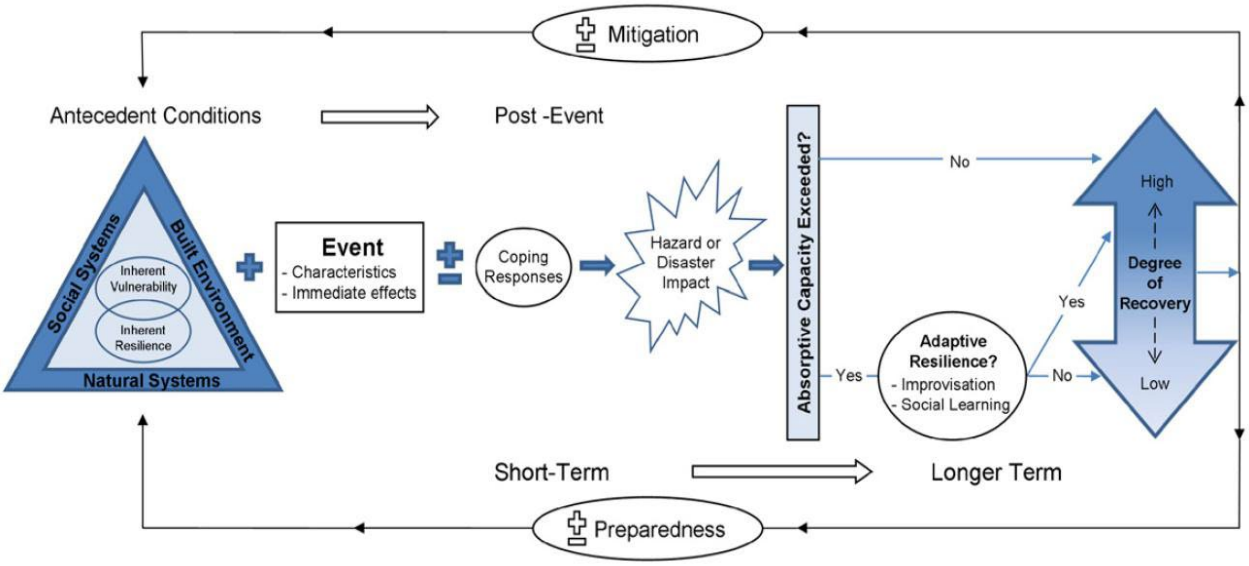


Figure 1: Schematic representation of the disaster resilience of place model (Cutter and others, 2010, p.602)

Figure 1 illustrates a model of disaster resilience of place, beginning with antecedent conditions shaped by social systems, the built environment, and natural systems, which together define inherent vulnerability and resilience. These conditions interact with a hazard event and coping responses to determine the overall disaster impact, which varies depending on the type of hazard. The model then assesses whether absorptive capacity, the ability of systems to maintain function, is exceeded. If capacity is not exceeded, recovery is typically high. If it is exceeded, adaptive resilience emerges during the event through improvisation and social learning. Following the event, the resulting degree of recovery (high or low) influences both short- and long-term actions: strong recovery supports mitigation, while weaker recovery necessitates greater preparedness. Importantly, adaptive resilience contributes to both preparedness and mitigation by embedding lessons learned during the recovery phase. The model therefore emphasises a dynamic feedback loop, where post-event processes continually reshape future vulnerability and resilience.

This report provides a review of evidence against the research questions. This allows us to consider how different aspects of the formal flood recovery process offered by institutions and organisations and the work of individuals and communities help or hinder recovery.

1.2 Research aims and objectives

The aim of this research was to understand and suggest how to improve the flood recovery process in England and Wales. We looked to do this by examining how individuals, communities, and institutions experience and respond to flooding. We also wanted to identify opportunities to enhance support mechanisms and outcomes.

We designed the project to achieve 3 objectives:

Objective 1: Examine the existing recovery process. Analyse evidence from systematic review, stakeholder interviews and case studies to help identify flood recovery processes for individuals and communities, their strengths and weaknesses, and how they can be used in combination with other flood and coastal erosion risk management actions.

Objective 2: Identify processes to support affected individuals and communities. Explore the flood recovery process across different regions in England through primary research with national stakeholders and local case studies, with particular concentration on processes that support resilience, health, and wellbeing.

Objective 3: Determine actions and resources required for improvement. Produce evidence-based suggestions, identifying ways to improve flood recovery across the whole spectrum of activities. These could help enable individuals to receive the support they need after flooding so they can resume their lives more effectively.

1.2.1 Research questions

The research question for this project was: How can we improve understanding of the flood recovery process in England and Wales and better support it to improve outcomes for individuals, communities, and institutions?

This was addressed through several sub-questions.

What do we understand as recovery?

Exploring different conceptualisations and definitions of flood recovery from institutional, community, and individual perspectives.

What evidence is there around existing institutional support for flood recovery?

Examining the types, effectiveness, and limitations of current interventions and support mechanisms.

How do communities recover from floods?

Understanding the effects of flooding on different groups and the strategies people use to cope with and recover from these effects.

What are the gaps in understanding of community flood recovery processes and institutional support?

Identifying knowledge gaps that limit effective recovery support.

What are the gaps in the offer between institutional support and community flood recovery processes?

Highlighting mismatches between community needs and available institutional support.

1.3 About this report

1.3.1 Purpose and scope

This final report presents the comprehensive findings from a multi-stage research project examining flood recovery processes in England and Wales. It combines evidence from systematic literature review, national stakeholder interviews, and detailed case study research to provide theoretical understanding and practical insights into how flood recovery works and how it can be improved. The time periods considered when gathering evidence include 2018 to 2025 for the primary research, and 2008 onwards for secondary research.

The report addresses the needs of multiple audiences, including decision makers, practitioners, researchers, and community organisations involved in flood risk management and recovery support. It provides evidence-based suggestions for enhancing flood recovery processes, while recognising the complex, varied, and long-term nature of recovery experiences.

1.3.2 Report structure

The report is organised into 8 main sections:

Section 1: Introduction establishes the context, research aims, and structure of the report.

Section 2: Methodology details the multi-stage research approach, including evidence synthesis, stakeholder interviews, and case study methods, along with their limitations.

Section 3: Understanding flood recovery presents conceptual foundations, exploring what recovery means and how it is experienced as ongoing 'work', a lengthy undefined process, and adaptation rather than return to normality.

Section 4: Current institutional support examines existing flood recovery interventions, identifying where they work well, their challenges and limitations, and how communities engage with institutional processes.

Section 5: How communities recover explores the effects of flooding on individuals, businesses and communities, differential experiences across social groups, and community-led coping strategies.

Section 6: Gaps between institutional support and community needs highlights a mismatch between what communities need and what institutions provide, with gaps in communication, coordination, rebuilding support, mental health care, social network support, service consistency, children's needs and the integration of resilience measures with insurance.

Section 7: Gaps and opportunities identify limitations in current data and understanding of flood recovery, identifying key gaps in evidence particularly around long-term outcomes, vulnerable groups, and system effectiveness and setting out opportunities to improve data, learning, and future policy, strategy and practice.

Section 8: Suggestions for future research proposes important research priorities, including evaluating local council recovery practices, conducting long-term studies, examining financial and insurance barriers, and improving engagement methods with flood-affected communities.

Section 9: Conclusion summarises main findings and their implications for future flood recovery policy, strategy and practice.

1.3.3 Intended audience and use

This report is designed for:

- decision makers at national, regional, and local levels involved in flood risk management and recovery planning
- practitioners, including emergency responders, local council staff, NGO workers, and community development officers
- researchers studying disaster recovery, community resilience, and flood risk management
- community organisations and flood action groups seeking to understand and improve local recovery processes
- insurance sector and private sector actors involved in flood recovery support
- voluntary sector organisations involved in flood recovery

The findings are intended to inform policy and strategy development, improve practice, guide future research priorities, and support more effective flood recovery processes that better meet the diverse needs of flood-affected communities.

2 Methodology

This research employed a multi-stage approach to investigate the flood recovery process, combining evidence synthesis, stakeholder engagement, and case study research to develop an understanding of how flood recovery works in practice and how it could be improved.

2.1 Stage 1: Evidence analysis

2.1.1 Systematic mapping review

The first stage involved analysing evidence the Environment Agency had gathered through a systematic mapping exercise. This aimed to identify and collate published evidence of the deficiencies and effectiveness of the flood recovery process in England and Wales. This exercise identified 110 records according to the guidance set out by the Collaboration for Environmental Evidence (CEE) (Environment Agency, 2023). This followed a clear protocol with search strings and eligibility criteria. We searched Scopus, Science Direct and Environment Complete academic databases, together with grey literature. We used an Excel document to structure the analysis, drawing out common themes from the evidence identified according to the project research questions. Figure 2 shows the search process.

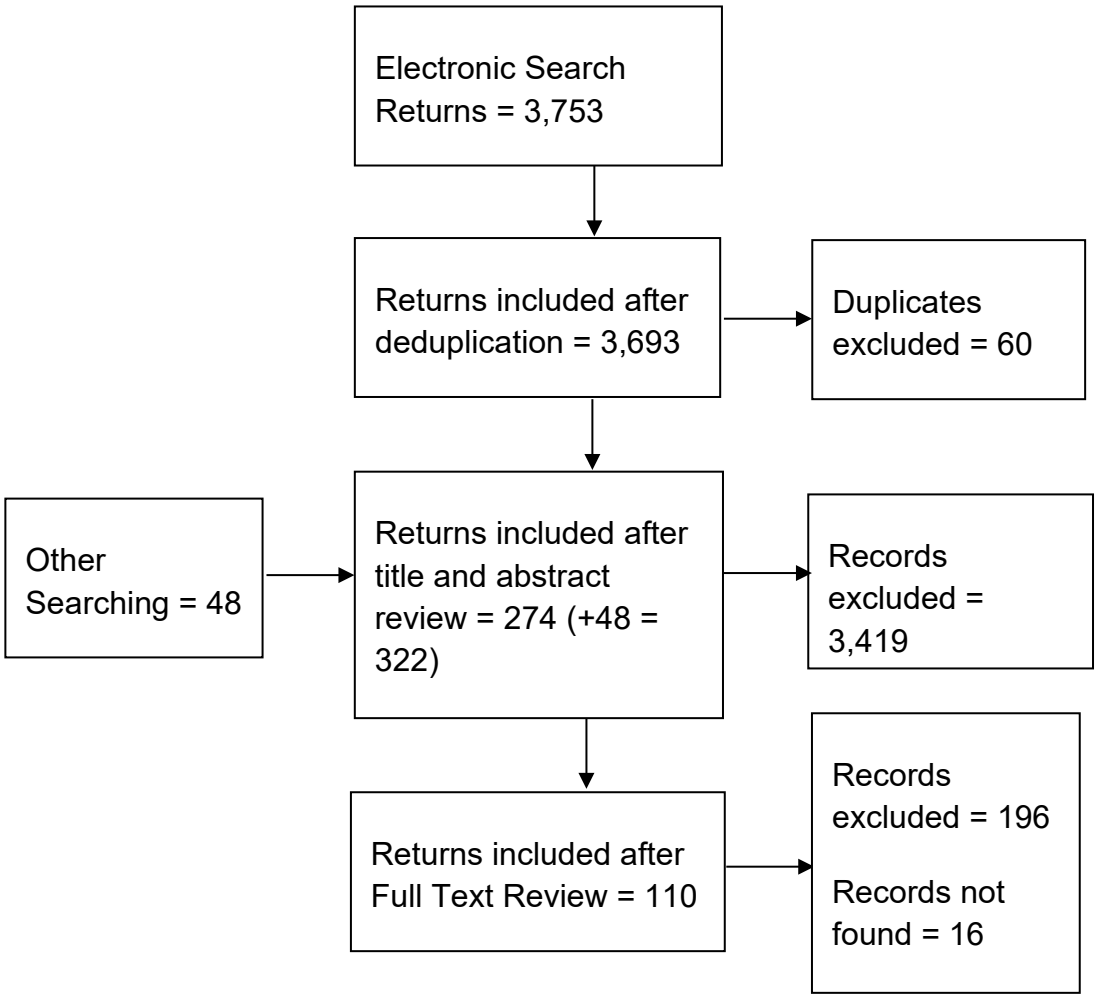


Figure 2: Summary of search results and study selection process

Figure 2 is a flow diagram of the literature search and study selection process. It shows that an initial 3,753 records were identified through electronic searches, that was reduced to 3,693 after removing duplicates. Following title and abstract screening, 322 records were retained and 3,419 excluded. After full text review, 110 studies were included following full text review.

2.1.2 Additional literature review

To supplement the initial evidence analysis from the systematic mapping report, we carried out an in-depth review of selected papers. We did this in 2 ways, through:

- a concentrated examination of main sources: a detailed review of 13 significant sources from the systematic mapping report (See Appendix 1), selected based on their frequent citation and strong relevance to the research questions
- an online literature search: using Google Scholar and Science Direct to identify 44 new relevant sources, guided by search strings developed to target specific topics (See Appendix 2)

Selection criteria for the online literature source included avoiding duplication with the systematic mapping report; peer-reviewed status; publication date (after 2019, to limit papers to the previous five years); relevance to identified themes and gaps; and a UK focus. Out of the 44 unique sources identified in the literature search, we reviewed 14 in more detail (in addition to the detailed review of 13 from the systematic mapping report). This 2-pronged approach allowed us to look deeper into important existing literature and to incorporate newer research to provide a comprehensive and up-to-date evidence base.

2.2 Stage 2: Stakeholder interviews

2.2.1 Participant selection and recruitment

We interviewed 10 national stakeholders in the flood recovery process, from local councils, government departments, NGOs and the private sector. To ensure representative coverage, the project team consulted the Project Board and internal experts to select stakeholders from different types of organisations, including:

- Defra
- Ministry of Housing, Communities and Local Government (MHCLG)
- local councils
- research institutions
- NGOs (Communities Prepared)
- Flood Re
- Natural Resources Wales
- UK Health Security Agency (UKHSA)
- Regional Flood and Coastal Committees (RFCC)

Natural Resources Wales was the only Welsh-specific organisation we interviewed. However, UK-wide organisations such as UKHSA provided relevant contributions applicable to all nations.

We initially contacted potential participants using a project information leaflet (see Appendix 3). This outlined the research objectives, their role in the study, and what participation would involve.

2.2.2 Interview process

The interviews averaged 45 minutes and followed a consistent interview schedule, covering:

- the interviewee's experience and knowledge of flood recovery processes, including their effects on communities, effectiveness of current interventions, and areas for improvement
- long-term effects of flood recovery on community wellbeing and mental health, and potential ways to enhance support
- gaps in current knowledge about flood recovery processes and areas requiring further research or attention
- the role of the interviewee's organisation in flood recovery, including coordination with other organisations, challenges faced, and innovations being developed

Before conducting interviews, all participants provided informed consent using a standardised consent form (see Appendix 4). The interview guide we used for all stakeholder interviews is provided in Appendix 5.

With participants' consent, we recorded all interviews and took notes. The interviews provided crucial insights into flood recovery processes and institutional support from various stakeholder perspectives, offering tangible examples of both effective practices and challenges.

2.2.3 Analysis of interview data

Interview analysis used the qualitative data analysis software Dedoose, allowing us to apply more than 60 codes across themes or gaps categorised into high-level thematic codes (for example, what needs improvement) and more specific codes (such as evacuation procedures, mental health support). This approach allowed us to extract the main issues and trends from stakeholder experiences. We used a combination of pre-set codes and emergent codes for the analysis.

We kept information anonymous to meet internal GDPR processes and conditions set in the interview consent forms. We assigned interviewees codes 'I' for interviewee and a unique number (for example, I1, I2).

2.3 Stage 3: Case study research

The case study research aimed to provide evidence of local experience of flood recovery processes, building on insights from the previous stages. We defined 3 focused objectives:

1. Develop an in-depth understanding of what the flood recovery process looks like in practice, with special attention to the timing of negative effects and measures to address them.
2. Better understand what factors might influence the success or failure of flood recovery processes by analysing 4 case studies with different characteristics.

3. Recognise the diversity of experiences and perspectives of the flood recovery process, including affected residents or business owners and local stakeholders.

In this research, ‘local stakeholders’ specifically refers to staff from public or community organisations that were involved in supporting the recovery process. It does not include private sector organisations such as insurance companies.

2.3.1 Case study research questions

Building on the objectives and main research question outlined above, we developed the following research question and 6 sub-questions to guide the case study inquiry and analysis:

What does the flood recovery process look like for local stakeholders and members of the community across different contexts?

Sub-questions

What are the main effects of flooding (housing, critical infrastructure, health, economic, social disruption) on residents and businesses – who are the most affected and why?

What measures (recovery versus resilience measures) are put in place to address these effects?

Who is responsible for implementing these measures?

What does the recovery process look like over time (from handover from response to recovery until one-year post-flood) – can different stages be identified in terms of measures and stakeholders involved?

Which measures have proven more effective – why and for whom?

Which measures have been less effective – why and for whom?

2.3.2 Case study selection

Working with the Environment Agency, we developed criteria for selecting 4 case studies. We developed a matrix for the final selection of the case studies, to predict contrasting results (for example, successful versus unsuccessful flood recovery process) but for foreseeable reasons (for example, strong versus weak institutional support; protected versus unprotected area; presence versus absence of flood action group; insurance uptake versus lack of insurance). We chose the 4 case studies to present a range of experiences, and the selection criteria included geographic and social criteria, such as type of flood and level of deprivation.

Due to practical and ethical considerations, all case studies were located in England, and in only one was it more than 2 years since it had experienced a flood. The case study selection process was carefully considered, guided by multiple criteria and local insights from Environment Agency teams. Based on advice from local teams, the research team decided against engaging with flood-affected residents in certain areas to ensure a respectful and balanced approach, recognising the complex and sensitive nature of flood recovery and the vulnerabilities of those affected. We also discussed these considerations in steering group meetings.

While we recognise the importance of including diverse geographical areas, including recent flood recovery challenges in eastern England and the growing significance of groundwater flooding, the comprehensive evidence review and stakeholder interviews conducted as part of this research included studies and perspectives from these broader contexts.



Figure 3: Location of case studies

Figure 3 is a map of England showing the geographical distribution of the selected case study locations. The sites are Stockdalewath (Cumbria), Sparkhill (Birmingham), Bewdley (Worcestershire), and Looe (Cornwall). They are marked to illustrate coverage across the north, Midlands, and south-west, reflecting a range of flood risk contexts.

The case studies and the criteria against which they were selected is detailed below.

Sparkhill (Birmingham)

Urban or rural: urban.

Type of flooding: river and surface water.

Level of deprivation: most (1st to 2nd).

Previous flood: May 2018.

Level of future risk: medium.

Social Flood Risk Index: extreme (river and surface water flooding). The Social Flood Risk Index measures the combined exposure, vulnerability, and lack of capacity of communities to cope with flooding, highlighting areas where social factors amplify flood risk.

Neighbourhood Flood Vulnerability Index: very high or acute. The Neighbourhood Flood Vulnerability Index quantifies how likely residents within a local area are to suffer loss of wellbeing if flooding occurs. It combines flood exposure with factors like social, economic, and infrastructural vulnerability to assess community-level risk.

Flood group in place: yes, but not active,

Bewdley (Worcestershire)

Urban or rural: peri-urban

Type of flooding: river and surface water.

Level of deprivation: 5th.

Previous flood: January 2024 and October 2023.

Level of future risk: high.

Social Flood Risk Index: moderate (river) and extreme or very high (surface water flooding).

Neighbourhood Flood Vulnerability Index: average or relatively high.

Flood group in place: yes.

Stockdalewath (Cumbria)

Urban or rural: rural.

Type of flooding: river and surface water.

Level of deprivation: 7th.

Previous flood: May 2024.

Level of future risk: medium (river) and low (surface water).

Social Flood Risk Index: UK average.

Neighbourhood Flood Vulnerability Index: relatively low.

Flood group in place: no.

Looe (Cornwall)

Urban or rural: coastal.

Type of flooding: sea and surface water.

Level of deprivation: 4th.

Previous flood: October 2023.

Level of future risk: high.

Social Flood Risk Index: UK average.

Neighbourhood Flood Vulnerability Index: relatively low or average.

Flood group in place: unknown.

2.3.3 Data collection methods

For each case study, we used 3 methods to collect data. These were:

- a desk-based literature review to understand the context
- semi-structured interviews with local stakeholders (lasting 45 to 60 minutes, with 2 to 3 interviews per case study area)
- focus groups (2 hours, with planned 2 sessions per case study area, held on the same day)

To ensure comprehensive understanding of both institutional and individual experiences, we collected data from local stakeholders and community members (residents or business owners), with separate sessions for each group. We invited participants to join an in-person focus group held locally or to opt for an individual interview (carried out in-person, over the phone, or online) where people had limited time.

We ran focus groups using a structured facilitation plan developed specifically for this research (see Appendix 6). This ensured consistency across all case study locations, while allowing us to adapt to the local context or situation.

The aim of drawing from a diverse range of flooding contexts for the case studies (urban or rural, type of flooding, deprivation level and so on) was so we could learn lessons for other locations with similar contexts to a specific case study location. However, we would advise against lessons from

a specific case study location being applied generally. Remarkably well integrated community level response and recovery processes in Looe, for example, are a consequence of a relatively unique geographical and historical context, as well as the nature of the flooding itself. As a result, we do not necessarily expect similar levels of preparedness from other at-risk communities.

2.3.4 Recruitment and participation

Recruitment was supported by local Environment Agency staff and the National Flood Forum (NFF), who acted as gatekeepers. However, there were challenges when recruiting residents for the focus group participants' challenges. These included:

- language and cultural barriers (notably in Sparkhill)
- high resident turnover
- absence of local flood groups
- lack of interest
- engagement fatigue

When recruiting stakeholders, challenges included:

- lack of response to emails and calls
- difficulties identifying relevant staff members
- staff turnover
- lack of interest and willingness

As a result, only 3 focus groups were held instead of the 8 originally planned. Focus groups were only carried out after the research team had become familiar with the case study through archival research and interviews.

Participant numbers by location and data collection method were as follows:

- Sparkhill (Birmingham), we carried out interviews with 3 stakeholders and 2 community members, including one business owner
- Bewdley (Worcestershire), we carried out interviews with 2 stakeholders and 2 community members and held a focus group with 3 community members
- Stockdalewath (Cumbria), we carried out interviews with 3 stakeholders and 4 community members and held a focus group with 8 stakeholders
- for Looe (Cornwall), we carried out interviews with 10 stakeholders and held a focus group with 4 community members

2.3.5 Case study data analysis

We assigned a team member to each case study to lead data collection and analysis. We carried out thematic analysis using Dedoose software. We removed personal details from the data before analysis, giving each participant a unique ID based on location: BE for Bewdley, SH for Sparkhill, LO for Looe, and SDW for Stockdalewath.

After initial coding, the team met to discuss emerging themes and consolidate interpretation of codes to maintain consistency across case studies. Detailed case study profiles and findings are provided in Annex 1, which accompanies this report. This contains comprehensive documentation of the 4 case study locations, including context, impacts, responses, recovery measures, governance arrangements, challenges, and suggestions for improvement.

2.3.6 Integration and synthesis

We integrated the findings from all 3 stages - evidence analysis, stakeholder interviews, and case studies - to provide a comprehensive understanding of flood recovery processes. This multi-method approach allowed us to use a range of data, validate evidence from different sources, and develop well-thought-out suggestions for improving flood recovery support and processes.

The approach ensured both breadth (through systematic evidence review and national stakeholder perspectives) and depth (through detailed case study analysis) in understanding flood recovery, while maintaining focus on practical implications for policy, strategy and practice.

2.4 Limitations

Several limitations should be acknowledged in interpreting the findings of this research.

Evidence base limitations

The systematic mapping concentrated on academic peer reviewed literature and published grey literature. While we did not directly seek practitioner knowledge through the project methodology, primary studies in the synthesis did include some practitioner knowledge as evidence. The primary data came from the 4 case studies of specific flood events, meaning we were unable to apply the findings in a wider context.

Time-related constraints

The project's timeframe meant that only one case study (Sparkhill) examined recovery processes more than 2 years after flooding. This limited our ability to fully explore long-term recovery paths and outcomes, particularly given that recovery is understood to be a lengthy process that can last for years for some people affected by flooding.

Geographic limitations

All case studies were located in England, with no representation from Wales despite the project's intended England and Wales scope. This was due to practical constraints in identifying suitable Welsh case studies within the project timeframe, including a recent flood event. Despite this, it should be noted that we engaged with national and UK-level organisations over the course of the project, where much of the information provided would also be relevant for Wales.

Additionally, the case studies are not representative of all flood-prone areas in England, particularly given the diverse nature of flood risk and community characteristics across the country.

Participant recruitment challenges

We faced significant challenges in recruiting community members for focus groups, particularly in areas with high population turnover, language barriers, and absence of established community flood groups. This resulted in fewer focus groups than originally planned (3 instead of 8) and may have limited the diversity of community voices captured, particularly from harder-to-reach groups. This also resulted in lack of consistency of focus group participants across case study locations.

Stakeholder representation

While we made efforts to include diverse stakeholder perspectives at the national level, the sample of 10 interviewees, though representing main organisations, may not capture the full range of institutions involved in flood recovery. At the local level, the number of stakeholders we interviewed varied considerably between case studies, potentially affecting the depth of understanding in some locations as those interviewed could not represent the whole community. While insurance emerged as a significant part of the flood recovery process and was frequently discussed by participants, this study examined insurance from the perspective of flood-affected residents and communities rather than from the insurance industry's perspective. We did not interview insurance companies, loss adjusters, or other industry representatives to understand their processes, challenges, or perspectives on flood recovery support. This limitation means our findings reflect the lived experiences of those navigating insurance claims rather than a comprehensive assessment of insurance system performance or industry practices.

Timing of data collection

Some case studies involved data collection relatively soon after flood events (particularly Stockdalewath and Bewdley), which may have captured immediate responses and emotions rather than longer-term recovery experiences. On the other hand, the longer gap since flooding in Sparkhill may have been affected by recall bias.

Methodological constraints

The additional evidence gathering was constrained by time and resource, so we reviewed fewer documents than we retrieved from the search. In addition, while it was systematic, the same level of detail given to the systematic mapping report was not achievable. Relying on self-reported experiences and perceptions, while valuable for understanding lived experiences, may not capture all aspects of the recovery process. Additionally, while the qualitative nature of much of the data provided rich insights, it made it difficult for us to quantify impacts or make statistical generalisations.

Context-specific findings

The diversity of flood types, community characteristics, and local contexts across the case studies, while providing valuable comparative insights, also means that findings may be highly context-specific and not easily transferable to other locations or flood events.

Despite these limitations, the multi-method approach and using different data sources provide confidence in the main findings and their relevance for understanding and improving flood recovery processes in England and Wales.

3 Understanding flood recovery: concepts, processes and effects

This section addresses the research question: ‘What is understood as flood recovery by members of different groups’ Drawing on evidence from the evidence review, stakeholder interviews, and case study research, this section establishes the conceptual framework for understanding flood recovery. It does this by examining how different stakeholders - institutions, communities, and individuals - interpret and experience the recovery process.

In reviewing the Environment Agency Flood and Coastal Erosion Risk Management (FCERM) strategy (Environment Agency, 2020) and the subsequent roadmap (Environment Agency, 2022) ‘flood recovery’ and ‘flood recovery process’ are not used. However, there is a focus on recovery within the strategy. Strategic objective 3.3 concentrates on recovery stating:

“Between now and 2030 people and businesses will receive the support they need from all those involved in recovery after flooding so they can get back to normal quicker after flooding”. (Environment Agency, 2020, p 102).

This emphasises 2 aspects: a) getting back to normal and b) speed of recovery. In the associated Measures 3.3.1 to 3.3.3 this emphasis is repeated, together with a recognition of the mental health impacts of flooding and longer-term recovery planning. In terms of who is involved, it mentions the insurance sector, public health and third sector, alongside local authorities and the Environment Agency.

‘Recover’ is then presented in the FCERM strategy as one of the 4 parts of resilience in places with the following description: Recover.

Recover quickly: getting back to normal and building back better – helping people and local economies recover more quickly by clearing up damages, returning water and power supplies or draining floodwaters from farmland. Recovery should also include building back better so that properties and infrastructure are more resilient to future events.

Overall, from these statements, flood recovery concentrates largely on the direct effects of flooding, which is largely physical damage, with recognition of rebuilding so that a future flood will not cause so much damage.

The Environment Agency’s systematic mapping report, which the evidence review of this project is built on, defines flood recovery as “the full range of procedures, plans and activities set down in English law, guidance, policy and best practice that, between them, aim to retrospectively reduce or remediate impacts of a flood event.” (Environment Agency, 2023, p.8). This definition was developed just for the mapping exercise and is not an official Environment Agency definition. In addition, it later recognises the recovery process as “being key to communities’ ability to respond to a climate shock" (Environment Agency, 2023, p.8). This definition of flood recovery concentrates on the areas the Environment Agency has control over, including official procedures, plans and activities. It emphasises the reduction or remediation of effects from flooding and highlights the thread from legislation through to practice which the Environment Agency oversees. In practice,

this will involve Environment Agency staff liaising with local councils and attending flood surgeries or providing advice on disposal, for example, of silt. Looking beyond the Environment Agency as being crucial in enabling recovery from flooding, other institutions and organisations have important roles to play.

Lead Local Flood Authorities (LLFAs) are the statutory lead authority on the ground for recovery after a flood event. Their remit is to coordinate the flood recovery process, which will involve organising the cleanup of areas, providing information, and distributing grants. For individuals who have insurance an important organisation will be their insurance company and the subsequent professionals (for example, loss adjusters, builders) who are involved in supporting the recovery of buildings. As well as those public and private organisations that have obligations to provide support, there are NGOs, for example, the British Red Cross and National Flood Forum who play important roles in recovery from flooding.

Figure 4 is a diagram showing the range of organisations and how their actions take place over time and interact with an individual's timeline. The x-axis is a timeline according to flood recovery stage, starting and finishing with preparation. The y-axis indicates individual recovery as conceptualised by the British Red Cross (2015), with the top end of the scale representing progress and the bottom end of the scale indicating difficulty. The rectangles present institutional support types, with the shading indicating the organisation type, and the length indicating the duration of time support available based on publicly available information.

In addition to these boxes, a line has been plotted according to an individual recovery experience identified by the British Red Cross (2015). The red dotted lines represent how this experience is highly individual and can vary significantly, with some individuals experiencing both progression and regression throughout the process and at different stages. The diagram aims to visualise types of institutional support available during flood recovery, including by whom, and at what stage, compared to the individual experience of recovery. This figure was tested with stakeholders and residents through webinars.

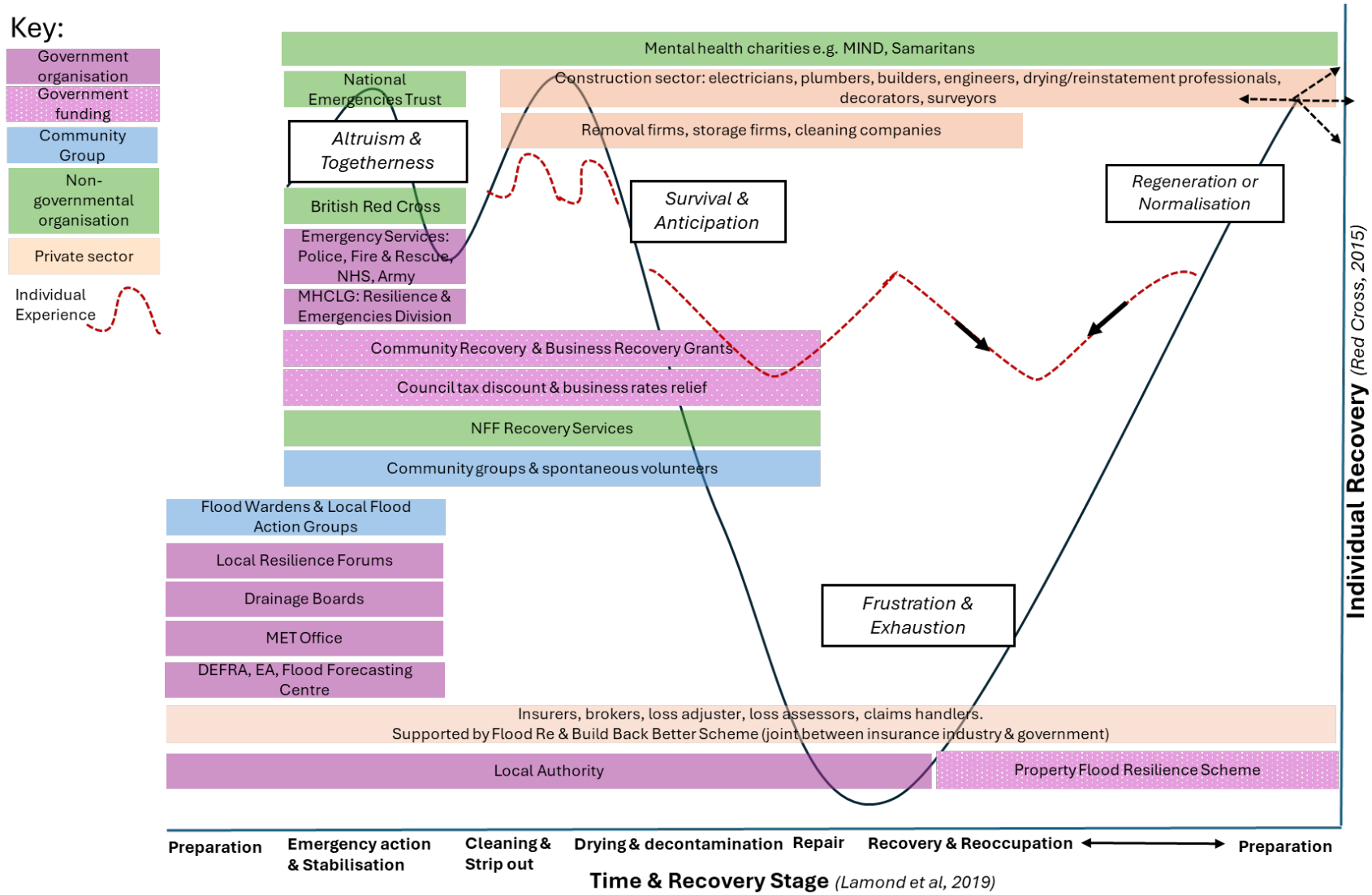


Figure 4: Main forms of support during flood response and recovery

Defining recovery in terms of organisational processes can give an indication that there is an accepted, identifiable set of practices associated with managing or dealing with the effects of flooding that is both normative (what 'ought' to happen) and known to all stakeholders. However, the analysis found that understandings differ and can be contested between institutions, researchers and members of the public.

We discuss 3 characteristics associated with flood recovery in the following sections. These insights from the literature are then validated and enriched through findings from our 4 case studies (Sparkhill, Bewdley, Stockdalewath, and Looe). These demonstrate how these conceptual understandings manifest in real-world recovery experiences across different geographic, social, and economic contexts.

3.1 The 'work' of individuals after institutional support has ended

The evidence analysis identified recovery for individuals and communities as a process, where hands-on emergency support from public authorities and agencies diminishes, and less well-defined services provided by the private sector (for example, insurers), charitable organisations (such as mental health charities), community groups (for example, churches), and individuals remains or begins (Adger and others, 2018). This is interpreted as the start of the recovery process, as households manage their own recovery and coordinate the actions of others. This includes liaising with insurers, who together with the householder organise repair works. This differs from flood management, which has long been dominated by centralised decision-making and scientific expertise (Puzyreva and others, 2022).

Medd and others (2015) identified that individuals can face a lot of work during recovery, which many are ill-equipped or unable to manage independently. Medd and others (2012) emphasise how this work can be experienced through emotional, physical and practical forms, with examples including managing contractors; handling personal and family emotions; developing new skills and knowledge; and recreating the meaning of home. Doing this work while continuing everyday life and fulfilling pre-existing responsibilities, has been identified by several authors as the most challenging aspect of flood events, to the extent that it has been metaphorically termed 'the fight' (Davies, 2015; Whittle and others, 2016, p.65). As a result of this work, the process is identified by some authors as a 'recovery gap', whereby the support required by households is not matched by the institutional support available (Environment Agency, 2010).

Exploring these forms of work can provide a more nuanced understanding of what recovery is, what it involves, how long it can be, and how it can be experienced emotionally and practically across social groups. In particular, it can highlight vulnerabilities in the recovery process, as people have differing capacities and willingness to 'fight' and undertake this recovery work, such as older residents (Whittle and others, 2010).

3.2 A long process with an undefined end

A second characteristic associated with flood recovery is its temporal scale, being slow and long, without a defined endpoint. This is in contrast to organisational processes which are likely to have

a fixed timescale, for example when a grant is available. Mort and others (2016) identified, through children's experiences of floods, that recovery does not end when people move back into their homes or when repairs are finished. The social and psychological work of 'getting back to normal' takes longer. Instead, it can take months or years. Partly, this is explained by recovery being characterised by a series of setbacks rather than a process of continual improvement. This can be due to issues and complexities with insurance providers, builders and family members, for example. The lived experience of this was highlighted by diarists in Medd and other's (2015a) study, where one participant associated recovery with a game of snakes and ladders.

The slow and long nature of recovery can also be attributed to the emotional work involved. Building back lives, homes, place meanings, and relationships are weighted with emotions. This includes the process of coming to terms with what is 'normal' and where is 'home' or navigating fear and uncertainty about future floods (Sims and others, 2009; Adger and others, 2018). These emotional responses can be complex, drawn-out and highly individual, making the point at which recovery is considered complete, largely subjective and ultimately, undefinable (Medd and others, 2015).

While it can be difficult to define when recovery has ended, it is also true that the time progression of recovery can vary significantly within a community. People make progress at different speeds, with some still being in restoration phases, while others have progressed further along the recovery process (I3). To have recovered was also described as having returned to a sense of 'normality' and to carry out everyday activities (I7). However, this too is relatively undefined, with the terms 'normality' and 'everyday' highly personal and subjective terms.

In addition, teasing out the difference between response and recovery can be challenging. A local council representative (I9) gave the example of how emergency response teams that are set up during the response phase are the same as those involved in recovery, with very little distinction in their processes. However, how recovery is defined can affect who is involved and where support comes from; a representative of the Ministry of Housing, Communities and Local Government (MHCLG) (I4) suggested that there is misunderstanding about what support government gives (for example, funding) at different points in the flood recovery process and that this could be made clearer, for both communities as well as local councils.

Nonetheless, the effect of flooding on mental health in particular, can be an aspect of recovery that takes the longest. One expert (I7) described how the mental health impacts can be inter-generational. They gave the example of how children in Hull who were not alive during the worst flooding are still affected by adults' responses to water.

3.3 A process of adaptation rather than a return to normality

A third characteristic of flood recovery is that it is better represented as a form of adaptation, rather than a return to normality. This is a finding consistent with other disaster research, where the process of rebuilding life after an event can involve adjusting to a new sense of home, normality, and future, as well as new relationships and routines, rather than returning to life as it was before the flood (Whittle and others, 2016). This can be because many aspects of everyday life are fundamentally changed after a flood (Sims and others, 2009).

A poignant example, cited regularly in the literature, is a changed sense of home. Whittle and others (2010, p.93) explain how a home grows with its inhabitants over time, contributing to a "stamp of individuality that makes it unique and special to the people concerned". For those who move home after a flood, or have extensive repairs, or lose special memorabilia (or people), the process of recovery involves remaking place meanings. For example, in a house where everything is new, the recovery process involves developing attachment, memories and meanings to a new place, which build gradually over time – far beyond the point at which physical repairs are finished. The process can raise questions over what is 'normal' and involve psychological challenges in the acceptance that the home is somewhere fundamentally different, by both feeling and looking different, and potentially including different people to before (Whittle and others, 2016).

The changes associated with rebuilding a home, both physically and emotionally, can result in broader forms of change, such as revised perceptions of the future; altered awareness and feelings towards risk, weather, and change; new skills and interests; and a changed sense of personal resilience (Whittle and others, 2010). This represents a process of long-term readjustment and adaptation, which can operate at individual, community, and broader socio-economic scales. Easthope and Mort (2014) illustrate how the recovery process can become a form of social change. In turn, Sims and others (2009) highlight the inappropriateness of disaster recovery templates which emphasise the importance of achieving a swift 'return to normality'. Instead, the authors suggest that attempts to improve the recovery process should concentrate on the ways in which resilience can be built for the future through adjustments to a new form of normality, and care should be taken not to reproduce people's vulnerability to subsequent flood events (Sims and others, 2009).

By representing a process of adaptation, the recovery process can influence future preparedness, evidencing the cyclical nature of flood risk management (Lamond and others, 2019). In practice, if flood recovery involves resilience-building and future-proofing, it could improve flood preparedness. In turn, it could change the nature of recovery the next time a flood happens, with more resilience in the infrastructural, psychological, and organisational context. Equally, if flood recovery leads to degeneration, flood preparedness (and therefore the speed and effectiveness of recovery), could be worsened. This could be if buildings have not been rebuilt well enough after flooding, or if individuals remain financially unstable and psychologically vulnerable. The following sections of this report provide further detail on the types of institutional support presented and their effectiveness, as well as the lived experience of recovery, and where gaps between the 2 may be evident.

3.4 Lessons from case studies

The case studies largely supported and confirmed the findings identified from the evidence review, providing further context to the issues through real-life experiences and feelings. We explored this alignment through the 3 subsections below.

3.4.1 Flood recovery as a process of 'work' for those affected

The case studies confirmed findings from the literature that flood recovery involves a lot of individual work. While some residents have institutional support during floods, many residents can feel they lack this and are left to get on with it themselves. This work is in the short and long term

reflecting practical, financial, and emotional burdens. One example of where this was brought out was through experiences with handling insurance claims. For example, in Bewdley, residents experienced stress from dealing with insurers and waiting for insurance payouts, often without a functioning home. One resident said it can feel like a “full time job, as they (insurers) make it impossible to claim” (BE7). It is suggested that this comment is exaggerated, intended to communicate the high degree of difficulty in making a claim, rather than the outright impossibility of doing so.

In Stockdalewath, one participant explained the extreme difficulty in juggling the demands of homelife, work and organising flood recovery efforts, particularly for those that do not work from home: “I don't know how people with regular jobs managed”. These examples highlight the need for more sustained, flexible, and people-centred support approaches from both institutions and the insurance sector. These approaches should acknowledge, and help address, the scale, stress, and longevity of recovery work undertaken by individuals. Suggested approaches are laid out in section 8.

3.4.2 A long process without a defined end

The case studies also demonstrated that there is rarely a defined endpoint to recovery. Most communities will always face a flood risk (and therefore carry the emotional burden of stress and worry). For example, in Bewdley, one elderly resident said: “Every time it rains, I get very anxious, as it’s all down to me. I hope to God that it doesn’t flood. I’ve suffered with anxiety when it rains” (BE3). Similarly, in Stockdalewath, a resident described how “It’s not just about the flood; it’s about the long-term trauma, the uncertainty, the exhaustion” (SDW14). One business owner in Looe described difficulty in sleeping due to the mental toll that repeated flooding and its financial effects had. Nonetheless, as discussed further in the following paragraph, it is also true that many in Looe appear to have become accustomed to flooding and it has become normalised. This is, in part, a reflection of high resilience developed over years for some residents and handed down generationally as a consequence of being exposed to frequent flooding. It is also because Looe is typically affected by tidal flooding, with the water receding after a few hours.

In Sparkhill, one resident likened the effect of flooding to having “suffered a loss” (SH2). The mental health impacts of flooding are widely affirmed. However, when considering that there is no defined endpoint for recovery, the case studies highlight the need to prioritise flood-affected communities over the long term, with long-term engagement by Community Development Officers, and ensuring that access to mental health services is provided over a sustained time period. Community Development Officers are common but not standardised across local councils and may also be termed Community Engagement Officers or Community Resilience Officers.

3.4.3 A process of adaptation

Finally, the case studies aligned with the literature by showing how flooding can involve adjusting to a new sense of home, normality, and future, and is therefore best conceived as ‘a process of adaptation’. This is particularly true for frequently flooded areas, where residents and businesses experience a psychological shift towards accepting flood risk as a permanent feature of life rather than an exception. In Bewdley, residents have prioritised adaptation over a return to normality,

moving ‘home comforts’ such as books and sofas from ground floors to reduce future damage, illustrating a permanent lifestyle shift.

While flooding in Looe still has severe effect (the extent to which it was considered to be manageable varied considerably between different stakeholders), flooding was nonetheless described as a part of normal life, as it has always been in the town for centuries. One business owner described how “flooding is part of our routine rather than a crisis”. Businesses affected by flooding in Looe reported being able to return to normal operations within 2 to 3 days. However, one interviewee explained that just because flooding has become normalised, that is not a reason to abandon efforts to reduce its frequency and intensity by implementing hard defences, even if this is divisive among some members of the community.

Section 5.4. Lessons from case studies examines in more detail how resilience in such communities is developed, and what lessons may be drawn. However, we touch on it here to demonstrate how different communities view the pathway to flood recovery. These examples demonstrate that flood recovery plans should remain adaptable to the needs of different communities. In practice, this should involve tailored approaches for different geographic and socio-economic contexts, according to factors such as demographics; cultural values; household income; property ownership; frequency of flooding; and attitudes towards authority. Where places are considered to have a high degree of resilience and familiarity to flooding, institutions should evaluate what defines recovery and resilience in their area, test their interpretations with residents, and explore opportunities for improvement and knowledge sharing with other at-risk locations.

3.5 What we can say about flood recovery and how it is defined

There are multiple flood recovery processes and practices which we define as what institutions, organisations, communities, and individuals need to do to build back after a flood so that people and places can function as expected. They are concentrated on addressing the physical, social, and economic damages caused by the flood.

Within this, there are stakeholders with different but interrelated roles and responsibilities. These include:

- statutory – for example, the Environment Agency has strategic overview of all matters relating to flood and coastal erosion risk management
- professional – for example, the insurance sector has a role to process claims for damages to property and possessions
- personal – for example, individuals who are affected by flooding have to work to rebuild their homes and livelihoods after a flood

Flood recovery is experienced differently by those both directly and indirectly affected as well as those engaged in professional and statutory roles.

What is expected of all stakeholders in terms of contributing to flood recovery remains unclear. There is no agreed ‘normative’ process set out, and there are differing views on those contributions, for example should individuals do more to help themselves? Should government

provide more support? These uncertainties point to the importance of examining how existing institutional support frameworks operate in practice, and the extent to which they are effective in meeting recovery needs, as explored in the following section.

4 Current institutional support frameworks for flood recovery: effectiveness and challenges

This section addresses the research question: What evidence is there around the existing institutional support for flood recovery? Drawing on the systematic literature review, stakeholder interviews, and case study findings, this section provides a critical assessment of the current institutional support frameworks and their effectiveness in meeting community recovery needs.

The analysis examines the full spectrum of institutional interventions currently available, from grants and funding mechanisms to on-the-ground support and online guidance. It evaluates where these are working well and where challenges remain. While some of the reviewed literature demonstrates examples of effective coordination between support bodies and quality service provision, the more substantial finding is of persistent issues, including insurance difficulties, coordination difficulties, resource gaps, and communication problems between institutions and flood-affected communities.

The section also explores how communities engage with and respond to institutional recovery processes, revealing complex interactions that can both complement and contradict formal support mechanisms. Finally, it examines how institutional support for flood recovery relates to broader flood and coastal erosion risk management (FCERM) actions, highlighting opportunities for better integration. These findings are enriched by insights from the 4 case studies, which provide real-world examples of both successful interventions and areas where institutional support falls short of community needs, ultimately pointing toward opportunities for improvement in the current recovery framework.

4.1 Institutional roles and responsibilities

Figure 4 (page 28) exemplifies the range of institutions involved in flood response and recovery. Inevitably, this can create challenges in the division of work and responsibilities. HM Government's non statutory guidance in emergency response and recovery acknowledges this, underlining the importance of putting in place clearly defined structures that ensure agencies can combine and act as a coherent group, and consult, agree and decide on important issues (HM Government, 2013).

4.1.1 Response

The response phase, defined as the immediate actions taken during and shortly after a flood event to protect life, property, and critical infrastructure, is led by the Strategic Coordinating Group (SCG), made up of members from the Local Resilience Forum (LRF). Responsibilities of different organisations during response are set out below (HM Government, 2013). While this lists the major organisations involved, there may be others involved not listed here.

Organisations and their roles and responsibilities during response include:

- the police – the lead agency for coordinating the multi-agency response (Local Resilience Forum) – responsible for public safety, cordons, traffic management, and evacuation

- fire and rescue – conducts search and rescue operations, fire suppression, and mass decontamination if needed, and also provide specialist advice on hazardous materials
- the ambulance service – provides triage, casualty care and hospital coordination
- local councils – responsible for setting up rest centres, providing temporary shelter, supporting vulnerable individuals and providing emergency social care
- the Environment Agency or Natural Resource Wales – responsible for flood warnings, defences and environmental monitoring
- Cabinet Office Briefing Rooms (COBR) – convene to discuss major floods and extreme weather events, and to plan government responses
- the voluntary sector – provides and supports welfare, and administers first aid
- utility companies – provide service continuity (water, power, telecoms)

4.1.2 Recovery

The recovery phase, which begins once there is no longer a threat to life and the emergency services have stood down, is led by a Recovery Coordinating Group (RCG), which should be chaired by the local authority as the lead organisation for recovery efforts. In some contexts, the RCG is referred to as a Multi-agency Coordination Group. Responsibilities of different organisations during recovery are set out below (HM Government, 2013).

Organisations and their roles and responsibilities during recovery include:

- local authorities – act as the lead organisation for recovery efforts, including:
    - chairing the Recovery Coordinating Group (RCG)
    - being responsible for housing, infrastructure repair, social care, economic regeneration, and coordinating long-term health support
    - providing support to individuals, businesses, and communities affected by the emergency
    - administering financial relief via grants, council tax and business rate reliefs
- NHS or public health:
    - monitors public health effects and prevents disease outbreaks
    - provides mental health support
    - ensures continuity of care, including support for vulnerable individuals displaced by flooding
- the Environment Agency or Natural Resources Wales:
    - advises on flood risk and environmental hazards
    - repairs flood defences
    - monitors environmental effects
    - coordinates with local authorities and government to help restore infrastructure, habitats and communities.
- utility companies:
    - restore essential services; provide status updates and estimated recovery timeline
    - co-ordinate with local councils
- the voluntary sector:
    - provides humanitarian assistance (for example, shelter, food, emotional support)
    - assists with community outreach and identifying vulnerable groups

    - offers long-term community support during recovery
- the insurance industry – provides financial compensation to affected individuals and businesses, helping them rebuild and recover more quickly
- drainage boards – restore and improve drainage systems after the flood

The 2013 Emergency Response and Recovery Guidance (Cabinet Office, 2013) also set out the principles for recovery from emergencies (p. 85).

Principles for emergency recovery

Recovery is an enabling and supportive process, which allows individuals, families and communities to attain a proper level of functioning by providing information, specialist services and resources.

Effective recovery requires planning and management arrangements to be set up, which (if deployed) recovery agencies, the community and armed forces accept and understand.

Recovery management is most effective when:

- it recognises the complex, dynamic and protracted nature of recovery processes and the changing needs of affected individuals, families and groups within the community over time
- it is carried out locally with the active participation of the affected community, drawing on local capacities and expertise alongside contributions from statutory agencies, the private sector, the voluntary sector and the wider community
- agencies involved in human welfare have a major role in all levels of decision-making, influencing the wellbeing and recovery of the affected community
- recovery begins from the moment the emergency starts, with the Recovery Co-ordinating Group (RCG) established early and running in parallel with the Strategic Coordinating Group (SCG)
- it is supported by training programmes and multi-agency exercises, ensuring those involved are properly prepared for their roles
- it provides a comprehensive and integrated framework, delivering assistance in a timely, fair and flexible way to meet diverse community needs

4.1.3 Multi-Agency Flood Plans and local authority Emergency Response Plans

Multi-Agency Flood Plans (MAFPs) provide localised context that supports further clarifying roles and responsibilities and ensures they are pre-agreed to avoid confusion. They are developed by Local Resilience Forums (LRFs). LRFs are multi-agency partnerships of Category 1 and 2 responders in a police area, established under the Civil Contingencies Act 2004. Their role is to coordinate planning, risk assessment, and preparedness for emergencies, including floods. Each region in England and Wales has between 3 and 6 LRFs, broadly covering the county level of administration. Category 1 responders are the primary emergency services and public bodies legally responsible for planning and responding to major incidents and disasters. Category 2

responders are supporting organisations like utilities and transport operators that must cooperate and share information with Category 1 responders during emergencies.

MAFPs, as defined in the official guidance for LRFs and Emergency Planners (Defra, 2020), provide the local context for national frameworks by adapting national roles to the specific geography, agencies, and risks of the area. They also locally contextualise who leads and when, by noting local structures, details of roles within district and borough councils and communities, as well as trigger points relevant to flood recovery. An MAFP also identifies critical infrastructure, at-risk communities, and evacuation routes unique to the area, while also interfacing with other plans relevant to public health, utilities, business continuity, and procedures for mutual and military aid, where appropriate.

MAFPs, while contextualising national level advice for flooding response and recovery, still cover a large remit area relevant to the jurisdiction of the LRF – spanning several councils. In the context of flood response and recovery, these may not be local enough to provide an effective enough framework for recovery, given the often very local nature of flooding. Furthermore, a 2018 review of MAFPs (HM GOV, 2018) found that recovery planning is inconsistently integrated into existing MAFPs. While some plans address it, others do not include early recovery group formation or coordinated long-term recovery efforts, prompting calls for clearer guidance and to include recovery in future assurance standards.

Under the Civil Contingencies Act 2004, local authorities are required to have a Local Authority Emergency Response Plan, setting out how the local council will respond to emergencies, including flooding. However, these are not specific to flooding, and the depth and formality of recovery planning can vary significantly depending on the council. As they are response documents, flood recovery may only be partially mentioned. While some councils may have flood recovery annexes in these documents, others rely on the LRF's Recovery Framework. Local Authority Recovery Plans are, by contrast, not required statutorily, suggesting a gap.

4.1.4 Specific advice for local councils

The Flood Recovery Framework Guidance (Ministry of Housing, Communities & Local Government, 2021) outlines local authorities' roles in post-flood recovery. Lead Local Flood Authorities (LLFAs) coordinate efforts, reporting flood impacts to central government and distributing community and business rate reliefs and discounts. The document also notes how in 2 tier authority areas, coordination between county and district councils is essential to avoid duplication. The Flood Recovery Framework guidance was produced to be specific guidance to local authorities on the financial schemes included in the framework. It was not intended as generic guidance on a local authorities’ full role during flood recovery. However, it should be noted that there is no specific flood recovery guidance that does cover wider roles and responsibilities for local councils, notably support for social welfare and housing for residents, and keeping them informed of progress and information, that is within the generic emergency response and recovery guidance (HM Govt, 2013).

4.2 What types of interventions have been tried to improve recovery processes?

The Environment Agency's systematic mapping report defines interventions as "any action taken to improve or facilitate work aimed at reducing or remediating the impacts of ongoing or past flood events." (Environment Agency, 2023, p.9). Based on this definition, this section provides a list of institutional interventions available to communities during the flood recovery process. We identified these through a desktop review as well as evidence provided in the Environment Agency's mapping report.

The interventions identified cover different types of support, including financial, advisory, and organisational services, as well as emergency response. A range of organisations, such as local, regional and national government, NGOs, expert institutions and professional bodies provide this support. The following 3 categories describe the types of support provided:

- Grants and funding: financial support available to households and businesses after a flood event to help compensate for financial losses caused by the flood, such as structural damage to buildings
- On-the-ground support: in-person support available to all members of the public after a flood event, usually in the immediate aftermath, to respond to the emergency and support a return to normality
- Online guidance and helplines: advisory support available online or over the phone to all members of the public, available at any time before, during or after a flood

A full list of the support currently available as part of the recovery process can be found in Appendix 7, divided into these 3 categories.

4.3 Where are they working well?

The evidence analysis and stakeholder interviews identified some examples of where institutional interventions are working well to support the recovery process. The evidence comes largely from cases of specific floods which limits generalisation. We have grouped these into 4 four themes which are explored below.

4.3.1 Co-operation between institutional support bodies

Government coordination has markedly improved since 2019, addressing previously fragmented emergency responses. A Defra representative explained, for example, that emergency response meetings between MHCLG and the Department for Business and Trade during Storm Babet meant that the flood recovery framework was activated in 6 days compared to 6 weeks in 2019. This was achieved through structured meetings rather than email exchanges (I6). This improvement directly addresses the institutional coordination gaps that previously delayed critical early support when communities most need rapid response.

The Pitt Review (2008) documented successful coordination through quick establishment of Recovery Coordinating Groups providing coherent plans and effective community engagement.

This was underpinned by "dedication and hard work at all levels within local government and a willingness to go above and beyond established roles to help those most severely affected". An MHCLG representative reported that positive relationships with Local Resilience Forums have similarly simplified recent implementation of the flood recovery framework compared to 2020 (I4).

Local-level innovations include a range of examples. Defra's informal mentoring initiative where experienced local councils support others with significant flood risk through monthly property flood resilience meetings, has significantly sped up recovery processes, according to a Defra interviewee (I6). The same MHCLG representative noted that bi-weekly forums where local council representatives receive presentations from different recovery departments have proved mutually beneficial, helping councils understand institutional arrangements, while informing departments about local needs (I4).

The Living With Water partnership in Hull and East Riding is an excellent example of the effectiveness of ongoing coordination, with Yorkshire Water creating a dedicated 5-officer team to build partnerships between 2 councils, the water company, the University of Hull and the Environment Agency. A local council interviewee explained how officers working in the same place with the same performance indicators and objectives, built community awareness and 'brand' over several years, securing funding for capital programmes and providing infrastructure projects alongside continuing community engagement for personal resilience (I2). Further examples of good co-operation between institutional bodies, obtained from the case studies, are provided in section 4.8 Lessons from case studies.

A local council representative noted that as flooding frequency increases, coordination with partner agencies, particularly emergency services, has become easier where significant risk to life exists (I9).

4.3.2 Quality of institutional support

Effective support has emerged where institutions provide coordinated responses to different types of flood impacts. In Boston, UK after the 2013 coastal flooding, the Association of British Insurers acted as a single contact point addressing insurance concerns, while health and social care providers provided holistic, joined-up services by amalgamating originally separate services (Landeg and others, 2019). This coordination specifically addressed the stress and confusion caused by dealing with multiple agencies during recovery.

Local Resilience Forums demonstrated particular success addressing long-term psychological and emotional recovery through community support hubs during the Cumbrian floods in 2005 and 2009. These hubs remained open for many weeks rather than days, hosted themed meetings on specific issues like insurance, and created spaces for sharing stories, ideas and contacts well after flood events. Their proximity to flood affected areas enabled quick reaction to emerging social issues, distinguishing them from other humanitarian assistance (Deeming, 2015).

Insurance services have shown marked improvements in claims processing. Victims in Deeming's (2018) research after Storm Desmond 2015 experienced significantly faster payouts and claimant support from insurers compared to previous flood events. The Cambridge Centre for Risk Studies

(2019) documented similar improvements in both speed of payment and customer support processes, directly addressing financial stress and length of displacement.

Council workers have demonstrated effective local adaptation, as seen during the 2007 Toll Bar floods in South Yorkshire where local councils successfully interpreted and applied National Recovery Guidance to fit local circumstances (Easthope and Mort, 2014).

4.3.3 Targeted training and community engagement

Training initiatives addressing secondary trauma have been effective, with a Natural Resources Wales representative describing well-received virtual training for over 200 flood response staff on managing stress, trauma and resilience, including telephone and face-to-face responses with course handbooks. This support for responders creates knock-on benefits for flood-affected communities (I1).

Local authority community engagement innovations have proved more effective than traditional approaches for raising awareness and being better prepared for the effects of flooding. A local council interviewee gave examples from Hull, including virtual reality experiences and games developed through collaboration between the University of Hull and Hull City Council. Flood ambassador programmes with 18 trained community representatives proved considerably more effective than council drop-in events, and the city 'Flood Bus' was highly effective at disseminating flood resilience information through door-to-door engagement (subsequently replaced by Floodmobile, co-funded by Flood Re and the insurance industry) (I2).

4.3.4 Flood Re

Thirdly, the analysis found evidence for the success of the Flood Re Scheme. Flood Re is a joint initiative between the government and insurers. Its aim is to make the flood cover part of household insurance policies more affordable, with 2 main purposes, which are to:

- promote the availability and affordability of household insurance for eligible homes, while minimising the costs
- help manage, over its lifetime, the transition to risk-reflective pricing for household insurance for those households at risk of flooding, with the scheme set to end in 2039

By 2024, 8 years after Flood Re’s inception, 99% of high flood risk households could obtain quotes from 15+ insurers, with 80% of homes with previous flood claims experiencing over 50% price reductions since inception (Flood Re, 2024). Parliamentary recognition confirms constituent satisfaction: "The Flood Re scheme has been a real success. My constituents have certainly praised it, and it has meant that they are eligible for an insurance scheme that they can afford" (HC Deb, 17 April 2024, c90).

An interviewee at Flood Re (I5) also stated that it is a success by virtue of the fact that, as a scheme, it is used by insurers and that people have confidence that government is addressing the issue of affordable insurance for flooding. The interviewee noted that Flood Re assesses progress towards the second goal, of transition to a risk-reflective market in 2039, with its 2023 Transition Plan, noting that it was not on track for this, but had a plan for the organisation and its partners to take the necessary actions to successfully achieve it. The interviewee added that Flood Re acts as

chair for the PFR Roundtable and has an increasingly consumer-facing role via the Build Back Better (BBB) scheme. BBB is a scheme developed by Flood Re in collaboration with industry and government. It involves putting in place measures that will make a home more resistant or resilient to flooding in the future.

Ensuring people know about BBB eligibility was said not to be in Flood Re's mandate, but the interviewee (I5) suggested that this was something that Flood Re had been doing, encouraging consumers to ask about BBB from their insurers and ensuring that their policy is BBB eligible. This was with the aim to encourage uptake of the programme among insurers and preparedness among householders both of their flood risk and willingness to accept BBB measures. This has involved the Flood Re communications team visiting flood-affected communities to talk about insurance and developing joint communications with the Environment Agency.

As part of the Flood Re scheme, insurance customers can be reimbursed up to £10,000 for the costs associated with property flood resilience measures as part of a flood claim. This claim is over and above work to repair damage and loss caused by the flood. These measures can include carrying out surveys to understand the flood risk and potential mitigation, adding flood resistance measures such as flood doors, and flood resilience measures such as replacing damaged parts of the home with more resilient materials such as non-permeable flooring.

Build Back Better, introduced in 2022, has received industry recognition, including awards for innovation and sustainability. Since its launch, uptake has increased and it is becoming more embedded within insurance processes. However, Property Flood Resilience (PFR) standards and guidance remain inconsistent across different property types and circumstances, and further development is needed to support wider, more consistent implementation. However, there is a Code of Practice, developed by the Construction Industry Research and Information Association (CIRIA), which aims to improve consistency, quality and confidence in the design and delivery of Property Flood Resilience (PFR) measures. In addition, the Environment Agency's FloodReady sets out actions to support the wider uptake and effective implementation of PFR measures (Department for Environment, Food & Rural Affairs, 2025).

The various examples looked at in this section demonstrate that effective institutional support requires sustained coordination, adequate resourcing, and targeted approaches addressing specific recovery effects. Success patterns show that single contact points reduce stress, sustained presence supports emotional recovery, and coordinated training benefits both responders and communities. However, the evidence suggests that such effectiveness remains patchy rather than widespread across the recovery landscape.

4.4 Where are they not working as well?

Both the evidence analysis and interviews identified evidence demonstrating aspects of institutional intervention that were not working as well. These problems cluster around 5 critical areas that can undermine recovery effectiveness and exacerbate community vulnerabilities.

4.4.1 Issues with insurance

Insurance is a critical part of the recovery process, with insurers largely paying for the rebuilding of homes of those who have insurance. Nonetheless, coverage access and claims processing are 2 areas where the research showed there is scope for improvement. Multiple studies identified that many households in high-risk areas often lack insurance due to 3 interconnected factors: awareness gaps, where people are unaware of their flood risk (British Red Cross, 2022); affordability issues, particularly for low-income households where insurance is perceived as unaffordable (British Red Cross, 2022; Leach, 2015); and confusion over policy terms, claims processes, and coverage entitlements (Blanc, 2020; Carroll and others, 2010).

Recent research which analysed household income data and flood-risk scores at a postcode level to give an average annual loss (AAL – cost of repairing damage to a particular home over a given year) (Luz, 2025) suggests that low-income homeowners in medium or high flood-risk areas face an AAL 3.7% higher than wealthier neighbours – translating directly into higher premiums or even restricted coverage (Luz, 2025). While Flood Re has benefitted low-income households by making insurance more affordable, benefits have been disproportionately higher in wealthier areas according to a recent paper by the Bank of England (Bank of England, 2024). Furthermore, despite the general success of the Flood Re scheme, concerns persist about its 2039 expiry date coinciding with likely increased climate-related flood risk affecting wider populations (HC Deb, 17 April 2024, c90).

As already discussed, the claims process can be difficult, with claims processing problems compounding psychological recovery burdens. Studies have documented delays in visits, fund releases, liability contestation, and poor settlement conditions, leading to extended displacement periods (De Ita and others, 2022; Lamond and others, 2019).

The analysis indicates that when claims are poorly handled, it can simultaneously undermine financial recovery through delayed payouts, and psychological recovery through prolonged uncertainty and displacement (Blanc, 2020). However, there have been significant improvements during the last decade, with faster payouts and improved customer support processes.

Local councils face additional challenges when insurance relationships complicate physical recovery operations. A local council representative explained how residents may resist property cleanup programmes, wanting to retain flood-damaged goods as insurance evidence (I9). This demonstrates the complex nature of relationships between residents and different parties assisting in recovery operations.

4.4.2 Difficulties with government grants

The eligibility requirements of the Flood Recovery Framework’s grant system, including grants to households, businesses and famers can undermine equitable recovery after flood events. For example, eligibility criteria based on administrative boundaries rather than hydrological catchments can, in some cases, create arbitrary exclusions that fragment communities. This can mean that some flooded households are ineligible for government grants because the criteria are based on a certain number of properties and, or, the nature of the flood, which in reality, is unlikely to include all properties affected.

An MP captured this effect: "The heartbreaking devastation of that impact on their home was matched only by the anger and frustration of being told in the days that followed that they might not have been part of a sufficiently serious flood in their area to be able to access financial support" (Dunne in HC Deb, 17 April 2024, c81). Eligibility determination can take weeks or months due to householder reluctance to report flooding over insurance concerns, though Flood Re has significantly reduced, but not eliminated this issue (Dunne in HC Deb, 17 April 2024, c81).

Analysis reveals that these eligibility challenges can create social fragmentation within flood-affected communities, where neighbouring properties may receive different support levels based on administrative technicalities rather than severity of need. Scheme complexity exacerbates these equity issues, creating a "complex patchwork of support" with confused eligibility criteria and application processes (Forrest and others, 2024; Dunne in HC Deb, 17 April 2024, c79). Farmers particularly struggle with overlapping schemes, with the National Farmers' Union (NFU) identifying information access difficulties leading to missed application deadlines.

The evidence suggests that complexity particularly disadvantages vulnerable groups' access to recovery, as those with lower education levels, language barriers, or limited administrative capacity struggle most with multi-step, uncertain processes spanning up to 18 months without guarantee of funding (Forrest and others, 2024; HC Deb, 17 April 2024, c96). A Minister identified this process as difficult for both local councils to administer and households to access (Hardy in HC Deb, 17 April 2024, c96).

A Defra interviewee also highlighted a lack of comprehensive guidance for local councils in providing Property Flood Resilience Grants, with significant variation in implementation creating postcode lottery effects, and gaps where individuals don't understand the guidance and variations in eligibility. These findings align with the 2023 PFR repair grant scheme evaluation results (Twigger-Ross and others, 2023).

4.4.3 Failure to build resilience during reconstruction

Not building resilience measures into homes during reconstruction can be a critical missed opportunity that can mean that affected communities are caught in ongoing cycles of flood damage and recovery. Curtis and Hampton (2022) highlight how this misses vital risk reduction windows, instead reinforcing vulnerability. Joseph and others (2014) found 82% of flooded houses in their study returned to pre-incident condition despite high resilience measure awareness, demonstrating that current systems, as well as attitudes and understandings among the general public, can actively reproduce rather than reduce future recovery burdens.

Research suggests that flood vulnerable residents can be unwilling to install property flood resilience measures (Social Market Foundation, 2018). Evidence analysis suggests that misaligned incentive structures where insurance companies have historically prioritised short-term recovery over long-term prevention, while not rewarding households with reduced premiums for risk-reducing measures, contribute to this issue (Fernandez-Bilbao and Twigger-Ross, 2009; Connelly and others, 2016; Curtis and Hampton, 2022).

However, the introduction of the Build Back Better scheme, by Flood Re, is a major step in addressing these issues, together with the development of Flood Performance Certificates (FPC)

(WPI, 2020). A FPC is a document for the homeowner, setting out the severity of its flood risk and steps that could be taken to mitigate that risk, modelled on energy performance certificates. It would help households by giving them relevant and actionable information on what they can do to make their homes resilient as well as providing a benchmark for various levers and incentives that encourage household resilience. Flood Re (RAB Flood Risk Performance Certificates - RAB Consultants) has commissioned a standardised approach to data collection, which is an important step towards realising FPCs. Practical challenges for those seeking to make their homes more resilient include surveyor shortages, with companies refusing single-property inspections or charging prohibitive costs, though the Code of Practice for PFR (Defra, 2021) provides useful guidance. As memory of the event fades this also reduces people's willingness to install protective measures (I7).

Market orientation of PFR measures creates additional problems, with one interviewee describing how manufacturers and installers can concentrate on product sales rather than cost-effective solutions, promoting branded products over simple measures like raising plug sockets (I6). Practical barriers include a lack of widely shared reinstatement policies, leading contractors and residents to prioritise tried-and-tested like-for-like approaches (Lamond and others, 2019; Davies, 2015), and financial regulations prohibiting collective resilient repair adoption across the industry (Priest and others, 2016b).

The Build Back Better scheme has been applauded for providing PFR for people who have been flooded as part of Flood Re Insurance. According to a representative of Flood Re, householders generally are largely reluctant to pay for measures to provide protection for their homes, and therefore public authorities and insurers are filling this gap. However, despite enabling paid for resilience measures, BBB's uptake remains at 33% versus a 50% target (for year 2, after year 1 saw a 33% uptake). The Flood Re representative identified awareness gaps as limiting factors, suggesting that some surveyors could provide better in-person explanations and property-specific adaptations, although it was also noted that many surveyors do this well.

The pattern suggests first-time flood victims prioritise a return to normality, while people who have experienced multiple floods are more likely to consider resilience measures (I5, I10). Furthermore, some affected residents in the case studies explained that the £10,000 includes covering the cost of surveyors, meaning that the funds available for implementing PFR measures may be insufficient. This is particularly important because partial protection was reported as being ineffective, as flood water only needs one entry point into a property for it to have a destructive effect. Flood Re has since asked the government for permission to increase BBB funds to £15,000 per house in addition to the survey.

4.4.4 Coordination between organisations involved in flood recovery

Coordination issues appear to particularly influence recovery outcomes for vulnerable groups, with complex recovery needs requiring multi-agency support. Despite some positive examples of coordination between institutional bodies (see section 4.3), systemic issues are nonetheless apparent due to fragmented governance structures (De Ita and others, 2022; Lamond and others, 2019; Baker in HC Deb, 17 April 2024, c79). Evidence analysis reveals that coordination problems particularly affect those requiring support from multiple agencies simultaneously – typically the most vulnerable community members.

Lack of coordination between government and industry contributes to inconsistent reinstatement approaches, which could be improved through better coordination of policies and procedures (Crick and others, 2018). Studies by Fernandez-Bilbao and Twigger-Ross (2009), as well as the Pitt Review (2008), found heavy criticism of public organisations, whereby a lack of coordination meant flood victims experienced difficulties finding and understanding up-to-date information. This could have immediate knock-on effects on the flood response, for example by delaying evacuation, but also during recovery, by preventing people from obtaining grant funding (British Red Cross, 2022). These issues have been attributed to administrative and staffing issues, but also "the fragmented nature of flood management governance in the UK; the fact that the recovery process depends on cooperation and collaboration between various institutions means that flood recovery is a challenging endeavour requiring a concerted effort in communication and coordination" (De Ita and others, 2022, p.3).

NGO integration challenges reveal how coordination issues limit community recovery capacity. One NGO representative suggested British Red Cross's lead recovery role creates 'gatekeeper' effects, limiting other organisations' support access, recommending 'loosening' to enable more effective support (I3). The UK's numerous NGOs seeking support creates coordination difficulties compared to countries with fewer, larger, centralised NGO operations (I3). However, a representative of the Environment Agency also suggested that an advantage of this structure could be enhanced connectedness with local communities where they operate.

Most critically, coordination gaps create ‘nobody's problem’ areas, including support for mental health and vulnerable residents, and real-time flood data sharing about specific vulnerable residents (Forrest and others, 2024, p.7). While difficult to solve comprehensively, these also arise because of unclear responsibility divisions, with blurred boundaries between local councils and emergency services, and poor communication between NGOs and local councils. Reportedly, the Environment Agency’s coordination with local authorities varies significantly based on local area team engagement, with inconsistent sharing of flood impact data (I6).

Coordination issues manifest through contradictory communications causing distress and frustration for flood victims, particularly when information proves contradictory (Sims and others, 2009). The Pitt Review (2008) identified examples where health advisors gave conflicting safety advice about staying in flooded properties. Inflexibility compounds coordination problems, with examples from the 2005 flood in Carlisle including health authority insistence on GP referrals for accessing counselling and lack of business control over insurance claims processing in council-rented buildings, slowing business re-establishment (Fernandez-Bilbao and Twigger-Ross, 2009).

According to a Member of Parliament, local councils face particular challenges, being "often caught on the back foot" with unclear national government support expectations amid struggling local budgets (Foord in HC Deb, 17 April 2024, c85). A UK Health Security Agency (UKHSA) representative highlighted the sharing of recovery lessons as case studies with other departments and local councils, but it was unclear whether this reflected recent improvements or an identified need for further action (I8).

Section 4.1. Institutional roles and responsibilities outline the core roles and responsibilities of the different institutions for flood response and recovery, as set out in the relevant government guidance; both the National Recovery Guidance, specifically the Emergency Response and

Recovery Guidance (HM Government, 2013), and the guidance on the Flood Recovery Framework. However, the issues identified above and those relevant to co-ordination in the case studies (see section 4.8. - Lessons from case studies) suggest that the current arrangements could be improved by contextual application at the local level, together with improved guidance on flood recovery planning.

4.4.5 Resource gaps

Insufficient resource creates cascading challenges across service quality, response timeliness, and recovery comprehensiveness. Defra (2017) identified staff constraints as the most common Lead Local Flood Authority (LLFA) challenge, involving both funding shortages for hiring and skills shortages in available personnel. Analysis reveals that resource gaps create recovery support inequalities where communities experiencing floods during periods of high institutional demand (with competing council priorities, for example) receive reduced support quality and duration. Natural Resources Wales noted how mandatory rest periods following 24/7 flood incident availability can create insufficient staffing for follow-up investigations (I1).

Building industry resource gaps can worsen the recovery process too. Evidence shows skilled labour shortages among surveyors and tradesmen create recovery bottlenecks that extend displacement periods and increase psychological distress, hindering access to quotes for flood victims and slowing reconstruction progress (Fernandez-Bilbao and Twigger-Ross, 2009; Davies, 2015). Where tradespeople are contracted, victims report months-long repairs, with poor workmanship and customer relations.

4.4.6 Local councils

As Category 1 responders, local councils are responsible for responding to floods and controlling or reducing their effect. They also have responsibility for supporting affected residents by supplying temporary housing and welfare support, communication and information, as well as supporting long-term recovery through, for example, by providing grants.

The interviews provided insight into how local council involvement and responsibility in flood recovery could be improved. It appears that local council capability gaps create fundamental recovery coordination and support challenges affecting all areas of recovery. Insufficient training on crisis management and mental health support can mean less attention is paid to psychological recovery needs, as noted by a Defra interviewee (I6). Another interviewee highlighted gaps in role understanding, particularly around communicating available support sources to flood-affected individuals. Despite identical statutory obligations, interpretation varies significantly between authorities, complicating NGO national operations (I3).

Some authorities reportedly blame the Environment Agency for its statutory obligation shortfalls, eroding community trust and limiting Environment Agency community engagement effectiveness (I3). Parliamentary debates identified gaps between local council responsibility levels and national government support provision (Dunne and Hardy in HC Deb, 17 April 2024, c85). The administrative burden of implementing support under the flood recovery framework was highlighted, particularly in the context of limited resources for flood and water management. For

many authorities, this can lead to prioritising emergency response over long-term work to create flood resilience in the locality.

4.4.7 Communication with flood-affected communities

Communication challenges can limit coordination of early recovery, and vulnerable groups' access to available support. The analysis identified a need for improved dissemination of information around flood recovery between authorities and communities. Dominance of digital information can exclude those audiences least able to navigate online systems, while flooded individuals diminished online capacity necessitates human contact during crises. One interviewee explained that in crisis moments, people value talking to a real person (I3).

The lack of a centralised place to access information highlighted by interviewees (I1 and I5) adds to the inherent complexity of recovery from flooding. Analysis reveals this creates a situation where those who need help most face the biggest barriers to getting information about available assistance. Unclear divisions in authority responsibility can reduce accountability, while unclear communication can create inaccurate public expectations about roles and responsibilities, such as assumptions about providing sandbags when events occur (I7).

Some interviewees suggested that there is a general perspective among members of the public that their role in the flood recovery process is largely a passive one. So that communities are supported in actively engaging and not generating unrealistic expectations of authorities, it was suggested that NGO work can empower communities during response and recovery phases. Interviewees considered community-led resilience building supported personal and psychological recovery for individuals and communities (I9). One interviewee recognised that adequate support from authorities is needed to enable community recovery ownership. They also suggested that once emergency services depart, support typically becomes unavailable (I10).

4.5 How could they be improved?

The literature review analysis and interviews identified ways in which institutional support could be improved during the recovery process, which largely correlate to the above section outlining issues and challenges with recovery. Five themes were identified which we explore below.

4.5.1 Resilient repair and reconstruction

The reviewed literature reveals that the window of opportunity in the early phases of recovery (considered to be 18 to 36 months after a flood event) could be better used to improve resilience (Cambridge Centre for Risk Studies and AXA XL, 2019; Lamond and others, 2019.) This requires action and collaboration from policymakers, insurers, the construction industry, and planners (Deeming, 2018). The Build Back Better (BBB) scheme has been a major step forward in improving resilience post flood, but nonetheless further improvements could be made, as set out below.

Improving reinstatement standards and processes emerges as one of the interventions for enhancing physical recovery and future preparedness. National government policy mechanisms could establish legally enforceable expectations for flood resilient repair and improve guidance on

resilient repairs (Alexander and others, 2021). Evidence suggests that mandatory standards would address the like-for-like replacement rate that perpetuates vulnerability cycles. While BBB marks an important means of improving resilience after the flood, insurers and the construction industry could simplify reinstatement to avoid delays and mistakes, while encouraging better practice standards (Lamond and others, 2019).

There has been good progress in improving standards with the Bonfield 2016 Action Plan (Defra, 2016) and the publication of the PFR Code of Practice (CoP) (CIRIA, 2021). The CoP specifies what good practice looks like, providing 6 standards designed for homeowners and professionals to follow when installing and using PFR measures. In January 2025, the Environment Agency commissioned 'Flood Ready: an action plan to build the resilience of people and properties. This is an independent review of property flood resilience (PFR) that will consider progress since the Bonfield Action Plan, including on reinstatement standards and processes. This report has since been published on GOV.UK: Flood Ready: an action plan to build the resilience of people and properties.

A Defra interviewee emphasised the importance of leveraging local knowledge and using creative approaches to ensure optimal usage of flood recovery grants (I6). According to one interviewee, having centralised application processes for community repair grants could reduce administrative burdens on local councils, while improving household access (I1). The construction industry and engineering consultants could improve technical evidence on the effectiveness of resilience measures to demonstrate value to property owners, insurers, and government (Doom-Hoekveld and others, 2019).

Property Flood Resilience Grant scheme improvements could directly address implementation inconsistencies that currently limit effectiveness. One interviewee noted that government bodies and stakeholders, like surveyors could significantly improve education and information provision around PFR grants before future flooding events (I5). One of the challenges with this however, is that the Property Flood Repair Grant schemes are not always available. They are activated on a case-by-case basis as decided by the Secretary of State. A recommendation from the evaluation of the PFR scheme (Defra, 2023) was to "clarify the circumstances in which a scheme may be activated….that the criteria for the declaration of a major flood to be made clear ahead of time". Implementing that recommendation would enable local councils to communicate clearly what might be expected in terms of support for flood recovery in general terms, alongside the £5,000 community recovery grant for eligible households as part of the flood recovery framework.

Another interviewee highlighted the critical need for step-by-step implementation guides for local councils (I6), while surveyors should provide comprehensive option ranges to affected individuals rather than promoting single solutions. More property-specific tailoring could improve both effectiveness and emotional security outcomes (I6). These are aims of the Code of Practice, but work is needed to understand how widely it is being followed by professionals during flood recovery. A representative of Flood Re explained that gradually these processes are improving, with insurance companies actively taking steps to do so. Simplifying the application process for individual applicants could reduce the waiting time and uncertainty that compound the stress of recovery. One interviewee suggested coordinated government efforts to communicate with hard-to-reach individuals about PFR installation, emphasising early rather than reactive engagement (I7).

Enhancing the role of the insurance industry in future-proofing properties requires incentive structure realignment, ensuring that installed measures are reflected in future pricing and renewal (Cambridge Centre for Risk Studies and AXA XL, 2019; Ngenyam Bang and Church Burton, 2021; Eldridge and Surminski, 2017). Local councils could collect comprehensive post-flood effect and risk data for sharing with insurers, improving the accuracy of risk assessment (I3).

As recommended in Flood Re's Quinquennial Review in July 2024, the Build Back Better scheme could be improved by the £10,000 solely covering the installation of PFR and not surveying costs as well. Reducing the chance of partial coverage would also support residents in being able to install effective PFR. This would increase the chance of being protected from the effects of a flood, by ensuring more comprehensive protection. Nonetheless, it is also important to recognise the role that residents play in determining what is suitable for their property in making it more resilient.

4.5.2 Financial support

The effects of flooding can place a significant financial burden on households and businesses. While government grants and insurance are available, take-up is variable and could be increased through improved accessibility. Local councils also face financial pressures in the aftermath of a flood and could be better supported by national government and private sector stakeholders to improve recovery services. Specific examples of how to improve financial support from the reviewed evidence and interviews are discussed below.

Improvements in accessibility to government grants could eliminate arbitrary eligibility exclusions and bureaucratic barriers. National government could better promote property flood resilience grants and make information clearer, while reducing the administrative burden and multiple steps involved (Alexander and others, 2021; Davies, 2015). MHCLG working with the local government authority and councils could establish standard protocols for all recovery-related grants, including consistent eligibility criteria addressing current postcode lottery effects (Deeming, 2018).

Communication improvements around government grants addressing timing, eligibility, and application processes could reduce current confusion and missed opportunities (Forrest and others, 2024; Twigger-Ross and others, 2023). Analysis suggests that providing clear, accessible information could significantly improve uptake among vulnerable groups currently excluded by complexity barriers.

Encouraging households to take out insurance requires widespread improvements in accessibility and processes, as well as broader awareness raising. Insurers could improve accessibility of information for policyholders, while enhancing claims processes through faster payouts, clearer communication, staff empathy training, and providing a single point of contact (Fernandez-Bilbao and Twigger-Ross, 2009; Lamond and others, 2019; Philip, 2020; British Red Cross, 2022). Local councils could better inform high-risk area tenants about risks and insurance protection benefits (Blanc, 2020). More residents could be encouraged to take out insurance, where financially possible, through for example, community engagement events which raise awareness of the importance of insurance and how it works.

National government could compel high-risk area landlords to provide tenants with building insurance details and flood support clarity, addressing current coverage gaps affecting vulnerable renters (Blanc, 2020).

Improving local council financial support could address resource constraints limiting the effectiveness of recovery coordination. National government bulk grants to authorities facing extensive repair activities, plus additional administration funds for suitable resource recruitment, could improve local capacity (Deeming, 2018; Dunne in HC Deb, 17 April 2024, c82). Meanwhile, local councils could develop community investment schemes, encouraging investment in local flood action group recovery measures (Ngenyam Bang and Church Burton, 2021).

Flexibility over private sector flood recovery funding and increased claim deadlines could reduce authority financial pressures, while preventing householders from being excluded from time-limited schemes (Ngenyam Bang and Church Burton, 2021; Hardy in HC Deb, 17 April 2024, c96).

4.5.3 Multi-agency coordination

Due to the scale of the effects after a flood, many organisations tend to be involved in the recovery process. This can include public, private, and third sector organisations, as well as community groups and residents. Co-ordination and collaboration between these groups could be improved both before a flood, and after, to improve the efficiency and effectiveness of recovery. The most critical gap that can inhibit multi-agency co-ordination is a lack of understanding of roles and responsibilities. An effective way to address this could be to apply and clarify the roles and responsibilities set out in national emergency planning and recovery guidance (HM Government, 2013) within the local context, ensuring they are clearly understood by all partners.

This could include requirements for local councils to develop Local Authority Flood Recovery Plans, in addition to Local Authority Emergency Response Plans, which are a requirement under the Civil Contingencies Act, 2004. Furthermore, government's Local Authority Flood Recovery Framework could be expanded beyond its current limited scope covering only financial relief and grant aid, to link up with and contextualise the National Recovery Guidance in relation to flooding and to include wider responsibilities relevant to housing, community welfare and economic regeneration.

Specific examples beyond this of how to improve multi-agency coordination could include the following.

Local government partnership improvements could eliminate coordination bottlenecks affecting community-wide recovery effectiveness. Improved working on water management awareness and flood event response between the Environment Agency and local councils through funded Local Resilience Forums and recovery plans have been suggested to address current inconsistencies (Fernandez-Bilbao and Twigger-Ross, 2009). National government funding for designated local council coordination roles has been recommended to provide leadership for institutional stakeholder coordination during flood recovery (Hardy in HC Deb, 17 April 2024, c95).

Partnership improvements between national and local government through better communication and coordination protocols could improve actions during emergencies. These, in turn, should reduce stress within the recovery processes. For example, the Department for Transport, National

Highways, Local Highways Authorities, and the police could work together on diversion route network planning and develop a decision-making protocol for future events (Deeming, 2018). Additionally, health and social care responder responsibilities during emergencies could be clarified by the Department of Health by developing and distributing a clear diagram of responsibility, and clear contact or communication networks (Deeming, 2018).

Improvements in data sharing between risk management authorities across all government levels could enhance strategic coordination (Defra, 2017). Increasing the involvement of education, health, and housing departments in emergency planning and flood risk management could better meet vulnerable community needs (Bingley and others, 2018).

Partnership improvements between government and the insurance industry could address challenges in coordinating the reinstatement process. While the Property Flood Resilience Roundtable and the Bonfield Action Plan (Defra, 2016) are working at the national level to bring together the relevant stakeholders across the public and private sector to coordinate and improve uptake, standardisation and implementation of PFR, improved linkages between planners, developers, and insurers at the local level could enhance reinstatement processes. This could be achieved through the Resilience Zone concept, which identifies geographically vulnerable areas and brings together multiple organisations (for example, insurers, developers, and local governments) to build resilience through targeted interventions (Crick and others, 2018; Surminiski, 2018).

Improvements in facilitating community action could harness community recovery capacity currently underused by institutional approaches. Formalising flood warden schemes and identifying local council flood wardens could support local-level responses (Singh, 2018). Local community involvement in flood plan development, including children and young people, could improve preparedness and recovery effectiveness (Singh, 2018; Adger and others, 2016; National Flood Forum, 2019; Andrew and Knight, 2014; Walker and others, 2010).

Spontaneous volunteering support and management through existing voluntary sector organisations with volunteer management skills could harness community energy effectively (Deeming, 2017a). One interviewee noted improvement opportunities in local council engagement with community groups regarding representation and time utilisation (I6). Recovery plans should recognise local flood group value and existing community network responsibility, ensuring inclusive and accessible community group engagement support (Deeming, 2018; Ngenyam Bang and Church Burton, 2021).

Government coordination with a wider range of recovery organisations requires systematic engagement protocols, addressing current informal, limited approaches. An MHCLG representative suggested improved private sector and NGO coordination through enhanced correspondence methods and earlier organisational communication to identify additional recovery support capabilities (I4). Communication opportunities with new organisations like London Councils with specific flood recovery plans could make coordination more effective.

One interviewee noted that standardised NGO engagement should become part of formal procedures rather than ad-hoc policy consultation (I6). Better coordination between local

government and NGOs by sharing data and information on flood effects could enhance third sector effectiveness, though variation in local authority response affects NGO operational capacity (I3).

4.5.4 Targeted support

Flood events can affect social groups differently, with some experiences less visible than others and therefore at risk of being overlooked in recovery support and response. This can apply particularly to vulnerable groups, which can include, but is not limited to, older people, people with mobility issues, people on low incomes, children and young people, people with pre-existing mental or physical health problems and frontline workers. These people should be identified and supported in more targeted ways to encourage their recovery and prevent socio-economic divides and inequalities being created or made worse. Specific examples for how to provide more targeted support are discussed below.

Improving vulnerability-focused support requires proactively identifying and tailoring intervention approaches. Local councils and support bodies are recommended to review demographic indicators ideally before flooding to identify vulnerable groups (Blanc, 2020; National Flood Forum, 2019). Targeted support could include elderly home-leaving assistance, accessible temporary accommodation for disabled people, displaced low-income household financial support, and insurance claims advice for individuals unfamiliar with negotiation (Philip and others, 2020; Bingley and others, 2018; Lancaster University and Save the Children, 2016).

National and local government could encourage more consistent school approaches for flood-affected children, with suggestions of informal circle-time activities alongside formal counselling (Philip and others, 2020; Bingley and others, 2018; Deeming and others, 2011; Carroll and others, 2010). Met Office and Environment Agency early warning system reviews could ensure access to messages for vulnerable groups (Ngenyam Bang and Church Burton, 2021).

Improving mental health and wellbeing support could address gaps in psychological recovery, currently identified as most lacking. Health and social care providers could identify regular service users and prioritise reinstatement of care services for vulnerable audiences (PHE, 2020; Munro and others, 2017). Local councils and support bodies could better recommend available counselling opportunities beyond displaced populations (Philip and others, 2020; Lamond, 2014).

Organising community-based social events could provide safe experience-sharing spaces and recommend formal support, with interviewees suggesting dedicated, discrete mental health support areas at community drop-in sessions (Philip and others, 2020). Maintaining access to meeting spaces and prioritised reopening of community hubs, recreation centres, and parks could enable crucial socialising opportunities (Deeming, 2018; Ntontis and others, 2020).

Specific emotional distress outlets for flooding, similar to crime victim support systems but disaster-tailored, could address current support gaps affecting psychological recovery.

Improving support arrangements for responders could help to address secondary trauma effects limiting institutional capacity. National government, local councils, and support bodies could provide enhanced training for flood recovery activity participants, including flood wardens, covering emotional response management (Singh, 2018). Support service availability and promotion to

frontline flood recovery workers could prevent burnout and maintain service quality (Singh, 2018; Lancaster University and Save the Children, 2016; Walker and others, 2010).

Business support improvements could address economic recovery inequities affecting commercial flood recovery. Ensuring access to universal business insurance schemes, as not all businesses qualify as insurable, could reduce business closure rates (Maskell in HC Deb, 17 April 2024, c89). Sufficient flood recovery framework funding for businesses with eligibility requirements avoiding business type disadvantage could improve commercial recovery outcomes (Maskell in HC Deb, 17 April 2024, c89).

4.5.5 Education and communication

Awareness of how to respond to a flood and navigate the recovery process can be critical to enabling self-help and reducing reliance on institutional forms of support. However, the evidence highlights gaps in public knowledge, with improvements in education and communication important in addressing these. Specific examples of how to improve education and communication are discussed below.

Improving education in flood preparedness requires widespread awareness building to address current knowledge gaps. National government could integrate water and flooding into the national curriculum, ensuring flood risk education for children through lessons and simulation activities covering preparation, response, and first aid (Ngenyam Bang and Church Burton, 2021; Bingley and others, 2018). Teacher training on floods and the effects on children could support educational programme effectiveness (Bingley and others, 2018).

National government, local councils, support bodies, insurers, and stakeholders could support flood risk awareness to high-exposure households and businesses through targeted, tailored communication (Blanc, 2020). Using local organisation social hubs for community flood education and encouraging residents in high-risk areas to put together flood emergency kits could improve levels of preparedness (Deeming, 2018; Ngenyam Bang and Church Burton, 2021).

Improvements in emergency and recovery communications could remove information access barriers that currently exclude vulnerable groups. National and local government could provide clearer communications about government responsibility and limitations during long-term flood recovery (Joseph and others, 2015a). A Natural Resources Wales representative highlighted that information needed to be provided at local levels through flood-relevant community events and information sessions (I1). Improved signposting on accessing post-event information and advice on avoiding pitfalls, such as identifying unscrupulous builders, could reduce recovery complications (I10).

4.5.6 Building public trust in institutional responders

Building trust is essential for effective institutional recovery support, with evidence demonstrating that positive government attitudes enhance crisis communication effectiveness (Mahdavian and others, 2020). Reported instances of a lack of public trust in institutions can result in hesitant, wait-and-see attitudes that can prove dangerous, such as reduced compliance with evacuation orders.

Partially, this is attributed to a misunderstanding among residents and communities of the role of the Environment Agency, particularly regarding flood source management responsibility. This has contributed to negative perceptions of the Environment Agency's role and eroded trust (I2). Voluntary sector intermediary roles where there is greater trust and receptiveness could address these gaps (I3). An interviewee suggested that establishing a national, impartial Environment Agency triage service for flood-affected individuals could help build community trust, supported by a permanent helpline providing practical advice and referral pathways (I3).

Improving trust requires an understanding of factors influencing government trust, including age, education, occupation, and satisfaction levels with local and national government, which have generally declined across Europe since 2009 (Mahdavian and others, 2020). Governments should better understand conditions, ensuring intended audiences accept risk-related communication and policy measures. This would identify those social groups least likely to be accepting of these measures based on perceptions of individual responsibility and government trust levels.

Short-term trust could be improved through better education and communication, together with improvements in multi-agency coordination that demonstrate institutional competence and reliability in providing recovery support.

4.6 How are communities engaging in institutional flood recovery processes?

Section 3.1. (The 'work' of individuals after institutional support has ended) demonstrated that a lot of work is done at the individual level to make progress on self- recovery post-flood events. However, individuals can also contribute to the recovery of their community, whether independently or collectively, and purposefully or inadvertently. These activities can interact with institutional flood recovery processes to both complement and contradict them. This section explores ways in which communities engage with institutional flood recovery processes, and the benefits and challenges that can be associated with them.

4.6.1 Community engagement in flood recovery processes

Community activities and new groupings can arise spontaneously after a flood, particularly in scenarios where institutional support is considered to be lacking (Alexander and others, 2016). Examples can vary from groups helping to rebuild homes, through to knocking on doors, lending tools or clothes, and fundraising for rebuilding work (Deeming and others, 2011). An example from the literature is the 'Communities Reunited' partnership project, an NGO-led initiative led by Groundwork South in response to the 2005 floods in Cumbria (Deeming, 2015). This project provided advisory support to households with insurance and rebuilding, as well as emotional support through talking therapies (Carroll and others, 2010).

While community participation can be informal and ad-hoc, it can also be provided through pre-existing and formally organised groups. An example includes community flood action groups (FLAGs), which consist of voluntary groups of local residents who meet regularly to work on behalf of the wider community to reduce the effect of flood events (The Flood Hub, 2024). They can have varied priorities, such as emergency planning, flood resilience, warning and informing, and can

also deal with local issues, while providing a unified voice for the community to communicate ideas and queries to others. Puzyreva and de Vries (2021) as well as Geaves and Penning-Rowsell (2015) found that the scale of a flood can influence the form that community engagement takes. For example, in Geaves and Penning-Rowsell's research, interviews with residents and stakeholders involved in flood risk management uncovered how smaller floods were more likely to trigger local initiatives through activating existing social networks, such as residents' associations and environmental action groups, while major floods were likely to encourage the formation of new social entities dedicated to the recovery, such as flood action groups.

Individuals can be motivated to support their community during flood recovery for various reasons. Soetano and others (2017) suggest that people can be motivated from a sense of social responsibility. Adger and others (2016) found that a sense of social responsibility was particularly apparent when people felt that authorities did all they could to help members of the public following a flood, as individuals feel obliged to play their part. In addition, Puzyreva and de Vries (2021) identified that flood history is one of the core factors affecting community engagement in flood management and recovery, due to an increased awareness of risk and necessity to act in response.

4.6.2 Interactions between community and institutional processes

The coordination and formalisation of community groups is a growing area of research, with the process being termed by some researchers as 'professionalisation'. Puzyreva and others (2022, p.3) define this process as when "local groups attain credibility and cultural acceptance within a professional field, aligning with organisational models and practices of risk management agencies" (Puzyreva and others, 2022, p.3). This can be demonstrated through greater communication and coordination between community groups and authorities, to identify and act on community needs during flood recovery and management.

As communities interact and work with institutions during recovery, research has explored how individuals can alter the effects of and meanings behind institutional approaches. This was identified following a 5-year ethnography of a flooded community, which found that "technologies of recovery became transformed and remade in localised practice when enacted by newly formed and precarious collaborations of residents and local responders…which enabled other things to happen." (Easthope and Mort, 2014, p.135).

4.6.3 Effects of community participation in flood recovery

Interactions between community and institutional approaches to flood recovery can be highly constructive, for example, when communities build a shared sense of momentum and responsibility. Puzyreva and others (2022) find how this shared sense of responsibility can help increase communities' ownership of safety in the longer-term, and deal with power imbalances by facilitating democratic decision-making, particularly on issues affecting flood recovery. Community engagement in the flood recovery process can also result in social cohesion and community spirit, which can, in turn, support emotional and psychological recovery (see sections 7.1 and 7.3).

In some scenarios however, community interactions can work against institutional responses, as personal attachments to place can result in a desire to maintain physical assets or social norms,

and a resistance to actions which disrupt the status quo (Butler and others, 2016b). This can sometimes conflict with the need to change and adapt to future flood risk. In addition, Puzyreva and others (2022) raise questions about representativeness and fairness of community engagement in flood recovery. This research identifies how the groups and individuals who already have networks, knowledge and resources in a community, are often the most able to engage with institutional processes, and can, in turn, pursue their own interests (or at least be perceived to).

The gradual professionalisation of groups and individuals involved in flood recovery can also risk their roles and interests becoming blurred with those of institutions. In some cases, this may result in lesser-heard voices and interests being sidelined and local communities losing trust in those who are supposed to be acting on their behalf (Begg and others, 2022). A lack of trust in these responsible community players could lead to social tension, as well as potential deterioration in community resilience due to a lack of local unity and collaboration (I3). It was reported in the interviews that NGOs, who are seen as independent and impartial, could act as important brokers in discussion and support actions like setting up flood action groups (I3).

Puzyreva and others (2022, p.10) identified an additional challenge associated with community engagement in flood recovery. They highlighted a paradox of responsibilities, where “communities are left to fulfil government-set agendas and meet institutional requirements, without necessary capacities to challenge the status-quo”. This constraint is partly attributed to pre-existing institutional structures and requirements, which can limit the decision-making power and capacity for action by local community groups.

4.7 How is the institutional support for flood recovery being provided in relation to other FCERM actions?

The interviews provided information about how institutional support for flood recovery may be co-ordinated with FCERM activities, or influenced by them.

For local councils, one avenue is via formal write-ups following a flood event (I2 and I9). Section 19 reports are statutory flood investigation reports produced by Lead Local Flood Authorities under the Flood and Water Management Act 2010. They are used to examine significant flood events and identify which authorities have relevant flood risk management functions. Section 19 reports feed into understandings around maintenance needs and schedules as well as wider priority areas. Section 19 reports are not strictly relevant to flood recovery, as they mainly investigate events leading to the flooding, the number of properties affected, and the exercising of flood risk management activities by risk management authorities (RMAs).

However, they do involve working with the local community and those affected, taking onboard eyewitness accounts of the event and drawing on local knowledge. In this sense, they do form a part of the recovery process for communities and local councils and help them better understand the flood that affected them, and its causes and effects. Flood Risk Management Plans (authored by local councils) were also described as relevant to recovery because inevitably they must ensure that flooding is dealt with holistically across organisations, and because as already discussed, the line between response and recovery is not clear cut (I9).

The extent to which recovery is integrated within flood risk management decision-making and activities within a local council varies significantly depending on the council itself. A flood expert (I7) explained how flood recovery teams within the local council may sit within different departments (for example, highways, emergency response, environmental planning, or as their own team), which will significantly influence the extent to which they feed into wider FCERM activities – being typically a function of risk and budget.

Response and long-term flood risk management may also be integrated in the cases of specific flood risk assets. For example, following a flood event in Monmouthshire, the fire service requested that the council build a pump for surface water drainage due to recurrent flooding on a road which gave access to a leisure facility, reducing the amount of response needed in that area (I9). This example also highlights the ways in which different Category 1 responders may feed back into longer-term flood risk management plans and activities.

At the level of government agencies, flood recovery was interpreted to interact with FCERM activities by taking lessons learnt from flood recovery processes and incorporating them as part of national level flood reviews. In this context, Natural Resources Wales raised the February Floods Review (I1), in which the recovery element of reporting fed into recommendations relevant to FCERM actions, concerning repairs to hydrometric assets and to clarify positions over orphaned flood risk assets (assets for whom ownership and responsibility is uncertain) on main rivers. Moreover, it was discussed how Defra's Property Flood Resilience (PFR) and Build Back Better (BBB) schemes overlap recovery and future flood risk management (I7). The discussion with Flood Re (I5) further revealed how data from the Flood Re and BBB schemes are feeding into long-term resilience strategies, but this was said to be a difficult task.

It was initially considered that data on properties participating in the Flood Re scheme might provide additional insight into the spatial distribution of flood risk, potentially complementing existing national risk mapping such as NaFRA2 within the statutory FCERM framework. However, subsequent analysis highlighted several limitations in using Flood Re uptake as an indicator of flood risk. In particular, insurance penetration was found to be influenced less by underlying flood risk and more by factors such as property tenure (for example, whether a property was owner-occupied or rented), limiting its usefulness as an indicator of flood risk. Nonetheless, Flood Re does have regular contact with the Environment Agency around information and data, while the scoring mechanism for PFR – to help evaluate the different measures – is feeding into the Environment Agency's long-term investment strategy for flood risk management.

4.8 Lessons from case studies

4.8.1 Where are interventions working well?

The case studies provided some examples of where institutional support appeared to have worked well. During the immediate response in Bewdley, the district council was noted to provide practical support, including offering sandbags to residents; clearing streets and houses through the police and fire services; providing temporary accommodation to evacuated residents and speaking to insurance companies to secure suitable accommodation for vulnerable groups, such as elderly couples. The district council also provided support through a phone-based flood advisory service. Through this service, the district council supported and advised residents on how to consult with

insurance companies and how to access Defra's flood grants. The advisory service also encouraged residents to move out where they were at risk of bacteria and mould contamination.

Meanwhile, the Severn Area Rescue Association and Khalsa Aid institutional-level interventions (wellbeing checks, free meals) were praised by residents. Additionally, the Environment Agency has been working with the community to provide a new flood risk management scheme completed in September 2025, which will provide protection to both sides of the town (Beales Corner Scheme). This will act as a significant upgrade to the temporary defences on Beales Corner which the Environment Agency has put in place, working closely with the community and RMA partners. The Environment Agency also supported the community in Bewdley by giving out pumps.

In Stockdalewath, some local stakeholders felt that a drop-in event organised to answer questions about flood recovery went well and was well coordinated, with residents appreciating their presence, although some residents offered differing views. Across the case studies, for those residents who received Environment Agency flood warnings, these warnings were described as essential in preparing and responding to flood incidents. Since the flood in Sparkhill, the city council has worked to raise community awareness and improve flood reporting by encouraging residents to sign up for alerts, such as the Environment Agency's flood warning service, and sharing a contact number for reporting. In partnership with the Environment Agency, the city council held multilingual community events, like litter picks, to highlight flood risks.

Examples of effective efforts by institutions reported were fairly limited from the case studies, this may in part be a reflection of limited numbers of affected residents and business owners talked to who had clear sight of the effectiveness of actions. It is also important to state that the Build Back Better scheme, an important addition to the FloodRe scheme that supports residents in purchasing property food resilience, has only relatively recently been introduced.

4.8.2 Where are interventions not working well and how are communities engaging with them?

Across the 4 case studies – Sparkhill, Looe, Bewdley, and Stockdalewath – residents and business owners expressed frustration over inadequate institutional support in flood recovery. In Sparkhill and Bewdley, people expressed feelings of abandonment and disregard by authorities, a sentiment echoed in Stockdalewath, where there was a perception that Environment Agency involvement before and after the flood made the situation worse. One resident reported that they "felt forgotten" and another that they "had no idea where to turn". It was suggested by a resident in Stockdalewath that after the flood, leaflets could have been distributed. Similarly, residents in Sparkhill reported feeling "left behind and unsupported" by institutions. While many residents or business owners in Looe described a high-degree of self-reliance, where there has historically been an absence of institutional support for recovery, local stakeholders highlighted a lack of authority to take actions like closing the main road in East Looe.

This sense of abandonment felt in Sparkhill, Bewdley, and Stockdalewath echoes findings from the literature review and expert interviews, which suggested that the current flood recovery governance is fragmented and has confusion over roles. This, in turn, leads to inconsistent support across agencies and locations. Unclear responsibilities were identified as barriers to coordinated action, aligning with the case study findings. Confusion between the role of the Environment

Agency versus councils was evident from residents or business owners in Bewdley and Sparkhill where the river changes course and responsibility is blurry as a result. For example, Bewdley is classified as being on a main river, meaning that the council expects some level of Environment Agency involvement, while the Environment Agency understands that flood recovery responsibility sits with the local council, having had limited involvement in recovery efforts in recent years. In Sparkhill, responsibilities were said to be fragmented across organisations, leading to finger-pointing and avoidance of accountability, as well as limited understanding of the on- -the-ground effect. One local stakeholder remarked that “it’s so piecemeal, it’s like trying to herd cats” *(*SH1).

In Stockdalewath, one of the major issues was the delay in both response and the setting up of a multi-agency co-ordination group. It was suggested that this could be improved by having more established structures for dealing with emergencies where there is minimal time for preparation and mobilisation, as well as clear responsibilities for the setting up and coordination of the Recovery Support Group (RSG) and multi-agency teams. Specifically, it was suggested that the local council be more proactive in setting up the RSG, working more closely with emergency response teams to identify clearly when this should happen. In Looe, the institutional response has historically been limited, but it was suggested that the fire service’s response could be improved by having a WhatsApp group to communicate with other agencies, while the development of a community action and emergency plan (planned to be developed) would enable a more structured and integrated response and recovery.

The effectiveness of flood warning systems varied across the case studies, presenting challenges for rural areas. While the Environment Agency’s flood warning system was valued, issues with communication can have serious repercussions for recovery. Poor phone signals and a loss of power, combined with the fact that the flood struck in the night in rural Stockdalewath, meant that many did not receive adequate warning. This also meant that the authorities initially underestimated the scale of flooding.

These findings reinforce communication issues identified in the literature review (see sections 4.4. Where are they not working as well? and 4.5. How could they be improved?), especially in rural areas with poor infrastructure, and highlight the need for better early warning systems. Pilot schemes are in place to improve signal in such remote hard-to-reach areas, but there are implementation challenges due to dependence on specific network providers and geographical constraints. It is also important to ensure that the right communities are prioritised.

The case studies supported findings that flood recovery roles and responsibilities can be inadequately applied in practice. In Stockdalewath, it was also suggested that the merging of multiple councils into 2 unitary authorities for Cumbria, created confusion about roles and responsibilities, and a loss of local knowledge. This suggests a need to carefully evaluate the effects of institutional restructuring on flood recovery processes, and adapt accordingly.

The case studies emphasised a need to establish a greater sense of trust between institutions and communities. In Stockdalewath, residents reported feeling abandoned due to a lack of Environment Agency on-the-ground presence, limited information, and a drop-in event that they felt mostly offered platitudes. In Sparkhill, one resident expressed that “[institutions aren’t] in any way, shape or form set up for it”. The case studies therefore suggest that even if institutions cannot offer direct practical support, there is an opportunity for them to do more by providing a more

visible presence and showing a sense of duty of care by maintaining regular communication, as well as potentially actively involving flood-affected residents in recovery planning.

The case studies also brought out examples of how communities may interact with physical measures to mitigate or prevent future flooding. In Bewdley, historic experiences of unequal flood protection on either side of the river have created a community described as “split between the haves and the have nots” (BE1). Residents in the case study also felt that the Environment Agency was visible and active only on one side, with funding and attention disproportionately concentrated on the town centre rather than where they perceived the need is greater on the other side with more vulnerable residents. As a result of the perceived disparity in defence and property resilience in Bewdley, one resident observed that “the flooding has split the town, there is no community” *(*BE4).

In Looe, a proposal for a flood defence scheme (Cornwall Council, n.d.), which would protect the town from future tidal flood risk, has proved controversial among some residents due to concern over the visual impact on Looe, environmental concerns, and the high cost. These case study examples highlight the significance of community responses to institutional decision-making, and the importance of trusted relationships with a community to support positive perceptions and acceptance of flood defences. While trust is likely to be built through various mechanisms, clear, honest and regular communication with all members of the community, and on-the-ground presence during and after flood events, were highlighted as particularly important from the case studies.

Finally, the case studies also confirmed issues with insurance, including a lack of coverage, unaffordable premiums, and difficulties or delays in receiving payouts. For example, in Bewdley, one resident described waiting 15 months after the flood event to receive their payout. As a rural and isolated community, issues with insurers were particularly problematic for the community in Stockdalewath, as insurance companies rely on contractors who must travel from far away and who are unfamiliar with the area, exacerbating recovery times. In Looe, 35% of businesses in a survey from 2023 reported having no flood insurance, while some residents described being unable to take out insurance because of their high flood risk. Excessively high insurance premiums, particularly for homes with flood history, were cited as an issue in Sparkhill, an area of Birmingham with high socio-economic deprivation.

However, there were also positive examples of residents or business owners’ interaction with insurance companies. In Bewdley, one resident described how having been able to install property flood resilience measures after a flood, they had seen a significant reduction in their claim amounts in flood events since. This highlights the value of recently introduced schemes like Build Back Better under Flood Re. The evidence review highlights inequities in insurance access, grant eligibility, and preparedness, especially in rural or low-income and minority communities (See sections 4.4 and 5.2). The case studies confirm these claims, and show that areas like Bewdley with lower deprivation levels are better equipped when compared to places like Sparkhill.

5 How do communities recover from floods?

5.1 What are the main effects on individuals, businesses and communities?

Floods can have life-changing effects which vary significantly according to the individual and flood event. The evidence analysis and interviews highlighted 7 significant categories, providing an overview of the main issues reported in the evidence. It should be noted that this is not a comprehensive analysis but provides an overview of the significant effects identified.

5.1.1 Effects of evacuation and temporary rehousing

Multiple studies found that people displaced from floods and those experiencing structural damage are more likely to experience depression, anxiety and post-traumatic stress disorder (PTSD) compared to those not evacuated or displaced (Paranjothy and others, 2011; Munro and others, 2017; PHE, 2020; Waite and others, 2017; Mulchandani, 2020). This greater psychological toll stems from lost emotional connection to home (Walker-Springett and others, 2017), lack of safe personal space (Convery and others, 2010), loss of possessions (Davies, 2015; Bingley and others, 2018), isolation from friendship networks, and general disruption to everyday life.

Displacement may strain family relationships through forced cohabitation or separation, including arguments after moving in with relatives and lost family rituals like birthdays (Davies, 2015; Walker and others, 2010; Burningham and others, 2012). Temporary housing conditions create physical and emotional adaptation challenges, with children in caravans feeling cramped, and compromising homework, sleeping and socialising activities (Burningham and others, 2012). People can lose their sense of place, particularly if displaced or if areas undergo significant destruction, including lost security and familiarity as places come to signify disaster and vulnerability (Tapsell and Tunstall, 2008; Mort and others, 2018).

5.1.2 Effects of recovery works and renovation

Living at home during recovery works contributes to persistent stress and anxiety through constant noise and mess, strangers entering homes, project management burdens, routine disruption, loss of control over decisions, ongoing issues, financial pressure, and managing everyday responsibilities alongside renovation (Whittle and others, 2010; Tapsell and Tunstall 2008; Medd and others, 2015).

Rebuilding a sense of home requires significant emotional and physical work. As Whittle and others (2016, p.98) state: "Living with a house that has just 'arrived' and where everything is new, rather than a home that has been built up gradually and where particular objects have memories and meanings attached to them, can be very difficult psychologically". Recreating feelings of home – safety, belonging, attachment – takes considerable time after physical completion given homes' connection to memories (Medd and others, 2015). Recovery decisions must be made while

already stressed, often involving immediate wholesale renovation rather than gradual changes, with loss of sentimental items contributing to flooding being a 'lifetime event' (I1, I10).

5.1.3 Effects from disruption to essential services

Damage to power and communications infrastructure disrupts everyday routines and tasks through lost internet and electricity (Burningham and others, 2012). Damage to transport infrastructure creates access problems, particularly problematic for remote areas unable to access essential items like food, hampering overall recovery as supplies and services can't reach communities (Andrew, 2012; Wedawatta and others, 2014). Water contamination results in physical health problems like stomach upsets and coughs (Carroll and others, 2010). Disruption to health, social care, and social spaces negatively affects mental health, exacerbating existing issues or contributing to anxiety and PTSD, with children particularly affected by lost access to socialising spaces (PHE, 2020; Paranhothy and others, 2011).

5.1.4 Effects of loss of business

Businesses lose significant assets and infrastructure while losing income generation ability through footfall reductions, stock losses, staff unavailability, renovation needs, or site displacement (Davies, 2015; Koks et al, 2019; Bhattacharya-Mis and Lamond, 2014b). High costs include cleanup, renovations, employee protections, and insurance premium increases. Combined impacts can force business closure, with small and medium firms significantly more likely to terminate operations due to limited financial reserves or insurance, particularly affecting services and natural resource sectors (Leach, 2015; Crampton et al, n.d.). Negative impacts extend beyond individual firms to local supply chains, economies, and livelihoods (Koks et al, 2019).

5.1.5 Changed perceptions of the future and weather events

Rain becomes an emotional trigger for bad memories and future flood fears, with people feeling anxious during heavy rain events, fearing flooding may return and remembering previous difficulties, leading to climate change fatalism (Environment Agency, 2010; Sims and others, 2009; Whittle and others, 2010). On the other hand, some feel inspired to develop home resilience through renovation or engage in local environmental management debates (Environment Agency, 2010; Whittle and others, 2010).

5.1.6 Eroded trust in local councils

People apportion blame for events as part of emotional recovery, which is often directed towards government and councils who are perceived as responsible for flood defence and recovery services (Forrest and others, 2024; Pitt, 2008; Deeming, 2018). While some flood responses have been highly effective and flood alerts have generally improved over time, households who have been flooded when promised ‘protection’ by defences can experience anger and perceive institutional efforts to have ‘failed’ (Deeming, 2018, p.110).

5.1.7 Enhanced community spirit and development of social networks

Flood recovery can galvanise community action, revitalising community spirit and social cohesion (McEwen and others, 2016). Woods (2017, p.219) describes community as "the 'feeling' that comes from being part of a community where there is a shared locale which results in sharing of experience, some values, a feeling of cohesion and support, and the knowledge that the people within the community will take care of each other". Flood recovery encourages a sense of community through greater participation in local support services and neighbours communicating to share experiences or provide help. Chang (2010) highlights how disasters remind communities of cooperation value for shared goals. Flood events can improve engagement between residents and councils, with increased council presence breaking down barriers and contributing to greater long-term community engagement with council services (Easthope and Mort, 2014).

5.2 How are effects experienced differently across social groups?

The effects of floods can be individual, with some people experiencing different struggles compared to others because of their background, living context, occupation, ethnicity, age, and gender, for example. The evidence analysis looked specifically at how the effects of flood events can be experienced differently across social groups, how some groups can be disadvantaged, and how they experience recovery. In this analysis, we identified 4 groupings. It should be noted that the analysis below is likely to exclude other, potentially less visible groups who should also be recognised by researchers, support bodies, and decision makers.

5.2.1 Gender

Often, much of the work associated with flood recovery within the home is disproportionately completed by women (Medd and others, 2009; Sims and others, 2009). Women are more likely to be working part-time or at home looking after children, so they can assume the role of ‘project manager’. This can involve supervising repairs, chasing insurance companies, staying in for deliveries, and making interior design choices (Medd and others, 2009; Sims and others, 2009). As well as practical work in the home, the emotional work of caring and supporting friends and family during the recovery process can often fall onto women (Akerkar and Fordham, 2017; Medd and others, 2009). Akerkar and Fordham (2017) attribute this to men typically responding to floods through notions of control, rather than emotional notions of care associated with women (Akerkar and Fordham, 2017).

Mental health impacts such as depression, anxiety and PTSD were reported to be higher in women than men after flood events (Paranjothy and others, 2011; Tapsell and Tunstall, 2008). Men have been found to have a higher reported increase of alcohol use and prescription drugs after flood events (Tapsell and Tunstall, 2008).

5.2.2 Socio-economic status

Protection from insurance tends to be lower among low-income households, tenants and economically deprived communities (Penning-Rowsell and Priest, 2015; Blanc, 2020; Ball and

others, 2021). The Resolution Foundation found that just one-third of the poorest households in the UK had contents insurance in 2022, with a further one-third saying they would like to have it, but cannot afford it, compared to an equivalent 1% of those on the highest incomes (Resolution Foundation, 2022). Lack of insurance is consistently regarded as increasing vulnerability to flooding, being associated with increased damage, longer recovery times, and increased psychological morbidity (Mulchandani and others, 2019). French and others (2019) and Mulchandani (2020) also found that the risk of mental health impacts following floods is greater for those living in deprived areas, predominantly due to inadequate insurance cover and more limited social services.

Access to support during flood recovery is variable according to geographical location (such as living rurally or in a town); integration into community groups; socio-economic status; and education (Carroll and others, 2010; Hall, 2017). Those who are less educated, for example, may face more difficulties in understanding insurance procedures or laws and less able to make a case in a dispute (Carroll and others, 2010; Environment Agency, 2010). The Resolution Foundation also found that flood defence spending is skewed towards cities and urban areas, suggesting that lower income people living in more rural areas may be more exposed to floods and therefore at risk of more significant damage and effects to recover from (Resolution Foundation, 2022).

Those on lower incomes have been more likely to report mental health issues after floods (Lamond, 2014; Joseph and others, 2015b; Ball and others, 2021). This has been associated with longer displacement times for more deprived victims, with those that are relocated for over 6 months being almost 6 times more likely to report mental health deterioration than those not relocated at all (Kovats and others, 2016).

Media reports of floods are often based on the experiences of higher social classes, especially if the broader community is associated with a marginalised group (Valencio and Valencio, 2018). Solutions for recovery proposed by those with more social prestige are more likely to be taken forward than by those from lower social classes (Valencio and Valencio, 2018).

5.2.3 Age

Children and young people can experience adverse effects from flooding which can go unnoticed. The disruption to day-to-day lives and experience of uncertainty can significantly affect children and young people, especially if they feel their experience is not noticed or heard (Lancaster University & Save the Children, 2016; Mort and others, 2016). Furthermore, some children can experience gaps in support, if it is assumed that they are getting support from elsewhere (such as school, home or a youth worker). This can be especially applicable for children who move from primary to secondary school during flood recovery (Walker and others, 2010).

Some studies found that older people can be more vulnerable to flooding and experience specific difficulties in moving, receiving flood alerts, and accessing help (Environment Agency, 2010). However, other studies found that more active older people can have a greater resilience to flood effects, partly due to the time available to deal with the disruption (Ball and others, 2021). Mulchandani's (2020) 3-year study on psychological morbidity found that older age can increase vulnerability to experiencing psychological effects following floods.

5.2.4 Occupation

Support workers, such as those working in risk management authorities, healthcare, social work, and emergency services, can be at risk of overworking during flood recovery, and listening to emotionally distressing stories can be draining on mental health. These workers can lack adequate support, especially when exposed to these anxieties over a long period of time which can result in exhaustion (Carroll and others, 2010). When there is a crossover in roles of support worker and flood victim, the negative effects can be amplified as individuals navigate work pressure as well as managing their own recovery (Whittle and others, 2010).

Volunteers can face the same risks as support workers during recovery efforts but are without support from employers which can increase their vulnerability to mental health issues (Whittle and others, 2010). More broadly, working adults can have less capacity to deal with flood recovery compared to retired people, due to having less time available (Ball and others, 2021). However, resilience to flooding can also depend on financial resources and institutional support, which may be less available for the retired (Ball and others, 2021).

5.3 How and in what ways do people cope and recover from these effects?

Individuals and communities use a range of coping strategies to recover from a flood, which can be in addition to, or in lieu of institutional forms of support. An important area is through existing and new shared social networks which can be helped by social media. A further longer-term strategy known as ‘memorialisation’ has also been identified.

5.3.1 Shared social networks

As explored in sections 5.4.2 (How do people recover from flood effects?) and 6.8.5 (Facilitation of shared social networks), shared social networks can support recovery from floods by galvanising formal and informal modes of support between individuals, families, friends, neighbours and local communities (Ntontis and others, 2020; Coates, 2015). Examples can include individuals offering dinner to neighbours and recounting shared experiences (Adger and others, 2018); businesses offering their services and donating to relief efforts (Butler and others, 2016b); volunteers offering their time to advise on insurance or renovation works; teachers using circle time in schools to encourage children to share their experiences (Convery and others, 2010); and children checking in on neighbours (Bingley and others, 2018).

The value of shared social networks to emotional recovery in communities was highlighted in a study by Convery and others (2010, p.104), where a respondent noted that “while counselling was on offer from ‘our Educational Psychology Service’ [for families and parents as well as pupils] as far as I am aware no one took it up. I think the counselling came from each other. I think we all helped each other, really, because we were all in the same boat, literally”. While shared social networks can directly support the recovery of those other than oneself, research has found that the sense of agency from supporting others can also improve individual wellbeing (Butler and others, 2016b; Bingley and others, 2018). In addition to supporting the flood recovery process, shared

social networks can have wider, long-term effects, such as increasing a sense of community and encouraging the development of new friendships (Walker-Springett and others, 2017).

5.3.2 Memorialisation

Memorialisation is another process through which communities recover from floods. Puzyreva and de Vries (2021) interpret this as an “activity of deriving meaningful patterns from meaningful events” that are “consensual for a particular social group and firmly linked to a social-ecological context”.

These activities can happen officially or unofficially, with methods including:

- epigraphic marking of water levels, such as recording or engraving flood levels on walls or public markers in public settings
- archiving photos in personal, family or community flood albums or on social media
- storytelling activities
- displaying photographs in public archives (McEwen and others, 2016).

These processes can support emotional recovery by helping individuals make sense of a flood event and their environment (Puzyreva and de Vries, 2021) and can encourage a process of “active remembering”, which is considered to be a better, more sustainable way to establish flood memories compared to “active forgetting” (McEwen and others, 2016, p.20). Memorialisation can also support adaptive capacity through encouraging learning and sharing within and across communities (Bhattacharya-Mis and Lamond, 2014a). This can encourage better responses to future flood events as past knowledge and experiences are used to inform practice.

5.3.3 The role of social media

Social media platforms such as Twitter, Facebook, WeChat and Weibo, are often used by communities to share experiences, stay connected, and access important information and resources during flood events (Ogie, 2022). Although research has tended to concentrate on the use of social media in the early stages of disaster response and situational awareness, there is increasing awareness that individuals and communities use social media to support longer-term recovery.

The literature identified multiple ways in which social media is used to help people recover from the effects of flooding. These include distribution of alerts, updates and warnings, with Carter and Sharp's (2020) study finding social media provided information more quickly and reached larger audiences than traditional media, providing crucial communication when other channels were disrupted by infrastructure damage. Social media helps support informal volunteer recruitment, donation management and dissemination, with Ogie (2022) finding fundraising most effective when administered transparently, engagingly, and appreciatively.

Personal experience and story sharing cultivates solidarity and social cohesion by providing spaces for expressing gratitude, seeking help, and building relationships (Ogie, 2022). Broadcasting community activities like directing traffic or distributing sandbags evokes community pride, empathy and humour, supporting individual mental health. Social media allows learning to

be shared between communities to aid recovery, such as through flood action groups (Carter and Sharp, 2020). It also helps data gathering to understand recovery progress and improve future understanding. Twitter has been used to identify victim priorities, including housing, medical supplies, clothing and relief needs, while social media sentiment analysis indicates psychological wellbeing and recovery speed factors. At broader scales, social media data tracks industry recovery through tourist movement patterns or small business content analysis (Ogie, 2022).

However, several limitations constrain social media's recovery role. Not everyone uses social media, excluding certain groups from associated benefits and information (Carter and Sharp, 2020). Some communications can be socially divisive, hampering psychological, social and infrastructure recovery, while undermining community trust, unity and shared values, particularly when initial recovery efforts pass and accountability calls emerge (Ogie, 2022). Recovery-related messages decline over time, leaving people feeling isolated and disconnected long term, particularly those who became reliant on this type of support (Ogie, 2022).

Future research needs include better understanding of the different uses of social media among audiences and digital contexts, including platform preferences, and exploring emerging social media platform potential (Ogie, 2022).

5.4 Lessons from case studies

5.4.1 Psychological and community effects

Across the case studies, the psychological impacts of flooding were well evidenced. They included heightened anxiety triggered by rain or water sounds, chronic stress from dealing with insurance and institutional inaction, and emotional exhaustion from repeated events. Many residents described a sense of abandonment and loss, while others demonstrated growing emotional resilience, adapting to uncertainty and developing a more self-reliant mindset.

Secondary impacts on mental health can also arise as a result of a changing community presence and property ownership after floods. Residents may not only be displaced from their home temporarily, but may sell homes or convert them to Airbnbs. For example, one affected resident in Stockdalewath described how “in past floods, there was a sense of people coming together. This time, it’s crushed the community”. In Bewdley, a resident shared how 2 sets of neighbours (both single young men) move out of their homes every time before it floods, and just let their property flood. Another resident said that some people have left Bewdley entirely due to the emotional toll of flooding and stress associated with the risk of another flood event.

These findings support the strong evidence base on the long-term psychological impacts of floods (see section 7.1). Community erosion and loss of place identity experienced in Stockdalewath and Bewdley are connected and exacerbate these effects. Looe's community resilience shows how social cohesion and community-led recovery can reduce these effects.

The case studies therefore highlight the need to support flood-affected communities in adapting to new norms, maintaining stable mental health, and navigating community disruption over the long term. Community stakeholders, including Community Development Officers for example, have a role to play in actively supporting flood-affected communities, not only in the immediate aftermath

but also in longer-term recovery. This is particularly relevant for communities that flood regularly or where there is sometimes a disconnect between residents and institutions, such as in parts of Bewdley.

5.4.2 Socio-economic and geographical disparities

Economic differences played a significant role in shaping resilience and response strategies. Bewdley, a middle-income area, demonstrated greater preparedness and stronger community support, whereas Sparkhill struggled with lack of awareness, household resilience, and a lack of financial buffer before, during and after floods. Meanwhile, Stockdalewath's isolation and smaller size limited institutional recovery resources. Examples given included the repairs of walls adjacent to the public bridge over the road, and a reported lack of on-the-ground presence and supplying information to the community in the aftermath. While economic differences are likely to play a significant role in preparedness, it should also be noted that Bewdley experiences frequent flooding (typically yearly) and therefore has greater experience of responding and adapting.

Recovery frameworks must therefore remain adaptable to suit the diverse needs of different communities, reflecting both their inherent strengths and weaknesses in being able to respond to and recover from flooding.

5.4.3 How do people recover from flood effects?

Community-led resilience emerged as a significant factor across the 4 case studies, but this was often insufficiently supported by institutions. The case studies also gave extensive examples of residents installing physical resilience measures to reduce future risk of flooding. In Bewdley and Looe, long-term exposure to flooding has encouraged a culture of preparedness. In Bewdley, some residents maintain flood cupboards and have developed a ‘business as usual’ mindset. The Environment Agency has supported residents in installing flood doors, raised sockets, and even ceiling hooks to suspend furniture; changes that dramatically reduced future damage and insurance claims.

In Looe, actions also included using tiled flooring for easier cleanup, and employing multiple pumps to quickly remove water. Many businesses store stock at higher levels and have trained staff for flood response. In Sparkhill, one business created a dedicated resilience role, reflecting a shift towards anticipating and managing future crises as inevitable. Resilience measures installed by residents in Stockdalewath included 3-metre- high curtain walls, air source heat pumps installed above flood level, using breathable cork-based renders, constructing berms and gravel drains, and fitting flood-resistant doors and custom barriers. Nonetheless, the intensity of the flooding in May 2024 overcame these barriers.

While all the case studies demonstrated examples of resilience measures, these were particularly seen as routine requirements in Bewdley and Looe, reflecting the high frequency of flooding. Lessons may be drawn from the communities in such places, but the importance of context and the nature of flooding must also not be overlooked. The case studies also provided examples of where resilience measures fail to prevent or even mitigate flooding, highlighting the importance of adequate communications with flood vulnerable communities about the potential of property level resilience measures.

Shared social networks have played an important role in recovery in the case study areas, often compensating for limited institutional support. In Bewdley, neighbours helped each other with practical tasks like distributing sandbags, loaning equipment, and offering emotional support, with one resident describing how a mother "burst into tears" upon receiving a fresh towel after days without one. In Looe, tight-knit communities routinely work together during and after floods, helping to install flood boards and assisting with cleanup, reflecting a culture of mutual aid and familiarity that eases the burden of recovery. These examples highlight the value in generating grassroots approaches to flood recovery, for example by developing flood groups. This can be started by institutional action. For example, in Looe, the council has sought to improve flood response and recovery by developing a community action and emergency plan, and training flood wardens, working in partnership with Cornwall Community Flood Forum.

The literature emphasised the critical role of community networks and also noted that institutional support is often lacking or inconsistent (See sections 4.6. (How are communities engaging in institutional flood recovery processes?) and 6.1 (Communication and coordination). Across all locations, effective flood recovery depended on good communication, strong institutional presence, and proactive measures, yet these remained inconsistent and inadequate. Sparkhill and Bewdley's cases support the idea that community-led efforts are essential but not sufficient without institutional support.

6 Gaps between institutional support and community flood recovery processes

Analysis of the evidence identified several areas where institutional support does not fully align with the needs and lived experiences of communities recovering from flooding. These gaps relate to communication and coordination, support for rebuilding, mental health provision, facilitation of social networks, the range and quality of institutional support, support for children, and the relationship between resilience measures and insurance. Together, these mismatches can affect recovery outcomes, prolong recovery journeys, and limit opportunities to build long-term resilience.

6.1 Communication and coordination

The literature identifies gaps in communication and coordination between institutional support bodies. These gaps were identified between flood recovery stakeholders, including public, voluntary and private organisations, as well as between recovery stakeholders and communities (De Ita and others, 2022; Fernandez-Bilbao and Twigger-Ross, 2009). This has contributed to missed opportunities for resource- and knowledge-sharing before, during and after floods, as well as isolated, and sometimes contradictory approaches to communications and response strategies (De Ita and others, 2022). This has been seen to undermine the effectiveness and efficiency of recovery, which has in turn reduced public trust in institutions, limiting opportunities for communities and agencies to work together again in future (Butler and others, 2016b).

Issues with coordination are partly attributed to unclear roles and responsibilities of institutional bodies involved in the recovery process, contributing to inconsistent approaches and mismanagement of expectations. As an example, residents can be unclear as to who is responsible for protecting their homes against flood risk (Joseph and others, 2015a; Butler and others, 2016b).

Historically, this has led to residents underestimating their own legal responsibilities, while inflating their expectations of insurers and public authorities (Snel and others, 2020). Accordingly, Joseph and others (2015a) emphasise the importance of clearly communicating who is responsible for doing what and articulating this to all involved parties. To achieve this, Crick and others (2018) suggest establishing national protocols on flood response and recovery, which clearly delineate responsibilities across areas such as health, rebuilding, safety and insurance. Importantly, this should also include clear communication of responsibilities for homeowners and renters, to ensure that residents are fully aware of their roles during preparation and recovery.

Several papers also highlighted a gap in institutions recognising the potential of social media as a form of communication during flood recovery (Cameron and others, 2018; Deeming and others, 2011). Cameron and others (2018) suggest that all responding institutions should have a proactive social media presence and undertake community engagement to identify information needs and preferences so that content can be helpful and accessible. This could present a way to improve public awareness of flood risk and contribute to better preparedness through greater uptake of insurance and resilient repair (Priest and others, 2016a) Since these publications, several institutions, such as the Environment Agency, have adopted these recommendations, with the use

and reach of social media for the purposes of flood preparedness and recovery expanding considerably.

While community-level activities can arise spontaneously, they can require and benefit from initial facilitation and guidance from institutional bodies. Deeming and others (2011) recommend that institutions identify the types of facilitation and guidance that are most effective and useful for communities, to maximise community potential. Puzyreva and de Vries (2021) explore the role of community resilience advisors from the Environment Agency in overcoming methods of collaboration which “fit an old technocratic mandate”. It is suggested that these new methods of collaboration require an open attitude, where the community is valued as a complementary partner, capable of bringing solutions to flood risk management through local expertise (Puzyreva and de Vries, 2021). The authors assert the importance of assessing the social effect of such organisational change and ensuring that certain voices are not left unheard.

6.2 Support for rebuilding

Secondly, the literature identified gaps in institutional support for rebuilding. As discussed in section 4.4. (Where are they not working as well?), these gaps can increase vulnerability rather than regeneration and future resilience. Support gaps have included inadequate advice on navigating insurance applications and claim processes, potentially limiting household access to financial support and restricting the speed, scale, and quality of reinstatement (Muchandani and others, 2019). Historically, there has been insufficient guidance on what resilient reinstatement and risk reduction measures look like and how to achieve them, limiting the uptake of resilience measures (Joseph and others, 2014). A number of actions have been taken over recent years to rectify this. The most important of these has been the introduction of the Build Back Better Scheme, in 2022, which has already been discussed extensively.

In 2016, the PFR Roundtable was established and its Action Plan developed in 2016. Defra also funded 3 PFR pathfinders, in Yorkshire, the south-west and the Ox-Cam corridor, designed to find new and innovative ways of embedding resilience into properties. The outputs ranged from a PFR Demonstration Centre through to Be Flood Ready (www.beFlood Ready.uk). Furthermore, the Environment Agency with Flood Re launched the Be Flood Smart campaign in 2023 to showcase property flood resilience options and to raise flood risk awareness. This campaign and Be Flood Ready provided information and case studies for homeowners. In addition, the Code of Practice for property flood resilience was launched in 2021 (CIRIA, 2021).

Government policies and standards for refurbishing and reinstating flood damaged buildings have been said to be inadequate (Joseph and others, 2014; Priest and others, 2016b; Carroll and others, 2010) A major identified issue is that rebuilding to current building standards is relevant only above a certain threshold, but if that threshold is not reached, the standards do not apply (I5).

6.3 Support for mental health

Thirdly, the literature identified gaps in support for mental health, which was also identified as an area for improvement in section 4.5. (How could they be improved?). Predominantly, these gaps relate to insufficient provision and prioritisation of mental health support during flood recovery.

Crucially, this includes longevity of support, with Mulchandani's (2020) study finding that floods can have long-lasting effects on mental health, persisting for at least 3 years, risking chronic mental health problems if people affected do not receive suitable treatment (PHE, 2020; Mulchandani, 2020).

It has been suggested that support for mental health, such as counselling and talking therapies, be available over the long term to ensure that people in areas at flood risk can fully recover and continue to thrive long after a flood (Adger and others, 2018). Adger and others (2018) further point out that gaps in access also exist, with those in acute need often not able to access existing support. As well as the most vulnerable, this includes on-the-ground supporters. The Pitt Review (2008) suggested that health agencies and local councils need to reassess the way in which this support is provided and resourced and could cooperate with existing community support mechanisms to improve this. Crucially, those giving this support require sufficient knowledge on post-flood mental health impacts and recovery strategies (Forrest and others, 2024).

The UK Health Security Agency (UKHSA) has developed comprehensive guidance that covers flooding and health (first issued 2014, updated 2025; UKHSA 2025). The guidance provides advice for frontline responders specifically on how to recover from flooding (How to recover from flooding - GOV.UK). This covers the different aspects of flood recovery and cleanup, with a focus on minimising risks to public health (both physical and psychological). As far as this review is aware, there is no research that has evaluated the use of this guidance, but it does show important progress in this area.

6.4 Facilitation of shared social networks

Fourthly, the literature identified gaps in the facilitation of local-scale approaches to resilience, which can help individuals and communities to manage their own risk (see sections 4.6. (How are communities engaging in institutional flood recovery processes?) and 5.1 (What are the main effects on individuals, businesses and communities?) (Doorn-Hoekveld and others, 2019).

Historically, institutions have favoured conventional approaches to recovery which have underestimated, and accordingly, limited, the role of social and community capital (Butler and others, 2016b). This is considered to be a missed opportunity given the innovative and unique ways in which communities can respond to flood events, which often have broader positive effects on a community beyond recovery. Institutions could better encourage the emergence and longevity of shared social networks through mechanisms which inform, encourage and facilitate community action (Snel and others, 2020).

Some examples from the literature include:

- increase the use of community coordinator roles, such as "village agents in rural contexts that can form a link and source of two-way exchange between agencies, responders, governing bodies, and communities" (Walker-Springett and others, 2017, p.5)
- increase co-ordination and information sharing between formal organisations and community groups (Medd and others, 2015)
- support greater flexibility in institutional roles and job descriptions to allow workers to make better use of their local expertise (Medd and others, 2015)

- prioritise the reopening and, or, rebuilding of community spaces such as community hubs, to enable networking and social enterprise (Ntontis and others, 2020)
- provide training and resources, such as a framework for management and guidance on communications, to help the community to help itself (Shaw and others, 2015)
- direct more funding towards community-based initiatives (Crick and others, 2018)
- assist community rituals such as commemorations, anniversaries, talks, and social spaces with artwork, recordings or diaries, to reaffirm the existence of a community identity and support the memorialisation process (McEwen and others, 2016)

6.5 Range and quality of institutional support

Amid increasing interest and support for shared social networks, some research has identified evidence of overreliance on communities during flood recovery. Adger and others (2018) highlighted that not all communities have the same capacity to respond to a flood event, with differing levels of community networks, skills and knowledge. Furthermore, residents can be prone to concentrating on their own rebuilding once an emergency is over, and yet there is almost always, practical, emotional, and financial assistance still needed (Davies, 2015). In some cases, these limitations have been neglected by institutional organisations, which has contributed to slower and patchier recovery, with vulnerable residents often left behind. In part, this has been attributed to resource gaps in institutional support, which have been evident particularly in the health care sector, and repair and refurbishment supply chain (Landeg and others, 2019; Leach, 2015).

The need for continued engagement long after the flood event is part of this. Kovats and others (2016) suggest that the Environment Agency, local councils, and other bodies should be prepared to maintain involvement in affected areas over many months. Medd and others (2015a) add that longevity of support should be embedded in formal frameworks of support agencies, to ensure consistency and equity in recovery approaches.

In addition to the duration of institutional support, gaps have also been identified in the range and types of support provided. Fernandez-Bilbao and Twigger-Ross (2009) identified a lack of recognition among decision makers and support bodies for the diversity of experiences and needs among flood victims.

A broader awareness of recovery to account for the socio-economic and place-based characteristics of an area, which also identifies the most vulnerable, is needed to develop more tailored flood response strategies to appropriately fit the needs of an area. This should include providing emotional and psychological support, which tends to be the area of support most lacking after a flood. With this, agencies need to ensure that responders have the appropriate understanding, skills and training to handle the range of support needs identified (Carroll and others, 2010). However, it is also important to recognise that risk management authority (RMA) staff are not trained healthcare professionals and should be made aware of how to signpost to those whose role it is.

6.6 Support for children

The literature also identified gaps in institutional support available to children, particularly those between 6 and 16 years. As explored in section 7.2, children can experience floods differently to adults, with displacement, change and uncertainty provoking emotional reactions which can affect mental health, development, and education over the short and long term. While family and community needs are often attended to first, children can be neglected from response strategies, when they need more specific support (Lancaster University & Save the Children, 2016). Accordingly, Mort and others (2016) suggest that decision makers and practitioners pay more attention to support for children both at home and at school during the recovery process.

In addition to gaps in support for children, Mort and others (2016) identified gaps in recognising and supporting children's role in recovery efforts (see section 7.2). The authors express how "children can often play an active part in helping their communities during and after a flood and derive benefit from this. Such efforts need to be understood so that children can be seen as active citizens and not passive victims." (Mort and others, 2016, p.5).

There is a need to explore children's capacity in building family and community resilience and develop an understanding of how it can be enabled, and how it can enhance children's own recovery. Mort and others (2016) suggest this could be enabled by providing better information to children (before, during, and after a flood) so that they know how to prepare, what to expect, and how they can contribute.

At a broader level, flood risk management could draw more on the perspectives of children and young people through consultation events, so that their needs and ideas can be integrated into risk and recovery strategies (Mort and others, 2018).

6.7 Resilience measures and insurance

Finally, as property flood resilience (PFR) measures become more widely adopted, interviewees noted the need to better understand their relative effectiveness and value for money. While Flood Re is developing a scoring system for evaluating PFR measures, including both resistance measures (keeping water out) and recovery measures (reducing damage should water get in) (I5), one interviewee (I6) highlighted a need to understand more about the effects of different approaches to flood management within a home. They described how PFR mostly relies on 'off-the-shelf' solutions like flood doors, but there are also measures that are more mitigative and adaptative rather than preventative (such as designing properties to purposely allow flood water to enter and recede). Nonetheless, it is also true that the majority of people do not want their home greatly changed, and therefore there is reasonable demand for such off-the-shelf solutions rather than house redesign.

It was suggested that there is a need to understand not only the effectiveness and value for money of PFR, but also these more holistic measures, and more generally to develop a greater connection between theory and practice. It should also be noted that the PFR grant was evaluated in 2023, with the report suggesting the scheme did provide meaningful resilience improvements but there remains room for process and effect enhancements. However, it has also been

suggested that the report took far too long (nine years) to be commissioned (I9), Finally, as of 2022, the BBB scheme has come into force. However, the proportion of eligible claimants using the scheme (30%) is lower than anticipated (50%); a highlighted data gap is why precisely uptake is lower than expected and what can be done to alleviate it (I5).

One interviewee suggested that there is a need for an improved data collection service after specific floods, to determine how many people have insurance for flooding in a given area (I3). Suggestions for why residents may not have insurance are explored in the case studies section of this chapter (see section 6.8). It was also suggested by an interviewee that having a triage service, in which people who have been affected by a flood could ring a national helpline to seek support, could be one way of improving data collection, if this kind of information was noted during a call (I3).

6.8 Lessons from case studies

The case studies reinforced many of the gaps identified in the evidence review, while also suggesting opportunities for how they could be filled and built upon.

6.8.1 Communication

It is clear that there is a difference in how well flood risk and flood events are communicated to at-risk communities. This is particularly true for remote communities, providing evidence of the need for appropriate infrastructure and mechanisms to support such communities.

While some residents in the case studies were well prepared for flooding and highly aware of flood risk, some were not. This was said to be particularly true for new residents to communities (for example, in Bewdley and Looe), evidencing a need for such individuals moving to high flood risk areas to be appropriately informed.

6.8.2 Support for mental health

The case studies found evidence that adequate support for mental health issues for communities was lacking. Residents and business owners suggested that institutions could take more proactive steps to prioritise mental health and emotional wellbeing, particularly for vulnerable groups, with more training given to responding staff in this area.

6.8.3 Range and quality of institutional support

The case studies also suggested that there can be variation within communities in how well they are supported in response and recovery. For example, in Bewdley it was suggested that the Environment Agency was more visible and active on the better-protected side of town, despite greater need on the vulnerable side. In Looe, the fire service typically only had the capability to enforce road closure measures on the side of the town where it was situated. As a small, isolated community, it was suggested that Stockdalewath suffered in terms of provision of resources for recovery because of this. These examples call for more equitable distribution of action from institutional bodies, and to identify those least supported.

6.8.4 Insurance

Numerous examples were found of issues with insurance, including an inability of some residents or business owners to obtain flood risk insurance (particularly true for Looe) as well as excessively high premiums and complications or delays with receiving payouts. While government-backed schemes like Flood Re are supportive, it was suggested that more could be done to simplify claims processes, with the mental stress and time taken in dealing with them noted as major challenges for residents.

6.8.5 Facilitation of shared social networks

Following on from these gaps, the case studies also provided evidence of opportunities that could be capitalised on to better support the flood recovery process. Flood action groups and community networks, if sufficiently funded and run, can be effective means of supporting flood recovery in communities.

For example, in Looe, the council has recognised the potential of establishing a local flood action group, training flood wardens and developing a community action and emergency plan. In Bewdley, it was suggested that an ongoing flood group, to continue the work of the temporary committee that had a role in the decisions around implementing flood infrastructure, would be helpful in supporting communication between residents and institutions. This temporary committee was established by 5 residents in Bewdley, including a National Flood Forum representative, but is no longer active.

More information and improved awareness on how to prepare for and recover from floods could be highly effective. In Bewdley, residents explicitly recommended better information sharing as a way to improve outcomes, for example through new homeowners being issued with information packs. In Stockdalewath, it was suggested that basic information provided to residents in the immediate aftermath (through in-person visits from the Environment Agency or council), or providing information packs, would have supported residents.

The case studies suggested that sharing community experiences and learnings between residents could support peer learning and exchange in flood recovery. In Bewdley, for example, WhatsApp groups were said to provide a forum for this, while in Looe, neighbours and other businesses were said to routinely help each other by providing advice or warnings. The inter-generational knowledge about flood resilience and recovery in Looe was also brought out. Reflecting on the mismatch between community need and institutional provision, the case studies provided examples of how improved relationship building and communication channels between residents and institutions could be particularly helpful.

In Looe, the setting up of a flood action group, with input from the council, may go some way to doing this, while in Bewdley, residents suggested that there was a need to open communication channels between residents and agencies to reestablish trust. This could also enable institutions to have improved knowledge of flood risk, local community preferences, needs and priority actions. For example, in Looe, multiple residents suggested that improved drainage infrastructure could help mitigate flood risk, with some suggesting this should be prioritised over plans for more costly hard defences.

6.8.6 Opportunities for institutional support

The case studies suggested that there were opportunities for more targeted engagement, for example through tailored communication approaches for vulnerable households or at public events. In Bewdley, it was suggested that proactive outreach could be taken with more vulnerable households, while public engagement events where the council and the Environment Agency could together listen to stakeholder needs would be helpful. While a public engagement event was held for the residents of Stockdalewath, it was suggested that more could have been done to offer practical support.

While community-led resilience emerged as a significant factor across the 4 case studies, it was often insufficiently supported by institutions. While Looe demonstrated strong self-reliance, there was still an identified need for a flood recovery group and opportunities for improved institutional response, for example through road closure action in East Looe. Sparkhill and Bewdley required greater institutional support to enhance preparedness, with residents describing institutions' engagement with community efforts as largely reactive and disconnected. Across the case studies, opportunities emerged for providing small-scale funding for grassroots initiatives, recognising and formalising community roles, like flood wardens, offering training, resources, and consistent communication to empower residents, and listening to and co-designing plans with communities.

7 Evidence gaps and opportunities

Knowledge and understanding of the flood recovery process has increased over time, however, there is always more to learn and understand, particularly given the process of recovery is constantly evolving. Identifying and exploring knowledge gaps will be critical in helping to improve the effectiveness of institutional responses, so that support can be more directed and meaningful. The evidence gaps identified in the literature and interviews have been split into separate categories which we explore below.

7.1 Support for mental health and wellbeing

While the analysis found evidence for the effects of floods on health and wellbeing, a gap in understanding was evident on how mental health and wellbeing can be better supported during recovery (Adger and others, 2018; Medd and others, 2015). In part, this is attributed to the complex, often hidden, and long-term nature of the effects (Walker-Springett and others, 2017; PHE, 2020). Joseph and others (2015b) assert that better understanding the factors which affect mental health outcomes and the prevalence rates of psychological effects is critical to identifying interventions which could support recovery. This could include pre-existing factors, such as socio-economic status, demography or psychological wellbeing, as well as factors post-flood, such as the types of effects experienced, and the type, timing and level of support received (be it financial, psychological, or organisational).

Given the significant influence of damage to the home, displacement, and lost sense of place on mental health outcomes, Mulchandani (2020) highlights the importance of better understanding the specific types of damage experienced by flood victims, and identifying any correlation with the effects on mental health, particularly in vulnerable groups who may experience and respond to damage types differently. A better understanding of these processes could, in turn, help inform and evaluate interventions to firstly, help mitigate the risk of effects on mental health and wellbeing, and secondly, improve support for mental health and wellbeing, which could include social support or talking therapies, for example (Mulchandani, 2020).

French and others (2019) also identify a need to better understand the effect of repeat flooding on mental health, and how support can be tailored to these individuals who are vulnerable and most at risk. Their study found that those who had been previously flooded could experience anticipatory anxiety and stress about the prospect of a flood, yet their coping capacity and resilience may also increase.

Further research into the emotional processes and behavioural loops of victims exposed to repeat flooding, could in turn, help inform how support is better directed to these people to improve their psychological resilience. This could include identifying who is best placed to provide support (health services, social support, risk management authorities), what role they take, and at what stage of the flood risk management process.

7.2 Active role of children

Several papers identified gaps in understanding children's role and ability to contribute to their local flood recovery (Bingley and others, 2018; Mort and others, 2016). This can include natural and spontaneous processes where children bring together parents, teachers, and peer groups through their education, leisure and friendships (Burningham and others, 2012). Bingley and others (2018) identified how children's contribution to flood risk management can enhance their own recovery and resilience as well as others, through improving their understanding of flooding and providing a sense of agency and purpose.

7.3 Management of multisectoral partnerships

Surminski (2018) identified a need for more research into the role of multisectoral partnerships in disaster risk management and reduction. While the Environment Agency has since completed research on FCERM partnerships generally (Environment Agency, 2021), this didn't solely look at recovery. Indeed, the Environment Agency's (2023) systematic analysis identified a lack of research on the management and coordination of bodies that are involved in flood recovery, including their governance and institutional dynamics.

7.4 Different experiences across social groups

Akerkar and Fordham (2017) identified a lack of gender and diversity analysis in disaster research, which could be limiting understanding of how floods are experienced differently across social groups.

The additional literature review also identified a knowledge gap as to why displacement times are typically longer for more deprived victims. This correlation was identified in a study by Kovats and others (2016) but lacked reasoning as to why this was the case.

As well as their role in flood recovery, the research identified a need to explore children's experiences of floods. More specifically, this included how children's psychological resilience to natural disasters can be improved, particularly given the context of climate change in their lifetimes (Burningham and others, 2012). This was supported by Mort and others (2018), who identified a gap in understanding how children and young people are affected by floods, including in particular, their health and psychological wellbeing during evacuation.

Beyond the literature, the interviews suggested that there is a lack of understanding of what communities most need, and what people's expectations are about the support available to them. Given the varied experiences of different social and economic groups, needs will also vary between groups. Therefore, there is a requirement to better understand what support is required and how it is made available.

7.5 Business preparedness and recovery processes

Bhattacharya-Mis and Lamond (2014b) identified a lack of research on the preparedness and recovery of businesses after flood events (in comparison to households). The additional literature

review subsequently confirmed this gap, finding limited research beyond the financial effects of flooding on businesses.

8 Suggestions for future research

This research has provided valuable insights into flood recovery processes in England, highlighting both the complexity of recovery experiences and the variability in institutional responses. Building on these findings, several areas warrant further investigation to enhance our understanding and improve flood recovery support.

8.1 Evaluation of institutional guidance and practice for flood recovery

This project has not looked in detail and over a large sample at how local councils manage flood recovery. A comprehensive study could evaluate how local councils across England and Wales put flood recovery guidance into practice. This would involve developing a theory of change detailing expected outcomes, activities and assumptions. It would enable a clear picture of what is and isn't working well across Lead Local Flood Authorities across England and Wales in terms of:

- what guidance and frameworks they follow during flood recovery
- how recovery responsibilities are understood and implemented at different organisational levels

Such research could help clarify the potential disconnect between national guidance and local implementation identified in this study.

8.2 Long-term recovery studies

While this research mostly focused on recovery within 2 years of flooding, there could be value in research that follows people over longer time periods. Building on existing mental health impact studies, future research might track how individuals and communities cope and adapt over time, potentially providing insights into:

- the long-term psychological and social effects of flooding
- how recovery experiences may evolve beyond the initial 2-year period
- the potential effectiveness of different support interventions over time
- factors that might contribute to successful long-term adaptation

8.3 Insurance and financial recovery

A comprehensive national-level study examining insurance coverage and claims processes could provide data that appears to be currently lacking in flood recovery research. This might include:

- analysis of insurance rates in flood risk areas
- assessment of the relationship between insurance coverage and recovery outcomes
- exploration of how current insurance mechanisms might support or hinder resilient rebuilding

Such research would likely need to engage directly with insurance providers as well as policyholders to develop a better understanding of how insurance functions within the flood recovery system.

These research priorities could potentially provide evidence to support more effective flood recovery policies and practices.

Where future research studies aim to collect primary data by engaging with residents, approaches for recruitment and engagement should consider learning from this report, including:

- identifying community gatekeepers and establishing positive relationships with these members of the community early on to encourage their support in recruitment
- recognising language and cultural barriers, and where possible, attempting to work around or overcome these to encourage participation (this could be in relation to the timing of engagement, venue selection, languages spoken by facilitators, diversity of background of facilitators)
- using incentives to encourage participation, whether financial or non-financial

9 Conclusion

9.1 Summary

This project aimed to explore understandings and experiences of the flood recovery process at individual, community and institutional levels. It also aimed to identify how institutions such as the Environment Agency and local councils, who have statutory responsibility for recovery, could better support these processes.

Floods are increasing within England and Wales, with more people experiencing frequent flooding and flooding for the first time. Given this, ensuring that flood recovery builds resilience and adaptation is vital for communities to flourish in the longer term.

Better flood recovery could:

- help people return to their day-to-day lives and habitable homes quicker
- help people and businesses get back to work sooner
- reduce illness, stress and suffering from permanent mental health difficulties
- reduce disruption to children's and young adult's schooling
- give staff in local councils, the Environment Agency, and Natural Resources Wales greater clarity on their roles and responsibilities to be able to carry them out effectively, providing clear support for those who are affected by flooding as well as protecting themselves from stress and burnout

While we recognise that resourcing will always be considered an issue, it is also important to consider the potential costs of not improving flood recovery processes.

9.2 Findings

This report provides a review of evidence against a set of research questions. It draws on existing literature as well as stakeholder interviews and primary research in 4 case study locations.

The findings are summarised below according to the project objectives outlined in section 1.2:

9.2.1 Objective 1: Examine the existing recovery process for individuals and communities

The research demonstrates that flood recovery varies across individuals and communities. Experiences are influenced by factors such as:

- timescale
- sequencing
- severity and nature of the effects
- people involved

Often, this is a result of differences in demographics, for example:

- age and ethnicity
- socio-economic context, for example income, savings and insurance cover
- geography, including level of flood risk
- individual and community resilience to flood events, for example property flood resilience measures
- quality of relationships, including informal networks with family and friends and experiences of formal support

Despite the variable nature of recovery, a common thread is the amount of time individuals spend to rebuild their lives after a flood, reflecting a substantial amount of hidden 'work' in the recovery process, which is often challenging emotionally and physically.

Additionally, this research has highlighted that recovery from a flood is rarely defined by a distinct endpoint, with the process often being long term and resulting in an adapted state of living, rather than a return to life as it was before. This is especially relevant for those affected by mental health challenges following flood events.

Variability of the recovery experience is partly unsurprising given the multi-faceted nature of flood events and individualised nature of the effects. However, it is also likely to be influenced by the extent of institutional presence and coordination, including the complex array of organisations involved and disparities in responsibilities, that individuals have to navigate to access support.

9.2.2 Objective 2: Identify processes to support affected individuals and communities

An extensive number of organisations are involved in the flood recovery process. This includes public, private, and third sector organisations, with unique combinations of organisations – and relationships between them – evident across the country. While there are many organisations that can be involved, there are still gaps between the support that flooded individuals feel they need, versus what institutions currently provide.

As indicated through related findings for objective 1, this is partly attributable to the complexity of organisational responsibility, with a lack of coherence over what different institutions are responsible for. There is significant variation between regions and communities in how effectively and coherently flood recovery governance structures are set out and understood. While a framework for responsibilities exists, as set out in section 4.1. (institutional roles and responsibilities), these may not be fully understood or adequately applied at a local level or placed in a local context. Uncertainty may be amplified in 2 tier authority areas, where coordination between county and district councils is essential to avoid duplication. There are good examples where there has been co-operation between institutions, notably in Storm Babet (2019) where structure meetings enabled efficient coordination.

The lack of clarity and coordination for flood recovery support is not only a challenge for institutions themselves, but also for flooded individuals who spend time and effort to identify who can help them. Some case study participants felt there was severe lack of support available during their flood recovery journey, with a sense of isolation and avoidance leading to extra personal work,

stress, and burden. Good practice support for communities was evidenced in the Cumbrian floods of 2005 and 2009, with community hubs open for many weeks providing information, meetings and an ability to quickly react to emerging social issues (Deeming, 2015).

Institutional improvements should not neglect the vital role that communities themselves must play in building resilience and internal capacity to flood recovery. However, while case study research found examples of highly resilient communities, caution must be taken in applying best practice from often context-specific examples. Vulnerable communities and communities that have been less subject to repeated flooding historically, likely need more support to set in place the structures, awareness and economic capacity associated with this higher level of resilience.

9.2.3 Objective 3: Determine actions and resources required for improvement

Clearer guidance and processes could be developed for the flood recovery process as suggested in the previous sections. That could start by drawing together the guidance that currently exists into one place. Most importantly, this should include clearer responsibilities across agencies at a local level, understood and applied consistently, and combined with greater ownership and accountability.

Furthermore, planning tools and processes for recovery should be actively drafted and built upon, rather than reactive to circumstance; adaptable according to the unique circumstances of communities and specific flood events, and designed to link into regular practices and processes longer term. Understanding how improved integration across services could achieve this will be important, especially where the alternative would require additional funding.

With greater clarity over flood recovery processes and more transparency on responsibilities, agencies should also look to improve the quality of support to communities. Several suggestions have been outlined in this report which can be grouped into 4 priority areas:

- government support for rebuild – including comprehensive policies and standards for resilient reconstruction
- coordination, communication and support – through long-term coordinators and improved community engagement
- mental health and wellbeing support – recognising 3+ year effects
- financial support – including improvements to insurance and grant

Two important cross-cutting themes include:

- greater on-the-ground presence and contact during and after flood events
- improved relationships between institutional stakeholders and residents and community groups through more tailored communication strategies and ‘community-first’ engagement approaches

These come out of the good practice reviewed within this research.

There is also a need for clearer communication on financial support for resilience. Some of our associated suggestions include improved standardisation and amending of the Build Back Better

scheme and simplified processes to access PFR grants, as well as suggested improvements to council tax relief mechanisms.

These findings aim to inform policy and strategy development, improve practice, and guide future research priorities to support more effective flood recovery processes that better meet the diverse needs of flood-affected communities and support long-term resilience.

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Appendix 1

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Cabinet Office (2020) National Resilience Standards for Local Resilience Forums (LRFs).

Appendix 2

Search strings used to target specific topics

The topics are shown in bold text, and search strings shown in the bulleted list below them.

Inflexibility and slowness of institutional responses to flood events (newer than 2009 and 2008)

- institutional responses to flood events
- improving institutional responses to flood events
- issues with institutional responses to flood events
- criticisms of institutional responses to flood events
- issues with government response to flooding
- reasons for slow recovery from flood events

Community engagement in recovery processes, e.g. support from community groups, and how institutions can support/facilitate this

- community engagement in flood recovery
- community action in flood response
- community responses to flooding in England

Why displacement times are typically longer for more deprived victims

- why are displacement times longer for deprived flood victims?
- displacement after floods for deprived communities
- unequal impacts of flooding in England

Why floods impact differently across social groups

- social impacts of floods
- unequal impacts of flooding in England
- flooding impacts across social groups
- effects of floods on inequality

Use of social media by individuals/communities to recover from floods

- use of social media in flood recovery
- social media after floods

Impacts of floods on mental health and wellbeing and support available

- wellbeing after a flood
- impacts of floods on mental health

Attitudes towards / perceptions of institutional approaches to flooding

- perceptions of government flood responses
- attitudes towards government flood responses

Impacts of floods on businesses

- impacts of floods on businesses

Appendix 3

Project leaflet

What is the project about

- this research project has been commissioned by the Environment Agency, and is being jointly carried out by Eunomia Research & Consulting (Eunomia) and the National Flood Forum (NFF)
- the research project began in April 2024 and will be completed by June 2025
- the aim of the project is to better understand the flood recovery process at individual, community, and organisational levels
- the project consists of two main stages - stage 1 involved the review of evidence and drafting of an interim report (April-September 2024); stage 2 (January-April 2025) consists of the development of four case studies in England through document review, online interviews and in-person focus groups with residents and local stakeholders
- the final output of the project will be a report summarising the evidence and analysis, followed by recommendations for improving institutional flood recovery
- we are now conducting Stage 2 of the project (i.e., case studies) and your contributions will be invaluable to inform our research and policy recommendations

Objectives of the case studies

1. to develop an in-depth understanding of **what the flood recovery process looks like in practice**, with special attention to the time-based dimension of negative impacts (loss and damage) and measures (recovery and resilience) to address them
2. to better understand **what factors might influence the success / failure of flood recovery processes** by selecting and analysing four case studies with differential characteristics (type of flood, geography, demographic characteristics, level of institutional support, funding, etc.)
3. to recognise the **diversity of experiences and perspectives** of the flood recovery process, including residents from the affected areas and key (local) stakeholders

Your role in this research

By participating in this research, you will be able to:

1. **share your story:** we aim to understand the personal experiences after flooding by listening to residents and local stakeholders from four areas of England
2. **hear diverse experiences:** help us uncover the diverse ways people experience flood recovery, both within your community and across England, and explore what might cause these differences
3. **make your voice heard:** we want to understand how residents and local 3 receive and/or provide support post-flooding in four contexts of England

4. **shape institutional flood recovery:** by hearing your experiences, we aim to understand what helps and hinders the effectiveness of flood recovery, and what could be improved, so we can provide policy recommendations to inform flood recovery in the future

Our understanding of important terms

Flood recovery

Institutional flood recovery: The set of formal activities undertaken by institutions to help mitigate the impacts of a flood event. This might include financial support through insurance, grants or funds; on the ground support from emergency services, NGOs, community groups, the local authority, flood wardens, the National Flood Forum, Flood Action Groups; and/or advisory support from online guidance and helplines such as Mind or the British Red Cross.

Community and individual recovery: The set of measures carried out by residents themselves and/or their community to recover from the negative impacts on their physical and mental health, social life, functional capacity, and economic livelihoods.

In this project, we are focusing on the short-term (up to 1 month since the flooding event) and medium-term (1 month to 1 year since the flooding event) recovery stages.

Recovery measures

Actions or strategies implemented after a flood event to restore affected areas to their pre-disaster condition. Recovery measures focus on rebuilding infrastructure, restoring services, and addressing the physical, social, and economic impacts of the flood. They often include both short-term emergency actions and long-term recovery initiatives. Examples might include: cleaning up debris; repairing damaged infrastructure, homes, and businesses; or insurance payouts to affected communities.

Resilience measures

These are proactive strategies designed to reduce the vulnerability of communities and systems to future flood events by improving their ability to withstand, adapt to, and recover from floods. Resilience measures focus on long-term preparedness and risk reduction to minimise future negative impacts. Examples might include: flood-proofing homes by installing flood barriers or flood doors; creating a flood emergency kit; or purchasing flood insurance.

How we are using your data

Any information provided during the interviews and focus groups will be stored securely in accordance with General Data Protection Regulation (GDPR), with access restricted to those on the Eunomia and NFF project team. Any data provided will be anonymised and presented at an aggregated level to maintain the required high levels of confidentiality. All interview and focus group data, including any audio recordings, will be deleted when no longer needed for the project.

Further Questions

If you have any additional questions about the research project, please get in touch with William Fitter (william.fitter@eunomia.co.uk) at Eunomia.

Appendix 4

Consent form

Eunomia Research & Consulting has been contracted by the Environment Agency to examine the flood recovery process. This research project is focused on examining the existing recovery processes, identifying the processes in which affected individuals can be fully supported and determining what actions, communications or resources are required to improve the way in which flood recovery is managed.

As part of this process, we are conducting interviews with stakeholders and would like to speak with you about your experiences of flood recovery processes and the strengths, weaknesses and areas for improvement in current processes and practice.

You have been invited to take part in an online interview conducted through MS Teams. It is expected that the interview will last up to 45 minutes.

Notes will be taken of the interview and be checked with you for clarity. With permission audio-visual recordings will also be taken of the discussion as a backup. The notes and the recording from the interview will be stored securely by Eunomia. Your personal data (name, role, and contact details) will be stored securely and will be shared only with the Environment Agency project lead.

Anonymised data from the interview may be seen by the public as part of the final reporting. No participant will be personally identified in the final reporting.

On completion of the project, any personal data collected, and recordings will be kept for three months and will then be anonymised/deleted. The processing of all personal data will comply with the provisions of the General Data Protection Regulation.

Your consent

Please tick all boxes that are applicable to you:

☐ I agree to voluntarily participate in an interview. I understand that I am free to withdraw my consent at any time without giving a reason.

☐ I agree to the audio of the interview being recorded as data for the research project.

☐ I agree that the information I provide as part of this interview may be used in reports, publications, and other research outputs for this project. This information will be presented anonymously so that I will not be personally identified.

☐ I understand that I am free to withdraw my consent on any information I provide within a month following the interview and it will not be used in any research outputs for this project.

☐ I understand that any personal data I provide for this project will be kept for three months after project completion and will then be anonymised/deleted. This means the data is expected to be kept until the end of June 2025 and will then be anonymised/destroyed.

Signed……

Full name (please print) …… .

Date……

Thank you for taking the time to read the information sheet and for your valuable contribution to the project.

For further information on this project, please contact Rolands Sadauskis at Eunomia Research & Consulting: rolands.sadauskis@eunomia.co.uk. If you have specific queries related to the project on flood recovery processes, please contact the project manager at Environment Agency: taye.famuditi@environment-agency.gov.uk

Appendix 5

Interview guide

Thank you for participating in this interview.

This project is being conducted by Eunomia Research & Consulting on behalf of the Environment Agency. The aim of the project is to establish the state of existing knowledge on the flood recovery process with a focus on the short-term (1 month) and medium-term (2 months to 1 year) recovery stages. In this phase of the project, we are conducing four case studies in different areas of England that have been flooded in the last two years (2023-2024), namely: Sparkhill (Birmingham); Bewdley (Worcestershire); Stockdalewath (Cumbria); and Looe (Cornwall).

The case studies will help us develop an in-depth understanding of what the flood recovery process looks like in practice, with special attention to the time-based dimension of negative impacts (loss and damage), and measures (recovery and resilience) to address them. It will also help us to better understand what factors might influence the success or failure of flood recovery processes and to recognise the diversity of experiences and perspectives of the flood recovery process, including residents from the affected areas and local stakeholders.

When we refer to the flood recovery process we are referring to:

Institutional flood recovery: The set of formal activities undertaken by institutions to help mitigate the impacts of a flood event (EA, 2023). This might include: financial support through insurance, grants or funds; on the ground support from emergency services, NGOs, community groups, the local authority, flood wardens, the National Flood Forum, Flood Action Groups; and/or advisory support from online guidance and helplines such as Mind or the British Red Cross.

Community and individual recovery: The set of measures carried out by residents themselves and/or their community to recover from the negative impacts on their physical and mental health, social life, functional capacity, and economic livelihoods.

This interview will focus on Sparkhill paying special attention to the recovery process after the flooding event in 2018. However, we are also keened to hear about the flood history in the area more broadly, including other flooding events that may have taken place before or after the event under consideration. We are interested in what happens once the “blue light services” have left and you are into the longer-term recovery phase. During this interview, we would like to discuss:

1. what are the main impacts of flooding on residents and businesses, including who is most affected and why
2. what measures (recovery vs resilience measures) are put in place to address these impacts
3. who is responsible for implementing these measures
4. what does the recovery process look like over time? Can different stages be identified in terms of measures and stakeholders involved?

5. which measures have proven more effective, and which have proven less effective? Why? For whom?

We expect the interview to take up to 45 minutes depending on your responses.

If the interviewee has returned the consent form, then thank them. If not, then say you are going to ask for their consent now.

Are you happy for us to record this interview? The recording will only be used internally within Eunomia for the purposes of notetaking and analysis. All personal information will be anonymised prior to sharing of the report, unless we contact you and you consent to have a quote attributed to you.

Do you have any questions before we begin?

Please note: if running out of time, questions and sub-questions marked in Bold are with higher priority.

Interview questions

Introductory questions (5 mins)

Please could you introduce yourself shortly and the name of the organisation you are representing?

Supplementary questions:

please could you provide a brief description of your role (e.g., how long you have been working in this organisation, what are your main responsibilities, etc.)?
what is the role of your organisation in the flood recovery process?
what is your role in the flood recovery process specifically?

Understanding flood impacts in the case study under analysis [Looe] (5mins)

1) From your experience, what are the biggest challenges caused by flooding in [Looe]? Please provide examples of the impacts that you have witnessed in the area.

Prompts for comment:

- household disruption
- economic challenges (personal and business related)
- physical and psychological health
- challenges to community and neighbourhood cohesion and resilience

2) When was the last flooding event in [Looe]?

Where relevant, to what extent were the impacts similar/different to previous events? In what ways?

3) How have you seen these impacts affecting different members of the community?

Prompts for comment: According to… for example age; gender; socioeconomic disparity; religion…

4) Why do these impacts affect these social groups differently?

Measures to address impacts (20mins)

5) What steps have been put in place to address these impacts, particularly within the context of your role in flood recovery?

Who has initiated these steps/actions? (if not specified)

6) What has been the role of your organisation in flood recovery? Please give practical examples.

7) Beyond measures funded/implemented by formal institutions/organisations, were/are other types of actions taken by residents, communities or local groups (e.g. churches, sports clubs, local charities) during the flood recovery process e.g. formation support groups, providing a place for people to come and talk, providing advice?

Please give practical examples for the case study area that has been flooded.

8) Following a flood, there are actions which focus on “getting back to normal”, and actions which increase long term resilience to flooding. How do you see the balance between these within your area over the recovery process? Can you give any examples?

Resilience measures may refer to physical infrastructure or otherwise.

9) Who are the key people and/or organisations responsible for the flood recovery process in Looe?

10) How well do you think responsibilities are shared for flood recovery?

11) Which actions have proven most effective? Please give any practical examples.

Why have they proven effective?

For which members of the community have they proven most effective?

12) Which actions have proven least effective? Please give any practical examples.

Why have they not proven effective?

For which members of the community have they proven least effective?

13) How have communities responded to these actions and what has been their reaction? For those actions that are funded and/or implemented by formal institutions/ organisations, to what extent are they positively or negatively received?

The different stages of the flood recovery process (5mins)

14) To what extent has there been co-ordinated action across different organisations and/or individuals and communities in Looe. Can you give practical examples of where this has worked well? Are there examples of where this has worked less well?

15) In terms of the mental health/mental wellbeing of flooded people, some authors refer to the flood recovery process as “one of a series of peaks and troughs rather than a linear journey”. To what extent does that resonate with your experiences? How far do you think institutions are able to cope with these ups and downs in residents’ mental health/wellbeing after a flooding event?

Challenges and good practices (5mins)

16) Based on your experience in the last flooding event [October 2023], what have been the main challenges from your organisational perspective during the flood recovery process?

17) Based on your experience in the last flooding event [October 2023], what practices have proven successful and/or useful in terms of improving flood recovery in the future?

18) Is there anything else that you would like to discuss regarding your understanding of the flood recovery process and/or your experiences in being involved in it?

Additional information (2.5mins)

Are you aware of any relevant documents about flood recovery in the area that it would be useful to consider (e.g., flood recovery plan, synthesis of measures, etc.)? Could you share these documents with us?

We are running a focus group with key local stakeholders in flood recovery. Do you have any suggestions of key local stakeholders (e.g., community group leaders), that it would be relevant to invite? Can you put us in touch with them or share their contact details?

Closing Remarks

stop recording
thank the interviewee again for participating
ask whether the interviewee is happy for Eunomia to use direct quotes from the interview in the reporting

<u>Next steps of the project</u>

check whether the interviewee has any questions regarding the project
let the interviewee know that they are welcome to contact us with any further information they think of regarding the topics discussed during the interview
let the interviewee know we can share the report with them once it is finalised

Appendix 6

Residents Focus Group Facilitation Plan

LF = Lead Facilitator
SF = Secondary Facilitator

Set-up

16:00: Arrival & Prepare Room

Facilitators to:

- check projector and laptop works – load slides
- arrange main room into ideally 2 tables with chairs around the tables
- check acoustics of room
- identify charging points for phones and laptops
- check fire escape, toilets
- arrange drinks & biscuits
- lay out stickers for name badges, consent forms, project leaflets
- lay out sign in sheet
- clarify roles for arrival
- stick map up onto wall
- prepare flipcharts (stick or write up the schedule)
- prepare materials (place icons, dot stickers, post its, pens)
- prepare 10 flipcharts for individual timelines – draw on timelines and flood date/months/years.

Materials required:

- name Stickers (x12)
- refreshments
- flipchart paper
- laptop and charger
- print outs of facilitator guidance (1 per facilitator)
- consent forms (x10)
- description of project on a page (x10, 1 per person)
- notetaking sheet
- sign in sheet
- portable projector if needed

16:30: Team Brief

LF & SF to run over the session.

Materials required:

- facilitator guidance printout

16:45: Registration

SF to direct attendees to:

- sign-in sheet and name stickers (ask them to write both)
- consent forms to read and sign, emphasise this is anonymous – nothing will be personally attributable
- help themselves to drinks & biscuits (if available)
- ask them to take a seat.

LF/SF to chat with attendees.

Materials required:

- sign in sheet
- pens
- refreshments
- name stickers
- consent forms

Welcome & Admin

17:00: Welcome & Intros

- LF to welcome & thank everyone for coming
- both facilitators to do introductions (name, job)
- LF to do housekeeping and ways of working
- LF to run through the agenda
- LF to double check everyone is happy with recording and notetaking - this is for purpose of research to be as accurate as possible – is everyone happy?

Materials required:

- intro slide
- WoW slide
- agenda slide
- (if no slides, talk through / have stuck on walls)

17:03: Project Overview

- LF to introduce project, research question, and focus group objectives, emphasise we're doing in 3 other locations
- LF to open the floor to questions, emphasizing there is no right or wrong

Materials required:

- project slide / sheet on a flip stand / on the wall

Activity 1: Narrating your flood recovery story

17:05: Your flood recovery story

LF introduces activity (2 min)
LF opens the floor to participants to introduce themselves and to narrate their flood recovery story (one by one) using an object (26 minutes – 2.5-3mins each), LF to ask individuals to place the object in the middle of the table
LF closes the activity with some comments and final remarks (2 mins)
SF takes a photo of all objects, if participants are happy to
objects are kept on a table throughout the focus group, if possible

Materials required:

phone/recorder
participant objects

Activity 2: Building your individual timeline of the flood recovery process

Materials required:

phone/recorder
phone/timer
flipchart paper (1 large sheet per person with timeline pre-drawn onto paper)
sharpies/biros
post it notes
draw main timeline including flooding event and months/years for each participant.
printed icons representing different types of impacts (one set of icons per person)
printed icons with descriptions on large sheet
printed icons representing different types of stakeholders providing support (e.g., government, Local Authority, NGOs, community groups, flood wardens, Flood Action Groups, etc.)
printed map of the case study area
blue tac to paste icons and strings onto the timeline
dot stickers

17:35: Activity 2a: Impacts (25mins)

LF introduces activity, including the icons (2 mins), explain that participants can choose more than 1 impact for each icon category e.g. 3 health-related impacts

SF ensures all equipment needed is on the table

LF asks “What negative impacts have you experienced (and are potentially still experiencing) as result of the flooding event in [add date]?”

think about the 3 main impacts
select 3 icons that best depict each impact (1 icon per impact) and write a few words about the impact – if no icon is relevant, please write down the impact on a post it note
- facilitator to probe into what the impact is and how it impacted the participant

plot the icons above your timeline according to when you experienced it – if the impact spanned over various stages of the timeline, then please add a line to signify the duration – encourage participants to annotate along the line (10 mins)

- prompts for LF:
  - what were the biggest social / economic / health impacts?
  - how did your daily routine change?

LF asks: “Which impact have you found the hardest to address / overcome? Place a dot sticker on the icon/impact you choose”. (3 mins)

LF asks participants to stand up (if they like) and talk through their timeline of impacts, asking “Would anyone like to talk about the icons they have placed?” (10mins)

prompts for LF:

- what was the impact?
- when did you experience it?
- how did you feel?

18:00: Activity 2b: Personal Actions (10 mins)

LF asks “For the 3 impacts that you selected, what did you do?”

write on a post it (one action per post it) what actions you took (these could be positive or negative)

place the post it onto your timeline, near to the impact, according to when you took the action (10 mins)

- prompts for LF:
  - what was the first thing you did?
  - how did you manage it?
  - how long did it take?

18:10: Activity 2c: Support (10 mins)

LF asks “Have you received any support from others to help you manage/reduce these impacts?” LF explains the icons and places the legend in the middle of table / on a flip that describes each category

select an icon that best represents who provided the support (e.g., government, NGO, LA, etc.)

write down (in the text box next to the icon) who provided the support and what type of support they provided

plot the icon in the timeline according to when you received this help/support (10 mins)

- prompts for LF:
  - who provided help/support?
  - how did they help? What help did you get for xxx impacts?
  - when did they help you?
  - what help did your friends / family / neighbours get?
  - were there any other people that gave support?

LF asks participants to stand up (if they are happy to) to talk through their actions and support, asking “Would anyone like to talk about the icons they have placed?” (5mins)

SF to take photos of all timelines.

Activity 3: Collective reflection on main challenges and suggestions for improvement

Materials required:

flipchart/pens
phone/recorder
phone/timer
table split into two columns (Obstacles; Improvements)

18:20: Activity 3a: Identifying Challenges (15 mins)

LF introduces activity (2 min)

LF asks everyone to share the main challenges during this period, especially in the context of impacts/damages/losses discussed (i.e. stopping you to do the things you could do before, to address problems and impacts you had from the flood, to live your life). LF invites open discussion. Emphasise right along the timeline, not just during the event.

LF notes down onto a flipchart the challenges raised, recording comments from each participant on left-hand side of flipchart in one column of a table split into two columns

Prompts for LF:

why was this a challenge?
why did you choose this one to share? Why did it make your life harder for you and your community?
what do others think / does this resonate with others?

18:35: Activity 3b: Suggested Improvements (15 mins)

LF says “Looking at this list of challenges what could be changed or improved? (i.e. what could be done better in future if something similar happens)? Who should be involved? Please be specific where possible.” LF invites open discussion.

LF to take notes on a flipchart of everyone’s improvement and comments (paper in the middle of table – second side of the flip paper in second column next to the obstacles).

Prompts for LF:

how could this make things better for you and your community?
what was missing / what support would you have liked to receive?
why did you choose this improvement to share?
what do others think / does this resonate with others?

LF closes the activity with some comments and final remarks (2minutes).

SF takes photos of the flipcharts.

Wrap Up & Questions

18:50: Wrap Up

LF thanks everyone, outlines next steps and opens the floor to any final questions. Next steps being:

- immediate: Eunomia writing up notes made from the focus groups, for each case study location
- longer-term: report publicly available, webinar to attend although date TBC on main findings, aim is to share recommendations for improvement with EA, cascading down locally councils etc

19:00: Finish

Clear away equipment and tidy venue.

Take photographs of all sheets.

Stakeholders Focus Group Facilitation Plan

Set-up

14:30: Arrival & Prepare Room

Facilitators to:

- check projector and laptop works – load slides (if using)
- arrange main room, ideally 2 tables joined together and seats surrounding
- check acoustics of room
- identify charging points for phones and laptops
- check fire escape, toilets
- arrange drinks & biscuits
- lay out stickers for name badges, consent forms, project leaflets
- find sign in sheet
- clarify roles for arrival
- stick map up onto wall
- prepare flipcharts (stick or write up the schedule)
- prepare materials (place icons, dot stickers, post its, pens)
- stick together 4 flipchart paper together, draw on timeline and stick onto wall / place on table (depending on venue)

Materials required:

- name Stickers (x12)
- refreshments
- flipchart paper
- laptop and charger
- print outs of facilitator guidance (1 per facilitator)
- consent forms (x10)
- description of project on a page (x10, 1 per person)
- notetaking sheet
- sign in sheet
- portable projector if needed

15:00: Team Brief

LF & SF to run over the session.

Materials required:

- facilitator guidance printout

15:15: Registration

SF to direct attendees to:

- sign-in sheet and name stickers (ask them to write both)
- consent forms to read and sign

help themselves to drinks & biscuits (if available)
ask them to take a seat

LF/SF to chat with attendees.

Materials required:

sign in sheet
pens
refreshments
name stickers
consent forms

Welcome & Admin

15:30: Welcome & Intros

LF to welcome & thank everyone for coming
both facilitators to do introductions (name, job)
LF to do housekeeping and ways of working
LF to run through the agenda
LF to double check everyone is happy with recording and notetaking

Materials required:

intro slide
WoW slide
agenda slide
(if no slides, talk through / have stuck on walls)

15:33: Project Overview

LF to introduce project, research question, and focus group objectives
LF to open the floor to questions, emphasizing there is no right or wrong

Materials required:

project slide / sheet on a flip stand / on the wall

Activity 1: Building a collective timeline of the flood recovery process

Materials required:

phone/recorder
phone/timer
flipchart paper
sharpies/biros
post it notes
drawing of the timeline
printed icons representing different types of impacts (one set of icons per person – no descriptions)

printed icons with descriptions on large sheet
printed icons representing different types of stakeholders providing support (e.g., government, Local Authority, NGOs, community groups, flood wardens, Flood Action Groups, etc.)
printed map of the case study area
blue tac to paste icons and strings onto the timeline
dot stickers

15:35: Activity 1a: Negative impacts of the flood event (35 mins)

LF introduces activity, including the icons (2mins). Use the large timeline on the wall to explain the exercise. Explain that participants can choose more than 1 impact for each category e.g. 3 health-related impacts.

SF ensures all equipment needed is on the table, including timeline on the wall.

LF asks “What were the main negative impacts that you witnessed in [add name of case study area] as a result of the flooding event in [add date]?

think about the 3 main negative impacts
select an icon that best depicts each impact (1 icon per impact), if no icon is relevant, please write down the impact on a post it note, add a few key words next to the icon to describe the impact (5mins)
LF goes round one by one inviting everyone to share their 3 main impacts but only elaborating on the ones that haven’t been shared by others in the group and choosing one to plot on the timeline (10mins)
LF invites participants to stand up and plot the icon they have chosen as they speak, according to when they witnessed them. If the impact spanned over various stages of the timeline, then please add a line to signify this, and feel free to annotate (10mins)
LF invites participants to individually put a dot sticker on the most significant impact displayed on the timeline.
    - Prompts for LF:
        - what were the most severe social / economic / health impacts?

LF asks everyone to share individually: “Looking at these impacts, were they experienced differently by members of the community? Were certain groups more affected than others? Why?”

SF notes around each impact on the timeline. (10 mins)

Prompts for LF:

to what extent was [add specific impact] experienced differently across the community? Were certain groups impacted more than others? Why?
were certain people / roles in the community impacted more than others (e.g., those in a certain job?) Why?
did you witness/perceive any differential impacts between men and women?
how were children in the community affected?
how were older generations (parents, grandparents) affected?
how were less able groups (disabled, low income, homeless) affected?

16:10: Activity 1b) Recovery strategies

LF asks: “How did your organisation address any of these impacts?

identify which icon best represents your organisation and write on it who your organisation is, and what action your organisation took to address the impact
place it on the timeline next to the impact according to when your organisation took the action (10 mins)

- prompts for LF:
  - what was the first thing your organisation did?
  - how did your organisation overcome [add specific impact]?
  - how long did it take your organisation to resolve it?

LF asks: “Taking stock of the timeline we’ve produced, do you think there are any points where there were too many organisations involved (i.e., overlapping responsibilities)? Or, conversely, a lack of organisations involved?”

LF to facilitate an open discussion. SF to note down comments on a flip. (7.5mins)

Prompts for LF:

is there a lack of responsibility over any impacts here? Why?
is [add specific impact] sufficiently supported? Who is involved?
are there any impacts that are particularly well supported? Why?
is there too much / overlapping responsibility anywhere here? Is this an issue? Why?

LF asks: “How effectively did different organisations coordinate with each other? LF to facilitate an open discussion. SF to note down comments on a flip. (7.5mins)

Prompts for LF:

what enabled an effective coordination across organisations?
what hindered an effective coordination across organisations?

LF closes the activity with some comments and final remarks. (2 minutes)

Activity 2: Collective reflection on what worked well and not so well and suggestions for improvement

Materials required:

flipchart / pens
drawn table with 3 columns
phone/recorder
phone/timer
colour post it notes (green, orange, light blue)

16:40: Activity 2a: Identifying things that worked well and not so well

LF asks participants individually to write down on 1 post it note (green post it note) something that worked well during the flood recovery process, and on another post it note (orange post it note) something that didn't work so well. (5mins)

LF invites everyone in turn to elaborate on their two post it notes and place them onto a flipchart table with 3 columns (one column being things that worked well; one column being things that didn't work well; one being improvements). (20mins)

SF records comments on the flipchart

Prompts for LF:

why was this a barrier / challenge?
what do others think? Does this resonate with others?

17:00: Activity 2b: Suggestions for improvement

LF says: "Focusing on the things that did not work so well, what would you change? What could be improved? How? By whom? Please be specific where possible." LF asks everyone to write an improvement down onto a post it note (light blue post is note). Participants can write multiple improvements down, but they must be on separate post its (1 improvement per post it). (5mins)

LF goes around the room to ask everyone in turn to share their improvement(s) and place their post it note(s) (light blue post it note) onto the final column in the flipchart.

SF records comments on the flipchart (15mins)

Prompts for LF:

how could this suggestion make the flood recovery process better for future flood events?
why did you choose this improvement to share?
what do others thin? Does this resonate with others?

LF closes the activity with some comments and final remarks. (2 minutes)

17:20: Activity 2c: What does recovery mean to you? (5mins)

LF says: "The term recovery is used a lot by organisations. Does it mean anything to you?"

LF to go around the room to ask for everyone's comments.

SF to annotate onto a flip paper.

Wrap Up & Questions

17:25: Wrap Up

LF thanks everyone, outlines next steps and opens the floor to any final questions. Next steps being:

immediate: Eunomia and NFF writing up notes made from the focus groups, for each case study location

longer-term:

- final report to be made publicly available on the EA website
- with regards to EA's strategic overview role regarding flood recovery, the EA plan to upload the final report into an internal online platform that is accessible to RMAs and is used to share resources for capacity building
- webinar with key stakeholders, including those who have been involved in this research, to share key findings and recommendations for improvement, date: TBC

17:30: Finish

Clear away equipment and tidy venue.

Take photographs of all sheets.

Appendix 7

Existing institutional support for flood recovery processes

Grants and funding - England

Community Recovery Grant: If activated by the government following an extreme national flooding event, it provides a grant in the region of £500 (indicative) per eligible household. It is paid to the local council to provide quick support to communities who have been badly affected by a severe weather event.

England only **Business Recovery Grant:** A grant in the region of £2,500 (indicative) per eligible business, to help support recovery in the immediate aftermath of a severe weather event. Subject to ministerial steer, the priority for local councils is usually to pass on the grants directly to small and medium-sized businesses to help them return quickly to business as usual.

Council tax discount scheme: A scheme where local councils are reimbursed for providing discounts to eligible homes at 100% for a minimum of 3 months, or while any household is unable to return to their primary residence if longer. It may be activated by government following extreme national flooding events. England only.

Business rates relief scheme: A scheme where local councils will be reimbursed for providing discounts to eligible businesses at 100% for a minimum of 3 months, or until business can resume trading from the property if longer. Activated at Ministerial discretion. England only.

Build Back Better Scheme: A scheme run by Flood Re which enables householders to install property flood resilience measures up to the value of £10,000 when repairing their properties after a flood.

Property Flood Resilience Repair Grant Scheme: A Defra scheme which offers householders and businesses up to £5,000 per property to fund measures which improve a property's resilience over and above repairs that would normally be covered by insurance.

Farming Recovery Fund: Defra grants of up to £25,000 for farmers who have been adversely affected by flooding and suffered uninsurable damage to their land.

Insurance Cover: Insurance cover for flooding, including contents insurance and building insurance.

Grants and funding – Wales

Business Flood Relief Fund: A Welsh Government-funded scheme that has provided financial support to small and medium-sized enterprises (SMEs) affected by flooding and severe weather events. In previous schemes, eligible businesses could apply for grants to help with immediate recovery costs, including repairing damage and restoring business operations.

Emergency Assistance Payment: Welsh Government grant which helps pay for essential costs, such as food, gas, electricity or travel for people who are experiencing extreme financial hardship.

Individual Assistance Payment: Welsh Government grant to help someone live independently in their home or a property they are moving into. The grant can be used for 'white goods' or home furniture, for example.

Community Flood Recovery Grants: Provided by local councils to residents and small businesses affected by specific flood events. For example, Rhondda Cynon Taf provided a grant of up to £1,000 per household and £1,000 per business after Storm Bert.

Wales Flood Recovery Fund: A charitable fund established by the Community Foundation in Wales to support communities recovering from severe storms and flooding. The fund has been used to channel donations and provide recovery support following flood events in Wales

On-the-ground support

National Flood Forum Flood Recovery Services: Support services which can include:

- setting up an initial flood support centre, involving partners to provide information, guidance and support alongside sustenance and respite
- surgeries providing general support, advice on insurance, resilience and resistance, and home visits
- mobile recovery trailer going into a flood-hit area to make it easy for people to access help immediately

Civil Contingencies Act (2004): An Act which requires Local Resilience Forums (LRFs) to form a Strategic Co-ordinating Group (SCG) at the time of an emergency. The purpose of an SCG is to work with other tiers of government during an emergency and to lead the response and recovery activities with the aims of saving and protecting human life; relieving suffering; protecting property; providing members of the public with information; containing the emergency – limiting its escalation or spread; maintaining critical services; maintaining normal services at an appropriate level; protecting the health and safety of personnel; safeguarding the environment; facilitating investigations and enquiries; promoting self-help and recovery; restoring normality as soon as possible; and evaluating the response and identifying lessons learned. LRF responders must provide information and advice as necessary at the time of the emergency.

National Resilience Capabilities Programme: A programme which aims to build local capability to meet the requirements of the National Resilience Planning Assumptions. This involves ensuring there is a comprehensive infrastructure of response and recovery in place to deal rapidly, effectively and flexibly with the consequences of floods. Some of the work LRFs undertake as their duties and/or as best practice ways of working contribute to the implementation of this programme.

British Red Cross Support Services: A charity which offers a range of support services during and after a flood, such as:

- volunteers going door-to-door checking on residents
- handing out cleanup items

- donating food, water, clothing, cleaning supplies
- delivering sandbags
- advising on what help is available
- setting up emergency rest centres
- emotional support

Local council support: A range of services provided by the local council during and after a flood. These can include:

- police and fire and rescue services supporting with closing roads and helping in the immediate response for a flood, such as distributing sandbags
- providing emergency accommodation and rehoming
- setting up neighbourhood support centres
- partnerships between the council and locally based firms and charitable organisations
- benefit advisory services on housing benefit issues
- forward Liaison Officers involved in planning policies and proposals

NHS talking therapies service: Confidential treatments provided by fully trained and accredited NHS practitioners, which aim to help people struggling with feelings of depression, excessive worry, social anxiety or PTSD. Talking therapies can be available in person, by video or over the phone.

NHS social care and support: Help with day-to-day living because of illness or disability, which can involve care services as well as financial support.

Community Flood Wardens: Local volunteers who help to bring the community together during a flood and work with the Environment Agency, local councils and the emergency services to prepare and respond to flooding.

Community Flood Action Groups: A voluntary group of local residents, who work on behalf of the wider community to take action during and after a flood event. This is an additional form of on-the-ground support which is provided by communities rather than institutions.

9.2.4 Online guidance and helplines

National Recovery Guidance: Guidance from the Cabinet Office primarily aimed at local responders and developed in line with the Civil Contingencies Act (CCA) on recovering from an emergency in the UK.

Emergency Response and Recovery Guidance: Guidance from the Cabinet Office which aims to establish good practice based on lessons identified from responding to and recovering from emergencies.

National Flood Forum - website and helpline: Helpline, website, regular bulletins and the Blue Pages by the National Flood Forum providing information, guidance and support for what to do during and after a flood.

British Red Cross - website and helpline: A charity which offers a range of support services during and after a flood, such as:

- volunteers going door-to-door checking on residents
- handing out clean-up items
- donating food, water, clothing, cleaning supplies
- delivering sandbags
- advising on what help is available
- setting up emergency rest centres
- emotional support

Local authority support: Online advice and guidance to communities on issues such as: what to do after a flood; cleaning up; insurance; medication; and who to contact for help.

Flood Guidance: Online guidance from Building Research Establishment (BRE) Group on: first steps after a flood; what to do when returning home; how to repair a home; and further support.

Floodline: Helpline run by the Environment Agency on how to deal with flooding.

Flooding and health: advice for the public: Online guidance from the UK Health and Security Agency on how to safely clean your home; the mental health impacts of a flood; how to help others after a flood; and local health services.

Met Office weather warnings: Weather forecasts and warnings from the Met Office.

Property Care Association homeowner help and guidance: Online guidance to homeowners from the Property Care Association on structural repairs; structural waterproofing; flood protection; and flood restoration.

Samaritans helpline: Helpline run by the Samaritans for anyone in emotional distress or struggling to cope.

NHS Urgent mental health helpline: Helpline run by the NHS for anyone struggling with mental health.

WHO Psychological first aid: Guide for field workers: A guide by the World Health Organisation (WHO) covering psychological first aid which involves humane, supportive and practical help to fellow human beings suffering serious crisis events. It is written for people in a position to help others who have experienced a distressing event.

ABI Responding to Floods Guide: A leaflet by the Association of British Insurers explaining how insurance companies will respond in an emergency situation when homes have been flooded.

ABI Best Practice: Offering cash settlements to customers after a flood: Best practice guidance drafted for insurers and applies to building damage claims caused by floods. It can be provided to customers or shared more widely here.

MIND: Online guidance and helpline run by MIND to support mental health.

Abbreviations

ABI	Association of British Insurers
BBB	Build Back Better
BE	Bewdley (case study location code)
CCA	Civil Contingencies Act
CEE	Collaboration for Environmental Evidence
DBT	Department for Business and Trade
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DLUHC	Department for Levelling Up, Housing and Communities
DROP	Disaster Resilience of Place
FCERM	Flood and coastal erosion risk management
FHRC	Flood Hazard Research Centre
FLAG	Flood action group
GDPR	General Data Protection Regulation
GP	General practitioner
LAs	Local authorities
LLFA	Lead Local Flood Authority
LO	Looe (case study location code)
LRF	Local Resilience Forum
MAFP	Multi-Agency Flood Plan
MHCLG	Ministry of Housing, Communities and Local Government
MP	Member of Parliament
NFU	National Farmers' Union
NFF	National Flood Forum
NGO	Non-governmental organisation

NHS	National Health Service
NRG	National Recovery Guidance
PFR	Property Flood Resilience
PHE	Public Health England
PTSD	Post-traumatic stress disorder
QA	Quality assurance
RCG	Recovery Co-ordinating Group
RFCC	Regional Flood and Coastal Committee
RMA	Risk management authority
RSG	Recovery Support Group
SCG	Strategic Coordinating Group
SDW	Stockdalewath (case study location code)
SH	Sparkhill (case study location code)
SuDS	Sustainable drainage systems
UK	United Kingdom
UKHSA	UK Health Security Agency

Glossary

Climate change fatalism

A belief or attitude that the impacts of climate change are unavoidable and that little or nothing can be done to reduce risks or improve outcomes. This perspective can lead individuals, communities or organisations to feel powerless in the face of increasing environmental hazards, including flooding, and may reduce motivation to take preparedness, adaptation or recovery actions.

Community and individual recovery

The set of measures residents themselves and/or their community carry out to recover from the negative effects on their physical and mental health, social life, functional capacity, and economic livelihoods.

Ethnography

A qualitative research method that involves in-depth, first-hand study of people, communities, or behaviours, often through observation, interviews, and immersion in real-life settings to understand experiences and social dynamics.

Orphaned flood risk assets

Flood defence or water management structures; such as embankments, flood walls, culverts, drainage channels, pumping stations or sustainable drainage features that no longer have a clearly identified owner, organisation or responsible body to maintain, repair or replace them.

Peri-urban

Areas located on the edge of towns and cities, where urban and rural land uses meet and interact. These areas often include a mix of housing, businesses, agricultural land, green spaces and infrastructure, and may experience pressures from both urban development and rural land management practices.

Recall bias

A type of research bias that occurs when people do not remember past events, experiences or circumstances accurately. Individuals may unintentionally forget details, misremember timelines or place greater emphasis on particularly significant or emotional experiences, which can affect the reliability of information collected through surveys, interviews or retrospective studies.

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Environment first

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