

# Community experiences of the January – July 2022 floods in New South Wales and Queensland

Final report: Policy-relevant themes

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We acknowledge the traditional custodians across all the lands on which we live and work, and we pay our respects to Elders both past, present, and emerging. We recognise that these lands and waters have always been places of teaching, research and learning.

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Cover: Floodwater in Warwick, Queensland in 2022.

Photo: Queensland Fire and Emergency Services.



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We would also like to acknowledge that this report was written on the land of the Wallumattagal Clan of the Darug Nation, and we would like to pay our respects to Elders past and present and recognise the continuity of knowledge that nurtures Country and community.

I was there and it was hard, but you couldn't be everywhere at once; there were 14 people throwing your stuff out windows onto the ground... ..Between the day of the flood... now I'm going to cry – between the day of the flood [and the day things were removed] you just kept going. But that day, I must admit I lost it. Watching your kids' photos and everything you owned crushed up by an excavator and chucked in a truck, that was pretty heartbreaking. It's the memories, it's the sentimental stuff – it's not the fridges or the lounge or things like that. It's those things. [NSW055]



## Executive summary

This report details a set of policy-relevant themes selected from a large mixed method post-event study of flood impacted residents of the Australian states of Queensland (QLD) and New South Wales (NSW).

This research was funded by Natural Hazards Research Australia, with the support of Queensland Fire and Emergency Services (QFES) and NSW State Emergency Service (NSW SES). The focus was on community experiences of the eastern Australia floods, January – July 2022.

### Approach

The study design followed a post-event research approach used consistently by Australian researchers working in community-focused research, post bushfire. The study comprised two phases:

- Interview phase (Aug 22 – Oct 22) - a mix of virtual (videocall/phone) and in-person interviews.
- Survey phase (Nov 22 – Feb 23) - an online questionnaire.

A total of 192 flood-impacted residents (92 QLD/100 NSW) were interviewed using a participant-led and trauma-informed approach that invited residents to 'share their story'.

The online survey was informed by the interviews and included a mix of questions used in prior post-event research as well as tailored questions. A total of 430 flood-impacted residents participated in the survey; 67.4% were from NSW (n=290) and 32.6% were from QLD (n=140). Study participants did not receive financial compensation for their contributions.

The mixed methods approach used in this study is a strength. The qualitative (interview) component of the study provides detail and richness about individual lived experiences, and the analysis into themes allows for commonly reported experiences to be presented and reported succinctly here. The quantitative (survey) component of the study allows for broader trends in the data to be identified and for statistical analysis to be undertaken to identify significant associations between variables. Qualitative data are not readily generalisable to the broader population, whereas quantitative data are expected to be more representative of the target population, i.e., adult residents (18+) in QLD and NSW who were impacted by flooding in the period Jan-July 2022. In this study the total sample (n=430) provides an estimated margin of error of 4.8% at the 95% confidence level, and samples within each state have a margin of error of 5.8% for NSW and 8.3% for QLD.

This report provides details of 13 themes emerging from the qualitative (interview) data. These are complemented by a set of five additional policy-relevant content areas driven from the structure of the quantitative (survey) data.

### Cross-cutting themes

The report starts with a brief overview of the flood context for the study and the methodology, and then introduces five interlinked cross-cutting themes that contributed to the complexity of the floods and the experiences of residents. These are:

- **Flood severity:** the exceptional nature of the flooding and its physical impacts, and how that affected residents in flood prone areas. This includes residents with prior experience of flooding who had varying degrees of preparedness, as well as those who had little or no awareness of the potential for flooding, and never experienced flooding at their property, and were unexpected and unprepared.
- **Scale of flooding:** the magnitude of the flooding and associated impacts, such as the stretching of resources in response, constraints on help and support, shortages of supplies, expertise, and trades, and accommodation.



- **Timeframes:** linked to the scale of flooding, resulting in slow progress in recovery, extended demands on services and supports, implications for mental health, and waiting in uncertainty, 'in limbo', for external decisions and processes that are beyond individual control, such as insurance outcomes, buybacks, etc.
- **Compounding, cascading disasters, and climate change:** the interplay of prior flooding and multiple recent floods, bushfires, COVID, and other adversities on the capacity of individuals and communities to recover and function, and institutions to respond, in the wake of the 2022 flood/s. The impacts of COVID, as a concurrent challenge, on flood response and recovery. The uncertainty of the, then, ongoing threat of (a third) La Niña, and a future of more severe and more frequent natural hazard events in the context of climate change.
- **Vulnerability context:** the pre-existing and varied physical, economic, social, and environmental vulnerabilities across flood-impacted communities, and the tendency of disasters to exacerbate these pre-existing vulnerabilities. Recognition that not all communities start-out from the same position before disasters strike and that they have different adaptive capacities.

## Themes emerging from interviews

Thirteen qualitative policy-relevant themes are detailed. These are supported by anonymised quotes from residents, and many include additional supporting survey data where there is complementary content. These themes are:

- **Flood data** – issues with accessibility to good quality data, trust in the accuracy of data for local flood risk management, and ongoing flood literacy issues.
- **Localised perspective** – the need for focus at the local level and inclusion of local knowledge. Rejection of official information due to lack of local relevance. Having local knowledge rejected.
- **Dashboards** – issues in the use of local council information hubs.
- **Information expectations** – a need for timely, relevant, and accurate official information, and the move to established trusted community sources on social media.
- **Forgotten people and forgotten places** – a sense of being forgotten, let down, and overlooked during the floods, managing disillusionment, and the role of media.
- **Community responders** – the changing role of communities and integration into emergency management. The good and bad impacts of disaster on communities, and communities planning for future response.
- **Clean-up** – managing the challenges of the clean-up. Renegotiating relationships with possessions, dealing with looting and scavenging, the impacts of untrained and overzealous helpers, and an appeal for support with help literacy.
- **Insurance** – the advantages and disadvantages of insurance in a large-scale disaster. Challenges with claiming, assessment, resolution, rebuilding, and reinsuring.
- **Bureaucracy** – encountering a range of challenges in gaining financial support. Challenges for persistence, connectivity, and documentation in post-disaster settings. Potential for retraumatising effects of repeated lodging of claims and discontinuity in responses.
- **Temporary housing** – managing displacement, being moved around, loss of agency, and being 'homeless'. Caravan living, and issues for people who are homeowners and/or have insurance.
- **Disaster opportunism** – frustration at the perceived financial exploitation of flood-impacted residents and the disaster situation broadly. Scams, rorts, opportunism, and theft.
- **Recovery fatigue** – communities struggling to keep volunteering in recovery support with insufficient resources.
- **Infrastructure, planning, and maintenance in sensemaking** – frustration at the lack of maintenance of stormwater drainage and water and rain gauge systems, and the impacts of planning decisions and infrastructure construction in compounding the impacts of flooding.



## Content areas driven by the survey

Five policy-relevant content areas driven by the structure of the survey have been detailed, these are:

- **Preparedness** – investigation of levels of preparedness, the role of prior experience, why some residents were not prepared, and actions taken to prepare.
- **Information, warnings, and trust** – how residents found out about flooding, who they trust for information, ability to act on warnings, issues with accessing warnings, and preferred sources of information.
- **Sheltering and rescue** – actions taken during the flood. Who stayed, who left, and why. Expansion on sheltering – reflections on decisions, problems encountered, rescues.
- **Housing – modifications, reconstruction, and adaptation** – types of housing, pre-flood modifications, losses, and damage to homes. Current living situations, challenges in reconstruction, plans for flood modifications in rebuilding, future flood threat, and future housing plans.
- **Sources of support and recovery** - satisfaction with support from external organisations and the community, and self-reported recovery.

## Main challenge areas

In the concluding section the implications of the main findings are reviewed in the context of four broad challenge areas for emergency management stakeholders. These are:

- **Loss of trust in institutions** – the gradual erosion of trust that needs to be addressed across the entire emergency management system.
- **Navigating the balance of control** – grappling with the need to embrace self-activating communities and integrate community into all phases of disaster.
- **Emotional impacts** – managing the long-term psychological impacts of an increasingly complex disaster landscape.
- **More than disaster** – the need to see disaster support as part of a holistic person-centred approach.

A Technical Report accompanies this policy-themed report. It provides additional information about the study methodology, the approach to coding and the coding frame, and summary survey data for the total sample and the NSW and QLD sub-samples. This report is available on request from Natural Hazards Research Australia. To ensure that the research team are able to publish academic papers using this data, the Technical Report will not be available to the wider academic sector until May 2024.

## Policy-relevant implications

Policy-relevant implications in this report have been driven directly by the findings from this comprehensive study of community experiences of the Jan-Jul 2022 flooding. During the period of data collection reviews were undertaken by many stakeholders, improvements and new initiatives have been initiated, and some relevant actions that were recommended by the 2020 bushfire Royal Commission have been further advanced. In assembling the following set of policy-relevant implications there has not been an analysis of existing policy documentation. The following points have been generated from the reports of residents and reflect their lived experiences at the time of the floods and up to the point of data collection, and in the context of the policies that were in place during those times.

Suggestions for how they may be addressed have come from participants during their interviews, comments in surveys, and from the research team's experience and knowledge of disaster science and its application. No presumptions have been made about the feasibility or financial viability of these suggestions. It is





acknowledged that disaster resilience and risk reduction is a shared responsibility, that there are complexities, and a need to assess the risks and benefits of the suggestions being offered. In large scale disasters it is also acknowledged that the whole of community is affected in some way, including those who work for disaster management organisations, local councils, etc., resulting in additional challenges for scaling-up early response.

Finally, it is noted that there are many organisations involved in disaster management and there are different disaster management arrangements in NSW and QLD. Local councils in QLD are primarily responsible for managing disaster events within their local government areas, this can include the provision of localised public flood information and warnings, and they are required to have disaster dashboards. These responsibilities are not the same in NSW. These differences underlie the rationale for providing data in the main report separately for the NSW and QLD subsamples, along with the total sample data.

## Preparedness, mitigation

- The scale of the Jan-Jul 2022 flood/s resulted in scarcity of many things – professional and trade skills, supplies, human resources post-flood, and surge capacity in response. COVID and other compounding events added to these challenges. Many flood-impacted residents were disadvantaged as a result. More flexible, adaptable, and nimble approaches are required, along with better integration of community across all areas. A systems-thinking approach is required by stakeholders in planning for similar and worsening situations with more severe, longer, and more frequent natural hazard events.
- Uncertainty is a feature in all disasters, at all stages, and had many negative consequences for those impacted, including inertia, powerlessness, inability to plan, and anxiety. Communication is key – even if this is communicating what you know/don't know, what you are doing, and what you want others to do/advising people what they can do. All stakeholders need a readiness to engage, to listen, and to make changes or change priorities, and to communicate intent. Communication is not a substitute for action, but it will assist residents to plan and act, and help to maintain trust.
- State Emergency Services, local councils, and the Bureau of Meteorology are perceived to have let down some communities with alerting and warning. Some didn't know where to go for information and some didn't get information they could use or use when needed. These stakeholders need to identify better ways to raise awareness of their websites and dashboards, evaluate and improve their communications, and engage with communities to improve the usability of their information and understand the challenges residents experienced.
- Those impacted by the 2022 floods are aware of the likelihood of future flooding. Subsequent flooding in NSW and QLD and across other states during the rest of 2022 has kept the risk of flooding in community consciousness. Communities can be expected to be more interested in local flood planning and infrastructure and motivated to engage in future flood mitigation activities and preparation. Stakeholders working across the whole disaster management system need to identify ways to help people feel more in control and able to take steps to avoid future losses.
- Due to the severity of the 2022 floods, many residents were impacted by flooding for the first time/unexpectedly and others were underprepared, relying on prior experience from earlier floods. To increase a sense of safety and agency, response agencies and local councils need to assist residents in systematically reviewing and reflecting on improvements to their plans, decision making, or timing of decisions to assist them to learn from these floods and improve responses to future events. A range of approaches should be used to support this, such as community workshops, webinars, structured training/support, and written guidance.
- Protracted events, such as these floods, highlight the necessity of planning for business continuity post-disaster. This is important for local businesses, as well as stakeholder organisations providing services and support in all areas of disaster management.



- Many residents cited poor stormwater/drainage maintenance as a contributing factor to the flooding they experienced. They strongly felt that local councils and water authorities needed to prioritise the maintenance and repair of storm water drainage. Some also wanted improvements to dredging and clearing of rivers, waterways, and channels. It's important that local councils review the contribution of these factors in their flood risk management planning and allocate priority as appropriate to reduce future flooding risk.
- Disasters magnify existing vulnerabilities in society and individual vulnerabilities add an additional overlay to planning. Older people, those living alone, those with physical limitations/mobility issues and a range of disabilities encountered a range of issues – from not receiving warnings, being unable to lift possessions to protect them, and encountering problems during evacuation. It is critical that stakeholders involved in all aspects of disaster and broader social support, have plans in place to identify, engage, and support community members with a range of different needs.
- Community connectedness, and the various roles of friends, family, and neighbours were part of recurring narratives in the research. They helped in alerting others to the threat of flooding, they played a role in information sharing, supporting each other in numerous ways as floodwaters were rising, assisting in evacuations, helping with clean-up, and supporting in recovery. They were identified as the most trusted and the most appreciated groups in the survey data. All stakeholders need strategies to support the building of community connectedness. Community are first responders', first at the scene. Community cohesion and connectedness will act as a much-needed force multiplier when it comes to disasters.
- In addition to supporting community cohesion and connectedness there is a need for the response agencies, as community organisations, to build back connection and embeddedness in their communities. Ties have been weakened through COVID restrictions and now, disrupted by the displacement of residents and the many demands placed on those residents as they navigate their recovery after the floods. Residents, especially female residents, showed interest in a range of flexible community responder/disaster-related roles, and additional roles and tasks. Given the need for more focus on community development, there could be potential for volunteering roles oriented to this area.
- Despite awareness of local flood risk, there is still a lower acceptance of risk at a personal level. For some, the risks are now undeniable, but others require further support to keep the reality of local flood risk alive. There is a need for greater use of visual markers, especially in newly flood affected areas, e.g., flood heights on buildings, lampposts etc., displays of recent photographs and drone footage, sharing of flood stories. There is also a need to evaluate the effectiveness of signage and other flood awareness-raising approaches that are already in place to assess their effectiveness and assist in identifying and implementing the best approaches.
- Storytelling is a powerful tool. Information collected as part of this research, and directly sourced information from other flood-impacted residents should be sought by all stakeholders to use in current and future community engagement, guidance and resources, training, and other documentation to exemplify aspects of lived experience.
- Flood terminology is often misunderstood and is complex and dynamic. There is a need to increase flood literacy. Response agencies, local councils and other relevant agencies need to work to help communities translate information (river gauge readings, visual triggers) to have personal meaning and consequences, so that they can take protective action early.
- Prospective residents need to know about flood risks before they commit to purchase or rent properties. This will allow them to choose whether they want to accept those risks for themselves and their families, rather than passively having risk transferred to them and only finding out the true



consequence when they have floodwater lapping at the door. Local councils and others, e.g., banks, real estate agents, need to identify ways to ensure that risk warnings are prominent on materials provided to renters and buyers – rather than in small print, and that flood levels are understood and made explicit, e.g., written as a level reached at individual properties on accessible records.

- Residents have raised concerns about the accuracy and availability of local council flood maps, flood risk management planning, and revisions to those plans. Local councils, especially in those recently impacted LGAs, need to ensure that they have updated maps and plans and that this activity is communicated to communities, and they are able to access them.
- Response agencies and local councils need to find ways to harness and integrate local information and factor that into their intelligence and public information systems. Examples exist of models that are working in some areas and these need to be shared to see if they can be extended to other locations and communities.
- Local councils, in QLD especially but increasingly in NSW too, need to build knowledge (not just ‘awareness’) of their disaster dashboards and ensure these are a go-to source of information. These systems appear to be underutilised, with residents not knowing where to go for information. Disaster dashboards should be kept updated and supplemented with local knowledge and interpretation to help people apply predictions to their own circumstances. There also needs to be further assessments of their usability as several interview and survey participants noted problems.
- Beyond disaster dashboards, specifically, there is a wider need to increase public awareness of sources of local flood warning and recovery information, e.g., HazardWatch, Hazards Near Me app.
- Residents value visual and ‘live’ sources of information to monitor river heights, bridges, and local traffic conditions. In some cases, cameras were not working and/or information was not updated on disaster dashboards. Local councils (and other who have access to live information) need to ensure that this is available, and systems are maintained.
- Community-curated content on social media is improving, with several Facebook pages in flood regions assembling high quality content that is being increasingly relied on by residents and used effectively as a way to share and amplify official emergency messaging. Response agencies, local councils, and other stakeholders, e.g., recovery agencies, telcos, should work to monitor and share information about these pages to ensure that they are picking up local information more quickly and sharing their information to communities via these sites.
- A high proportion of survey respondents sheltered in place during the floods. Some planned to stay, and some were trapped/unable to leave. They encountered a range of challenges and 25% needed rescue or assistance to evacuate. Improvements in local planning are needed to ensure clear recommendations are provided to the community about the safest options to pursue i.e., shelter or evacuate.
- Response agencies need to review their sheltering policies and messages either to discourage people sheltering in place or to help prepare them (depending on the strategic direction taken). If sheltering is to be discouraged, then barriers to evacuation need to be removed, e.g., earlier alerting, opening up evacuation shelters and animal evacuation centres early, waiving road tolls. If preparing to shelter is a strategy, then residents need to be equipped and cognisant of the challenges and risks of staying.
- Many survey respondents did not choose to shelter, they were unable to leave. There is a need to support residents in situations of flash flooding, fast onset flooding, and generally in situations where flooding leaves residents caught off-guard, e.g., when flooding occurs during the night. Approaches for providing advice to residents for preparing to shelter (as a last resort) are needed.



## Response

- The speed, severity, and scale of some floods in the Jan-Jul 2022 period meant that some residents in QLD and NSW were not able to receive rescue or other assistance from response agencies when they most needed it. Contact and communication with response agencies was badly affected by failures in telecommunications infrastructure/systems. This resulted in additional trauma for many residents and their families. Given the likelihood of similar and worse conditions in future with the impacts of climate change, response agencies need to identify ways to manage surge capacity in their response workforce, their communications infrastructure, and their staffing. Given issues for the community with electricity outages and mobile phone coverage, plans need to be made to find additional channels and routes for communication to let communities know what is happening and to mobilise alternative resources/community responders.
- Communities have, and will continue, to self-activate and respond in disasters. Response agencies, local councils, and other stakeholders need to find ways to integrate and share control/power with communities. There is interest in flexible community training for a variety of roles. Stakeholders need to engage with communities to review their policies. There is a need to include and encourage communities to stand up when required to join in and work together in all areas of emergency management. This will extend capacity, ideally in a pre-planned way with some training and resourcing, so it can be carried out as safely as possible for all involved.

## Recovery (first few days and weeks)

- Many findings in the recovery phase point to the need for more proactive recovery planning at local, regional, state, and national levels, e.g., planning and training for surge capacity, having plans to resource, manage, and communicate support with clean-up and removal of household contents, and working with communities to train and plan for supporting local hubs. All government agencies that have a role in disaster management including response and recovery need to be able to activate resources, supporting whole of government action.
- Although grateful for help, many residents encountered issues during the clean-up process – making decisions in a traumatised state and being overwhelmed by helpful, but overzealous people. With the compounding issues of scarcity of materials for rebuilding and increased costs, residents reflected on decisions made by them, and more often others, to throw everything away and often to strip out hardwood trims, wiring, plumbing etc. There is a need for recovery agencies, local council, and other stakeholders to support a ‘help literacy’ campaign to ensure that residents and helpers (from all sources – including emergency service volunteers) are aware of the issues that arise at the time, and later, and to find ways to enable residents to control the pace and have ways to protect and try to save what *they* want.
- Local councils need to work with flood-impacted communities to provide free skip bins and collections to remove unsalvageable possessions. There needs to be communication around the timing and continued availability of services to assist with removal. This will take away uncertainty and allow those who want more time to take things at their own pace.
- Looting and scavenging were distressing issues for many residents. Police and local councils need to work together to discourage people from scavenging in the piles of people’s belongings before removal, and planning is required to utilise a greater range of approaches to assist with detecting and stopping looting, such as use of drones, CCTV surveillance, or local community assistance with patrolling.



- In addition to recovery agencies personnel, personnel in all stakeholders organisations should be trained and ready to hold a presence in community immediately after a disaster and for the months that follow. Being there, checking in on people, and acknowledging survivors was a powerful comfort for survivors. Perceived support is important for recovery, it is often provided by neighbours, friends, and local community, but it is greatly appreciated when coming from those representing official organisation, including SES, local council, fire agencies, Red Cross etc.
- Insurance companies should develop detailed, explicit advice for customers about what to do (and not do) after a flood event in relation to making a claim, providing evidence, and not invalidating their cover. This information should be provided to all new, and renewing, policy holders with flood cover. To reduce the potential for conflicting information and misinformation when advice is shared, this information should be harmonised as an industry standard, to provide consistent advice across insurers.
- The requirement to re-tell and re-live experiences when interacting with service providers can have negative psycho-social impacts on individuals and delay service provision. In the early stages post-disaster there is a need to capture residents' information/history in a secure registry or some other way, so that they don't need to repeat their story or keep providing the same information when dealing with multiple services or different people. Data-sharing, with consent and within privacy legislation frameworks, would have benefits for both service providers and flood-impacted individuals and should be investigated further.
- Access to case managers who can support flood-impacted residents is required, as early as possible post-disaster, and ideally throughout recovery. Support providers need to find ways to ensure that flood survivors are unburdened as much as possible.
- The provision of temporary housing in a housing crisis and in some locations that are tourist areas resulted in a range of complex issues, with COVID compounding many issues too. Housing should provide stability and security. The wellbeing of potentially traumatised and displaced flood survivors needs to be central to housing decisions. Further planning and coordination with housing providers, tourism bodies, and others who can provide support needs to be undertaken.

## Recovery

- A disproportionate burden in recovery is falling to communities and volunteers who are running community hubs and similar local support. Although there is goodwill and assistance in the early stages, as the weeks and months pass volunteer numbers dwindle as people need to return to work and other activities, and the burden shifts to an ever-smaller group of people. Recovery agencies need to find ways to support, train, and properly resource local community hubs so that they can function well, stay local, and provide support in the months after the floods with an appropriate needs-based phased reduction in service. Recovery hubs need to have a direct line of communication with local and/or state recovery coordinators.
- Residents were encountering a range of issues with housing and reconstruction. Delays with insurance settlements, assessments, shortages of building supplies and trades, waiting for decisions about buybacks have caused frustration, anxiety, and additional financial pressures. Insurance companies and reconstruction agencies need to consider their practices and communications to assist residents in being able to plan and manage their situations in the interim. These could include better/quicker communication of timelines for assessments and decisions, the financial implications of decisions and actions that residents take, updating communities about issue that are causing



delays and the actions being taken to reduce delays, and anticipating problems and sharing their intentions.

- Some residents were struggling with the administrative load of project managing their rebuilds without feeling sufficiently skilled or supported. Residents were juggling being back at work, has issues related to temporary housing (being off-site), and were managing mental health issues and the general stresses of post-flood disruption. Stakeholders need to consider ways to reduce placing burdens on flood-impacted residents in these situations. This could include provision of better and consistent support, information, and additional resources, e.g., access to skilled project managers for advice or direct support on-site, printed guidance about rebuilding, compromises, or benefits for use of different materials, planning tools, and mental health supports.



## End-user statements

### **Carlene York APM, Commissioner State Emergency Service, New South Wales.**

“New South Wales communities have experienced severe to catastrophic flooding in multiple locations between 2020 and 2023. Some communities were impacted by flooding numerous times over the past 3 years with the floods occurring across NSW in 2022 resulting in over 20 floods of record. Communities across the state were impacted, sometimes two or three times. Recovery for many of these communities is ongoing and will take many years.

“There has been much anecdotal information on the experiences of communities impacted by natural disasters. This research project has provided the NSW SES with an opportunity to work with communities impacted by flooding to better understand their perspective. It provides a rich contextual overlay to assist emergency management organisations, government departments, local councils, community organisations and community members better understand the complexities of community experience before, during and after severe-weather events and disasters.

“The research provides a wealth of data that will be utilised by stakeholders, across all hazards, to develop policies and approaches to address gaps, and improve community preparedness, safety, and recovery.

“NSW SES would like to thank the members of flood-impacted communities who shared their experiences of the floods with the researchers. It is through learning from community experiences and working together that we grow our collective capability to improve community safety before and during disasters, and to recover afterwards.

“The important insights gained through this research project will inform future preparedness, response and recovery work undertaken by NSW SES.”

### **Commissioner Greg Leach, Queensland Fire and Emergency Services**

“The severe rainfall and flood events experienced in south-east Queensland and northern New South Wales in the first half of 2022 delivered unprecedented flood levels, destruction and demands on emergency services. While community safety and engagement at the time of such events is imperative, there also exists a complex post-event world that presents people with long-term challenges and obstacles to rebuilding their homes and communities. With community members open to sharing their spectrum of experience related to these, the 2022 rainfall and flood events presented an opportunity for researchers to apply methodology in capturing people’s stories and translating them into findings and products with real-world application.

“Partnering as an end-user agency with Natural Hazards Research Australia on this work afforded Queensland Fire and Emergency Services (QFES) the opportunity to support and engage in a unique community-focused post-event investigation. Grounded in the rigour of a mixed-methods approach used previously by the Bushfire and Natural Hazards Cooperative Research Centre, and aligning strongly with QFES values and guiding principles, the research described in the Community experiences of January – July 2022 floods in New South Wales and Queensland Summary Report captured community members’ post-event stories, including less quantifiable aspects that can often be missed. A more person-centred community focus permitted more personal input beyond traditional metrics used to describe experiences associated with an event, with analyses leading to a set of policy-relevant themes.

“Accurately gauging, considering, and applying community experience and perspective is an important part of contemporary emergency sector agencies and the services they deliver. The current research demonstrates that community members directly impacted by the 2022 rainfall and flood events have valuable insights that they are willing to share, together with an optimism that lessons learned from their tragedy can genuinely



contribute to the evolution of prevention, preparedness, response, and recovery policy. QFES looks forward to seeing the uptake and application of these important findings and to expanding research partnerships on further community-focused topics.”





# Overview of the flood context and the report structure

## The 2022 eastern Australia floods<sup>1</sup>

The eastern Australia floods in 2022 followed two years of above average rainfall, and nationally, the wettest month on record was recorded in November 2021. There was flooding in QLD in November and December 2021. Ex-Tropical Cyclone Seth brought further rainfall in late December and early January causing flooding in southeast QLD and the Mary River. Soils were saturated.

Southeast QLD experienced extreme multi-day rainfall and significant flooding from 22 February to 7 March 2022. Flooding impacted 23 of QLD's 77 Local Government Areas (LGAs). Areas impacted by flooding included the Wide Bay and Burnett district to the north, Darling Downs and Granite Belt to the west, and the southeast coast districts. In QLD the Bureau of Meteorology (BOM) issued more than 500 warnings, and the highest recorded weekly rainfall total was 1344mm in Upper Springbrook, inland from Burleigh Heads, near the QLD-NSW border. Although many towns were affected, the towns of Gympie and Maryborough, and Brisbane suburbs from Ipswich to Logan and to the north and west of Brisbane, and the Sunshine Coast were particularly impacted.

The multi-day rainfall extended from QLD into NSW, flooding eastern NSW with more than 1 metre of rainfall. The Northern Rivers area in the northeast of NSW was seriously impacted with river heights on the Wilsons River in Lismore peaking at 2 metres above previous records on 28 February 2022. Major flood levels were reached on the Richmond River at Coraki and Woodburn on 28 February, and on the Hawkesbury-Nepean River to the west and north of Sydney during the period 8-9<sup>th</sup> March. Further flooding occurred in other areas including the Clarence, Lower Hunter, and Wollombi creek catchments. Disaster declarations were made in 61 LGAs.

Further rain fell in late March, impacting Toowoomba and Dalby in QLD, and Byron and Ballina in NSW – as well as other areas that had been flooded earlier in the month. This second flood, although not as severe, was a major set-back to communities still clearing up from the first flood, in places like Woodford, Coraki, and Lismore. Further damage was also done to eroded riverbanks, landslips, undercut roads, and other already damaged infrastructure.

Further heavy rain occurred in NSW in late June, leading to further – and higher flood levels – in early July, with impacts in the Greater Sydney – Woronora area, Camden, Illawarra, Central coast, and Hunter. At Windsor, the Hawkesbury River peaked nearly a metre higher in the July flood compared to March, and flooding in the Bulga and Wollombi areas also exceeded the March levels. Disaster declarations were made in 37 LGAs in the July 2022 floods.

## Report structure

After an initial outline of the study methodology, a set of five cross-cutting themes are presented. These highlight a set of issues that contributed to the complexity of the 2022 floods and post-flood recovery. These themes are interlinked. They recur in the content of resident interviews and also provide context for interpretation of many of the survey findings.

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<sup>1</sup> Details about these flooding event/s was sourced from the NSW Independent Flood Inquiry Report [2022 NSW Flood Inquiry | NSW Government](#) and The QLD Inspector-General Emergency Management South East Queensland Rainfall and Flooding Event February to March 2022 Review [South East Queensland Rainfall and Flooding February to March 2022 Review | IGEM](#)



This section is followed by two main data sections that outline significant content and findings from the interviews and the survey. The first data section details a set of 13 themes that emerged from the interview data. These are common themes, reported by many residents, but still only represent a subset of themes identified by the coding. To keep this report manageable, themes that the research team felt were the most salient to residents and of immediate policy relevance to stakeholders were chosen for presentation here. As these themes were produced, inductively, they are ‘bottom-up’ data. This part of the analysis identifies issues from the perspectives of residents. Mostly they are identifying problems and challenges that were faced directly by the interviewed resident, their household, or local community members – friends and neighbours.

In the second part of the data section, five content areas from the survey are detailed. These are determined by the structure of the questionnaire that was co-designed by the researchers and research end users from their perspectives, and provide a deductive, ‘top down’ contribution to the study and the analysis. These content areas were selected for presentation in the report because they weren’t addressed in the qualitative themes and were felt to be of importance to key research stakeholders and in areas that have important policy implications.

The quantitative analysis allows for broader trends in the data to be identified and for statistical analysis to be undertaken to identify significant associations between variables. However, they do not contribute the same level of detail, or richness, as the interview data. Collectively, this mixed methods approach provides a comprehensive and more powerful data stream to gather insights in this complex area.

In the qualitative theme section, each theme is presented and explained, with supporting quotes selected from coded comments in transcripts. In some themes where there is overlapping content in the survey, some quantitative data is also included to provide additional insights for consideration. Quantitative content areas contain an overview of relevant questions, with graphs and tables, and most contain some additional statistical analysis and some limited open text analysis.

All themes include a section where policy-relevant implications of the findings are considered, and possible approaches to addressing these implications are suggested.

The report ends with consideration of four main challenge areas; broad areas that require ongoing consideration and coordinated approaches by a range of stakeholders.



# Methodology

## Research design and analysis

The study design followed an approach used by researchers working in natural hazards research with the Bushfire CRC, the Bushfire and Natural Hazards CRC, and now Natural Hazards Research Australia. This post-event study approach was first used following the 2009 Victorian bushfires and has been used following nine further significant natural hazard events since (eight bushfires, and one flood event – the 2017 NSW Northern Rivers floods)<sup>2</sup>. Outcomes from these studies have been used by specific agencies, published in academic literature, and submitted to post-event inquiries and Royal Commissions, and have led to numerous changes in policy and practice.

The study comprised two phases: a qualitative interview phase, and a quantitative online survey phase. The research team included researchers from Macquarie University (MQU), University of Southern Queensland (USQ), and Queensland University of Technology (QUT). Ethics approval for the study was approved by Macquarie University Human Research Ethics Committee (HREC), Ref: 11902, with appropriate reciprocal approval by USQ and QUT HRECs.

## Interview phase

The research interview methodology has been developed to be sensitive to participants' trauma, enabling them to discuss their experiences in a supported environment. The research team was trained in the interview process and in recognising and responding to participant reactions, as well as their own self-care. Although occasionally upsetting, the overall interview process is designed to be a positive experience for participants enabling them to speak openly and raise their concerns in a safe environment, whilst also knowing that their voice will be heard by decision makers and their experiences will be used to inform future approaches to improve safety and support other people similarly impacted by floods. The interviews are participant-led and allow residents to *tell their story* with limited interruption, followed by interviewer prompts to ensure coverage of a range of relevant issues from the study interview guide.

The study was advertised through a range of channels, and with the support of a range of stakeholders in flood affected Local Government Areas (LGAs) or those working with disaster impacted communities. This included advertising on social media, online stakeholder newsletters, hard copy invitations, flyers, and some targeted letter box drops, posters on community noticeboards and in community hubs, a stall at a community market (in Maryborough), and introductions via community leaders and other interview participants. All interview participants were self-selected and did not receive monetary compensation for their participation. An online registration survey was hosted on the Natural Hazards Research Australia project webpage<sup>3</sup>, and most recruitment material encouraged potential participants to register for the study via this survey.

The registration survey questionnaire asked a short set of questions about the type of contribution the potential participants wanted to make (interview, survey, or both), the location in which they experienced the flood, whether they were impacted by flooding more than once in 2022, their status as a homeowner or renter, their gender and age, and whether they were an SES volunteer or salaried staff member (to ensure that this was known in advance and to avoid any potential overrepresentation from in the interview sample). In addition, they were asked to indicate the degree of impact from the flood/s and were provided with space for further open comment. They were also asked about availability (if they selected interest in being interviewed) and were asked to provide contact details.

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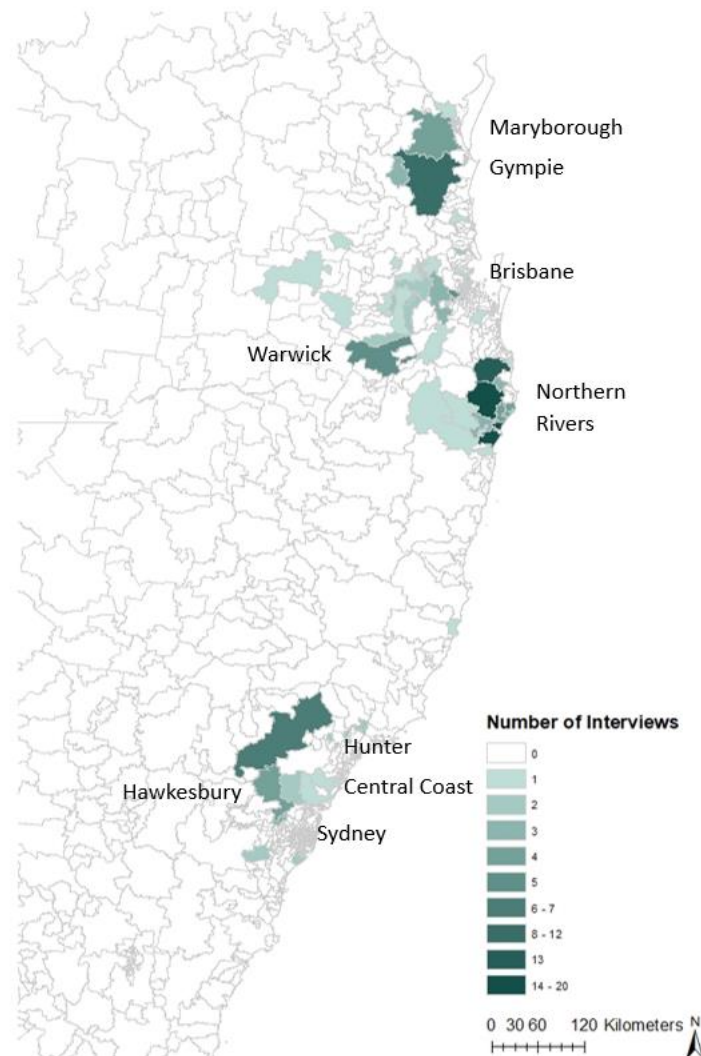
<sup>2</sup> [https://www.naturalhazards.com.au/sites/default/files/2022-07/Floods%202022\\_methodology.pdf](https://www.naturalhazards.com.au/sites/default/files/2022-07/Floods%202022_methodology.pdf)

<sup>3</sup> <https://www.naturalhazards.com.au/floods2022>



A deliberative approach was taken to recruit participants across a range of flood affected locations in QLD and NSW using the study registration survey and location-based field work. Interviews were conducted using a mix of virtual (videocalls and phone) and in-person methods. Interview participants were drawn from many areas, with guidance from the research end user organisations; QFES and NSW SES. These included suburbs of Brisbane, Logan, Ipswich, Maryborough, Gympie, Gold Coast, and the Southern Downs region in QLD, and the Northern Rivers, Hawkesbury, Hunter and Central Coast areas, and suburbs to the south and west of Sydney in NSW. The QLD-based research team conducted in-person fieldwork across the areas listed in their state. The NSW-based team conducted fieldwork across the Northern Rivers area only and conducted virtual interviews with residents based in other areas.

A total of 192 flood-impacted residents (92 QLD/100 NSW) were interviewed during an 11-week period (15 August 2022 to 27 October 2022). The location and number of interviewees is shown in Figure 1.



**Figure 1. Map showing location (postcodes) of the 192 residents who participated in the interview phase of the research.**

Following an opening discussion about the study, answering any questions from participants, and formally registering consent (verbal or written), most interviews followed a chronological path – with some initial story of how the flood unfolded and the aftermath. Typically, this would be followed by a mix of researcher-led questions and further expansion by the resident, and most interviews ended with a question about what they



had learned that might be helpful to others who find themselves in similar situations. Most interviews were between 30 – 60 minutes.

All interviews were audio recorded, professionally transcribed, and thematically coded by the researchers using NVivo software. The chronology of the flood event provided a framework for the coding, with a series of iterative research team discussions producing an initial set of themes for a common codebook. Subsequently, the QLD team and the NSW team independently coded their interviews using a combination of inductive and deductive coding approaches. Full details of the coding process and the codebook are included in the study Technical Report.

## Survey phase

The online survey was informed by the interviews and was developed by the research team with the QFES and NSW SES research end-users and with input from Resilience NSW and the Australian Red Cross. The survey included a mix of questions used in prior post-event research, notably the 2019/20 NSW bushfires<sup>4</sup> and the 2017 NSW Northern Rivers floods<sup>5</sup>. Some questions were also shared by the team running the current Bushfire Recovery Victoria Community Outcomes Study<sup>6</sup>. The (re)use of these questions allows for future data comparisons. The survey also contained bespoke questions designed to address the 2022 flood context, such as questions around the clean-up process, the liveability of homes, plans for the future, and a set of questions gauging community interest in emergency management training; an area raised as a recommendation in the NSW Independent Flood Inquiry Report.

The survey questionnaire covered a broad range of areas and was divided into 13 content sections. Content covered prior flood exposure, impacts and losses related to the 2022 flood/s, information, and warnings before and during the flood, actions taken during the floods, rescue, clean-up, current living conditions and future plans, support received, community actions, and health and well-being. The survey contained ‘skips’ to move past sections that were not applicable. Each section contained space for open comments.

The survey was developed using Qualtrics, and the link was open from 24 November 2022 to 17 February 2023 and was advertised using the same routes as the interviews - via social media, the project website page, as well as via interview participants and local contacts made during the interview phase. Some residents registered for the survey via the registration survey and, phone recruiting was used in targeted flood-impacted locations to contact eligible residents. A total of 430 flood-impacted residents participated in the survey. The location and number of survey respondents is shown in Figure 2.

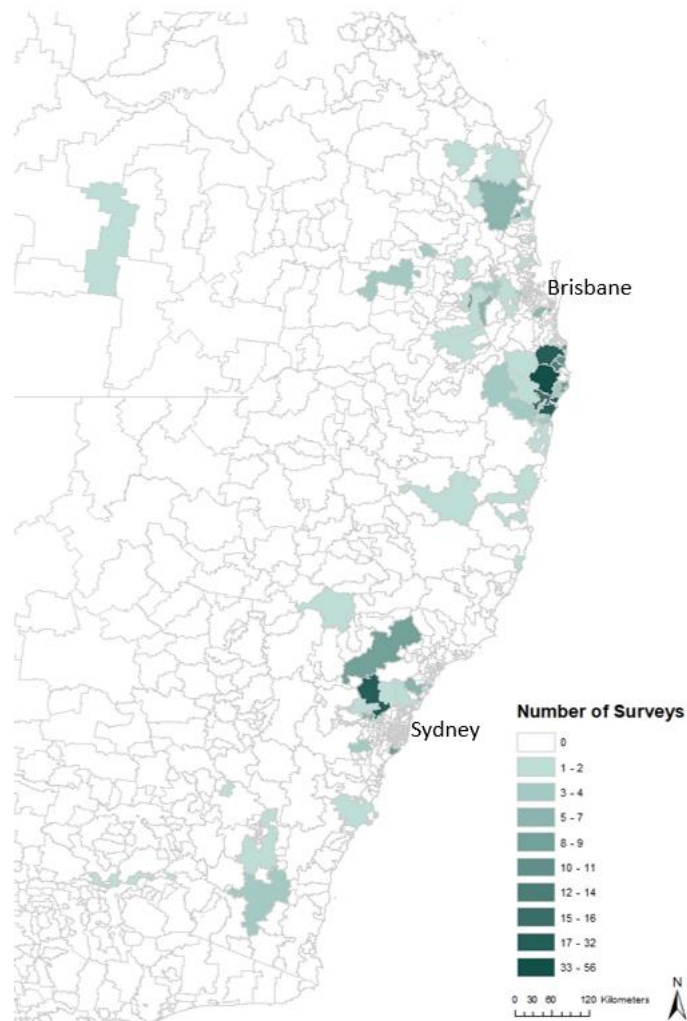
The survey data were downloaded into SPSS for analysis. Descriptive data relating to relevant themes and content areas are included in this report, along with some initial bivariate statistical analysis (Chi square tests). Further information about the survey structure, the data, and an overview of top-level findings from all sections of the survey are included in the accompanying Technical Report.

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<sup>4</sup> <https://www.bnhcrc.com.au/research/resilience-hazards/7090>

<sup>5</sup> <https://www.bnhcrc.com.au/publications/biblio/bnh-5200>

<sup>6</sup> <https://mispgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/beyond-disasters/projects/democracy-and-community-engagement/community-recovery-project>



**Figure 2. Map showing location (postcodes) of the 430 respondents who participated in the survey phase of the research.**

### Sample information – comparisons between NSW and QLD respondents

This report contains analysis of data and statistical relationships between responses to some questions in the survey and a set of eight additional variables, plus state. Additional details about the survey sample characteristics are required at this point to understand the subsequent analyses presented in this report. The analysis in this report is in the form of simple bivariate statistical associations (using the Chi square statistic), these tests determine whether two variables are independent or related and do not take into account multiple other variables. As comparisons between states (NSW v QLD) are a focus, it is important to be aware of underlying differences that may also be contributing to findings.

A total of 430 flood-impacted residents participated in the survey. Just over two-third of respondents 67.4% (n=290) experienced the flood/s in NSW and 32.6% (n=140) experienced the flood/s in QLD. Figure 2 shows the broad geographical distribution of the sample. Within the NSW subsample there is a concentration of respondents from the Northern Rivers, Hunter region (Broke/Singleton) and the Hawkesbury-Nepean, and in the QLD subsample there is a concentration of respondents from the Gympie region and the Lockyer Valley, Grantham, Logan, and Sunshine Coast areas.



There was some attrition (drop-out) across the survey, mostly in the first three sections. The demographics questions were in the mid-section of the survey and were answered by 386 respondents. Most of these respondents (96%) completed the survey, but some sections were only answered by subsets of respondents, so numbers vary between sections. The total sample comprised 61.1% female, 38.3% male respondents, and 0.5% identified as non-binary. The age profile of the sample was skewed towards older age groups with 20.3% of the sample aged 18-44; 44.7% aged 45-64; and 35.1% aged 65 or older.

All statistics presented in this report are based on sample data and therefore it is necessary to exercise some caution in interpreting the findings, especially when sample sizes are smaller. In this study the total sample (n=430) provides an estimated margin of error of 4.8% at the 95% confidence level, and samples within each state have a margin of error of 5.8% for NSW and 8.3% for QLD.

In the statistical analyses a block of eight variables have been used to test associations. These variables are described in Table 1. Chi square tests were used to investigate differences between the two state subsamples for these questions. These outcomes are also summarised in the table.

**Table 1. Description of the variables used for statistical tests in the report, with a comparison summary for the two state subsamples. (n.s. = not statistically significant; P = probability<sup>7</sup>).**

Variable name	Description	No. of levels	Level descriptions	NSW vs QLD comparison
Age	Age	3	1= 18-44, 2= 45-64, 3=65+	n.s.
Gender	Gender	2	1=male, 2=female	n.s.
Previous	Previous experience of flooding at property /location	2	1=yes, 2=no	n.s.
Prepared	Level of preparedness at time of flooding	2	1=higher, 2=lower	P<0.01 ** NSW sample more prepared (53.4% = higher c.f. 38.8% higher in QLD)
Time	Time to take action when became aware of flooding	3	1= <2 hours, 2= 2-24 hours, 3= 24+ hours	n.s.
Ins-H	Flood insurance for house/building	2	1=yes, 2=no	P<0.001 *** NSW sample less house insurance for flood (NSW 46.6% yes c.f. QLD 76.6% yes)
Ins-C	Flood insurance for contents	2	1=yes, 2=no	P<0.001 *** NSW sample less contents insurance for flood (NSW 42.0% yes c.f. QLD 75.0% yes)
Impact	Floodwater/stormwater entered house/buildings	2	1=yes, 2=no	P<0.05. * NSW sample higher impact (NSW 69.9% yes c.f. QLD 57.4% yes)

The summary data in Table 1 show that there are no significant demographic differences between the NSW and QLD subsamples, and there are no significant differences between them for the time they had to take action once they became aware that flooding may impact them (27.9% in NSW and 29.2% in QLD had less than 2 hours). There were also no statistically significant differences between the NSW and QLD respondents in the proportions who had experienced flooding previously at the same property/location (63.4% and 61.4%, respectively).

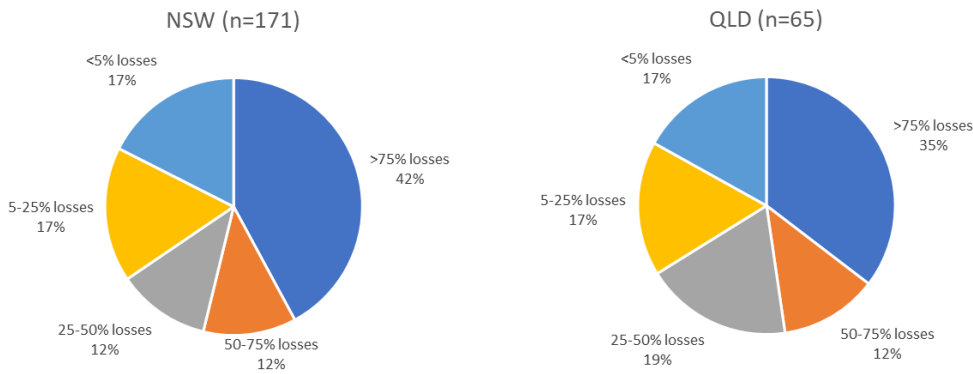
There were, however, statistically significant differences between the NSW and QLD subsamples in terms of the proportions that had direct flood impacts in their home/buildings in the 2022 floods, with the NSW respondents having higher direct impacts. NSW respondents were also significantly less likely to have flood

<sup>7</sup> A level of probability is provided for statistical tests (P<0.05 \*; P<0.01 \*\*; P<0.001 \*\*\*). This expresses the probability that the significant result is due to chance. A 1 in 20 chance (0.05) is a widely accepted minimum level at which to report statistically significant differences. A lower probability level (more stars) indicates a greater degree of confidence that differences are genuine and not due to chance.

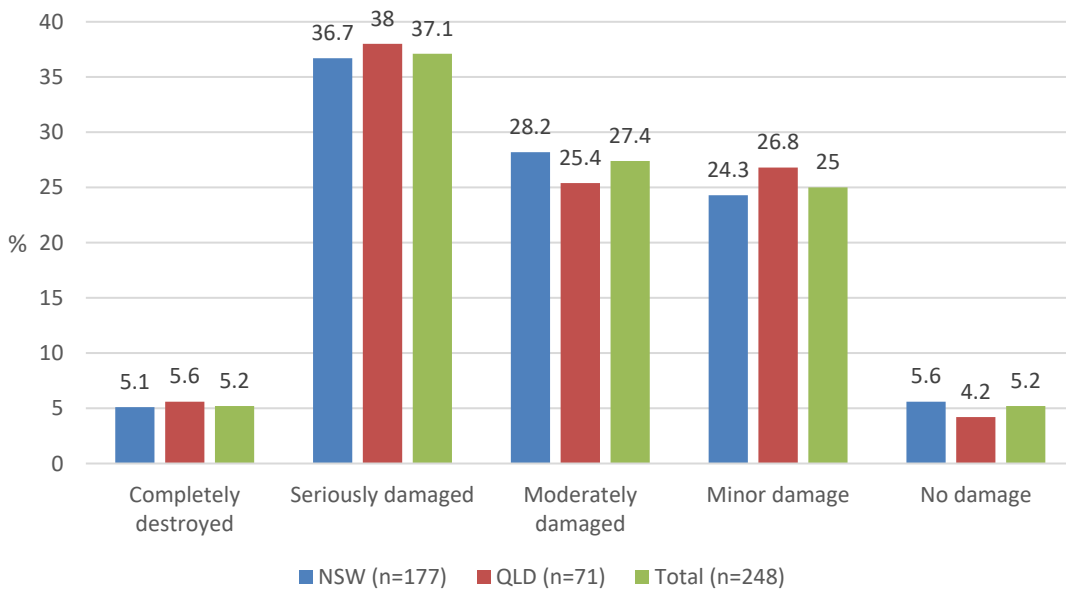


insurance for their house/buildings or for their contents, but they were more likely to report being better prepared when the flood occurred.

For further comparison between the two states, Figure 3 shows the breakdown of estimated house content losses for respondents whose houses/buildings were damaged by flood/storm water in the 2022 floods. Figure 4 shows the extent of damage to the home, for respondents who had flood/storm water enter their home. No statistically significant differences were noted between states for these impacts. Further analysis of impacts and losses will be presented in the section on Housing.



**Figure 3. Estimated house content losses for NSW and QLD respondents.**



**Figure 4. Extent of damage to house/home from the flood.**

### Sample Information

The survey contains data from 430 flood-impacted residents across NSW and QLD who experienced a range of different flooding experiences. Two-thirds were from NSW. There were more female and older residents in the sample overall, but no significant differences in age and gender between the two state samples. Similarly, there were no significant differences in prior flood exposure, or the time respondents had to act before the flooding occurred. NSW respondents were significantly less likely to have flood insurance for their buildings and contents, and more likely to report being well prepared when the flood impacted. There was evidence that





NSW respondents may, in general, have a higher level of impact due to more respondents reporting flood/stormwater entering their houses/buildings in the 2022 floods, but further analysis suggests this did not translate to significantly greater losses or house damage for the NSW respondents compared to the QLD respondents.

## Notes to support data interpretation

To assist interpretation of study findings it is important to be aware of, and consider, the following.

### Community voices - subjective opinions

The qualitative interview component of the research was participant-led and was designed to enable flood-impacted residents to *tell their stories*, giving emphasis to issues that were salient to them, and interpreted as they saw them. Although researchers provided prompts to explore a range of issue and asked questions and sought clarification or expansion of points, they did not challenge perspectives or seek to influence residents' interpretations of events. Quotes provided in this report are, clearly, the views of individuals and are provided as exemplars. However, they have been identified during analysis as reflecting themes in the data and are supported by the experiences of multiple participants.

### Negativity bias – a cognitive phenomenon

Although interviews with residents often included a mix of positive and negative comments, there is a natural negativity bias in the qualitative data. Negative events are felt more intensely and come to mind more readily. Humans have this cognitive bias; we all have a tendency to attend to, learn from, and use negative information far more than positive information<sup>8</sup>. In addition, in the context of this research, participants had all been through a largely adverse experience, and the research was generally framed in the context of wanting to learn from others' experiences and work towards improvements in disaster preparedness, response, recovery, and resilience. Unsurprisingly then, many of the quotes in the qualitative data are negative, as they seek to provide exemplars of things that are felt to be in need of improvement.

Just as there is a general bias towards recalling negative events, there is also more elaboration about things that are considered wrong or in need of improvement. Conversely, quotes about 'good' things tend to be short, passing comments – generally less likely to be insightful or informative. The trauma-informed, participant-led approach (already described) also gives control to the study participant about how they wish to tell their story and the balance they provide.

Qualitative themes also have a tendency to focus on negative comments and quotes, due largely to the elaboration and richness of the data as described. The inclusion of quantitative/survey data in the report helps to provide a degree of balance, since good survey design requires objectivity and the potential for respondents to be able to express a full range of views and sentiments. In quantitative data the positive-negative balance is determined by the distribution of responses and the focus of the narrative in their interpretation.

### Variability of floods and community experiences

All residents across NSW and QLD, aged 18 or over, who were impacted by floods during the period January to July 2022 were eligible to take part in the study. As mentioned in the preceding section, study participants were drawn from many areas including city suburbs, suburban areas, regional towns, and rural areas. The

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<sup>8</sup> Vaish, A., Grossmann, T., & Woodward, A. (2008). Not all emotions are created equal: the negativity bias in social-emotional development. *Psychological Bulletin*, 134(3), 383–403.



characteristics of flooding across these areas varied dramatically, with fast deep floods, stormwater run-offs, flash flooding and landslides, and slower riverine floods.

Some people experienced more than one flood in the study period, others had experienced multiple floods in the 12 months prior, and some experienced a single flood. Similarly, individuals and households in the same areas had very different flood experiences and the flood/s had different impacts.

Given this variability it is hard to present a single collective or typical ‘experience’ for the sample, and it would be misleading to do so, or to generalise to the entire flood-impacted population. The NSW and QLD subsample comparisons presented earlier provide some insight into the balance within the sample, e.g., potentially greater financial impacts experienced by the NSW subsample, due to lack of insurance with similar levels of damage and loss to QLD respondents. Also, due to potential biases in the study design it is likely that, on average, people who were more affected by flooding would be more motivated to self-select to participate.

## Policy implications

As mentioned, all themes include a section where policy-relevant implications of the findings are considered, and possible approaches and suggestions for addressing these implications are offered. The policy-relevant implications in this report have been driven directly by the research findings, there has not been an analysis of existing policy documentation to identify any activities that are already in place or approaches that have been instigated since the flooding. During the period of data collection, and subsequently, reviews were undertaken by many stakeholders. Improvements and new initiatives have commenced, and some relevant actions that were recommended by the 2020 bushfire Royal Commission have been further advanced. The points made in the policy implications sections reflect the lived experiences of residents at the time of the floods and up to the point of data collection, and in the context of the policies that were in place during those times. Suggestions for how they may be addressed have come from participants during their interviews, comments in surveys, and from the research team’s experience and knowledge of disaster science and its application. No presumptions have been made about the feasibility or financial viability of these suggestions.

It is acknowledged that disaster resilience and risk reduction is a shared responsibility, that there are complexities, and a need to assess the risks and benefits of the suggestions being offered. In large scale disasters it is also acknowledged that the whole of community is affected in some way, including those who work for disaster management organisations, local councils, etc., resulting in additional challenges for scaling-up early response.

Finally, it is noted that there are many organisations involved in disaster management and there are different disaster management arrangements in NSW and QLD. Local councils in QLD are primarily responsible for managing disaster events within their local government areas, this can include the provision of localised public flood information and warnings, and they are required to have disaster dashboards<sup>9</sup>. These responsibilities are not the same in NSW. These differences underlie the rationale for providing data in the main report separately for the NSW and QLD subsamples, along with the total sample data.

## Study strengths

Strengths of the current study include the size and comprehensiveness of the qualitative interview data and the quantitative survey data. In academic literature, qualitative studies often have sample sizes that are less than 20% of the size of this study, rarely more than 35 interviews. The collection of rich first-person accounts using a well-established trauma-informed approach and a mixed methods design, mean that the data from this

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<sup>9</sup> Queensland Reconstruction Agency. Disaster dashboards in Queensland <https://www.qra.qld.gov.au/recovery-hub/disaster-dashboards-queensland>



study are exceptional in their value and utility. In addition, the use of professional transcription services to produce high quality data for analysis means that, with de-identification and HREC-approved data management, these data can be utilised into the future and continue to contribute to disaster science.

The content coverage in this study is also exceptional. Prior post-event studies in Australia have typically focussed on the early stages of disasters – preparedness, information/warnings, and response, and have been mostly bushfire related. The current study covered issues of prior and multiple floods in the context of the Jan-Jul 2022 floods, as well as all aspects of preparedness, warnings, response, and into the start of the long tail of recovery. Having this span of content for each participant (both interviewees and survey respondents) provides additional opportunities to explore relationships between complex and compounding prior events, personal strengths and vulnerabilities, flood adaptations/modifications and preparedness activities with indicators of early recovery trajectories and the contributions of community connectedness, individual participation, and functioning.

The broad geographic spread of the study is an additional feature worthy of note. Although this brings additional variability that can place limitations on quantitative analyses, e.g., lower numbers due to skips in the survey, reduced statistical power, this additional variability only enhances the potential of the qualitative data. It is possible to explore a broader range of experiences with a greater range of people in different contexts, which should lead to broader insights to inform policy, and extend disaster literature.

## Study limitations

Like all studies there are also limitations. The reliance on self-selected samples has already been mentioned, but the potential exclusion of certain demographic groups is also an important limitation, e.g., an underrepresentation of those who don't speak English, or do not have access to the internet or social media, and Indigenous residents. These limitations may cause biases in the data. For example, the interview sample includes more people who were significantly impacted by the floods and older people, and therefore there is more limited information from those indirectly impacted, and those in certain demographics (younger, non-English speaking). In addition, participants were not financially compensated for their time or provided an incentive for their participation. Offer of a modest financial payment may have increased the participation of especially vulnerable or economically precarious groups.

It should also be noted that a number of research projects were starting to be undertaken during the period of this research. Whilst some community groups expressed frustration at the potential for affected people to experience 'survey fatigue', the large-scale nature of this research and the collaboration with key end users helped ensure local support and cooperation.

The research value in the qualitative data lies both in the rich narratives detailing the experiences of individuals and households, and in the overall variability of the sample. By recruiting a sample that includes people from a range of different areas and with a mix of demographic characteristics we have sought to capture as near a complete representation of the experiences of eligible residents as possible. However, qualitative data are not easily generalisable. These data provide examples of individual experiences, and collectively they have been coded to identify and illustrate common themes.

Finally, the quantitative survey data provide opportunities to quantify the experiences of the participants and provide a more representative picture of the impacts. However, given the size of the eligible population (all flood-impacted residents of NSW and QLD, over the age of 18, affected by floods in the period Jan-Jul 2022) it is not possible for a post-event research study like this to collect sufficient data to be able to fully represent that population, but it will be indicative of the broader population. Importantly, relationships within the data will be robust and it is possible to explore a broad range of issues and quantify differences that are statistically reliable.



## Broad context-setting, cross-cutting themes

From analysis of the interview data a sub-set of important contextual and cross-cutting themes was identified. Significant for policy makers as individual issues, they also permeate through and add complexity and challenges to many other emerging themes in the data.

### Flood severity

A unifying feature across most of the interviews in the two states was the unexpected severity of the flood/s. Both NSW and QLD held formal reviews<sup>10,11</sup> relating to preparedness and response, and published their findings during the period of data collection in this study.

For many participants in the study, as reported constantly in the media, the flood/s were ‘unprecedented’. At best, the floods were ‘worse than expected’, at worst they were totally unexpected and/or life-threatening. The unexpected severity of flooding meant that those who were prepared, were not prepared *enough*, or their preparedness wasn’t effective.

*Because I’d already been affected in the 2017 floods, we built the house up to 13.1 saying the flood won’t ever touch us. It was up to 16 metres by the end of this whole saga, over the house. [NSW104]*

*Last time, because it was an inch, that would have solved it. Because this time I was so unprepared for how much water there was; that the things that I put on the couches got wet anyway, because the couches floated and tipped because it was such a depth. So, the ways I thought I was prepared, I wasn’t in the end; because it was just so much worse than what I had had before. [Q2208]*

The severity of the flooding also meant that there were people who had lived in their homes for 10 or 20 years (or much longer) who had never experienced a flood in that location and had no idea they were at risk – unexpecting, and unprepared. Flood severity also meant that references to the past and comparisons were flawed. Many residents mentioned that when moving to an area they were advised that ‘it never floods here’ and they didn’t need flood insurance. Others were reassured by neighbours when flooding began, that ‘it wouldn’t be as bad as in was in XXXX year’. On occasion, these well-intended reassurances resulted in a lack of action or an inhibition of action, to avoid being seen as over-reacting.

*He came and collected the steers, and I said to him, “Are you worried?” “Oh, it could come up over the paddock”, but he said, “Your house will be all right. I’ve been here for seven years, and your house will be fine because I know when your house was built that he put it on a mound – the builder put it on a mound”. So, I relaxed to a degree, even though upstream was pretty wet, very wet in fact, I relaxed to a degree. My daughter and some of my neighbours said, “I think you should get out”, I said, “No, I’ve been told that it won’t come into the house, and I believe the man”. [NSW002]*

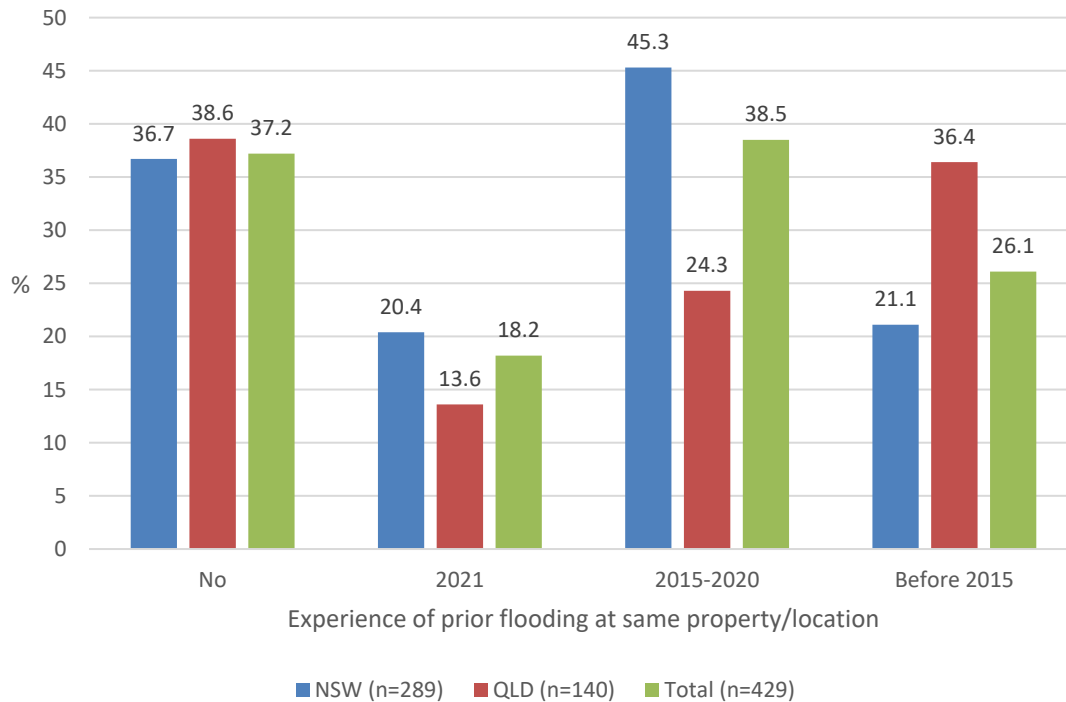
<sup>10</sup> The NSW Independent flood inquiry was announced on 21 Mar 2022 and focussed on preparation for, causes of, responses to and recovery from the 2022 floods in Feb-Apr and Jul 2022. It included 1498 public submissions and sought input via a series of community meetings. The inquiry and report included extensive analysis and inclusion of community views. The Inquiry report was released publicly on 17 Aug 2022. [2022 NSW Flood Inquiry | NSW Government](#)

<sup>11</sup> The QLD Inspector-General Emergency Management South East Queensland Rainfall and Flooding Event February to March 2022 Review was announced on 15 Mar 2022 and the Review report was released on 17 Oct 2022. It focussed on the effectiveness of preparedness activities and response to the rainfall and flooding events of Feb-Mar 2022. Public submissions and community forums were included to inform the review and QUT conducted a survey to examine the impacts of warnings on behaviours during this event. [South East Queensland Rainfall and Flooding February to March 2022 Review | IGEM](#)



*No-one was expecting for it to be as bad as it was. Especially because everyone in their mind used 2011 as the base by which to make a lot of the decisions. [#Q2205]*

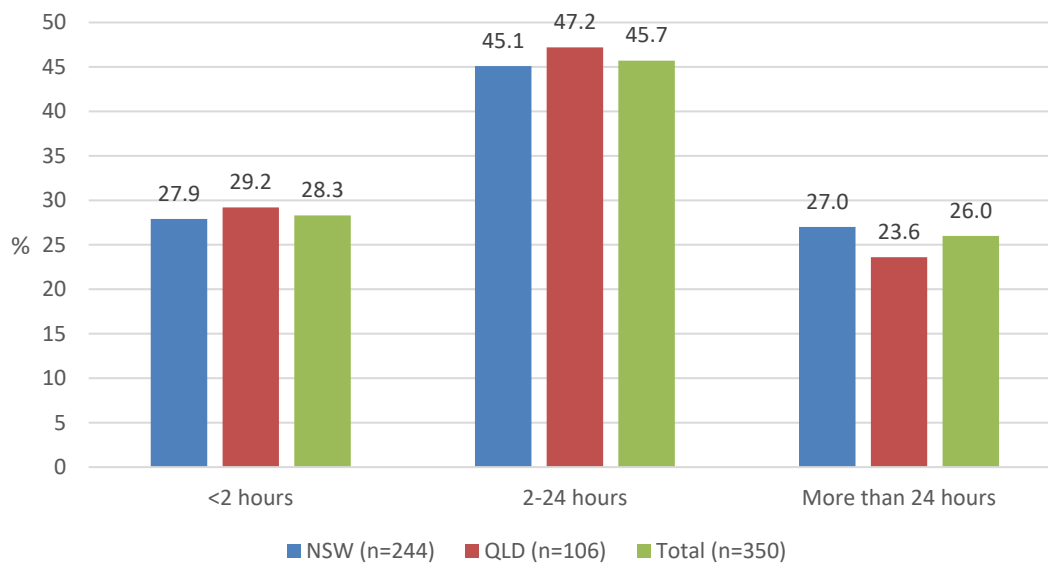
The survey data provides additional evidence of the severity and unprecedented nature of the flooding. Respondents were asked about their prior experience of flooding at the same property/location. Figure 5 summarised these data.



**Figure 5. Exposure to prior flooding at the same property/location and the timing of prior flooding.**

Over a third of flood-impacted respondents (37.2%) had not been flooded previously. This is a large proportion of the sample and, given that they were impacted by flooding in Jan-Jul 2022, further supports the surprising severity of the flooding that occurred. Figure 5 also shows that 18.2% of the sample overall had experienced flooding in 2021 and, most likely, were still recovering from that flood (or possibly multiple floods). As this question was a multiple response question, respondents who had been flooded previously may have been flooded at more than one time (the total % is greater than 100). A count of how many ‘periods of time’ respondents reported being impacted showed that three quarters (75.6%) had been flooded in one of the given time periods, 17.4% had been flooded in two, and 7.0% had experienced prior flooding at the same property/location in all three periods. Differences in the timing of prior floods can be seen for those in NSW and QLD. As the NSW sample had a high proportion of residents from the Northern Rivers area it is probably that the peak in 2015-2020 relates to the significant 2017 floods, and in the QLD sample the peak before 2015 may relate to the widespread flooding in SE QLD in the summer of 2010/2011. Although there are some fluctuations here, neither prior flooding by time period nor by count was found to be significantly different between the two state samples.

Respondents were also asked about the amount of time they had to take action, once they became aware that the flood may impact them/their area. This provides an indication of the onset of the flooding, although awareness of flooding may have been affected by additional factors such as the availability of, and their engagement with, formal information and warnings and sources of media in the lead up to the flooding, as well as the time of day the flooding occurred. Data in Figure 6 shows the responses to this question. These responses have been collapsed to three levels to reflect the data used in subsequent analysis, where ‘time to prepare’ was used in the analysis.



**Figure 6. Time available to take action, after becoming aware that the flood may impact.**

More than a quarter of respondents (28.3%) had 2 hours or less to take action before the flooding, and a similar proportion had more than a day to prepare (26.0%). In the full set of responses to this question in the survey, 13.7% of NSW respondents and 15.6% of QLD respondents reported having less than an hour to take action. No significant statistical differences were found between the NSW and QLD samples.

Although discussed here as an overarching theme in the data, there are several challenges for policy makers and those engaging with communities around risk. Human judgement and decision-making rely heavily on heuristics, mental short cuts and biases that typically make decision-making mentally resource efficient and quick. Heuristics built on anchoring, availability, and representativeness predispose us to rely on comparisons to past events, situations we easily recall, and similarities to past events to guide our decision-making and behaviour. These ‘exceptional’ flood events will have made recent flaws in judgement evident, and that can be used to encourage people to question their plans and question others. However, it will not be sufficient to overcome these strong underlying human biases, especially when optimism bias (the tendency to overestimate the probability of positive outcomes) is considered.

## Policy implications

In this study, around a third of people were impacted by flooding in their current property for the first time in the Jan-Jul 2022 floods. They are likely to have been unprepared – practically or psychologically for such an event. Two-thirds of respondents had been flooded previously (around a fifth in the preceding 12 months). Given the unexpected severity and repeated nature of flooding, they are likely to have been underprepared, or otherwise disadvantaged in their preparation and recovery. It is critical that those who have been impacted are supported in recovery and in preparing for, and mitigating against, future flooding.

Response, Recovery, and Reconstruction agencies need to provide support to impacted residents, in the form of engagement opportunities and resources (guidance, planning assistance, financial support, and ideas) to promote a sense of agency; scaffolding approaches that allow residents to take control, make decisions, and take actions that will help them protect themselves and others. Where possible, for those working in resilience and preparedness, it would be beneficial to assist residents in systematically reviewing and reflecting on improvements to plans and decision making or timing of decisions to assist them in their own lessons management activities. For those residents who were less affected, unaffected, ‘near misses’ – or who are otherwise recognised by agencies as ‘at higher risk’ there are multiple opportunities to use the recent



experiences of others in telling stories, identifying, and providing pointers for improvements in plans, and generally encouraging engagement in planning and preparedness – whilst there is a heightened awareness of flooding in communities. The importance of balancing risk messaging with advice and support to manage and cope with the threat of flooding is key to supporting self-efficacy, and avoiding fear, hopelessness, and wishful thinking.

## Scale of flooding

Not only was the severity of the flooding unprecedented, the scale of the flooding in many areas was beyond anything experienced previously. Response agencies were stretched beyond capacity leaving communities to find ways to manage their own situations. In post-flood recovery, the scale of flooding has resulted in scarcity – of help and support, of supplies, of skills, and of accommodation. Many impacts of the floods have been exacerbated by scarcities. The following quote exemplifies some of the issues with getting tradespeople.

*There's not enough volunteers to even ask people to come and help; everybody's so busy with the big priority projects, it's hard to get tradesmen on the site – I've still got urgent things that I'm trying to get fixed. Getting a tradesman is nearly impossible. Thankfully I got the road fixed but that took months to get that done. Of course, that's a bit weather-dependent but there's other things like fixing things with the house, the water supply and tanks, and things like that. Every time you go to order something, you can't get it, there's a 12 month wait on this, that, or something else... We all talk about flood recovery but there's some things that are really challenging with that because you've got all these things that you need to get done and financially, you've got to scrape up the money to do that and you go, "Okay. Well, I've finally got the money now to try to get that tree taken out now before we get a cyclone or something and it comes down on the house" and then you can't get anybody on site. They all say, "Look lady, maybe six months and I can come", "Well, what do I do in the meantime with that?" [NSW007]*

The COVID pandemic (see Compounding, cascading disasters, and climate change section below) also added to shortages of supplies, workers, and skills. Scarcity, in its various forms, is a common thread running through many of the themes identified later, and a central challenge for planners and policy makers.

## Policy implications

Many 'scarcity' issues relate to supply of physical materials, housing, trained people, and flexible administration and processes. There are no quick fixes, but the current situation demonstrates the need for organisations, like residents, to plan for the unknown and 'what could' happen. Pressure to deliver surge capacity in all areas is intensifying as natural hazard events become more frequent, more severe, concurrent, and compounding. In times of increasing pressure on efficiency planning there is an opposing requirement to plan for redundancy and collaboration. Whether at the micro-, meso-, or macro-level, a greater requirement for systems thinking and flexible, adaptable, and nimble approaches are required. This has broad implications, but government/public sector agencies need to work to develop flexible training strategies, decision support tools, and simplified processes to make cross-tasking of personnel easier across functions and plan better ways to harness community input. There is also a need to consider these issues as part of proactive recovery planning at local, regional, state, and national levels.

## Timeframes

Time is a factor also cutting across themes. Partly related to the scale of flooding and issues of scarcity, residents report that everything takes longer. Post-event recovery is already known to be a slow process for



many. The overwhelming nature of the flooding in some areas, the process of institutional decision-making, e.g., with buybacks and insurance assessments, and the scale of individual losses have left a great deal of time to reflect on, and often regret, decisions made before and during the flood/s, e.g., what should have been saved/salvaged. Life continues with constant reminders of the flood/s and things not being or looking the same as before, and progress feeling glacial and beyond personal control.

*...this time it was much worse, much worse, and there's still reminders, you know, even on the street – most people have done a lot of renovations over the last seven months, but the neighbour opposite me, you can still see – he hasn't fixed it – you can see where he's broken a hole in the attic to get on to the roof, and all the bits of material where they smashed through to get out. There are reminders everywhere. [NSW107]*

The impacts of being 'in limbo', displaced, and needing support are having negative impacts on relationships, mental health, and general functioning. In addition, delays are adding stress due to the withdrawal of support as government assistance finishes, community volunteer hubs reduce services and wind down, and insurance payments for temporary accommodation and other supports reach time cut-offs or financial limits.

## Policy implications

The impacts of extended timelines on flood impacted residents have implications across a wide range of stakeholders. One implication for all stakeholders is the greater pressure on communication, and the need to communicate openly and regularly – even when there is no news. This helps offset feelings of being forgotten or overlooked (see later theme). Having realistic expectations of when things may change/happen enables people to plan and adapt. They are able to find ways to manage in the interim or work out what it is they need, or need to do. This also helps to reduce uncertainty. Advertising additional support, anticipating future needs and concerns, providing ways to interact, ask questions, etc. all help to alleviate concern and help to retain and build trust. A readiness to engage, to listen, and to make changes or change priorities – and communicate those changes back - can also help. Communication is not a substitute for action in this context, though, so it is important to develop better, faster, simpler processes, increase resources etc to be more responsive.

## Compounding, cascading disasters and climate change

As mentioned earlier, some residents had been flooded multiple times within months. They were still in various stages of recovery when floods in January-July happened. Others had been impacted by bushfires during the 2019/20 season, and many by the COVID pandemic. Exposure to these multiple events meant that many residents were already (not) coping with a range of adversities. Some interviewees were more acutely affected by the consequences of these events, in terms of mental health challenges or the unaffordability of secure housing, meaning they were already experiencing crisis (or crises) when the floods occurred.

For some in NSW, a second flood coming just over four weeks after the 'big' February/March flood was a massive setback, with piles of debris from the first flood being washed across the land. The onset of renewed flooding tested residents' physical, social, and emotional capacity.

*So, we're back sandbagging in the absolutely pouring rain. It literally was so torrential that second time, I was in a garbage bag, drenched inside and out trying to... shaking, freezing, trying to move the whole house, crying my eyes out, completely hysterical. [NSW098]*

*Where flood 1 took away our homes and belongings but brought us together as a community to rebuild our lives, flood 2 crushed our collective spirit and literally traumatised our (location). Even now, 6 months on from the floods, we remain traumatised both individually and as a community. [NSW066]*





During the interview period of the study a third consecutive La Niña event was declared, ongoing flooding was occurring across other Australian states, and there were occasional renewed threats of local flooding. The vulnerable situation the community was in following multiple floods, and the pressing issue of climate change was front-of-mind for some interviewees, and for others the potential for re-exposure to flooding was hanging over them.

*At the moment this town is full of people in these caravans. Nearly every house or even second house has a rented caravan on it, at ground level. So, if there's another flood, even a small flood, all of those caravans are going to flood. I don't know what the answer is, I don't know what we're going to do. I don't know if this is going to be an ongoing issue, if it's just a particular La Niña issue, is it climate change, is it... what? I don't know, but for me personally, there's no guarantee that it's not going to happen again, therefore it's not worth me spending my limited resources fixing something that it then becomes vulnerable, because I don't have the money to fix it a second time. [NSW006]*

Some residents had been through bushfires in recent years in addition to these floods. As well as the emotional and financial impacts, there were occasional comments about differences in the approaches to warnings for bushfires and flood, with concerns about the lack of flood warning and the lack of urgency of flood warnings.

*For the bushfires, I was receiving the warnings from the SES about, you know, "There's a bushfire in your area. Act, whatever, now" but I don't understand why I didn't receive them for the floods. [NSW014]*

For others, the impacts of multiple disasters was causing them general concern about the future, and specifically concerns were expressed for their children and how they were managing with multiple interconnected disruptions in recent years. People mentioned the lack of access to appropriate mental health support for themselves and their children, with children's trauma expressed in poor school attendance, school refusal, dropping out of school early as well as anxiety, especially when it rains.

*My kids went through a bushfire; my daughter was nearly 11 and then COVID, Year 12 – she turned 18, she wasn't even allowed to stand up in a pub. You know, just weird things... And then this (flood) happened, and it's like... it's chaos. Yeah. It's big. My son didn't stay; he left Year 12; he couldn't stay in school anymore ...just didn't feel like there was any point. [NSW101]*

*...it's the same with the big bushfire, which is what I started off with, because I just think it is all these things being interconnected the last few years – there's the drought before that which also, you know, being affected, led to the bushfires which then had impact on the floods over the years previously, and then the big floods this year. It's probably a 2019, three-and-a-half, four-year succession of events that culminated in those big floods we've had recently. [NSW031]*

Thoughts about the future, as above, were entangled in many comments about prior disasters, and COVID became a part of that narrative too. The COVID pandemic had set many people back, through loss of work, routines, and social connection. The timing of the flood/s at a point when some were just feeling there was hope of a more 'normal' future just around the corner was a significant setback.

*Between Covid and this, and I don't think you can separate the two because we're already so far behind the 8-ball when this happened to us. You know, we literally went from "Yeah, we're going to get freedom" to... we actually stepped even further back than COVID, because being isolated and stuck was one thing, and not going to town and whatever, and uncertainty, then adding this other whammy on where you just can't see what your future's even going to hold for you. [NSW020]*



COVID was also mentioned in the context of the response to the flood/s. There were comments about COVID not being an issue (suddenly) when the flood response was happening. In evacuation centres there were other ways that the COVID pandemic was compounding the challenges of the flood response.

*We went to the evacuation centre which had hundreds of people... they put all the people in there on the floor the first day or two, and then somebody said, "Oh, we haven't tested them for COVID". So, they went through with the RATs, the rapid antigen, testing them and yes, there were a number of positive cases; they had to be isolated, so they were all taken to one area. Of course they wanted to go to the toilet; they couldn't go to the toilet because there was only one or two toilets in the hall, they then had to be taken to an isolated area, driven to (location 1) or (location 2) or somewhere far away where there was accommodation, and of course, you can't put a number of COVID people in the one vehicle; they had to be driven separately, and the vehicle had to be sanitised, and the person driving it had to be dressed in full PPE, and the person had to be in full PPE and I just found a lot of those people were extremely shocked and traumatised. They'd just lost their house, they'd lost their cats, their pets, their everything, and they were told, "You've tested positive. We have to take you now miles away" – they had to be taken away. [NSW001]*

The comment above was made by an SES volunteer working after one of the floods, but other interviewees, confirmed the additional stress of a COVID diagnosis both in evacuation centres, with the need to be isolated from other family members, and also in the context of moving around through temporary accommodation.

Although mentions of COVID were mostly about additional complications in the context of the flood, COVID was also mentioned as a factor behind more positive outcomes. The isolation of the COVID years meant that for some, there had been a lack of connection with the community, especially for those who had moved to an area and didn't have friends they could stay with. However, this lack of connection was also attributed to being a motivation behind some of the community effort after the flood/s.

*But I'll tell you what was great about the flood pop-up; it became a hive of activity not just for people coming in who go, "Actually, I've been affected by flood" and that happened a lot and that's how the relationship started, but then volunteers and donors would come in and go, "Do you know what, I've been in lockdown. I moved in two years ago. I don't know anyone. I'd like to come and volunteer", and then people discovered their neighbours in the shop, and new friendships formed. So it wasn't just about the flood; it was actually community connection. [NSW108]*

Others mentioned the positive impacts provided by the COVID experience in other contexts. This first quote relates to the provision of meals for those needing support, and the second quote is from a senior schoolteacher about how the changes made during COVID helped after the floods, and the efforts that teachers were making to support their students' welfare, as well as their learning.

*It reminds me that during the COVID times as well because of the number of people who were unable to maintain a livelihood, there were certain cafés and restaurants around town who used to just cook up loads and loads of meals and stack up all these takeaway containers outside the shop – anyone could go and pick them up. [NSW099]*

*Well, I think, most schools should have been set up to work from home by the (time of the) flood because we've had a couple of lockdowns with COVID and then we had the flood, and so pretty much everything was... well, I know my work was all set up; not all teachers were but most stuff was set up so you could work from home, using Zoom to talk to your kids. I know with my school, we were told, "Don't set work", but we were told, even the week after the flood where we could get... most people had electricity, we all divvied up everybody, every kid in the school had teachers allocated to them so the teachers could ring them up just to see how they were going,*

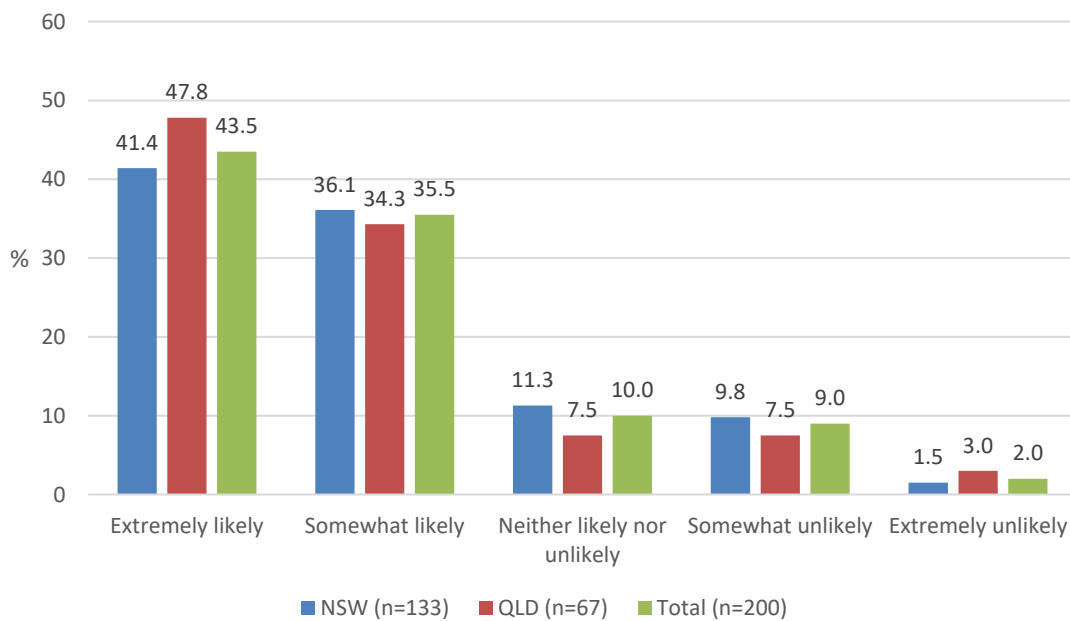


*not to try and get them to do work but just as a welfare check. I think schools, I know my school, there was a much bigger emphasis on the students’ welfare and the students’ wellbeing than getting them to complete any work at that time. [NSW047]*

A lack of government action on climate change and politicising the situation<sup>12</sup> of those impacted by flooding was raised by several interviewees. The perceived inability of all levels of government to predict and prepare for more severe and more frequent floods and other natural hazards, despite knowing that worse was likely to be coming due to climate change was a cause of some frustration.

*It’s lethal neglect. It’s lethal, and I was just so furious, I was so angry because what we were looking at was climate [change]... I mean, just probably ordinary bureaucratic neglect and the result of neoliberalism and probably, possibly outsourcing of costs by the state government. I don’t know what the full story is, and just stupidity from (town) Council, you know, stupid, high-risk decisions that they made to not maintain those gauges during a La Niña. [NSW009]*

The survey did not directly address COVID or specifically investigate additional, compounding adversities. The flood severity section (above) outlined prior flood exposure and the high proportion of previously flood-impacted residents. More than half of respondents (54.4%) reported they felt that climate change had contributed ‘a great deal’ or ‘a lot’ to the flooding they experienced. The harsh realities of recent flooding meant that many residents in interviews were contemplating their future and ongoing impacts in the context of worsening threats from natural hazards and climate change. Those whose property had been damaged by the flood were asked whether they felt they would be flooded again. Figure 7 summarises these responses.



**Figure 7. Likelihood that home/property will be impacted by flooding again.**

It is probably both realistic and somewhat depressing that 79.0% of the sample felt that repeat flooding was either extremely or somewhat likely to occur. To take time and spend money re-building and repairing (even with flood adaptations) believing that it will flood again would be likely to have emotional consequences for many residents, especially those feeling financially trapped or helpless by their situations.

<sup>12</sup> Although not mentioned separately as a context-setting theme, the Australian federal election took place on 21 May 2022, during the Jan-Jul 2022 period of the floods. For some, the overlay of politics across the flood response and recovery, at federal, state, and local levels, was felt across numerous issues, from disproportionate attention or support focused on certain locations, to the building or management of infrastructure projects (dams, highways), to the timing of the deployment of military personnel, to local planning decisions and service provision.



## Policy implications

As outlined, the impacts of compounding, cascading disasters and climate change are varied and far-reaching. Given these issues have implications for how people view their future - their plans, their finances, their optimism, and in some cases their (lack of) ability to positively influence their futures, there are opportunities for Response and Reconstruction agencies and local councils to step in with ways to help people feel more in control and able to take steps to avoid future losses. The data in Figure 7 suggest that flood-impacted residents feel vulnerable to future flooding. Therefore, they would be expected to be more interested in local flood planning and infrastructure and motivated to engage in future flood mitigation activities and preparation. Providing opportunities to contribute to local planning, community engagement around flood planning, and the provision of financial support and guidance on flood resilient homes are likely to be positive ways to engage with people in this area. Those with a vested interest may be, or become, community champions and advocates for adaptation and positive changes. In addition, with more than half the sample feeling that climate change is contributing to flooding issues, having organisational commitment to supporting climate change initiatives, supporting longer term adaptation planning, and ‘walking the walk’ are likely to result in improved community acceptance and social licence to operate.

## Vulnerability context

Vulnerability is often defined in relation to physical, economic, social, and environmental characteristics that make particular people and places more sensitive to, and less capable of coping and responding to, the impacts of extreme events. It is widely acknowledged that disasters exacerbate pre-existing vulnerabilities and communities have different adaptive capacities to cope. Although few residents directly referred to themselves as ‘vulnerable’ they spoke about the vulnerability of others in their community, and vulnerabilities were evident in many forms throughout the data and the themes that emerged. Comments about socio-economic issues, community demographics, and housing quality and location provided many insights into vulnerability at an individual and community level.

Differences between and within communities were also apparent to the research team during field work, where the physical impacts and the scale of floods in some areas were still evident everywhere, access to services and supports was limited, and the ability of different communities to respond and help themselves, and to sustain that effort, was mixed. Residents in some areas spoke about antisocial behaviour during and after floods, with looting and deliberate damage being caused during floods, fights over resources, and looters returning multiple times to flooded properties.

*[After setting his dog on a looter who had arrived by kayak] He never came back, never came back the fourth time and I got a brand-new kayak out of it. Happy days. That’s the scumbags that were going around everywhere; everyone was getting their houses looted. It was just a never-ending problem and that went on even after the water went down – people were just walking onto properties and going through sheds and seeing what they could steal. We had two more looters come on to our property. [NSW085]*

Like the other contextual themes in this section, vulnerability cuts across many of the following policy-relevant themes. The issues for policy makers around the pre- and post-disaster vulnerabilities of communities extends beyond disasters - typically understood in terms of discrete events confined to specific points in time and specific localities - and is returned to at the conclusion of this report.

The survey collected data about numerous personal, financial, and health vulnerabilities, as well as other factors that make household situations more complex in emergencies. The final section of the survey included questions relating to health and wellbeing to enable more complex analyses and comparisons to other data



sets to be possible in future. Table 2 shows the prevalence of a selection of data from the survey that relate to vulnerability, higher risk, and/or greater complexity in disaster contexts.

**Table 2. Indicators of additional complexity, higher risk, or vulnerability. (Note, sample sizes vary for variables under the double line, with % from sample sizes in originating questions)**

	New South Wales (N = 260)		Queensland (N = 126)		Total (N = 386)	
	N	%	N	%	N	%
Someone elderly or frail in household	60	23.1	13	10.3	73	18.9
Someone with a disability in household	33	12.7	15	11.9	48	12.4
Children under age 5 in household	21	8.1	9	7.1	30	7.8
Single parent	11	4.2	10	7.9	21	5.4
A visitor or guest staying during flood	17	6.5	8	6.3	25	6.5
Someone unwell or injured in household (physical/mobility issues, mental health)	44	16.9	23	18.3	67	17.4
Self-rated health poor/fair	63	25.4	35	29.2	98	26.7
No access to a car during flood	41	14.9	7	5.3	48	11.7
Animal ownership (any type)	185	70.6	92	74.2	277	71.8
Financially, finding it difficult/just getting along	115	45.1	53	43.5	168	44.6
Sought assistance from welfare / community organisations (in the last 12 months)	70	28.7	24	20.2	94	25.9
Sought financial help from friends or family (in the last 12 months)	40	16.4	18	15.3	58	16.0

The data above provide insights into the complexities within households that affect emergency preparedness and planning considerations, the ability to move items up (higher), the time it takes to evacuate, the suitability of places for relocation/evacuation, and aspects that may complicate recovery and may increase support needs. Within the sample there are very high proportions of individuals/households with animals to consider (71.8% overall), more than 40 % have financial challenges, more than a quarter have poor/fair health, and just under a quarter of the NSW subsample have someone elderly or frail in the household.

## Policy implications

Any of the indicators listed in the table above (plus many others), individually and in combination, could impact disaster planning and preparedness, uptake of insurance, decision-making, protective actions, and recovery trajectories. Many of these same factors could limit the ability of individuals to attend and engage in community preparedness activities, or want to mix with other people, e.g., in the context of COVID, or volunteer or participate in community recovery. It is critical that stakeholders involved in any aspects of disaster and broader social support have plans in place to identify, engage, and support community members with a range of different needs. Many stakeholder organisations have approaches to attract and engage with different groups, whether through community, sports, schools, and faith-based groups, industry groups (agriculture), NGOs, health (NDIS, support services – meals-on-wheels), running animal-themed events etc. Stakeholders should consider using successful activities that build local connections, like ‘meet your street’<sup>13</sup>, and activities that encourage community members to check-on neighbours or set up buddy systems<sup>14</sup> with others. These activities can serve as effective force multipliers.

<sup>13</sup> <https://www.belongbm.org.au/event-details/meet-your-street-bushfire-preparedness-and-actiities>

<sup>14</sup> <https://canberraequinehospital.com.au/bushfire-preparedness/>



## Overview of policy-relevant themes emerging from interviews

This section provides a brief overview of 13 selected themes that emerged from the interviews with residents. These themes represent a sub-set of the data and have been selected because they raise a range of policy issues for a broad set of stakeholders.

The themes span the Prevention, Preparedness, Response, and Recovery (PPRR) disaster spectrum, incorporating aspects of engagement, information sharing, community roles and inclusion, clean-up, access to help and support, insurance, and issues for future resilience. Emergency management is a complex system, and themes are often interrelated.

In the next section these themes are expanded with quotes and some supporting information from the online survey.

It should be noted that, in interviews, residents raised many issues, and amongst the resulting themes (including the selected themes that follow) there were many positive, strong, and uplifting comments about appreciation for various organisations, understanding of the issues being faced, support from the community, positive examples of cooperation and local decision-making, and gratitude and hope.

Theme name	Brief explanation
<b>Flood data</b>	- Local flood risk information, including poor availability, timeliness, quality, understanding, and access (pre-flood). Concerns about the lack of transparency of flood data and the accuracy of data for flood risk management planning. Perceptions of information being withheld, or flood risk being downplayed or miscommunicated. Additional risks for new, unwary residents. Lack of understanding of terminology, and a desire to capture data from the recent floods to help maintain community awareness of flooding and aid future risk management strategies.
<b>Localised perspective</b>	- A need for focus at the local level and inclusion of local knowledge. Use of, reliance on, and preference for, local information over broader scale or less locally relevant official information. Efforts to get local knowledge accepted by officials.
<b>Dashboards</b>	- Use of local council information, disaster/emergency dashboards. Problems encountered with the currency of information and usability. Appreciation for visual, real-time information.
<b>Information expectations</b>	- Increasing expectations for availability of localised and real-time information (before and during floods). Issues of timeliness, accuracy, and usefulness and communities moving towards greater reliance on community-curated information on social media.
<b>Forgotten people and forgotten places</b>	- Individuals and communities felt forgotten during and after floods. With the scale and severity of the flooding there were limited resources in some locations which meant there was a lack of emergency service help for rescues, and a lack of support or contact from officials after the floods. People also felt that the media focus was on limited geographical locations.



<b>Community responders</b>	- The role and integration of community in flood response and an increased sense of community cohesion in recovery. Tensions with emergency services. Community interest in training opportunities.
<b>Clean-up</b>	- Issues encountered during flood clean-up. Emotional attachment to belongings, the sense of urgency, an overwhelming influx of help, a need for decision making and assertiveness, overzealous helpers, looters/scavengers, and the final removal of belongings.
<b>Insurance</b>	- Perspectives on insurance. Affordability. Insurance as a burden. Documenting/photographing losses, delays waiting for assessments, being 'in limbo', and arguments about stormwater vs floodwater.
<b>Bureaucracy</b>	- Navigating official channels for post-flood support. Additional layers of administration. Repeating the same information multiple times to different people. Proving eligibility in the context of post-flood disruption. Persistence and waiting on hold.
<b>Temporary housing</b>	- Post-flood housing issues during a pre-existing national housing crisis. Disruptions to households through displacement away from community and their flood-affected property. Issues for people with employment, children at school, and managing health problems. Multiple moves and the impacts of being 'homeless'. Temporary accommodation in the holiday season.
<b>Disaster opportunism</b>	- Frustration about the financial exploitation of flood-impacted residents and the disaster situation more broadly. Perceptions of institutional and individual opportunism, fraudulent claims, looting and stealing. Selfish behaviour in community support contexts.
<b>Recovery fatigue</b>	- Challenges for prolonged community-level recovery support, e.g., community hubs and other organisational structures. Burnt out volunteers, lack of training and resources.
<b>Infrastructure, planning, and maintenance in sensemaking</b>	- Blame and sense-making. The perceived role of local infrastructure, e.g., highways, dams, and dam management, building development, and levees, as well as (lack of) maintenance of stormwater drains, and river dredging in the experience of flooding.



## Policy-relevant themes emerging from interviews

Each of the 13 themes will be outlined in greater detail in this section with accompanying quotes as expanded examples of the issues being raised and resident sentiment. In some themes relevant survey data is presented to provide an indication of the extent of issues across a larger population of flood-impacted residents.

### Flood data

This theme encompasses a collection of perspectives around flood risk data, flood risk information, and flood risk literacy. Specifically, how information is communicated, updated, disseminated, understood, and maintained as part of community knowledge. Although many residents knew about the existence of flood maps, and generally had a good sense of a broad flood threat in the area they lived, concerns were raised that maps were not available, or out of date/not current. In some areas there were concerns about local council flood risk management and frustrations about what was being done, and would be done, in future to provide greater protection.

*Yeah. To me, that's my main problem when dealing with the council and anything like that is, you know, this is preventable and you guys have let it get to a stage where this whole community is uninsurable, therefore... but where do we go? What can we do? [NSW017]*

*So, then I started looking at the flood documentation on the council web page; the last flood study for our river was 1991 which is a long way away – that informed the flood management plan, which was 1995 and that was it. And then I found the last environmental plan, which is live on their website, which was 2012 and that mentions the (location) Stormwater Management Plan which in 2012 was out-of-date. It was out-of-date then... [NSW040]*

There was confusion about flood terminology, such as the '1 in 100' term. This wasn't a major topic of discussion, but during interviews it was evident from the way the term was being used in conversation that some residents were misinterpreting it. Some thought that '1 in 20' was a greater risk, i.e., a flood would be just as serious, but happen more frequently. Clearly, and as identified in the NSW flood inquiry and the former Qld IGEM 2019 Monsoon Trough Rainfall and Flood Review (Finding 3, pages 18, 64 & 64), flood-related terminology is confusing to communities and a barrier to them understanding their risk.

*When we moved here we were advised this was a once-in-a-100-year floodplain which, to me and my wife, wasn't a concern because we were looking to stay here only for about 10 years. [NSW078]*

The lack of availability of flood maps and perceptions of a lack of transparency about flood data, generally, meant that some residents were interpreting this as indicative of ulterior motives and vested interests, typically in relation to real estate and protecting the housing market. Several residents perceived a lack of transparency of real estate agents in providing accurate (or honest) information when selling or renting out properties. Some felt this risk had been minimised or omitted, whereas others were concerned about new residents being duped and risk being transferred onto unsuspecting people.

*(Renter, who questioned the real estate agent after her property had flooded) ...that particular real estate was so quick to inform me that "The law states it only has to be five years so if it hasn't flooded within five years, I don't have to tell you". It came up real quick, and I was like "Okay. Yep, thank you for that." [NSW108]*

*(Town) has really quite a high turnover of people coming in and out because of the mining and army industries and I enjoy talking to new friends that I meet about if they've bought land in town, what they understand about flooding because they've bought obviously a property from a*





*real estate agent, "Oh, the real estate agent told me, yeah, it could flood but it's okay because there's a levee", "No, my solicitor didn't tell me anything about flooding". "Really? You didn't ask? They didn't tell you? Well...". "Oh, really" they say. [NSW036]*

*...currently people are buying and selling houses, being told it's once in [100] ... and so if anyone's not familiar with the area and don't do their homework... I think that that's... you know, if you got the estate agents, the estate agent wants to sell so they want to underplay the floods, the people that want to buy a house and obviously don't want to really look too deep, the people that want to sell the houses are fully aware but don't want to really tell a true story. [NSW078]*

The potential risks for new residents areas expressed below and supports the need to ensure there are ways to communicate flood risk to people before they are committed to purchasing or renting a property. This also needs to be considered in the context of the ongoing housing affordability crisis affecting many regional towns as well as large cities – a structural factor leading to differential social vulnerability.

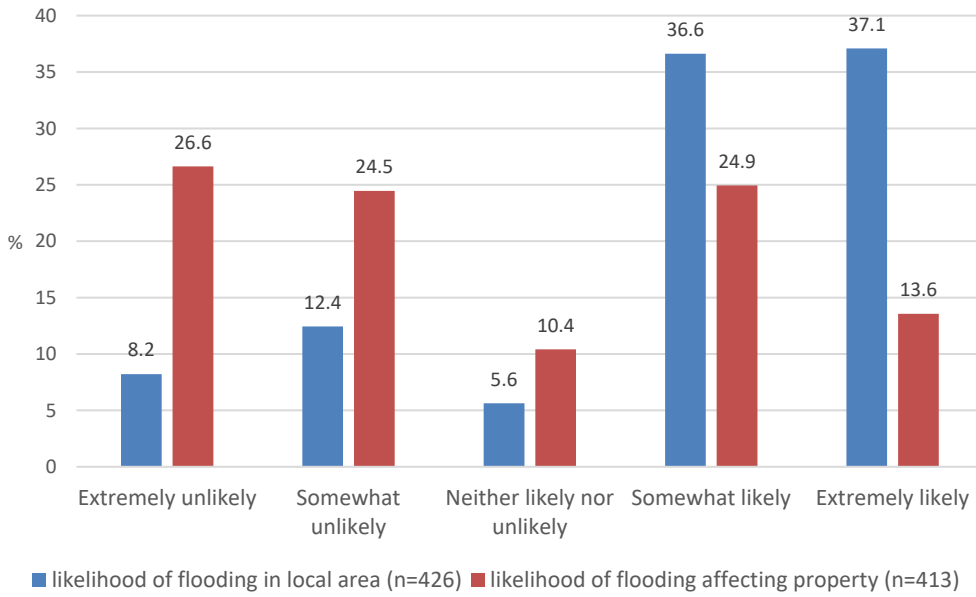
*I had no idea. Because I'm not a Queensland local. I moved to live on the Gold Coast from 2015. So, I wasn't here in 2011. I had no idea. I am so blind, I have to be honest; maybe I., in this kind of thing. [#Q2221]*

*We were told it didn't flood. Yep. And because mum and dad were over in... Western Australian, which is a long way to travel. They bought this place. But they asked the real estate if it flooded, and they had said "no". And then when I moved in here, people came past; and they were walking their dogs. Obviously, they knew that I had just moved in, "You know this place floods?" I'm like, "I got told it doesn't." And then they said, "It comes up to, like, in the house." So that was a nice little surprise. [#Q2296]*

A final aspect in this theme was the desire expressed by residents to ensure that accurate data and local impacts from recent flood experiences are captured and used to maintain awareness of the risk in the community into the future. Residents mentioned putting flood height signs on lamp posts and on buildings as enduring reminders. There was concern raised about what was being done to capture flood data in some towns, with residents feeling that no one would be aware of the impacts to their property or their local neighbourhood and feeling that no one had been sent out to collect this information.

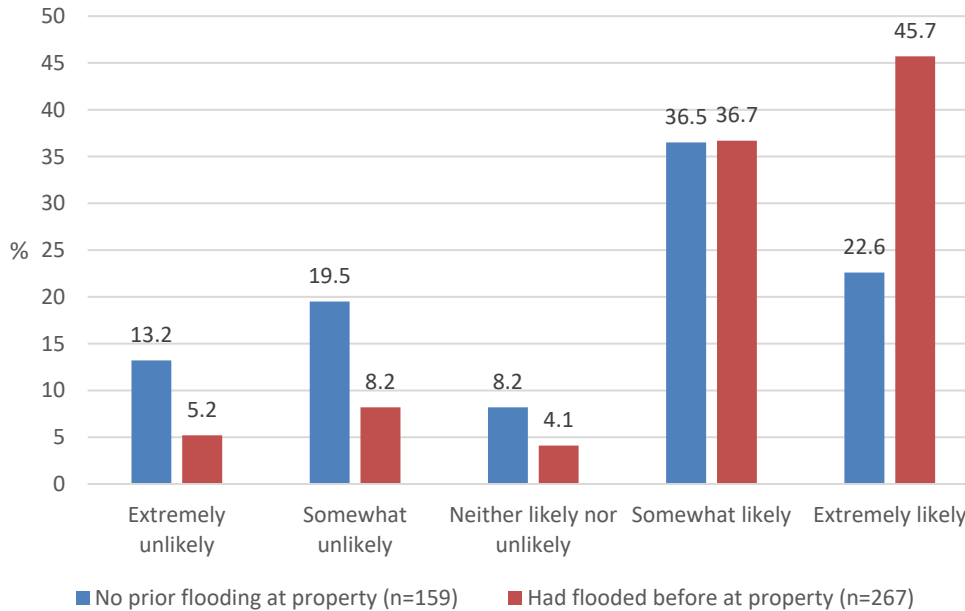
*There should be a fully funded ground truthing position or positions after any natural disaster to ensure there is adequate mapping and data collection immediately around where the impacts were the most severe. [NSW098]*

The need for access to local flood risk information and broader flood literacy is also evident from the survey data. Respondents were asked how likely they felt it was (prior to 2022) that flooding would a). occur in their area, and b). affect their property. Around one fifth (20.6%) felt that flooding in their area was either very or extremely unlikely, and 51.1% felt that flooding was very or extremely unlikely to affect their property. These data are summarised in Figure 8 below, and clearly show the shift in the distribution of responses between the two questions.

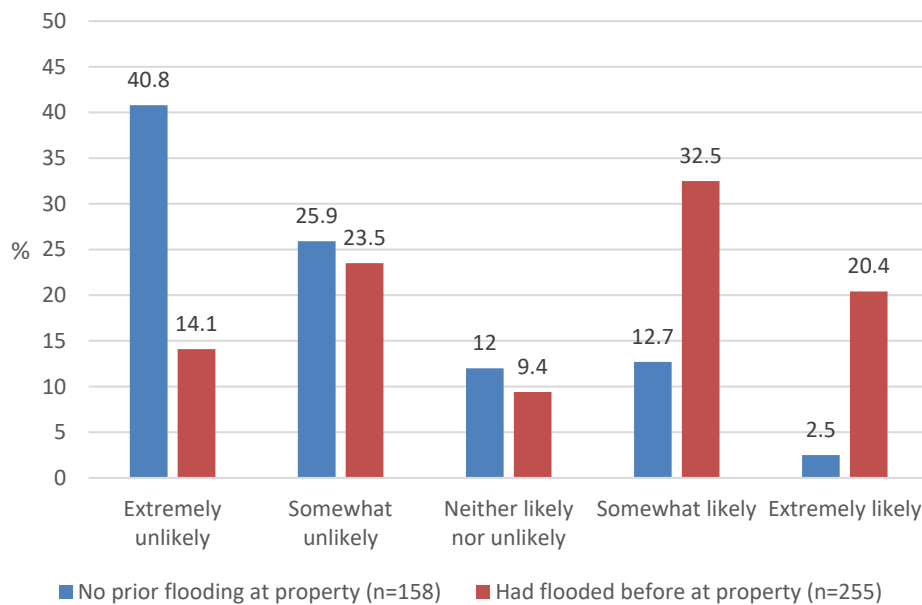


**Figure 8. Perceived likelihood of flooding, prior to the flood/s in 2022 (Total sample).**

Further to this, 37.4% of the sample (n=160) had not experienced flooding previously at the same property or location (the remaining 62.6% had experienced flooding previously). When this ‘no prior flooding at property’ group’s data are analysed separately, 32.7% felt flooding in their area was very/extremely unlikely, and 66.7% felt that flooding was very/extremely unlikely to affect their property. Comparisons between those with no prior flooding at property and those who had experienced prior flooding are shown in Figures 9 and 10 for these two questions. Chi square tests showed that the differences between the two groups was highly statistically significant (p<0.001).



**Figure 9. Perceived likelihood of flooding in local area, prior to the flood/s in 2022. Comparison between those with and without experience of prior flooding at their property before 2022.**



**Figure 10. Perceived likelihood of flooding affecting property, prior to the flood/s in 2022. Comparison between those with and without experience of prior flooding at their property before 2022.**

Those previously unexposed to flooding reported that (before the 2022) floods their estimation of flood risk was significantly lower, when compared to those who had been flooded previously. These findings point to an indication of the extent of the surprise that would have been experienced in the 2022 floods.

## Policy implications

This theme covers several points that are likely to impact on community awareness of flooding, risk perception, and engagement in risk reduction and preparedness. Clearly the severity of the 2022 flooding was exceptional, but even if there is some level of awareness of the potential for local flooding in the area, the likelihood of direct impacts from flooding is greatly underestimated, especially for those who have not been impacted previously – and in this study that accounted for over a third of the sample.

The personalisation of risk is a known challenge for those involved in community engagement around natural hazards risk. Greater public awareness and engagement in risk, better flood literacy, and use of flood maps, and visible markers – such as visible signs of flood levels on buildings, streetlamps, and landmarks local community uses to gauge water behaviour in times of floods can assist. Local councils will need to work in collaboration with response agencies to demonstrate their commitment to keeping local flood risk visible and front of mind. There is likely to be pushback from parts of the community who don't want flood risks highlighted (for a variety of reasons) and there are reports of markers and signs being removed where this approach has been taken. There is also a need to evaluate the effectiveness of signage and other flood awareness-raising approaches that are already in place to assess their effectiveness and assist in identifying and implementing the best approaches.

The interview data also spoke to concerns over the accuracy and availability of local flood data. It is therefore essential that local councils review the information they have in light of the recent floods and ongoing urban and infrastructure development, and take steps to update flood maps, review flood management plans, communicate their activities, and let communities know how they can access these resources for their own planning. The use of printed flood maps and visual images (photos and videos) at community events provides opportunities for engagement, advice, discussions, and addressing any local misunderstandings and updating understanding of how floods are changing. It is essential that discussions address not only the existing/residual



and historic risks – but that they prompt consideration of future risks, the potential for more extreme and complex flood scenarios, and adaptations. They also provide opportunities for stakeholders to listen to community concerns and frustrations. This community feedback needs to be captured, shared within and across stakeholder organisations, addressed, and actions need to be communicated back to communities.

In considering new residents, proactive approaches are needed to ensure they are aware of flood risks BEFORE committing to purchase or rent properties or set up businesses. Information needs to move beyond written ‘small print’ and minimal statistics or flood terminology that is widely misunderstood (AHD, PMF, ‘1 in 100’). Information needs to translate to consequences, or otherwise be made relevant and relatable, otherwise it will be rejected/ignored.

Residents will continue to live with flood risk and make decisions to take on risks, e.g., due to lower rents or attractive locations. Local councils and response agencies should consider the development and provision of ‘flood packs’ linked into house sales/rental data, that are distributed when transactions/changes occur. This would ensure that new occupants receive information about their property and local flood risks. These packs could include an invitation to new residents to attend a monthly flood planning event – where they can meet other new residents and make connections, be introduced to local SES and/or other key personnel, and be encouraged to prepare and plan for floods, and potentially other emergencies. Locations, content, frequency, and methods could be tailored to the local context, and a ‘drop in’ model could be an attractive approach for residents.

The recent floods (and subsequent flooding across NSW/QLD and other states) and the extensive 2019/2020 bushfires have heightened public awareness around natural hazard risks – and the potential for worsening situations in which new areas may be impacted. These events should have resulted in a more engaged public with an appetite for access to high quality and up-to-date local data if it exists. For those engaging with the public around risk, there are now new local people with stories to share, up to date (not old/historic) photos and videos that will interest and attract conversations, and additional methods and technologies to engage with people and help them visualise their risk, e.g., webinars, podcasts, drone footage, augmented reality etc. SHOWING people risk, talking to them about their own personal situations, assisting with advice on planning, modifications, helping to translate local data to meaningful cues and consequences, and being available to help are all important.

Further policy implications concerning preparedness are covered later in the quantitative Preparedness theme later.

## Localised perspective

This theme is focussed on the desire of residents to have information, resources, and response focussed locally, and for local knowledge to be valued and incorporated into the formal emergency management system and other associated areas. Many people relied on local knowledge – either their own, or that of others – to contextualise the potential impacts they might face and to take protective action. The following quotes provide examples of different sources of community information.

*I learnt more from our community Facebook group than I did from watching the news and trying to get weather reports and stuff. [#Q2230]*

*Well, we have farmers up the valley who just give us a call...Yeah, we just keep an eye on the BOM radar. What we need to do on the golf course: we have got the rails on our bridges are all down. So, if there is heavy rain up the valley, someone will ring us; and we will race down and drop the rails on the bridges; because if we don't, you will get heavy logs smash up against the bridge and it can cause huge damage. [#Q2287]*



*So, our amazing Mayor... was communicating a great deal through Facebook and social media; posting updates, video footages of what was happening and what was happening next, and what to expect and who to contact and those sorts of things, which was great. [#Q22101]*

Local knowledge and use of Facebook were recurring themes in the interviews, there were many examples of people rejecting the forecasts from BOM due to the lack of local relevance, rather than distrust per se.

*Yeah, that [BOM] is good. But it's not relevant. It is good for the broader Brisbane; you know, "It's going to keep raining. Brisbane City gauge might peak at this height." But, yeah, not really what I need right here, right now to make a decision. [#Q2203]*

*For our area like, I am in (village) which is 50k out of (town); they will give us warnings for the entire region. So now we get warnings from BOM that don't even apply to us. [#Q2270]*

Despite issues with the accuracy of forecasting, residents were keen to communicate the various ways they had been able to put local knowledge to good use. Rural residents in QLD and those in upper catchments areas in the Northern Rivers in NSW were particularly knowledgeable about rainfall and the impacts on the land and downstream. There were examples of people getting that local knowledge listened to by response agencies, although this seemed more likely when there were pre-existing relationships in place.

*My first instinct is, "Okay. I know my creek's coming up. It's way above the 1974 and the '54 level because it's all marked on the trees. This is really major. This is all heading towards (town). (Town) will flood within the next couple of hours because all of this water goes here, we're all cut off here". I got a couple of early warning messages through to (name) who's our local SES coordinator and he wrote back and said, "Thanks for the heads-up. Have you got photos?" I took photos and sent those in and then as soon as that, the power went out, I couldn't get those messages through to (name). [NSW007]*

Other people struggled to get their knowledge heard – in this case, talking about stormwater and drainage<sup>15</sup>, after the flood.

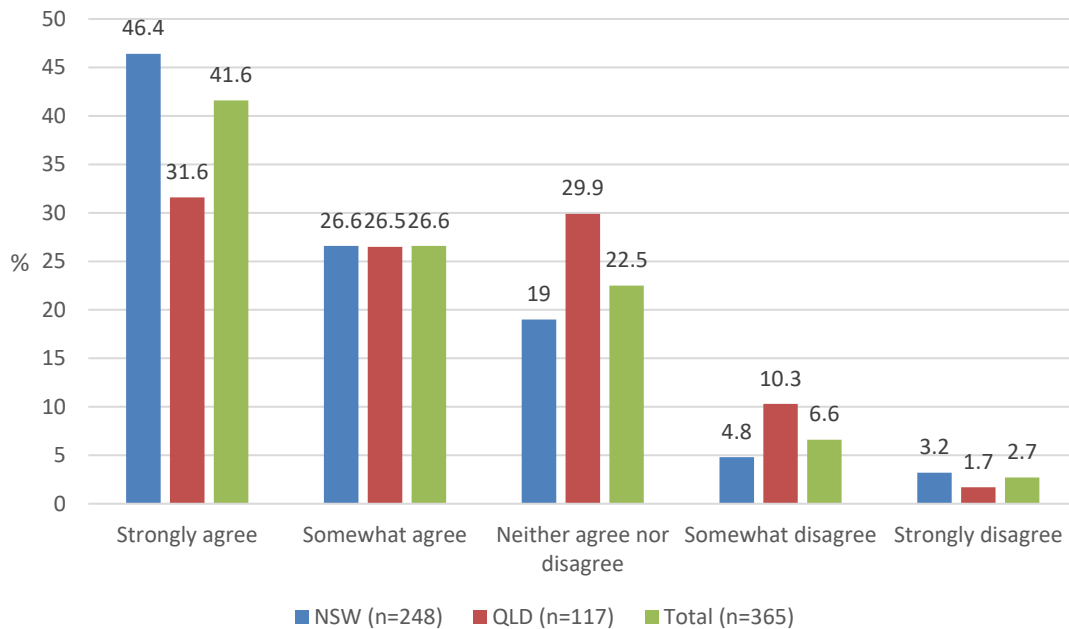
*The first time I spoke to this guy from the council, he talked a lot about tides. I said, "Mate, I've got photos of that drain, tide in, tide out, king tide – it's full every time. Please don't talk to me about tides. I'm not an idiot. Yes, the tides have bearing..." – and that's what they kept saying here when they came to tell us to evacuate, you know, "We're going to have a high tide". It didn't change the water level at all; the high tide did not change the water level at all, and I photographed on my driveway, and I put rocks as the time went on, where the water had come up to, so I could tell how much it was coming up. On an iPhone, all your photographs are date and time stamped. [NSW067]*

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<sup>15</sup> Stormwater and drainage was not drawn out as a specific theme in this report, but many residents across both states mentioned issues around drainage, maintenance issues, and issues with insurers re. stormwater vs floodwater impacts in flood assessments. Many reported knowing how drainage behaved in heavy rain etc. and fighting for that knowledge to be accepted.



The survey did not specifically address issues around use of localised knowledge, but respondents were asked the extent to which they agreed or disagreed with the following statement ‘I will rely more on local information from community in future flood events’. 68.2% of the total sample (n=365) strongly or somewhat agreed with the statement (NSW 73.0%, QLD 58.1%). Responses to this question are summarised in Figure 11 below, for the total sample and the NSW and QLD samples separately.



**Figure 11. Level of agreement or disagreement with the statement “I will rely more on local information from community in future flood events.”**

Figure 11 shows the extent of agreement with the statement was strong overall, but with the NSW sample indicating a greater strength of agreement than the QLD sample. Data from this question were analysed using the block of eight variables outlined in Table 1. The only relationship found to be statistically significant was with state. As shown in Figure 11, those in NSW were significantly more likely more likely to report they would rely more on local information from community in future flood events ( $P < 0.01$ , \*\*). There were no associations with age, gender or other variables that were tested.

### Policy implications

Overall, residents were keen to contribute local information, and to rely on it via various means and from a variety of sources. There was a tendency to expect hyper-localised information. The survey results suggest that recent flood experiences have reinforced a shift towards reliance on local, community-sourced information.

Challenges remain in how, or whether, response agencies and local government integrate this information into their own intelligence networks and communication systems. The integration of local information is complex. Community members may have views about an unfolding situation that are incorrect or follow logic that may be flawed, or heavily based on comparisons with prior flood events that are unreliable. There are numerous self-proclaimed experts, but there are also increasingly well-informed, experienced, and knowledgeable individuals and groups working through informal networks and basing their information on evidence, technology, and modelling.

It is imperative that stakeholders tasked with issuing public information and warnings monitor and interpret activity on local social media. Picking up trends in comments, identifying and anticipating issues, viewing photographs or other evidence being placed on community social media sites will help agencies keep up with



local information. There are many potential sites that could be monitored, but over time and with further evaluation it should be possible to identify the places to source information and people/groups who regularly collect and post reliable information to communities.

As noted in interviews, some community members have struggled to get their information accepted or acknowledged, and when this has worked it has often been a result of prior contact or personal relationships built up over time, or with current and ex-SES volunteers. Building networks of trusted community informants and sharing information with these individuals would be a route to better integration of official and local perspectives and information sharing. To ignore community-sourced information will mean that stakeholders will be left playing catch-up and will be perceived as out of touch or irrelevant in dynamic flood situations. Independent of formal policies, or actions taken by stakeholders, communities will continue to be seeking out and using these local sources for information whenever possible, therefore strategies to understand, integrate and embrace local intelligence are required.

Although these observations are made initially in the context of flood response and the role of response agencies and local councils in the first instance, these comments apply to all/any stakeholders working in other phases of disaster, and other types of disaster, e.g., bushfires. There are many active local community Facebook groups dedicated to resilience, recent floods, and current housing issues. There can be gossip and grandstanding, but many groups have active administrators, moderators, and people working in official and semi-official capacities using social media to help connect and support communities and using their platforms to share and amplify official messaging. Profiling local social media content and actively monitoring to keep that evaluation updated are critical.

## Dashboards

This theme focusses on the use of local council emergency information. In QLD local councils play a lead role in supporting disaster preparedness and all are required to have disaster (or emergency) dashboards that act as a hub for emergency information. Many NSW local councils are also introducing emergency dashboards.

Despite their importance in QLD, very few residents mentioned these dashboards in interviews, many (when asked) didn't know about them or where to find them, and when residents did use them, the feedback was mixed. The research team noted that the dashboard system appeared to be working better in well-resourced local council areas.

*We are really fortunate that the council out here is very good at updating their social media. So that's what I find is the best form of communication as to what's going on; in that council will you know, if there's predictions of heavy rain and possible flooding, they will inform the community through their social media. They also then direct people to their website where they have what they call a Disaster Dashboard; and through that, you can access things like flood cameras. So, you can see some of the local waterways and what level they are at, at a relatively I think it's updated every five minutes or something, or two minutes; like, the camera are updated quite regularly online. [#Q22103]*

Elsewhere, in smaller or less well-resourced local councils there appeared to be issues for some residents. Dashboards were not updated with the latest data in a timely, accurate, or sufficiently localised way, and loss of power meant people could not access this information. In addition, when asked, residents in QLD did not generally seem to be aware of these dashboards and did not know where to find this information.

This resident, who was a regular dashboard user, encountered some issues with the reliability and set-up of cameras.

*And as soon as it starts to rain, I am forever on (the local) Regional Council's disaster dashboard; I am checking the creek and checking things. And I will get up at 1 o'clock and 2 or 3 o'clock in*



*the middle of the night and everything else and log on; to look to see what the levels are doing...I can go and look at - because they have got cameras. (Local village) has a camera on the crossing. So, I can actually go and have a look. But there's also the ones that tell me whether the creeks are going up or not... But all through a lot of this, I was forever having to send the council a message, "Why isn't the camera working? Why is the camera turned off or looking in an opposite direction from the creek?", and all this sort of stuff. [#Q2235]*

In the NSW interviews there were only a few specific mentions of emergency/disaster dashboards. In one instance the dashboard was used on behalf of the community to put out specific requests for donations, and it worked well. However, the following residents (in different LGAs) felt that their local council dashboards were problematic for community users.

*So, getting the message out about the road closures of course is council's responsibility and keeping that up to date with council; there were two places that you needed to keep an eye on although certainly council was very good at cross-referencing the SES all the time. The thing that was the downfall of the whole thing in these last four floods, including these two in 2022, was the disastrous disaster dashboard that (town) Council and a number of other councils in New South Wales have used. I'm sure you know the different ones. They're all commercially made, and there's different versions – this one comes from (company) and it's the (town) branded one. So, council's messaging during times of flood or before flood was to keep an eye on Disaster Dashboard for the latest information. It was a mess. You couldn't understand. ...I actually screenshotted various pages of the Disaster Dashboard to show how confusing it was and how pointless really it was in people being able to understand it. [NSW036]*

*...we were accessing this [river height information] via the BOM.... This was supplemented by some of the riverfront residents measuring and reporting the river height at their jetty's and posting this on Facebook. So, we could assess and manage the flood risk. But Council's Disaster Dashboard had a bug and the links from the river level icons were broken. If you clicked on (location), it stated that there was no data available. If you clicked on the river level downstream at (another location), it had a 4-hour time lag so the data was incorrect. So this was actually dangerous misinformation. [NSW040]*

In the survey respondents were asked if they used any information from their local council to take action during the flood. Overall, 17.2% of respondents reported that they had (NSW 12.0%, QLD 27.8%). Table 3 summarises the responses to this question for the total sample, as well as the NSW and QLD samples separately. Chi square tests indicated that there was a statistically significant difference by state. QLD respondents were more likely to use information from local council ( $P < 0.001$ , \*\*\*)

**Table 3. Did you use any information from your local council to take action during the flood? (e.g., Council Disaster dashboard, preparedness information)**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Yes	31	12.0	35	27.8	66	17.2
No	204	79.1	78	61.9	282	73.4
Unsure	23	8.9	13	10.3	36	9.4
Total	258	100.0	126	100.0	384	100.0

The differences between responses for the two states presumably reflects the more prominent role of local councils in disasters in QLD, mandated under the state legislation/governance arrangements. Further analysis was conducted for this question using the variables described in Table 1. No differences were found for age or gender, or most of the other variables. However, there was significantly greater use of local council





information by those who did NOT have water damage their home ( $P < 0.01$ , \*\*) and those who had more than one day to prepare ( $P < 0.05$ , \*). These findings together suggest that those with more time and possibly less severe flooding had the opportunity to seek and use this information.

Survey respondents who reported using local council information to take action were asked to provide details of what they had used. Of the 50 respondents who wrote a comment, 15 respondents specifically mentioned use of the disaster dashboard. Others ( $n=14$ ) added that they used flood cameras to watch bridges and monitor river levels and others monitored roads to plan routes for evacuation and monitor closures, and others accessed weather warnings and maps of where flooding was occurring. Although text entries were typically short, a few people mentioned problems, such as not finding information that applied to their circumstances, information not being up to date, not finding the dashboard information useful, and another claiming to be a disaster dashboard administrator saying they found it hard to use.

## Policy implications

Although there are state differences in the use of disaster dashboards, with QLD being more established, there do appear to be some usability and updating issues that need to be addressed in both states. If information hubs are hard to use and unreliable, they will not be used. Local councils need to undertake usability testing of their dashboards with residents to understand where the issues lie and implement design improvements. If not already apparent, it is essential to provide information about the timing of the last update against different sources of information, so residents can decide how useful information is.

Visual information is valued by residents in natural hazard events, and cameras providing real-time feedback on rivers, bridges, and roads provide important information to guide protective actions, therefore local councils need to maximise the use, availability and prioritise the maintenance of these cameras to ensure they are functioning. Similarly, access to accurate and timely updates on river gauges is essential.

Given the role of local councils in QLD, and the low levels of use of local council information, QLD local councils should work to build strong knowledge (not just 'awareness') of their disaster dashboards and ensure these are a go-to source of information. These must be kept updated and supplemented with local knowledge and interpretation to help people apply predictions to their own circumstances.

Creating information systems to deliver information to residents through multiple channels, rather than simply providing it somewhere they could access it would be a good future enhancement. Delivering information recipients perceive as being 'for' them, that is tailored to their location and circumstances, and incorporating personal message delivery channels would be attractive for users. Much could be gained from an interstate collaborative approach and use of common operating platforms between interstate agencies, and also local to State levels.

## Information expectations

This theme encompasses the changing expectations of communities about how and when they receive information. It links to the 'Localised perspective' theme, in that there are expectations about information being local, but it incorporates issues such as the immediacy of information, as well as general frustration about not being able to find information through official channels, and expectations raised about information following the 2019/20 bushfires.

Increased use of phone apps and digital, real-time information in other areas, e.g., live traffic, Waze, means the public is increasingly used to immediate, local information. In absence of information, or with information that is perceived to be inaccurate, or not trusted for whatever reasons, or lacking in some way, people are seeking out other sources of information, and are relying increasingly on unofficial sources of information, community



Facebook groups, and neighbours and friends to fill the gap. The use of social media and ‘unofficial’ media in disasters isn’t a new phenomenon, but the expectation of immediate, local information is increasingly what is being expected.

Higgins Storm Chasing was mentioned many times in interviews, especially in QLD. The following quote provides insights into why it was preferred – offering on-the-ground information from contributors, feedback from people ‘like themselves’, and regarded as more accurate.

*There is Higgins storm chasing who do - always do terrifying reports; but you were seeing people being flooded in all sorts of - you know, you are hearing stories through Facebook and places like Higgins, where people were saying, you know, reporting where the water was up to, and how people were getting on. So that's helpful and not helpful at the same time, because they can be a little bit sensationalistic. I found better information from people like that, than I did, again, with people like BOM; just wasn't getting good intel. [#Q2225]*

When residents found a good source of community information, they were able to articulate the ways in which it was directly helpful to them. Page administrators were clearly finding effective ways to present information, and there was also evidence that residents were able to filter information and identify ‘good’ contributors.

*That (community Facebook page) was brilliant; it really was. It was like having a centralised point. You knew whose posts to attend to; and you knew that there would be - any major updates would be pinned posts which I didn't actually know what they were before the whole flood thing. "Oh, right, you can just go here and see"...They were generally people who had direct, visual access; or could get themselves physically to a bridge or a section of road and take a photograph and post it; and put the - like, give an update, "time taken", that sort of thing; so that you could track the progress of the water. [#Q2223]*

*Obviously, you then get everyone's opinion on everything, which is helpful and not helpful.... But there was one person in particular - a lot of people contributed to it, but one person in particular was very good at putting information on there. So, I think the fact that there was certainly one person that kept putting stuff on there that people sort of believed; so it wasn't just someone getting all frightened and stuff. I think that made it quite a reliable source of information. [#Q2210]*

The importance of Community Facebook page administrators is made clear in this next comment, with an appeal to SES and council to engage with them in future.

*...me and others actually asked the administrators of some of those group pages, because they're all voluntary, people just adminning group pages – we asked if they could actually pin to the top of the page the latest SES information or whatever it might be. I think one of them did do that; they pinned the Disaster Dashboard which was meant to be the go-to, but others said, "No, it's a community page, we just let people say what they want to" it was like "Oh God". I am hoping that in the wash-up from it that, for example, our council and SES are able to talk to those admin of those pages and get them in and discuss with them how crucial they are in times of impending flooding and how best we can impart information to people. [NSW036]*

Timely, accurate information was one expectation. However, in other places people were struggling to get any information from the official sources that they expected to be helping them.

*I was evacuated by the fire brigade; they insisted that I leave premises because they were worried about how much further it was going to come up. But what I've really found was that very little information being handed out on the media at all about (location). You know, there's quite a few people live along (creek location) – it's a pretty big catchment area but trying to find information as to whether the road out the front is closed is even difficult. [NSW013]*



*I would have liked the council to be a bit more... uhm, they had a Facebook page. On the other side of the river, it is the (location) council area. And apparently, they were much more switched on in keeping their community members aware. So, they had a page/assistance. They were putting information up and people got that information. We didn't know what was going on. [#Q2227]*

Other comparisons were made, in the following quote this resident is comparing the flood warnings with the bushfire warnings received previously.

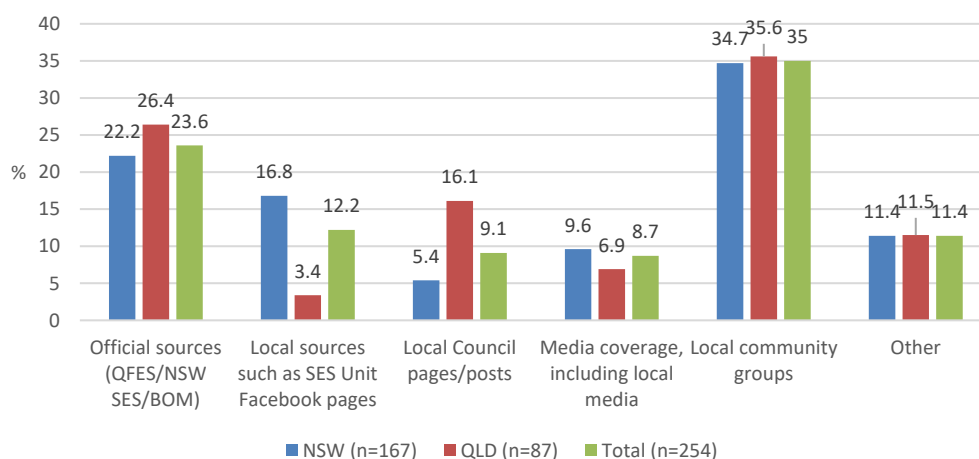
*With the bushfires, we just left. We did also have a text message though. I guess in some ways, because we had the text message to prepare, and we just left, whereas that's the difference, I guess. We didn't get a message to say to prepare [for the flood], it was just like... so, I guess in some ways I think I had more trust in it then and maybe deep down I believed that would happen if it needed to [for the flood] – I would have got the prepare message if it was going to be that bad. [NSW004]*

In the situation above, the resident expected flood messaging to be similar to the bushfire messaging. The lack of warnings, or urgency, didn't trigger the same protective responses.

In the survey there was a heavy focus on information seeking and receipt of warnings and this is picked up in the later survey driven 'Information, Warnings, and Trust' section.

Continuing the focus, here, on the use of community sources of information and growing expectations around timely, accurate and local information, respondents in the survey were asked whether they used social media during the flood for flood related information. Almost two-thirds (65.8%) used social media (NSW 64.3%, QLD 69.0%). Chi square analysis indicated that there were no differences in use of social media by state or gender, but a strong association with age ( $P < 0.001$ , \*\*\*), where older respondents (65+) were less likely to have used social media for flood related information. Although the age effect is unsurprising, it is worth noting that 48.9% of the 65+ group in the sample did use social media (compared to 18-44 = 82.1%, and 44-64 = 71.5%). Further analyses were undertaken using the Table 1 variables, the only significant association was found between social media use and flood impact, where those who had water damage to their home were LESS likely to have used social media for flood related information ( $P < 0.05$ , \*). This finding is likely to be linked to the (lack of) time available for information seeking.

When asked which was the most useful source of information on social media, 'local community groups' was the most selected option (35.0%), followed by 'official sources – QFES/NSW SES/BOM' (23.6%). Figure 12 summarises these data.



**Figure 12. Responses to the question 'What were the most useful sources of information on social media?'**



The data shown in Figure 12 provide a more nuanced appreciation of the responses. Although local community groups are regarded as more useful overall than other sources (across the NSW and QLD sub-samples), there are some differences between NSW and QLD respondents. For example, use of local council information is regarded as more useful to QLD respondents, and although the NSW respondents are slightly less likely to choose 'official sources' than QLD respondents, they do appear to be relying on local official sources of information to a much greater degree.

Statistical analysis confirmed that there was a significant difference in responses of those in NSW and QLD, with QLD respondents being more likely to select local council pages as the most useful source on social media information compared to NSW respondents ( $P < 0.01$ , \*\*). Further analysis with Table 1 variables showed that those with building insurance found local community pages most useful ( $P < 0.05$ , \*), and there was an association with age ( $P < 0.05$ , \*) with older people (65+) finding media coverage more useful than other age groups, and younger (18–44) respondents finding local community groups more useful and official sources less useful, compared to the other age groups.

A follow-up open text question asked respondents 'why was this source of information particularly useful'. To gain insights into what drove respondents to preference community social media, these responses ( $n=89$ ) were coded across six codes, with some being categorised into more than one code. The results were; timely/up to date (31.5%), accurate/trusted (15.7%), locally relevant/useful (39.3%), community connection/all in this together (20.2%), use of visuals/photos (5.6%), and available/accessible (4.5%). A few of these responses are provided below.

*Was the most up to date, council & BOM were too far behind in their websites, hourly updates in a fast-moving scenario are useless*

*Real time, local knowledge, constant updates*

*Several members of the community living along the riverfront posted river height measurements and firsthand advice on how fast it was flowing which was really helpful. Also, people were posting asking for assistance, for clarification of exit routes, advice on big debris like pontoons and boats*

*People with real life flood experience were sharing how best they were dealing with the situation. The information appeared (and then became confirmed) to be more accurate than a lot of the official reports.*

*Run by a local community member the Facebook page had 24-hour updates of the unfolding situation prior, during and after. With links to official websites, as well as a large knowledge base of community members from across the region. It also provided the opportunity to interact and ask questions, as opposed to more official updates that often can be ambiguous, not apply to my area, will not reply to questions, and often posted by a state level office with no local knowledge of the area.*

*Locals gave direct information on specific areas/river heights. Official sources were too vague or too late or unable to be reached as mobile/electricity failed.*

## Policy implications

Many relevant policy implications have been raised in the two preceding sections, where themes also focussed on the provision of timely, reliable, and local information. The comments above provide feedback to response agencies and local councils on what the community wants and, increasingly, expects in emergency situations – timely, accurate, accessible, local information, the ability to seek clarification/ask questions, curated and translated information that is meaningful and can be used to guide actions.



Community social media is here to stay and is working well in some areas. Some of the challenges are to find ways to engage with groups to ensure official messaging is seen and incorporated into the mix. There is a need to find ways for a two-way flow of information, to be able to identify and use accurate, timely, local data from communities to influence official emergency management decision-making.

Greater engagement with producers, curators, and administrators of good quality community social media content is needed, this will help to embed local community representation into official communications and will support getting official voices into community.

## Forgotten people and forgotten places

This theme combines a set of sub-themes related to residents feeling forgotten, abandoned, overlooked, and generally disappointed or angry about the official response to the flood/s and a lack of support or acknowledgement in the period after, by various organisations involved in recovery, as well as the media.

Sometimes this was expressed at the individual level and sometimes it related to an area/part of a town, or a whole town. Residents living in places they felt were normally overlooked, e.g., poorer areas, the ‘other side of the river’, or places on the borders of LGA boundaries felt that the flood/s just reinforced that sense of otherness, with attention, resources, and responders being directed elsewhere.

The media attention on Lismore, was also mentioned by residents in other areas (in NSW and QLD), who felt that this focus downplayed the scale of the floods and was leading to the public and others forgetting about other areas. These comments were often preceded by acknowledgement of what those in Lismore had experienced, i.e., not wanting to take attention from Lismore, just wanting it to extend to other places too. Similar comments were made in interviews with QLD residents in which those in regional towns felt the focus had been on Brisbane, and they’d been forgotten.

The quotes below provide a mix of comments typical of those relating to a sense of being overlooked.

*It has been really difficult. (Husband’s name) and I have had several conversations around that whole concept of “But they didn’t say (location). No one’s recognising that (location) experienced the floods”. You know, it was Ballina, it was Lismore – eventually they started recognising Woodburn and Broadwater but (location) is not on the map. [NSW003]*

*...for the hundred or so families that have been totally devastated in (location) by the floods that are community members that live here, no one knows who we are, we’re not being case-managed, there’s no direct support, and we don’t even know which groups got funding to help us. [NSW048]*

*No-one from the council has come out. No-one from the government has come out to our place. We have had no contact with anyone; other than the initial recovery funding, which really paid for some furniture and a fridge, a washing machine and stuff like that. [#Q2222]*

It was clear that it didn’t take much time for people to really feel a sense that they had be overlooked, even in the early stages after the flood/s.

*Two days later, the SES and army arrived and started with the clean-up. But two days, that absence was totally conspicuous; and it was like nobody cared. [#Q2292]*

*I actually spoke to one of the neighbours only a couple of weeks ago and it was almost like within a week or so of the floodwater receding and whatnot, it’s like everyone forgets about you, it’s like they forget that we’re still going through this, we’re still working through this, we’re still trying to put our lives back together and everybody’s gone and forgotten us. And on that “forgotten about” thing, I think a very important part of this is there was never, ever a single*



*mention of our village through any of the emergency evacuations or anything, not a single mention. [NSW097]*

Interviews with residents, especially those from locations that experienced deep, life-threatening flood/s were often emotional. The research team, especially during field work in the Northern Rivers area, were told about many frightening experiences, life-and-death rescues, distressing loss of animals, and fear for family members, the elderly, and children's safety.

*But again, imagine, you know, you're in the worst situation in your whole life, and the people you're told to rely on, "Ring the police, ring the ambulance, ring the SES – they'll come and save you" – the SES ended up either not answering phone calls or not able to answer phone calls, or if they, say, "Look guys, I'm really sorry, we just haven't got the resources. You're going to have to fend for yourself". [NSW086]*

*I don't necessarily believe that the government is responsible for everything that we do in our lives. I don't believe that, but you know, obviously they're there to assist but you can't have an organisation called the "Emergency Services" and not be there when there's an emergency. What are you there for? Do you all theorise about it? What are you all doing? [NSW006]*

*...and she was like "There's five of us with a baby and two dogs and a cat" and I was trying to ring SES for her, my daughter was trying to ring, and they just didn't answer, and she was ringing them, and they said, "No, we're not coming for you till tomorrow". And they could see shipping containers coming down and I didn't know whether it was worse to be there or not to be, you know. [NSW089]*

With many residents there was a general acknowledgement of the immense pressure the SES and other emergency services were under at the time of the late February/early March floods, especially given the scale of the flooding. Some residents were keen to add understanding comments about this, but the conflicting emotions were clearly hard to resolve for some. The NSW research team was able to speak with some of the Unit Commanders in the Northern Rivers during the field work and hear their stories too – some equally distressing for those who are devoted to their communities and were also distressed about what had happened.

At the time of the interviews, for those impacted in the Feb/Mar floods it was 6-7 months into 'recovery'. The general passage of time, the ongoing floods in other areas of Australia, a lack of media attention, volunteers and other help and support services closing down, and the slow pace of recovery due to the scale of the initial flooding meant that those still displaced, or otherwise affected, were feeling that no one was concerned about them anymore.

*And I think everyone's forgotten. Everyone's moved on. That is what it feels like; it is just everyone's moved on and they have forgotten there's so many people who are displaced and doing it tough. [#Q2224]*

*Yeah, neglected, and isolated. Very isolated in disasters, like flooding. Very, very isolated where I am. It's the most isolated I have ever felt in my life. Because most places where I have lived, if there's been bushfires or cyclones or whatever, there were organisations around in your own area that were helping you. [#Q22100]*

The survey didn't directly address the issues raised in this theme. Respondents who stayed and sheltered in place were asked about rescue, and this content is included in the survey-driven theme on Sheltering and Rescue, later. However, survey respondents were asked whether, after floodwaters receded, anyone from emergency services, local council, or neighbours called in/talked to them. Over a quarter (26.6%) of respondents had someone from emergency services call in/talk to them (NSW 31.1%, QLD 17.3%), 14% had



someone from local council call in/talk to them (NSW 11.1%, QLD 20.0%), and a much greater proportion (83.4%) had neighbours check in on them (NSW 83.4%, QLD 75.5%).

## Policy implications

This theme of feeling, or being, forgotten is a challenging and confronting one for stakeholders, as well as residents. Much is already known, through the NSW flood inquiry about the challenges faced in the response phase of the flood/s, and the scale of the Feb/Mar floods. Again, it's important to acknowledge that points made in this section don't only refer to residents of the Northern Rivers – in either response or recovery.

The sense of being forgotten during response and into recovery is something that could be addressed in multiple ways. In the first instance, there is a need to improve communication with people needing help, support, and rescue during the acute phase of disaster response. The lack of ability to contact emergency services and the lack of information about rescue added significantly to the distress caused to those residents who experienced it. Connectivity can often be problematic, but numerous additional communications issues were reported in interviews (with residents and responders), and are mentioned later in the Information, Warnings and Trust quantitative theme. Anticipating needs and knowing where mobile coverage is patchy, where failures and weaknesses in infrastructure lie, and finding ways to boost capacity/bandwidth appear to be obvious issues to address. These improvements would have benefits far beyond the disaster context.

An additional issue to address is resourcing and management of surge capacity. With the exception of the acute rescue situation, most other issues raised in this theme for individuals were linked to personal interactions and the availability and time of people. Perceived social support has been identified in post disaster literature as an important contributor to recovery<sup>16</sup>. The value of human connection is incredibly important in situations of adversity and often this need was addressed by friends, neighbours, and the broader community. However, it was clear in interviews that even a single 'check-in' from someone official, made a difference to the support people felt they had been given – whether that was a first responder, a local council official, or someone working for a recovery organisation. Understanding there are challenges, there is still a need for those working in all areas of disaster to make connections with people, to have a 'presence', and to show the human face of their organisation. This is as challenging, as it is simple. However, in this theme and others that follow, the ability to make a connection, to show empathy, and take time with people would help to reduce negative perceptions, suspicions, loss of trust, and enhance the general humanity of response and recovery.

It is also important to maintain a presence in the months that follow. All stakeholders need to plan for how they will be reach out to disaster-affected residents, in the first few days, the first few weeks and into the first year and possibly beyond. As well as planning for the staffing, there will be a need for training and the development of psychological first aid skills, and self-care.

Finally, the perception of forgotten places, can be addressed in certain situations, e.g., mentioning other places when speaking, or just acknowledging broader areas or picking a few smaller/different places to name when there is the flexibility to do so. The role of mainstream media, politicians, and celebrities is probably outside the current scope – and usually linked to positive general outcomes (help and support, attention, announcements, or solutions to problems). Approaches that raise general awareness to the sensitivities and ethics of post-disaster situations, and the potential to disenfranchise disaster survivors by neglecting locations and not using inclusive language should be considered. The concept of 'help literacy' is being promoted in post-disaster contexts and the points made here could be included within resources to support this.

<sup>16</sup> Kaniasty K, Norris FH. Longitudinal linkages between perceived social support and posttraumatic stress symptoms: sequential roles of social causation and social selection. *J Trauma Stress*. 2008 Jun;21(3):274-81. doi: 10.1002/jts.20334. PMID: 18553415.



## Community responders

Leading on from the preceding theme, this theme focusses on the role community has played in response and recovery in these floods and community frustrations with various parts of the emergency management system.

In the interviews with residents there were typically two areas that led to a bubbling up of emotions. One was in re-telling stories of rescues, and relief around survival of self and/or others, and the second was in response to the kindness from people – rescuers, local people, neighbours, strangers – all volunteers. Residents could become overwhelmed talking about their gratitude at receiving help, gifts, people’s time, and financial and practical support. Accepting support and charity from others was hard for some people, with even those in dire need feeling that others were worse off.

*we did have people who said, “I don’t need the help”, and it was having those conversations saying, “You’re not a charity case, and you’re not taking away from anyone else. Community has given this for you. Say thank you, and take it, and use it”. I think the narrative around charity was a really big issue for people. [NSW108]*

Generally, there was a strong sense that experiences of the floods had helped communities come together, that people had helped one another and become closer as a consequence.

*Community, I would never have expected my community to react the way they did so that’s been a really positive thing and I think it’s really left a mark, made us all look at our community differently. I know more of my neighbours now than I did before the flood. I’d never been inside my neighbour’s house before until I went there that night. [NSW004]*

*The support from community has been so astounding. I feel humbled and privileged and proud of this community. [NSW108]*

However, not everything in community does run smoothly, and as mentioned in the cross-cutting vulnerability theme, not all communities are the same, or start from a position of strength. There were stories of issues with access to supplies in community hubs, confusion over who was eligible for supplies, and arguments between people.

*...I noticed she was down in the reception area there and upset again. So, I sort of meandered down, and I broke into the middle of the conversation... one of the starving people there was [being told by helper at the hub] “I don’t care, whatever you want. You can’t drink the water. You can’t get the water from here”. “I’m thirsty”. That’s when I butted in and I said, “Why can’t she drink? She’s thirsty. Give her a drink”. She said, “No, if we give her a drink, everyone will want a drink”, and I said, “So what? Who cares? People are thirsty, you bloody well give them a drink”, and she said “I’ve been told I can’t... [NSW068]*

In some areas the organisation of community volunteers didn’t run smoothly. Some were disorganised, with people being turned away. There were occasional comments about issues for people who were marginalised in the community and also newer residents, especially in tight-knit communities, who weren’t as connected.

*We weren’t local, we were newbies. A few people came to help us, but we had to go and ask for external volunteers mainly to come and help us which again, you know, was a mixture of being the newbie and the fact that they knew we had insurance so there was a little bit of resentment there as well. [NSW011]*

Tension between communities and SES/emergency services were raised frequently, especially in the Northern Rivers area on the subject of the ‘Tinnie Army’. There was frustration that civilians with boats had been told by various authorities not to go out and rescue people. Unsurprisingly, those who were rescued and those within these communities were very grateful to those rescuers and felt resentful about that instruction.





*I think the people that were here felt very much abandoned, and incredibly grateful for those people who had the tinnies and took them out against... because they were told not to use them by the SES, and they were saying that they were risking the SES operations and being dangerous, and all of that stuff, but if it wasn't for them, and if they didn't go against that official advice, I'd say there'd be hundreds of people who would have died. [NSW107]*

*So we went to bed, 10:30 the (town) police rang me and said, "We've been talking to SES, they can't... [come out to rescue you]... I said, "Aren't we lucky, we've got next door neighbours who have got a boat that can rescue us", "Don't get in that boat. It's not safe. Don't you dare get in that boat. It's dark, it's not safe". I said, "Well, at least they're there". [NSW023]*

*So, trying to navigate all that stuff as well was super dangerous and those guys that went out in their boats when SES and people said it was all too dangerous, dammit they need awards, they were absolute heroes. There'd be more mortalities if they hadn't done that. [NSW087]*

Following on from the previous theme, and the feeling of abandonment at a time of need; having authorities actively trying to stop community members from saving each other has been damaging. Clearly the issue of (untrained) community rescuers is fraught with challenges but is a situation that some communities are actively preparing for, for next time.

*we're in the process...of buying it. We've put the order in for the radios so the boats can talk to each other and a base station, the life vests, the ladders; each boat has got a ladder so people can climb off their decks... [NSW050]*

The challenges for a range of organisations in handing over increasing control and trusting communities will be returned to in the concluding section of the report.

The survey included several questions that are relevant to this theme. Feelings about community and satisfaction with the support from community will be covered in a survey-driven section later in the report. There were also questions that covered community volunteering and interest in training to assist in various roles, following recommendations raised in the NSW Independent Flood Inquiry. Responses to these questions are detailed below.

Respondents were asked about their current, recent, and past volunteering in emergency response or disaster recovery, and responses are presented in Table 4.

**Table 4. At ANY point since January 2022, have you been involved in responding to emergencies or helping disaster recovery efforts as a community volunteer (i.e., unpaid, and not as a member a formal government/emergency response agency)?**

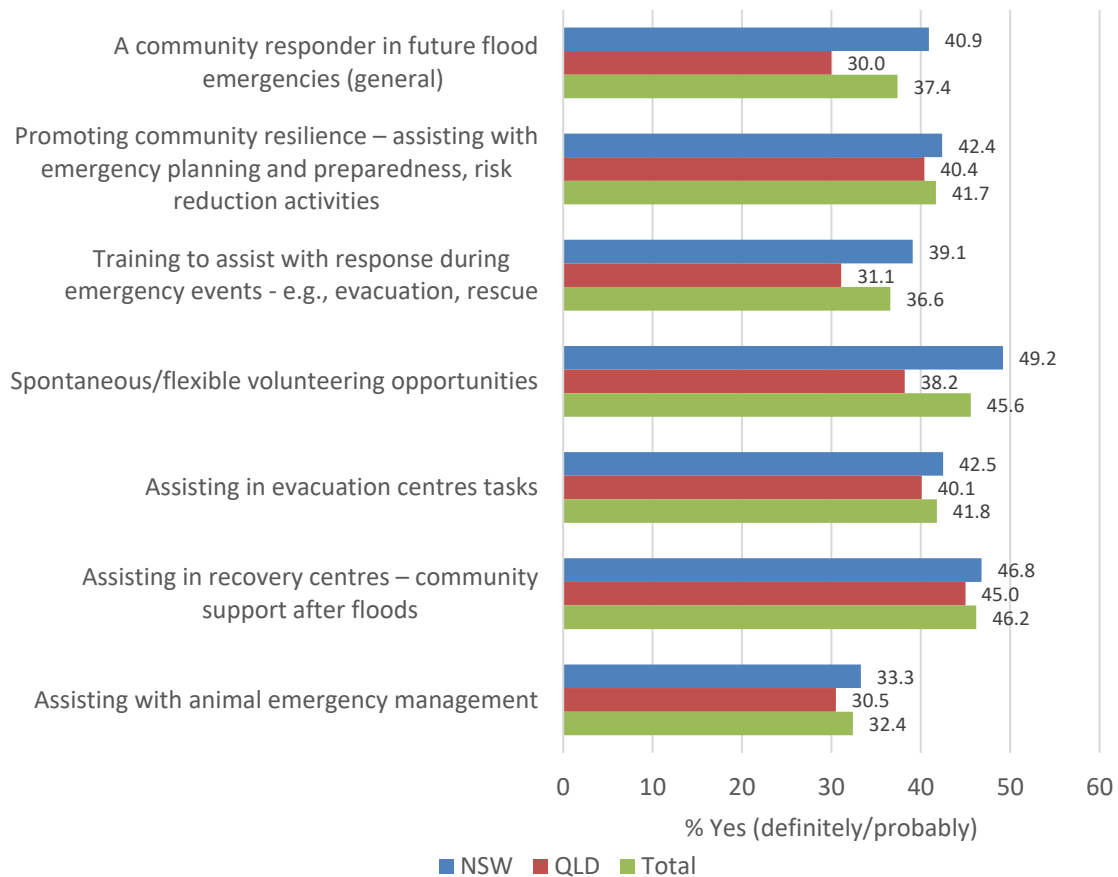
	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Yes, I am currently	32	12.7	11	8.9	43	11.5
Not currently, but I have done this during 2022	54	21.4	12	9.8	66	17.6
Not, currently, but I have done this in recent years	28	11.1	16	13.0	44	11.7
No	128	50.8	83	67.5	211	56.3
Prefer not to answer	10	4.0	1	.8	11	2.9
Total	252	100.0	123	100.0	375	100.0

Regarding volunteering, 11.5% of respondents were currently responding in a volunteer capacity with recovery activities, and a further 17.6% reported that they had volunteered in some kind of disaster-related capacity in 2022. Responses to this question were statistically analysed by state and the set of variables listed in Table 1.



Only state was found to have a significant relationship, with NSW respondents more likely to have volunteered recently (Currently or in 2022), compared to those in the QLD sample (P<0.01, \*\*). There were no differences with gender, age, or the other variables.

To gauge community interest in future volunteering possibilities, respondents were asked, ‘If flexible options were available to help you train to be a community responder in future floods, would you be interested? This was followed by a series of potential roles that could be included in community training. The responses are detailed in Figure 13, with the general interest question listed first.



**Figure 13. Interest in a range of structured volunteer training options.**

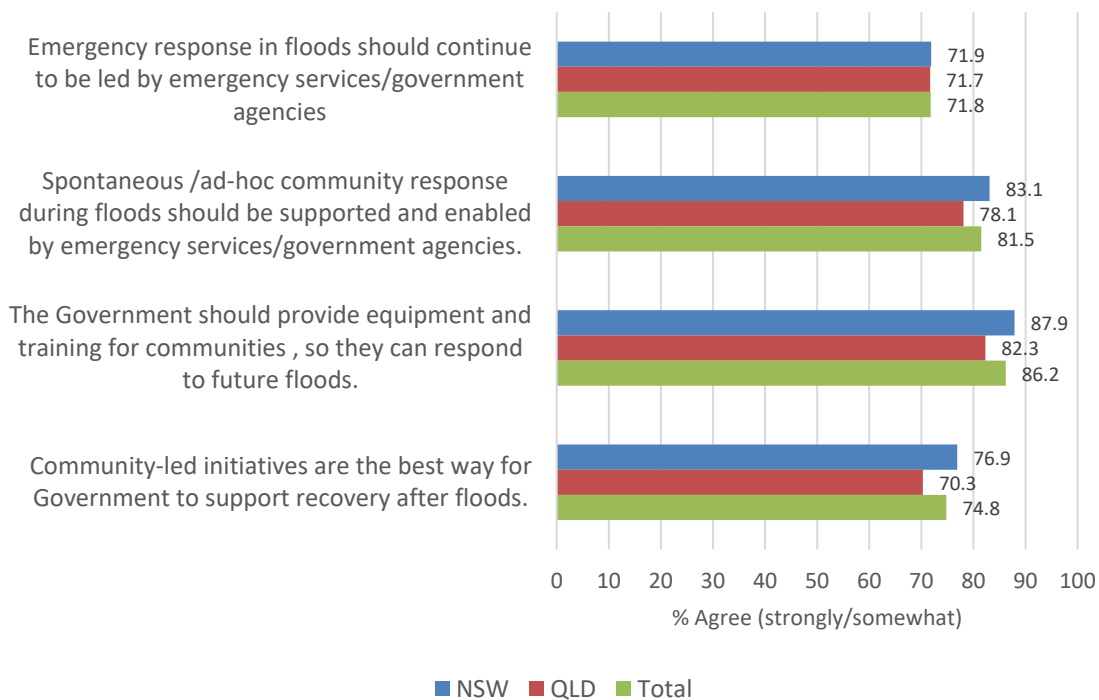
Responses to the questions in Figure 13 were analysed by state and the Table 1 variables. Significant associations were found by state for general interest in community responder training (P<0.05, \*), and spontaneous/flexible volunteering (P<0.05, \*), with NSW respondents expressing more interest than QLD respondents. Age differences were found for general interest in community responder training (P<0.05, \*), training to assist with response (P<0.01, \*\*), spontaneous/flexible volunteering (P<0.01, \*\*), and assisting in animal emergency management (P<0.01, \*\*), with the older age group (65+) being less interesting in training than the two younger groups. Gender differences were noted for spontaneous/flexible volunteering (P<0.01, \*\*), assisting in evacuation centres (P<0.001, \*\*\*), assisting in recovery centres (P<0.001, \*\*\*), and assisting in animal emergency management (P<0.01, \*\*) with female respondents being significantly more interested in these training options than males.

An open text box was available for respondents to suggest other roles they felt they, or others in the community might be interested in, and 102 respondents provided responses. Several residents suggested providing emotional/psychosocial support locally after disasters, often in the context of support that could be provided in an ongoing way, checking-in at intervals, so there was support after the formal help had gone.



Some of those suggestions were directed to supporting elderly, infirm residents, or those with mental health issues. There were ideas for street-based programs, facilitated approaches to support smaller groups through preparedness, clean-up, and recovery activities. There were suggestions for specific training in how to find and share information to be able to run community social media in a more organised, professional way. Several people mentioned specific jobs that they could do – often to fit around other commitments (children, full time work), such as laundry and ‘cleaning people’s precious things’. There were also several people who mentioned they were already involved in a range of established community groups – from Resilience Teams to local radio (CB, hand-held) communications networks, and networks that provide information on river gauges – some with links to local council to provide that information, and some with strategically located members acting as ‘rain sentinels’ for early heads-up to community. In addition to suggestions for roles and training ideas, several people mentioned personal challenges to being able to do more – from being elderly or having health issues, to having full-time work commitments and young children, to struggling to recover from the recent floods and suggesting that they (‘affected’ people) shouldn’t be the ones being asked to take on additional responsibilities.

Finally, respondents were asked about a number of community/official emergency management positions. Respondents were asked to indicate their level of agreement or disagreement with the statements listed in Figure 14. This figure shows the proportion of respondents who agreed (strongly or somewhat) with each statement.



**Figure 14. Agreement with a range of official/community position statements.**

The data in Figure 14 show strong support for all of the statements, with relatively small differences between respondents from the two states. Within the group of statements there was clear agreement that government should be supporting communities to take on more active roles and have involvement in their own recovery, whilst at the same time continuing to have emergency response led by the response agencies/government.

### Policy implications

This theme covered a range of topics related to community involvement in response, as well as other phases of disaster. It was clear that the scale of the flooding exceeded the capacity of emergency services in some



locations and community needed to activate to help evacuate and relocate people and assist with getting supplies to people who were cut off. With climate change effects being increasingly responsible for more severe, prolonged, and concurrent natural hazard events it is clear that community mobilisation is needed and should be encouraged and supported as far as possible ahead of time. The issues that are likely to arise are now well known and therefore response agencies and others working in disaster situations need to anticipate and plan for these challenges, review, and renew their policies, and engage with communities to help shape future approaches and increase safety as far as possible.

Local community members have already been volunteering and have played a significant role in helping neighbours and communities to prepare for the floods both practically, e.g., helping to move furniture, and by sharing their risk knowledge and experience, and then by supporting others in the aftermath, e.g., cleaning, laundering, cooking, restoring valued possessions. Local councils could look for ways to support community members to fill these roles again in future flood events, such as by creating a register of willing volunteers, and developing a repository of flood stories and experiences. The latter could be used for future reference to assist in providing examples of how help has been provided, and in reviewing scenarios to anticipate what help could be offered. This would also serve to acknowledge the help provided and motivate future community-led initiatives.

Results indicate that communities are in favour of playing a greater role in floods and other disasters and are keen for support and training. Indeed, there is an awareness of a need to improve community skills and knowledge to respond better. The analysis of interest in training showed that women were more interested, generally, than men in some of these roles, and older people were more likely to be unable to help. These findings – both demographic and training area-related start to provide pointers to stakeholders about ways to begin targeting and attracting groups within community.

It is also clear that community members have ideas for future roles and there are already pockets of community-enhanced and community-led initiatives that are in place. Relevant stakeholders – response agencies, local councils, and recovery organisations/NGOs need to learn as much as possible from those involved, to identify what has worked well, what is needed - skills/information/knowledge/equipment, where improvements can be made, and how similar approaches can be replicated in other places.

## Clean-up

This theme focusses on problems encountered during post-flood clean-up. Several issues were raised in interviews with residents as they renegotiated their relationship with their flood damaged possessions. There is no doubt that this phase post-flood is emotionally charged, as residents grapple with the enormity of the clean-up, the consequences for them practically and financially, and the emotional connections with their homes and their belongings.

*I still sit back now and look at what I didn't collect and the things that we did collect; and I'm like, "Why did we save that and not that?", because it just doesn't make any sense to me.... So that's the harder part, too. We had all their personal belongings. I lost all of my mum's stuff ... it doesn't cover the heartbreak of all mum and nanna's stuff that I have lost. [#Q2253]*

At this point it should be noted that this theme is focused on problems, issues that could possibly be addressed by policy makers and stakeholders. Most residents we spoke to were extremely grateful for the help they received during the clean-up – even those who encountered some of the problems described below. Residents often mentioned small acts of kindness when someone, e.g., a friend, family member, church group, had taken something away for them and restored it. These seemingly small actions meant so much to people and their return gave them a massive boost. Recalling these moments was often emotional.



*And then people would... some people came and took washing; things that were flooded that needed to be washed; that might have been saveable. People took... there was one box of photo albums, an old box of photo albums that got wet. My neighbour across the road took them; and diligently dried them...for the next six weeks. [#Q2257]*

Beyond the emotional connection to belongings and the loss, this theme relates to a complex interaction of a sense of urgency, an overwhelming influx of help, a need for decision making and assertiveness, overzealous helpers, looters/scavengers, and the final removal of belongings.

The following quote is long but articulates a range of issues faced by many residents in the study.

*I'm hoping that the buyback scheme offers me some relief and then I can sell the house to the government and move away because I don't feel safe here anymore. It's not anybody's direct fault and I don't blame the flood. I mean the flood was just doing what it wanted to do. The destruction of the house happened afterwards when strangers came in and tore my house to shreds and threw it all out on the street. That was probably more traumatic to me than the actual flood event itself, and I think that's something that has not been addressed at all.*

*When that mud army turns up, they're just people that think they know stuff; they don't know, they don't have any building experience, they've never been through a flood, but they made decisions about my things, based on what? When I said "No", they would argue with me, like "Oh no, you've got to do this". Who said I had to do that? That's the part I find really deeply upsetting, for example, my house is a 1950s Art Deco beautiful plasterwork everywhere, and original timber, solid timber, skirting boards and trim and I had these guys come through who just started ripping it all off and breaking it, and I said, "Don't do that". They said, "What do you mean?" I said, "There's no need to break it. Just take it off. Go slowly and take it off so I can put it back up". "Oh, we can't". I said, "What do you mean you can't?" "Oh, it'd take too long".*

*There's five blokes, all six feet, telling me what to do, so in the end, I just had to let them do it because they're here to help, and blah, blah. They ripped it all off, broke it all, threw it all away, and when I finally got my act together and I start looking at ways to rebuild for flood resilience, do you know what the best skirting board is? What I've already had – solid timber, which you cannot buy now for love or money. My quote to replace it with finger-jointed pine which will fall apart in the next flood, is \$11,000. Things like that, I find just beyond the pale. Australia's been through enough disasters. Where is the manual for what to do to your house after a flood? Why weren't these people vetted? Why didn't the police close the whole town off and allow local access only? [NSW006]*

That quote is confronting, but not uncommon. Flood impacted residents were still often coming to terms with the immediate trauma of surviving the flood when eager helpers arrived. The sense of urgency felt by well-meaning helpers wasn't without good reason. It was generally recognised that it's easier to clean things before the mud dries, things are soaked, smelly, and unsanitary, and there is an urgency to have flood damaged household contents removed quickly – both to reduce the smell and vermin, but also to take away the distressing visual scene of the piles of belongings to reduce the ongoing trauma of residents. In the following quote the resident had been saying how she was trying to slow down the pace of the clean-up at her home with multiple strangers turning up. Clearly her husband was traumatised by his experience of the flood (which had been dramatic).

*We just started [cleaning up], they were just loading the truck and I'm trying to say, trying to save the most important things, and my husband was supposed to be doing that in the garage, but he was in such a state that he was helping to load the truck! They just threw out everything, and he was supposed to be saying, "No, stop it", but he wasn't capable. And then later on, he's saying to me, "Where's such-and-such?" "They loaded it on the truck". "Why did they load it on*



*the truck?" "Because you weren't capable of stopping it. You were supposed to be directing, and you couldn't do it". The memory's gone of that; it's like childbirth for him – he can't remember what happened. [NSW026]*

In interviews, residents would mention how hard it was to deal with the barrage of questions from multiple people "what do you want to do with this?", "how can I help?" etc. They quickly fatigued or became overwhelmed and watched their things be thrown out. Some mentioned letting that happen, thinking they would go out to the pile afterwards and get things back – but when they tried, it was too hard – too heavy, slippery etc., and they had to let it go.

*I had my mum and my brother come to help clean everything out; and they were great. But it was thousands of decisions, "Do you want to keep this? I could clean" - you know, my mother, she could clean everything" (laughs). "Just get rid of everything. Just go". So, yeah, there was the physical tiredness, but it was the decision-making; like, just being tired from doing that. [#Q22107]*

Some people were able to navigate the clean-up, working with friends, and in the following quote, by splitting up the help across gender lines, with the men focussing on the 'big stuff' downstairs in their two-storey home – where storage, laundry etc were downstairs, and the ladies sorting through things in a less rushed, more considered pace upstairs.

*So, the men started downstairs and the ladies started upstairs. We saved an awful lot more stuff than other people would - where just anybody came in to help clean up. We started on the bedroom, find the rings, then we went through the clothes and (friend's name) said, "No, just throw all the clothes in there. I'll take them home and wash them", and she went home with the back of her Ute piled up with bags of wet clothes and linen. ... A lot of people had everything thrown out; we saved so much. [NSW023]*

*Well, you don't have a lot of time, to be honest with you, because it stinks; it literally stinks. I know that it would stink; so, it has to be cleaned out as fast as possible or the whole house will stink. So, we were working rapidly. We had moved things out to the back yard and out in the pool area; and I had groups of people sorting what was saveable; what they thought wasn't; and then my husband and I had to go through each of those things; and then I wanted the house gerni-ed out as soon as possible. [#Q2257]*

As mentioned previously, the interviews took place 6-7 months after the Feb/Mar floods. By this point residents had time to reflect on some of the decisions made during the clean-up and stripping out of homes. At the time residents were traumatised, didn't know what they know now, and had little or no conception of what the impacts would be. Unfortunately, like the lady in her 70s being referred to below, many residents in these situations were (typically) older women, living alone, who clearly needed help (and appreciated that help greatly at the time), but were unable to stand up to the forcefulness of multiple 'helpers' (typically men) wanting to get through things quickly to help as many people as possible/do as much as they could in the time they had.

*Somebody came through her street and said, "Okay, we have to clear out the whole house, we're bringing in the army, we'll demolish all your interior walls, pull out your bathroom, kitchen et cetera", and she kind of said, in shock, "Okay. Okay." And they did that. Well, this is now August, and she's been staying with me on and off; she's a refugee from (town) – she doesn't have a house anymore, so she's been couch surfing with us... In hindsight she says she shouldn't have done that but when they came to her house and said, "All right, the army is here, we're clearing out your house, we're pulling out all the walls", and she said, "Why?" And they said, "Well, mould, asbestos, rot, et cetera". So, she's left with the frame of the house, and she wants to go back and camp there. ... [she said] I shouldn't have been advised to clear out the whole*



*house”, because she has no electricity there, and no plumbing. A neighbour of hers who said, “Leave the toilet. Okay, it’s full of mud and everything, but leave it, we’ll clean it”. The neighbour has a toilet; she doesn’t have a toilet so if she wants to go back and camp in her garden, she has no facilities. [NSW001]*

Just like the opening quote in this theme, the lady above was disadvantaged by the ‘help’. In this example she wasn’t able to stay on her property. Although there is hardship living in makeshift living situations on-property in a tent or in a repaired room or two, there is also comfort. The connection with neighbours and familiarity, the ability to be local for community meetings and news, and the ability to keep an eye on what is left of your home and prevent further looting or malicious damage.

Another point, made in the opening quote related to the costs of replacement items. One point being made was that insurance payments weren’t sufficient/wouldn’t stretch as far as previously expected due to costs increasing. Some of this relates to the scale of the flooding and the scarcity of labour or supplies (also hampered by COVID), but also by this point in time, some residents were having insurance payouts knocked back, or reduced, or having deductions made to them. Kitchen items like saucepans, crockery and plastics, and clothing, sheets/linen were often mentioned as things that could have been saved and now had to be replaced, eating into the payments that wouldn’t be sufficient for the main repair and rebuilding tasks.

*And the neighbour across the way, we had a double carport full of fridges, washing machines, freezers; and people said, “Oh,” - we asked people, “Do you want this?” “No, no, no.” Two days later, they came down and said, “Excuse me. Thanks for cleaning up my fridge. Can I have it back? The insurance company has knocked back our claim.” And they have gone from, “Let’s throw everything out; and not think about it” to, “Holy hell, how are we going to manage now?” And I think that’s understandable; because your state of mind is such that you don’t really want to bother with cleaning a fridge, when you have got mud slushing around your feet, and so on; and you are just devastated by it all; so, you just want to chuck everything out. [#Q22106]*

The issues of looting and scavenging in the clean-up phase was mentioned by residents. Importantly, residents referred to the emotional connections with their ‘stuff’. They would make the distinction that the piles outside their homes weren’t a council clean-up, a free-for-all. They hadn’t let those things go yet; they were still attached to that stuff. There were reports of people from outside scavenging through their things and how distressing that was, there were also a few stories of ‘helpers’ deliberately hiding things in piles during the clean-up only to return later to steal them.

*Yeah, there was a lot of looters going around. And there were stories in (town) where people, you know, clearing out the houses, hid things and come back that night and took them out of the rubbish pile. There was people, the helpers, and like a box of jewellery – one old lady, they went out and she said, “We’ve got to find that box of jewellery; somebody’s thrown it out before anything was done” and they went through the pile, and it wasn’t there the next day. They reckon somebody was taking stuff, putting it out on the pile and coming back that night and getting it. [NSW054]*

*So, the amount of people – we actually saw people who had hired trucks, driving through, sifting through our belongings, to take stuff. So they were: the washing machine and the dryer had gone before anybody else had come to collect it. They were taking the electrical cords out of stuff, all the copper. They were just sifting through, picking up stuff that they obviously thought they could make a buck out of. [#Q2230]*

Finally, the removal of items. There were widely different experiences across the study, those in rural areas in QLD were having to pay for skip bins, whereas in most towns local council would arrange to have things taken away. In some areas there were positive comments about local councils being quick to take things away and organise removal of items whereas in other localities people had to pay extra charges to council to remove



things. However, some residents wanted more time to manage their possessions, e.g., some weren't at home when the flood occurred and couldn't get back quickly, finding they only had a narrow window of time before council came through, and no communication about whether there would be any more assistance available. Again, just like with the spontaneous 'mud army' helpers, this created an underlying sense of urgency and panic, not knowing if there would be other opportunities for help later, sometimes driving people to throw out things that could have been salvaged.

Due to the interviews raising many issues about the clean-up period the survey was designed to contain a full section of questions about the clean-up process. The Technical Report provides a full overview of these questions and summary responses for the total sample and the NSW and QLD samples separately.

Around half the sample (52.5%) received help with the clean-up (NSW 56.4%, QLD 44.4%) and most people who needed to have their properties stripped out (gyprock, wiring, fixtures etc.) received help with that, 72.4% overall (NSW 68.0%, QLD 82.1%).

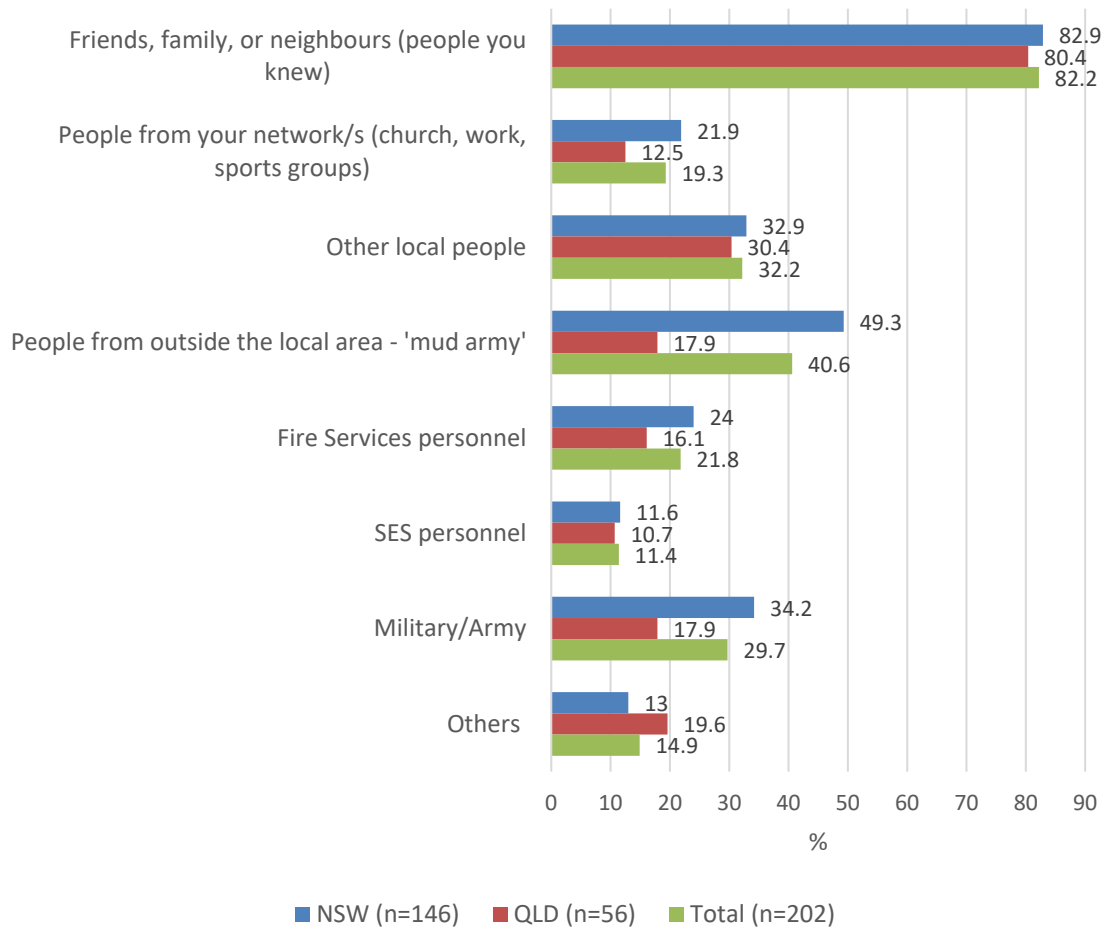
Chi squared tests were conducted to see who/what categories of respondent were more likely to have received help with the clean-up. As before, state and the set of variables in Table 1 were used to investigate these data. Those in NSW ( $P < 0.05$ , \*), those who had NOT flooded previously ( $P < 0.05$ , \*), and those who had floodwater/stormwater enter their houses ( $P < 0.001$ , \*\*\*) were more likely to have received help with the clean-up. Those who had buildings insurance ( $P < 0.05$ , \*) or contents insurance ( $P < 0.01$ , \*\*) and those who had more than a day to prepare before the flood ( $P < 0.01$ , \*\*) were LESS likely to have received help with the clean-up. No differences with age or gender were noted.

Given the strength of the association between receiving help and 'impact' (i.e., whether respondents had flood/stormwater in their home) further analysis of 'impact' with the other variables in the analysis was undertaken. This analysis showed that those who had floodwater in their home were more likely to be in the NSW subsample ( $P < 0.05$ , \*), were more likely to have been flooded previously ( $P < 0.01$ , \*\*) and were more likely to have had less than 2 hours to prepare ( $P < 0.001$ , \*\*\*). They were also less likely to have had buildings insurance ( $P < 0.05$ , \*), or contents insurance ( $P < 0.01$ , \*\*). These findings indicate that there are quite complex interactions between these variables, that require more sophisticated multivariable statistical modelling to fully explain.





In the survey respondents were asked who they received help from, and a breakdown of the various sources of help is provided in Figure 15.



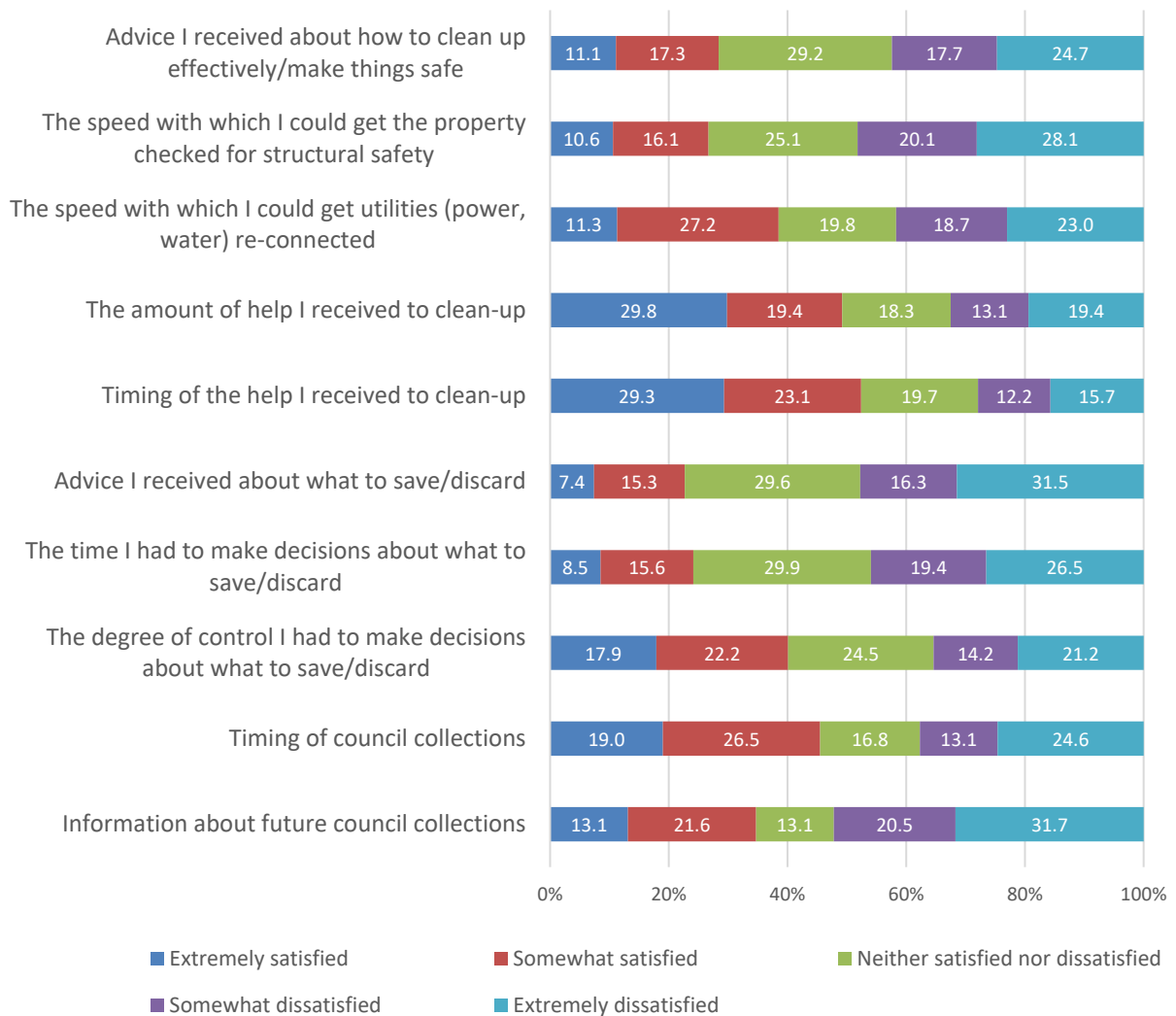
**Figure 15. Breakdown of those who provided help with the clean-up (multiple responses permitted)**

Data in Figure 15 show that a very large majority of respondents who received help, had that help from people they knew – friends, family, and neighbours. There were quite noticeable differences between sources of help received in NSW and QLD with NSW respondents being more likely to receive help from the ‘mud army’, the Army, or other local people.

Help was received from many groups, and ‘others’ were mentioned in open text responses. These ‘others’ included Blaze Aid, ‘travellers, on holiday’, the regular carpet cleaner who worked for free, a hired contractor, local mine staff, Brisbane City Council workers, and ‘clients’. A few respondents at this point made other comments about their clean-up, including comments about turning away help due to concerns about the hazards of floodwater on people.



Respondents were asked about their satisfaction with a range of aspects during the clean-up process, this information is shown in Figure 16.



**Figure 16. Satisfaction with various aspects of the clean-up process.**

Respondents had higher levels of satisfaction, overall, with the amount of help they received and with the timing of that help (just over half were extremely or somewhat satisfied). As reported earlier, most of the interviewees were very appreciative of the help that was received. Also, there are relatively high levels of satisfaction with the timing of council collections, with the speed of reconnection of utilities, and with the degree of control to decide about what to save/discard. As noted in the interviews, there were mixed feelings about other aspects of saving/discarding items – both advice on what to save/discard and the time available to make those decisions, with almost half of respondents being dissatisfied (somewhat or extremely). Respondents overall were least satisfied with information about future council collections, 52.2% were dissatisfied (somewhat or extremely).



## Policy implications

For policy makers there are a broad range of issues to address under this general theme and many opportunities for improvements through advice/resources, training, and communication. Some of the issues mentioned here were identified after the 2010/11 floods in SE QLD with the ‘mud army’ and need to be revisited. Clearly there is a need for help to come, but there is also a need to support flood-impacted residents at this vulnerable stage. There is a great deal to distil from the data collected in this study that could be used to assist people during the clean-up, and also for *all* volunteers and helpers, as part of a ‘help-literacy’ campaign in future.

There are a number of priorities and potential solutions to consider, and these are listed below. Although directed to ‘clean-up’ activities, many of the points above apply to stripping out properties as well.

- As soon as possible, local councils should provide skip bins free of charge for residents’ use; arrange and pay for collection, emptying and return of the bins; and provide regular information to residents about the timing and availability of these services.
- Local councils should liaise with charities and community organisations to carry out doorknocks to check on residents’ welfare and to identify any specific immediate needs they have.
- Continued practical support – such as waiving dump fees – for extended periods after a flood. This will allow residents time to plan, consider, and decide what items to discard or salvage more carefully.
- Local councils should act as central contact points to match people who want to help with the clean-up with those who need it, directly, or through community hubs/groups who can help direct help within their local community. Individuals were performing this match-making function on an ad hoc basis, and it seemed to work well.
- The broader population need to be discouraged from scavenging in skip bins and from kerbs outside people’s homes. There is a need for community announcements/communication to emphasise that these items are still people’s belongings, even though they have to be discarded: they are not for picking and it is not appropriate to profit from them. Increased police presence is also required to deter thieves and looters.
- Clean-up teams from fire brigades and Army should be equipped with at least one person with basic mental first aid training. The help received by formal agencies was generally well received, especially the hosing out of properties by fire services and these trusted personnel can provide additional valuable emotional support in addition to practical support.
- The general impression from interviews in QLD is that the ‘Mud Army’ approach did not work as effectively during these floods, hampered by bureaucracy. Volunteers Australia should be equipped to better prepare volunteers to have covered off these hurdles before arriving onsite, and given the problems encountered by some residents there is a need to assist further with help literacy (although, possibly self-deployed ‘helpers’ are a higher priority to try to reach).
- There is a need to find ways to feedback the challenges that have resulted from help during these floods to hopefully make future would-be helpers more alert to the consequences of stepping in to help in too forceful or rushed a manner. Clean-up volunteers need to be briefed on how trauma affects decision-making and its effect on how flood survivors make decisions during clean-up, and how to be sensitive to this when providing help.



## Insurance

There is no doubt that the east coast floods have been exceptional, in so many ways. The Insurance Council of Australia (ICA) has described this as ‘Australia’s most expensive flood’. In their Catastrophe Report 2022<sup>17</sup>, the ICA reported \$5.28bn of losses incurred in the east coast floods, with a further \$183M incurred from the July floods in NSW. In total there were more than a quarter of a million claims made following these two events (251,174 total claims, 233,133 and 20,041, respectively).

Currently, these revised statistics now stand with losses at \$5.81bn, and 279,000 claims (240,000 closed and 39,000 outstanding)<sup>18</sup>. Despite the efforts of the insurance industry to support residents with on the ground assistance and increased numbers of personnel available, the surge in demand for their services along with shortages in engineering/hydrology expertise, trade skills, and supply chain constraints have resulted in widespread issues for those impacted by floods.

Comments relating to insurance were made by most residents in interviews, either because they didn’t have flood insurance and/or couldn’t afford it, or they were having problems with various aspects of the assessments and claims process. Documenting/photographing losses, delays waiting for assessments, being ‘in limbo’, and arguments about stormwater vs floodwater damage were some of the issues that arose most frequently and are combined under this theme. In some instances, people without insurance were able to make decisions about their homes, such as to ‘cut their losses’ and leave/sell, much faster than those stuck in limbo, who were involved in complicated and protracted claim and dispute processes with insurance companies.

There were occasional positive mentions of insurance. Typically, if things had been going well, there would be a concise reference, e.g., “*yeah, the insurance company has been great*”. A few residents gave more context.

*Luckily the insurance is replacing a lot of the stuff that we can’t do ourselves. All of the mould extended into the dining room; we’ve been able to get that repainted – they’re going to repaint that apparently which is lovely, but it took a lot of our effort to actually get rid of all the mould.*  
[NSW021]

*I’d rung (company) and they were going to come Wednesday and pick up the car. ...Wednesday they came and picked it up about 8:00 o’clock... by 6:00 o’clock the next morning, (company) had let me know that they had written my car off ...three years ago, it was worth \$15,000. Because there’s a shortage of cars, I got \$27,500 for it. Which is only \$2,500 less than we paid for it, new, five-and-a-bit years ago. So, I was able to buy a new, reliable car.* [NSW023]

*We were with (company) who have been more than generous. When I put the claim in, the next day (company) rang me and said, “We’re offering you an ex-gratia payment of \$10,000. You don’t have to pay it back if you don’t get the insurance. If you get the insurance, you pay it back.*  
[NSW023]

As mentioned briefly earlier, many people had lived in areas that hadn’t flooded for decades (or living memory), the comment below was typical of many in this situation, with people reportedly being advised they didn’t need flood insurance.

*Everyone in our street got done [flooded] on this part of the street, and there’s nine houses, and you know, some of our neighbours did not have insurance – very difficult for them. The first house on the corner, they moved in about six to eight months before the floods and I was speaking with her, and she said when she went to insure her home that the insurance company*

<sup>17</sup> Insurance Council of Australia Insurance Catastrophe Resilience Report 2021-22. [https://insurancecouncil.com.au/wp-content/uploads/2022/09/20683\\_ICA\\_Final\\_WebOptimised.pdf](https://insurancecouncil.com.au/wp-content/uploads/2022/09/20683_ICA_Final_WebOptimised.pdf)

<sup>18</sup> Insurance Council of Australia. Data hub. <https://insurancecouncil.com.au/news-hub/current-catastrophes/catastrophe-221-storms-in-south-east-qld-and-northern-nsw/> (Figures current to March 2023)



*looked up the location and said, “Oh, it’ll never flood there”, so she didn’t take the flood insurance. Horrible. [NSW003]*

Whether it was a good thing to have insurance, or not, was a topic of conversation with residents. There were some comments about the ‘guilt’ of being insured and being excluded from certain places, or not feeling like you could be a recipient of community help if you had insurance. In several other interviews the delays for those who had insurance and the additional damage that was done waiting to be allowed to take early action to avoid further water damage were mentioned.

*Again, it’s ridiculous because I kind of go, “I can’t really complain because I’m insured”. You know, I’m one of the lucky ones, and that makes it really hard because you have that guilt. Going back into the village, I felt really, really guilty. Really just I didn’t want to talk to... I didn’t want to see anybody. My son had said, “Can you grab a couple of things”, I was like “Mate, I’m not grabbing anything. Nobody’s seeing me leaving that house carrying stuff”. I just can’t take anything. So, yeah, the guilt around it was, and still is, ridiculous. My husband said we made the choice to sacrifice other things to have the house insurance; other people could have done the same, but they chose not to – that’s their choice, but he’s a lot harder than I am. [NSW011]*

*In the 2017 flood in Lismore, our premium went up to \$12,000, and we didn’t even have flooding. We just took the insurance without the flood cover event. To be honest, anyone who’s got flood insurance is not back in their home. If they are, they’re living in a mess; the insurance companies doesn’t want them to do anything – a lot of the people’s houses are just left, they’re just turning into this huge, mouldy mess and they can’t do anything, and they don’t know when they’re going to get into their house. We’re lucky, we’re in our house, we’re working on it, it’s coming together slowly. We now have new windows, we now have walls, we have doors which these other people are still living in limbo in rental properties. I think in the end it might be a Godsend that we didn’t have the insurance. [NSW026]*

The comment about being lucky not having insurance – because you were free to act – came up in several interviews. Certainly, stress levels during the clean-up were intensified by the need to accommodate the very specific requirements of insurance companies around documenting damage and destruction. Often residents were not sure what those requirements were, or were receiving contradictory advice from those around them, and there was uncertainty about whether their clean-up efforts would negatively affect or even invalidate their insurance claims. This uncertainty resulted in some participants delaying or compromising their clean-up work.

*Not knowing what to do. Really, just not knowing what to do. We, uhm – gosh, we flooded on the Sunday night, which was before everybody else in Brisbane got flooded. We rang the insurance company on early Monday morning; and, you know, didn’t get through; sent emails and whatever; just to lodge the claim, to sort of say, “This is what’s happening”. But then we were left with, “Well, what do we do? We have got this situation here. Do we take everything out? Do we put it on the side of the - like, what do we do? Do we pick up the floors, ourselves, because there’s rotten, smelly stuff? Like, what happens now?” [#Q2217]*

*...we had sort of said to insurance company the day that the water was gone, “Okay, can we please knock the walls out, so that we can start drying it out?”, and they said, “No.” So, we ended up having to leave the walls on for about a week before they could send someone out to tell us that our house had been flooded and the walls had to come off. [#Q2210]*

There was also a perception of a lack of consistent information available from insurers. Residents reported that insurers were overwhelmed and difficult to contact. Others only found out how badly they had compromised their claims process when it was too late.

*Tuesday morning is our refuse bin collection day; so, we filled that in, in a few minutes. But stupidly, we hadn’t thought of photographing all this stuff; you know, just sort of like you are on*



*autopilot; not really thinking about what you are doing; just going, "I am just looking at disk drives which had water inside the bags; and these hard drives are just cactus. Going to have to throw them out." But I should have photographed them out because they would have been a couple of hundreds each. Couldn't salvage them anyway. The most important thing was the data that might have been on them. [#Q2279]*

For some, even when the insurance process was not a problem for them there were other challenges. After the trauma of the flooding, simply finding the capacity to manage the work and the trades. Some residents spoke of how hard it was to try to return to work when having to manage the flood administration, and others were concerned about having the energy to keep persisting when they were still having to deal with all the other aspects of life post-flood.

*The hardest thing I find dealing with the insurance, I must say, we're with (company) and they have been very good, they were very efficient, and very effective, and I was the one that was delaying them just because I couldn't cope with all the clean-up, and getting our house back to some sort of normal, and then them wanting to come in and rip walls out and do all that shit again, but the hardest thing for us has been the insurance companies don't project manage; they just send various people here and there to do bits and pieces, and those people don't coordinate. I was doing it originally, but I couldn't deal with it anymore, I've given it all to my husband because I can't deal with the tradies, "I might be here Thursday, I won't be there..." Trying to coordinate everybody to get their bits done before the next person comes – we pay insurance, why aren't you guys coordinating all this? There's no project manager so they don't say "Yes, we'll pay your claim. Here's your project manager and he manages everything". They go, "You've got to contact these three or four or five people and coordinate them to come into your property. [NSW027]*

*My manager at work cannot comprehend why, at the moment, she needs me five days a week – I'm working three days a week, I'm taking leave for two because I need some balance in my life to negotiate the insurance stuff, to make the phone calls to get the roof fixed so I don't work on Thursday/Friday. But every week she has a go at me about it, every week, and I just don't know. I'm going to go and talk to the counsellor about, "What's my strategy to just say, 'You're traumatising me'. How do I tell her that?" [NSW003]*

In some locations there was disquiet about the flood assessment process. There was a backlog waiting for reports, and a feeling that there was poor, systematic advice being given. There were many comments about money being wasted.

*Rainforest timber does not need to be ripped out, and you know, I kept my sink there; I didn't let that (company) in my house. That's why I could come in, that's why I couldn't take advantage of volunteers [helping to strip houses] but the people who listened, and did what they were told, they're the ones that are suffering, they're the ones that are selling their houses for next to nothing because they feel like they've got no hope. Now my place is already... through a lot of diligence and hard work, it's already cosy. I can live in it again. It's fine but yeah, I'm sorry for all those people that listened to that [company] and I actually think there should be a Royal Commission into it, into that, because all the insurance companies use them, and the governments use them, and there is no option. We're given no option who we can take advice for, and the stupid insurance companies, even if we didn't have flood insurance, they send out a hydrologist – what a waste of money – a hydrologist to determine where the water came from. Duh, it came from the sky, and you know, the rivers, and they sent a hydrologist to every single person. I mean, that is wasting money, it's wasting time, it's wasting resources you know. [NSW100]*



Some residents felt frustrated by the lack of choice or freedom they were able to exercise when trying to arrange repairs and reconstruction through their insurers. Approved suppliers were felt to be charging too much for supplies, for labour, and for doing a poorer job. This left residents angry and frustrated. This was often tied into concerns about underinsurance, where payouts wouldn't cover the rising costs of work, so residents were, understandably, more concerned about these charges. Many suggested there were 'rorts' and 'scams'.

*...and what I see is a scam, this builder is doing four houses in this block. She (elderly neighbour) wanted to buy her stuff, because she took a payout of contents, so there's a certain amount she has to pay for, and the insurer goes through (supplier), even though the guy from (local company) would do it way, way cheaper – she wasn't allowed to go to them. Now, there's a scam going on there. I mean, that's not okay. If the people, the company, that is supposed to have the deal isn't cheaper, than someone else who's willing to do everything the same... Well, (supplier)... the cost of it... and she said, "I'm trying to save the insurer money", and the builder said, "Don't worry about the insurers, they've got plenty". That was his reply. Yeah, so that means across the board, Australia wide, your premiums are going to go up because he's wasting money, because they've got some deal going with (supplier). That's not okay. Not okay.*  
[NSW067]

There were multiple mentions of arguments about stormwater vs floodwater, largely due to some insurance policies covering stormwater damage but not floodwater. Typically, the issues were attributed to new developments and changes to drainage, blocked drains, and a lack of maintenance by local councils. During flood assessments residents were talking about assessors agreeing that a certain degree of damage was due to stormwater, but the reports coming back saying floodwater, and therefore making claims ineligible. All these situations were adding to residents' frustrations and levels of stress.

*And when the hydrologist came here – that's another thing I found really offensive – the girl that came here, "Oh no, (resident's name)" she kept saying, "No, this is all stormwater. It's all clear. You can see the... it's all stormwater. This isn't flood water, this is stormwater". When she put the report in, all of a sudden, it was flood. It turned around, and it was flood, and my broker said, they were hearing that a lot; these people were coming out and saying to people, "Oh no, no, you'll be right". When she did the report, most of the report I might say, because I did a full spreadsheet with photographs, time, dates, and descriptions of what they were – I kind of did her report for her, but she was, "Oh no, (resident's name) this is all stormwater", because my insurance policy [exclusions] said, "Flood". Now it says, "Flood, stormwater...", nearly a dribble of a tap, anything you name to do with water – "We don't have it. We don't have it now".*  
[NSW067]

In the survey respondents were asked about what different types and levels of insurance cover they had. The table below summarises the house/buildings and contents cover for the sample.

**Table 5. Summary of house/building and Contents insurance cover for survey respondents (N=384)**

		New South Wales		Queensland		Total	
		N	%	N	%	N	%
House/ building	Insured - flood included	123	46.6	92	76.7	215	56.0
	Insured - flood excluded	89	33.7	13	10.8	102	26.6
	Not insured	52	19.7	15	12.5	67	17.4
	Total	264	100.0	120	100.0	384	100.0
Contents	Insured - flood included	107	42.0	90	75.0	197	52.5
	Insured - flood excluded	77	30.2	13	10.8	90	24.0
	Not insured	71	27.8	17	14.2	88	23.5
	Total	255	100.0	120	100.0	375	100.0



Most noticeable in Table 5 are the differences in flood insurance levels between the NSW and QLD respondents. This difference was noted earlier in Table 1. Chi-square tests were used to explore flood insurance cover by the variables in Table 1. The only variable that was significantly associated with flood insurance uptake was whether residents had flood/stormwater damage in their house during the flood. Those who had water damage in their houses were significantly less likely to have flood insurance for their house/building ( $P < 0.05$ , \*) or contents insurance ( $P < 0.01$ , \*\*).

Level of insurance was also examined by resident status (homeowner or renter). Relative to renters, homeowners were more likely to have flood insurance for house/buildings (60.2% cf. 4.0%,  $P < 0.001$ , \*\*\*) and contents insurance (55.5% cf. 6.1%,  $P < 0.001$ , \*\*\*). Homeowners were also more likely to have experienced previous flooding at their property/location (67.9% cf. 47.2%,  $P < 0.05$ , \*) and were more likely to report being better prepared when the flooding occurred (51.1% cf. 47.2%,  $P < 0.01$ , \*\*).

Additional data were collected in the survey about housing conditions and challenges for people with flood-affected properties. These also include analyses for those with and without flood insurance. These data are included in the survey-driven theme on Housing later.

## Policy implications

Numerous policy issues are incorporated within this theme, relating directly to insurance, but also extending to local council action, industry training and supply chains, housing, and social support. The overarching and interrelated complexities due to the scale of the flooding/scarcity and the passage of time are evident. There are other issues, not mentioned here too, for example. the expiry of insurance provided time-limited support for housing assistance which had either ended or was ending soon for both residents who were interviewed as well as survey respondents. With the slow pace of rebuilding, the tight and expensive rental market, and rising interest rates on unliveable flood-impacted mortgaged properties, some residents were anxious about what would happen when that support ceased.

Insurance companies need to provide detailed and explicit checklists of what customers need to do after a flood event and what they should NOT do, and make this as clear, simple, and achievable as possible, considering the situations many flood survivors are in at this point in time (and the difficulties, just mentioned, with monitoring and pacing helpers during the clean-up). This information should be given to all new and renewing policy holders with flood cover – with just-in-time information available online for those with connectivity (or their family and friends). Ideally, there should be an accepted national industry standard for what information customers need to provide to support their claims. This would help to reduce the likelihood of incorrect and contradictory advice being given from other sources, or each policyholder having to contact their specific company or broker for reassurance.

Harmonised advice would also help with informing those helping, who could be provided with factsheets to give to residents. Linking back to the previous clean-up theme, this information could also be extended to include information about how to salvage different items – not making assumptions about what CAN be saved – but what can be done to TRY to save items of value or how to check if some white goods, e.g., refrigerators or white goods with sealed units could be saved/continue to be use, once sanitised and dried out etc. The confronting immensity of the waste, unnecessary disposal, and a willingness to ‘throw everything out’ and buy-new was also a source of distress for some residents (and other local people too).

Given the distress, increasing financial burdens, and difficulties with finding affordable housing, the insurance industry needs to review its performance during these floods. Plans and contingencies need to be in place to improve surge capacity in future similar (and likely worse) flood situations. These changes need to be communicated to reassure existing policy holders living in higher flood risk areas. More advocacy roles and personal support services to enable community members to navigate the claims process are also required.





## Bureaucracy

Some of the issues surrounding ‘bureaucracy’, as a theme, have already been touched on in the preceding section. One resident summed up the situation for so many others.

*In each natural disaster there’s the actual disaster, there’s the clean-up, then there’s two years of administration afterwards. It’s a full-time job, it’s exhausting. I’m fried, you know. [NSW012]*

This sentiment echoed throughout the study. There was a fatigue from not only dealing with the day to day stress of the post-flood situation, but the additional layer of administration; having to repeat the same information multiple times to different people (within, as well as across organisations) and not getting to speak to the same person twice, having to prove eligibility to apply for assistance, e.g. when an address or postcode wasn’t on a list, and hours waiting on hold. There were problems making claims without connectivity (phone, internet) or without a vehicle to attend in person. There were reports of fraudulent claims with multiple people claiming on the same addresses – sometimes resulting in the resident legally residing at that same address being declined – or having to persist to get assistance, and issues around definitions for eligibility, e.g., of flood, flood damage, or conditions attached to definitions for recognition of business impacts.

The issue of case management was raised by residents, and it was clear that efforts were being made by some government departments to try to assist, but it was patchy and inconsistent in many places. Neighbourhood centres were mentioned as places where this sort of assistance was being made available or at least advice was being provided on how to navigate the bureaucracy.

*People just don’t need that trauma; there’s so much trauma already. It’s just so bureaucratic and so much stuff now is online and so there’s nobody held accountable, you can’t talk to a person, there’s no face-to-face interaction – well, not a lot of it anyway. We’ve been really lucky with the neighbourhood centre down there; they’ve been amazing, they’ve really helped a lot of people to navigate the stuff as well as the support networks and stuff like that. We’re pretty lucky. ...Yeah, I think it’s just crucial. I mean I think they have now got case management at the neighbourhood centre, and the people down there that have been... dealing with it for so long that they kind of know the ins and outs of what’s going on but I can hear their frustrations as well – all these people there, sitting there, and you go and sit and talk to them and from one day to the next, they’ve got a completely different story, you know. [NSW076]*

The government offer of grants was welcomed by residents, and in general they had found it easy to access the \$1000 disaster payments. For some, though, the process to get the grants was too hard – particularly given their circumstances (such as no power/no computers/limited resources).

*I had heard on the radio and TV, “Apply for some money; all you have got to do is go on myGov website; apply for the money; and you can have a thousand dollars” – that had made me angry, because we have worked all of our lives. I have never had a cent from the government. I don’t have a Centrelink account. I have never had a Centrelink account. So, with no Internet----just a telephone – thank God, I am quite tech-savvy and I have an iPhone 13 but on just that iPhone, I was trying to set up a Centrelink account, which nearly drove me demented; because they ask you to scan things and send things and paperwork. How can you do that? It’s ridiculous! So, when (state member) came, I told him my opinion about that. And he said, “What would help?” I said, “Somebody with a computer here, that’s got some Wi-Fi; that can sit there and type the thing or do something. Because I am covered in mud! I can’t be trying to set up two Centrelink accounts for my husband and I. That just is frustrating”. [#Q2257]*

There were also several examples of people being unable to make claims due to fraudulent behaviour of others or a lack of cooperation required. Residents claimed that these actions were leading to delays in payments and financial hardship, and down the track, this was making it harder for those with genuine claims, due to additional measures needing to be put in place to ensure the legitimacy of claims.



*I actually got scammed with the \$20,000 back home grant; I tried to apply online, and it said someone had already taken my address, so that took a lot longer than it would normally if that hadn't happened. That money came through a lot later. [NSW107]*

*My daughter at this point is still locked out of her house at (location) where her landlord's making her pay rent even though the road's collapsed, she's working at (another location), her car is locked on the other side of the road collapse with all of her belongings and the bloody landlord wouldn't approve any of the grants, wouldn't sign a letter to say she lived there, wouldn't even say she was paying rent. [NSW098]*

Finally, there was a range of issues reported that relate to various forms of ineligibility. A few people found themselves in situations where they were ineligible or excluded from certain options due to income cut-offs, through having insurance, or being homeowners. Although in disaster contexts these criteria are usually conceived as socio-economic advantage, these residents were struggling with the same trauma and losses as others, and managing complex situations, e.g., health issues, running a business, insurance bureaucracy, etc.

*No. Just no. We were in that income bracket where you just don't get help. You know, you earn over \$100,000 between you so you're just grouped... you don't qualify for help. I hate to say that but it's true. It doesn't matter you've lost everything; you just suck it up. [NSW055]*

*Yeah, so we lost a lot, and I am insured, and I think another part of my story that's interesting is at this point, most of my friends were renting and they've all got given free accommodation and multiple grants and a lot of financial assistance, and most of them are in free hotels in Byron and because I'm insured, I'm not eligible for any of that support. The insurance is expecting me to find my own accommodation... [NSW098]*

The survey didn't specifically address the issues around bureaucracy in making claims, or the general issue of post-disaster administration, but there was exploration of official, and community, support that is reported in the survey-driven theme Sources of Support and Recovery, later.

## Policy implications

Clearly, the processes in place for making financial claims for support, or other services, need safeguards and better case management. The comments from many residents about people making fraudulent claims serves to underscore the need for scrutiny, but how that is achieved without placing a disproportionate burden and stress on people impacted by floods (with limited documentation, connectivity, or transport) is a core challenge. There was a perception that those who were claiming early (easy) smaller financial benefits fraudulently against addresses were disproportionately advantaged, since they could be 'quick off the mark', not actually being impacted by flooding. These comments can't be verified, however, this was a perception held by some of the residents who discussed issues with making claims.

Work is required to improve the processes for flood-affected residents to access emergency funding from government at all levels, including Centrelink. The current system is viewed by the community as too bureaucratic and relies on people being able to function well, and having access to information and paperwork that might not be readily available. Some problems could be avoided by making application and support services available in person rather than relying exclusively on online platforms, although this does bring additional burdens.

Given the increasing severity, duration and frequency of natural hazard emergencies, the negative psycho-social impacts of re-telling and re-living experiences, and the potential for adding delays to service delivery, there needs to be investment/planning for an electronic post-disaster system that allows people to have their information captured in one place and shared across government organisations (and possibly others). This was



a recommendation from the 2020 NSW Bushfire Inquiry (R71)<sup>19</sup> with development currently in progress<sup>20</sup>. The urgent need for such a system is reinforced in the current study findings.

## Temporary housing

The urgent housing of flood-impacted residents across large geographic regions in NSW and QLD in the middle of a national housing crisis was always going to be severely challenging. In the context of the temporary housing theme, issues about disruption to local and communities ties are central; breaking bonds with communities and issues for people with employment and children at school, as well as the ‘temporary’/changing nature of housing and being moved on, were matters raised in the interviews. In a situation of scarcity there were problems with finding quality accommodation and cost of rents, and there were plenty of comments about the different options for temporary housing, e.g., government-supplied caravans. It is also important to note that some social groups, such as Indigenous people, young people, single-parents, older women living alone and those living with a disability or illness, were already facing significant challenges around accessing affordable and secure housing. The floods, and the subsequent pressure on limited housing, has significantly exacerbated housing insecurity.

During the time since the flood/s some people have moved a great many times, whereas others have managed to avoid moving around, but have had to manage other disruptions, in the latter case here – split the family up.

*For me, personally, I've had to move 11 times in the nine months [NSW064]*

*We were placed in a Maui van for almost six months. I guess we were pretty fortunate in not being shipped from place to place so, for that I'm grateful. We had Maui vans because there was six of us and we've all had to split now in order to get housing. I got one of the probably only properties, or minimal properties, in the entire area through DCJ so we haven't had to relocate which is I guess you could say, positive. [NSW096]*

One of the challenges for residents has been getting accommodation that is near their flood-affected property, so they can stay local to maintain ties and be around to help manage the post-flood clean-up and being readily available on-site.

*They set us up in... the six of us were... five of us actually by that time because (daughter) had moved down to my mum's for a little while, so the five of us were in RVs over at (location) which wasn't sustainable because we lived here, the house is here, the work that we needed to do is here, and we were over there. [NSW086]*

*You have to laugh, but I was thinking, "If I line up a tradie then I want to be there. I don't want them ringing saying, 'Look I can come and do this on my way home from work'," and I'm somewhere away from there, so I wanted to be close, I needed to be there to clean the things that I was salvaging. I still am cleaning the things that I'm salvaging. I wanted to be there to rip things out and do stuff. [NSW059]*

In some parts of NSW residents have been able to access caravans and live on-site. In general, this has been a welcome option, with residents being appreciative of this even though living arrangements aren't ideal. There have been concerns raised by residents about the potential for more flooding – both the loss of belongings (again), but also issues around excess payments and having access to a vehicle that can tow a caravan out of harm's way.

<sup>19</sup> <https://www.dpc.nsw.gov.au/assets/dpc-nsw-gov-au/publications/NSW-Bushfire-Inquiry-1630/Final-Report-of-the-NSW-Bushfire-Inquiry.pdf>

<sup>20</sup> 'Tell your story once' <https://www.nsw.gov.au/nsw-government/projects-and-initiatives/nsw-bushfire-inquiry/nsw-bushfire-inquiry-progress-reports>



*(About the caravan) No, this guy in Newcastle, (name), has bought it brand new, and furnished it with all that we needed and offered it to... you know, he's got it for a year with the government renting it so he's getting a good rental from it. That's the way they're doing the program. [NSW087]*

For one resident in our study the journey through temporary accommodation – being a homeowner and someone with insurance – has been far from satisfactory.

*They provided emergency accommodation for three months with the dogs, like in Airbnb's but then they only provide it for three months and you've got to find a private rental. I've applied for 16 rentals which... I haven't rented in years, and I don't have any rental references because I own my own home; they need three rental references on these "Apply to" forms, there's all these private companies that vet you and give you a rating and a score out of 20 – well, I can't even tick any of the boxes. I have a disability, I only work part-time, I've got three kids, three dogs, I own my own home, you know, I don't have any of the information so 16 rental applications later, which has had a massive toll on my mental health – it's debilitating [NSW098]*

In the end, this resident (above) decided to buy their own motor home and settle on-site so they could be on their property and take back some control over their situation. Not, however, without further disruption for the family.

*So yeah, I've just given up. I bought myself the motor home after seven or eight moves, put the kids in share houses, like I said to you before, but also for the tape, my son's in Year 12 and he's still at school - after seven moves through emergency accommodation we put him in a family house from school and then three weeks later they got evicted which happens all the time around here if you're unfortunate enough to be renting. [NSW098]*

Residents' personal and household circumstances affected their experiences of temporary accommodation. Many moved around multiple times, whilst juggling health issues and keeping children in school. The issue of pet ownership added further complications and was mentioned by many residents too. For those adjusting to living in temporary accommodation in hotels, motels, and holiday parks the experience of being regularly moved on, was stressful, taking a toll on their mental health, and for some with physical ill health there was the potential for additional complications.

*So, then the Airbnb ran out; come Easter, I was without accommodation. I mean, stressful. We have also got two - me and my partner, we are both terminal cancer. Then they put us up in a hotel. In the end, we had to move into a hotel in the city; so, we had two dogs and us in a hotel in the city; because there was no accommodation sort of left then. [#Q2238]*

*(At a local caravan park) ...they were told to leave; and they didn't know when they could go back; and they had nowhere to go. And you saw full families with little kids, mums that were breast feeding; and they were crying. [#Q2265]*

For many, the physical moving around was hard, but so was the realisation of a change in status – to being 'homeless' and being dependent, and at the mercy, of others. The requirement to check-out, wait, and check-in was a confronting, and regular, reminder of their change of situation.

*... when I first got the emergency accommodation, it was from week-to-week ...and then every time we had to move, I had to put everything in my car and check out at 10:00 and check in at the next place wasn't until 2:00 and so I couldn't work that day, and then one of my kids had to not work that day so we could do it together because not everything fitted in the car; we'd have to take stuff to people's places and leave it. It was like we'd be homeless for that period because really... you don't think about it but the first time it happened... It's like you just don't even believe it's a thing but it is a horrible thing and that just makes you so aware of all these people*



*that are homeless, how shitty it is by no accord of their own. [NSW089]*

The issue of the Easter holidays compounded the impacts and was mentioned by many of the residents we interviewed who had been living in temporary accommodation – this was particularly the case in the northern rivers region as it is a prime tourist region. The distress of being evicted or having to move within accommodation so that others could enjoy their holidays was confronting for many residents – and was hard also for those managing the accommodation.

*...she was ringing people saying, “Can you cancel your holiday” or “Can you just change your room?” So that I didn’t have to change rooms and they would say “No, we’re not cancelling our holidays. No”. And so, she was like “I’m so sorry. You have to go out to go into another room. The people won’t change”. [NSW089]*

In a few examples there were housing situations had been made worse due, in part to avoidable factors and decisions that could have been made at a different time.

*There was a fair few families that wasn’t flood-affected but were asked to move out, right in the middle, bang smack before Easter holidays to do mould treatment to their homes, and (name) goes “Well, where are they going to go? There’s no holiday accommodation, there’s no caravan parks because they’re all full with evacuation centres”. (location) hotels, motels, pubs, whatever they could think of, holiday accommodations, a fair few of them were asked to leave the holiday accommodations for travellers and the holiday thing but they’re all full. [NSW063]*

*We were out for six weeks; we were in the temporary accommodation for six-and-a-bit weeks because we couldn’t get the power back on [at property]. The miscommunication about getting power back on was insane. The insurance company were telling us one thing and then the power company were telling us another thing. [NSW011]*

The promise of a longer-term housing solution was giving some residents hope. Pod villages were being created in some parts of NSW to house people and discussions around them was mixed. For some, this was the goal. For others it was not such an attractive option.

*I continued my studies to help me with the trauma, keep myself occupied but we live in displacement, we’ve lived in motels, hotels, cars, sides of the road, but now, this is the longest we’ve lived in displacement and waiting for pod allocation hopefully in the Ballina area next year. [NSW104]*

*As I said, they did offer me a pod in the village. I don’t want to live in a ghetto. [NSW070]*

The survey did not specifically ask about temporary housing or moving around, but it did address issues around residents’ current living conditions/location, and the condition of their flood damaged homes, where relevant. These questions are included in the survey-driven theme section on Housing – modifications, reconstruction, and adaptations.

## Policy implications

Findings support a need for proactive recovery planning at local, regional, state, and national levels.

The challenge of finding satisfactory housing solutions for flood-impacted residents is overwhelming, especially given the scale of the flooding and the scarcity of available housing pre-flood. The situations described in the example quotes were not uncommon, although several of the issues were encountered more in NSW, and the Northern Rivers area specifically. As time passes, people rebuild, and the work of the Northern Rivers Reconstruction Corporation/NSW Reconstruction Authority moves forward, some of the immediate pressures will reduce, but for those with an ongoing need for good quality housing many of these issues will persist.



Although the housing crisis cannot be fixed easily or quickly, the processes, policies and practices around temporary housing can be improved. It is important that departments tasked with finding temporary accommodation find additional ways to secure accommodation for longer periods to provide more stability for individual residents and families. There will be many lessons from the Jan-Jul 2022 floods experience – at the time and into the future. It is essential that those lessons are captured and critically reviewed. These situations will be faced again in the same and in new/different areas. Any approaches and improvements that work to keep people connected to their communities, jobs, schools, that provide stability, safety, and security and keep families (and their pets) together, and that are centred around the person/family – so they can feel a degree of control over their lives, will be incredibly valuable.

There is more that can be done, in peacetime, to build relationships with accommodation providers, e.g., the tourism industry, Airbnb/Stayz, housing associations and relevant peak bodies. Working together and finding ways to agree fair models for compensation and approaches that prioritise the needs of disaster survivors over tourists will really help in future disaster situations. There is also a need to support those working in tourism, in people-facing roles. Residents have told stories about their experiences with receptionists and accommodation managers who have gone above and beyond to be kind and try to help them (sometimes successfully and other times not). Dealing with distressed and traumatised people is not business as usual.

## Disaster opportunism

This theme relates to various ways flood-impacted residents feel that others are taking advantage of their situation, and the disaster situation generally. Examples of this have been included within several preceding themes.

Typically, this relates to perceptions of financial opportunism, where institutions and individuals are directly making money out of the disaster. It also relates to the looting and stealing that has been experienced. This is another area where the scale of the flooding and supply and demand dynamics have shifted to create opportunities.

Examples of perceived institutional opportunism have been covered as part of earlier insurance themes. Local councils were felt to be insensitive with fines in the early post-flood period, as this resident outlines.

*...after two days of being with three dogs floating on a bed – two days in water, I finally get my dog to the park at (location), and that's flooded as well. It's the only spot that I can see that's where to be, and the council fine me for a dog off-lead ... and I've got nothing. I'm just out of the disaster going, "Run dog". ... I've never received a parking fine before, never received a fine before but from 8:00 am, they were out, fining people – not helping people. [NSW098]*

When it came to individuals making money, those involved in building and reconstruction were frequently mentioned. There were multiple stories of people being charged for work that wasn't done and examples, like the following, where residents were left feeling that the quality of the work being done was poor.

*So, they have missed multiple things. They are trying us on for - you know, saying, "Oh, no, we don't have to replace that." And we are going, "Well, yes, you do. You have got to. One - you have to build to the Building Code. Two - you have to replace like for like." They are going, "Oh, well, we don't consider - because of the quality of the material that's used on the outside of the house, we don't consider that you need to have sarking and..." - and, all of these things. When you build a house: you have a frame; you put sarking around; and sarking stops the moisture coming in; and then - that has to be done from the outside. [#Q2224]*

Again, and mentioned briefly in the temporary housing theme, the supply and demand for housing and other forms of accommodation led residents to feel that some private individuals were profiteering and/or taking advantage out of the disaster and their situations. Both in the private rental market and in provisions of



caravans in NSW, residents felt that insurance companies and the government were not getting value for money.

*So, then they found us another accommodation which was in (location) which was basically a giant shed on a property where the woman I think was charging \$3,000 a week... no, more, it was like \$19,000 for three weeks this woman charged the (insurance company) and they paid it... they paid this ridiculous amount of money for us to stay in a cement shed where the mattress was ripped, the bedding was mouldy, the kitchen literally barely had cupboards or drawers, there was no door on the toilet. It was disgusting; I slept on the floor because the bed was so revolting. This woman then went and put it on Airbnb... I mean on realestate.com afterwards and it was \$2700 a week to live in a tin shed... Yeah, because she knew someone's insurance would pay. Mate, this is the stuff that needs to get captured in your research because there is evil arseholes around here that will just milk a situation like this. Honestly, they know the insurance are paying it and then this woman was just next level. [NSW098]*

*The government is paying a privateer for this service for the caravans – and it's like a "GIVIT" service, so if you need a cup, they don't store them, they have a cup in Joe's house that they're going to bring to you now – same with the caravans. That's what they do, and I find out yesterday that they're paying \$114 a day, per caravan, per site to a privateer, and then the people that are renting them out, and they even said... I said, "Oh, God, it would be worth buying a few caravans", he said, "Mate, I've had people buy 20" – brand new caravans. You're getting \$700 a week back on rent. It's not going to take you long to pay your bloody caravan off, a \$20,000 caravan. [NSW053]*

In the two housing examples above, the individuals reportedly making money from the system, were doing so within certain rules, however reasonable. There were several greyer areas though when it wasn't clear whether situations were stealing or 're-purposing'. Either way, the residents were left feeling abused and disrespected. Scavenging in the piles of people's belongings on the street has already been mentioned, but there were examples of more sanctioned scavenging occurring during strip outs.

*Then I had light fingered third party...people who decided that my very expensive taps and my very pretty wall lights that were nowhere near floodwater were very nice; and they would take them home. And when I questioned this, the assessor has now told - he said to me, "Oh, but that's just like an unwritten law; that when they come to do a strip out, if they find something that they like, they can take it"; because insurance is going to cover you and give you a new one. And I'm going, "But hang on, you can't buy those anymore". These were expensive items that are no longer made by the manufacturer anymore; so, you can't replace them." They didn't care...And one of them was a plumber; and he was very happy to tell me that my very expensive (brand) tap... was going to either his father's place or his mate's. [#Q2235]*

Certainly, some behaviours were blatantly illegal and antisocial. Fraudulent claims were being made, and looting had taken place, not just from people's flood-impacted houses after the floods, but in one example below, malicious damage and stealing during the flood. Such behaviours were distressing to residents and communities and would have been bad in normal situations. The fact these behaviours were being witnessed openly, and during a disaster, made them exceptional.

*...while the flood was happening, and there was wonderful people coming up-river, bringing food and water to all the people up from (town) right up to (another town), I was noticing people with their boats were ramming the windows and looting and even the people who were (stranded) on (location) were encouraging their children on paddle boards to break into that building... So, those things kind of worried me and I was yelling out to people, you know, "I'm watching you. Go away" [NSW068]*



*We've heard some really terrible stories of businesses getting broken into multiple times afterwards and like me getting scammed with my back home grant, some businesses getting scammed, and you know, like Centrelink letters – we've had 20 letters in the mail for people who don't live here trying to claim the benefit, the Centrelink disaster relief. [NSW107]*

Finally, and in many ways harder for flood-impacted residents to talk about, were the more subtle forms of opportunism that were happening in community, where unaffected (or maybe less affected) residents were felt to be taking advantage of the support intended for the more needy. Mostly these comments were couched, not in terms of the resident being interviewed missing out, but in their concern for others in the community with greater need missing out, due to selfishness of others.

*...and (it's) really distressing when you see people who haven't flooded at all, they've got their hand out. We know people who were on a hill, and they were at the night... we had a free barbeque night that the Lion's Club put on and all that, and they gave us all these vouchers and these people were lined up. They haven't lost a thing. They were on a hill. They didn't lose a thing; they were stuck for a couple of days. Why are they taking all this stuff when people really need it? There's a lot of that. I know another guy, he lives on a hill, and he put in for the \$15,000 grant because his fence got wet at the bottom of the hill, on a farm. That is so wrong. It's people like that that stop people who really need it getting the money. They need to be looking at pictures. There's so many aerial shots out there – why can't they look at a picture of this guy's property and say, "Well, mate, you're 200 metres in the air. Why do you need money?" His fence is not destroyed or anything; it only got water over it. It's a wire and wood fence for God's sake. That sort of thing really gets up your nose. [NSW026]*

The survey didn't directly address issues of financial opportunism, although looting was mentioned in a few areas and questions with reference to looting are covered in the clean-up theme, and the later survey content themes of sheltering.

## Policy implications

The net impact of these 'opportunism' examples for flood-impacted residents was mostly emotional - frustration and anger at perceived injustices, disappointment in people, and an erosion of trust in experts and institutions. There are some troubling issues here for a range of stakeholders. The scale of the flooding, the urgency of response, and the workload required to audit, supervise, and control these situations are challenging. No doubt, if these reports are valid when investigated, the more serious and systematic issues will be reviewed (if not already). Nonetheless, perceptions of individuals and organisations exploiting the system do have the potential to damage trust.

It is important for the organisations concerned to be aware of these perceptions and work to reassure communities about the integrity of their decision-making, processes, and practice. Listening to community concerns and experiences, reaching out to communities to get feedback on what has occurred, and showing a commitment to follow-up reports of profiteers, scammers, looters, etc. will help restore trust in organisations. Stakeholders (including the Police) need to review their practices where poor behaviour has been able to occur unchecked or undetected and find ways to avoid it happening in future. Insurance companies need to audit work that has been done, follow-up complaints, and rectify/negotiate remediations with their suppliers/trades etc.





## Recovery fatigue

This is a concise, but important theme to raise in this policy-focussed report. At the time of the study, 6-7 months post-flood in some areas the community efforts to support recovery were still ongoing. Community-based organisations, e.g., neighbourhood centres, community associations, Community Resilience Teams, and informal groups of community members – were all running on volunteer effort and were feeling fatigued<sup>21</sup>.

Most, if not all, residents interviewed commented on the incredible support and hard work of ‘the community’ in the post-flood clean-up and recovery. However, the need to sustain efforts over an extended period, again largely due to the scale of the flooding, was taking a toll on those groups that were still operating and had been a challenge for many that were either winding down or had stopped.

In the early days, there was a great influx of volunteers and plenty of energy. The challenge then was to help coordinate efforts and manage donations. However, over time, volunteers left and returned to work, leaving smaller groups of volunteers to continue supporting the community and/or flood-impacted community members themselves having to step in to help whilst still managing their own challenges.

Within the Indigenous community there are some remarkable stories of community leadership and organisation, and generosity that provided support for Aboriginal people, especially, affected by the floods, as seen in the Northern Rivers region with key organisations such as Koori Mail, Koori Kitchen and JALI. Some groups, often those that were well established or had been through disasters previously, seemed able to function well and were able to either pace themselves, or scale down. Others were finding it harder, with occasional reports of in-fighting between groups. Those operating in areas with strong ongoing needs in the community and in areas with greater general vulnerability were also finding things getting harder.

*whenever we really, really needed something, somehow it arrived, and it was all just through word-of-mouth and people’s loving hearts. It was amazing, just absolutely amazing. You’d think it was a really high stress time, but it wasn’t, everyone kept happy. I heard the other day – just for a cock-a-doodle-doo moment – this fellow who was in touch with all the hubs said there was only one hub that he was aware of that didn’t sort of self-implode at some point and that was us. That was us. I’m so proud. We just didn’t get stuck in the problem; we were all just very solutions-focussed all the time and we just set people to work. [NSW052]*

Issues of volunteer burn out, a lack of support and training for communities to fulfil these various recovery functions was also noted by some working in the area.

*We here have to have... like almost do an informal needs assessment to make sure we’re actually helping people who need it, but we can’t qualify people, whether or not they deserve to have help, so we end up helping everyone which is okay. I suspect it’s as low as five percent of people are taking advantage of that and that’s okay – we can wear that, but it would have been really useful... I mean, the first month, I think we did 10,000 visits through the door in a month. We’re now at like 200 or 300 a week so it’s quite different but it’s a huge burden, and a huge burden of responsibility to make sure people who needed help got it but there was no help with that.. ...Yeah, really stressful, and you know, all the volunteers that are burned out and have vicarious trauma as a result. Yes, really big impacts on the economy – it’s huge, amidst everything else. That just seems to be another layer which is unnecessary. [NSW080]*

*The only thing I’d say about that of course it does have its limits and people get tired and resilience only goes so far, and you know, after a while people have to get back to their normal lives, especially if they’ve given up a job to do this. So yeah, one thing I’ve noticed is that after what was probably about 12 weeks – I don’t know, I haven’t got the official figures but it might*

<sup>21</sup> Mostly this was noted by the NSW-based team on the ground during fieldwork in the Northern Rivers area. The team included interviews with several community leaders and people who had helped to organise community recovery efforts.



*have been 12 or 16 weeks that all of those hubs that were set up were dismantled and because people couldn't sustain that level of volunteering forever and so that does leave me wondering how people are still being supported now when their situation wasn't actually changed, they still don't have a home to go to, they still don't have a livelihood. So where is the support for those people now? [NSW099]*

Many of the community hubs that were still operating had some paid staff to assist but it was clear that there was a need for more resourcing and support. The best way to manage community hubs, and similar community-led functions was a topic of conversation with residents and community leaders alike. At least three different models of approach to community-led recovery and resilience were raised, and the resident (below) mentions a move to have centralised, and presumably better resourced hubs.

*And the other thing I would say is that we don't want centralised hubs. I mean (local council) set some hub up on the other side of (town) somewhere and you know, you could all go there now because that's where it [supplies/food] all is, and we'll put buses on, and you can go from (location1) or (location2) where we are and spend three hours on a bus that takes you there and pick up everything you want. I don't know how you carry fridges and stuff back on the bus and then three hours on a bus back to where you... no, it doesn't work that way. I mean, this local hub has proved how invaluable local organisations and volunteer organisations are. They need funding, they need it badly. [NSW106]*

As already noted, the Community Responder theme included content from the survey that dealt with community volunteering and interest in training for future roles. Many respondents had volunteered their time post-disaster, but continuing to give time for free for long periods is a challenge for many, and probably requires a range of situational/contextual factors to maintain and sustain motivation.

## Policy implications

As noted earlier, residents are keen to support locally based initiatives, and there is a need to investigate approaches to engage local communities in disaster resilience, response, and recovery. Issues such as group dynamics, team functioning, collective decision-making, and the sustainability of community structures are ongoing challenges when it comes to making investment decisions, e.g., committing funding for community training, equipment, and other resources.

The most fundamental requirement from stakeholders (local council, recovery organisations) is that local volunteers, community hubs, and neighbourhood centres need proper resourcing to keep going. Stakeholders need to meet with people in these groups to find out what they are doing, what they no longer do – but wish they could (and why), and what they need.

It is critical that there is learning from previous disasters; identifying what does and does not work in terms of community hubs and networks of volunteers, and gathering information in a way that informs planning to anticipate the kind of needs that emerge within a disaster-affected community at different stages after a disaster. Organisations working in disaster recovery need to ensure that they have either captured or have plans to capture the good and the poorer practices that occur over time and try to understand who key players are/have been and find out how they have motivated the community to keep responding over time and what challenges they have faced. There is a strong case for local community workshops and community-building events to bring people together and hear about their experiences.

An additional insidious problem that needs considering is the potential loss of capable and experienced volunteers who may not want, or feel able, to volunteer next time due to burnout, fatigue, interpersonal conflicts, or other factors following their prolonged involvement in the recent floods. In situations where people have given a lot of their time and energy, it is not unusual for them to harbour a level of resentment if things have gone on for too long, or if they have hit snags or had acrimonious interactions or clashes with



others. It's imperative for relationships to be repaired when the timing is right. Hopefully this can happen at the community level, but local 'others' – SES, Local council, NGOs – can also help by engaging with groups and bringing them back together, celebrating their successes and listening to their needs and issues.

## Infrastructure, planning and maintenance in sensemaking

The final theme considers the perceived role of infrastructure, planning and maintenance activities on the flood impacts experienced by residents. When reviewing and making sense of what happened in the 2022 floods residents would use the heuristics mentioned earlier, to compare what happened to their previous experiences and look for salient examples of things that may have contributed. This often included considering the impacts of changes in the environment, such as local building/development, damage caused to drains or changes to waterways, the construction of roads, the role of dams and how they were/were not managed, and other structures such as weirs and levees. Stormwater drainage and maintenance was mentioned in the insurance theme and is central in this theme as a perceived significant contributing factor to flooding. Other activities related to river dredging and the maintenance of lake entrance channels.

A range of readily identifiable structures and projects were mentioned, specifically, the M1 motorway in the Northern Rivers, especially near Woodburn, levees around Lismore, the Wivenhoe, Somerset, Warragamba, and Woronora dams, and the lack of dredging/clearing of the Richmond River and the entrance channel in Lake Macquarie.

Changes to the flow of water across floodplains was a major concern with levees and road building.

*I want my home cleaned. I want my home back. I like it here, but because of the man-made levy banks – if they took away the levy banks and took back the industrial plan and turned the flood plain to what it was, and we had an actual flood plain, then I'd stay, because there was never an issue here before; the water just rose up and down very evenly. This is not floodway; floodway is different to flood plain – this was a flood plain with no current. This is now a floodway and it's been built into floodway by the Council and the state government, and I think they should be sued. [NSW012]*

*...we've got the new M1 along the coast that is acting like a dam wall. Just before, you know, it was just national park... all tea tree swamps and things. I mean normally when water goes in there, it gets sheltered and slowed right down and the tea tree just cleans it, but then goes out to sea slowly but now, there's this huge motorway and honestly, they cut corners. It was cheaper to just not allow enough for the flow of the water. So now, the water's stuck there and goes sideways and that's why you see Woodburn and all those places along there flood to that extent. No one... it's unbelievable. No one remembers anything like it. [NSW077]*

In most cases the local council or state government were blamed for the construction or lack of maintenance. Sometimes, though, the focus of blame was less clear.

*...the thing is that the levees are damaged from '21 and despite these poor people trying their best to initiate something, there's a lot of buck passing. There's buck passing between the landowners and the council, and nobody to this point, and I don't know where to look for the information, but we need the information, but there's no one to go to that will speak to you. Who is responsible for the levees? No one seems to know. The landowners say, "Oh no, we're not responsible for the levees. They're not ours", and the council, "Oh no, we've got nothing to do with levees". [NSW010]*

In attributing blame to local councils, most people pointed to a combination of mismanagement and a lack of funding, or an unwillingness to spend money on the issue, rather than any lack of awareness. Outsourcing of



certain services to private companies was also mentioned as contributing to a decline in quality. Some also felt there were political motives behind neglecting their needs.

*Where I am, it is pretty avoidable but due to obvious incompetence by the council and numerous other details, basically the lake water comes back up through our stormwater and once the lake level comes up about that stormwater pipe, none of our stormwater gets out. They turn our sewerage off because they don't want to pump the flood waters back through all their pipes and valves and so we have no sewer or running water for as long as it takes for the water to drain down below the stormwater pipe, and then away we go, not to mention everyone's sewage flowing into the water and yeah, it's just a right mess that's actually very avoidable. They've just got to spend some money on it. [NSW017]*

*Also, in our area, ten years ago they suggested 12 backwater valves; and I think they only put in one/two. So, our area has an independent councillor who is fantastic; but the council don't like to fund our area as much, as punishment [for voting in an independent]. So, we were very sort of under-resourced in that way. So, a lot of the flooding here was backwater flooding, in the actual river flooding. [#Q2216]*

In the context of dams, where mentioned, there was an expectation that some dams would be used to manage water flow, hold back or slow flow during flooding events, and decrease the risk of flooding downstream. With others, known to be for water storage, not flood mitigation, there was frustration that overspilling would aggravate the flooding downstream, and others were hoping that a change of strategy would have been implemented.

*At the time of buying this house we did our own research. We didn't think we are still at risk because there was no Wivenhoe dam at the time of previous floods, and we thought government must have taken some measures to avoid such disaster again. The event seemed like a rare event at that point in time. [#Q2218]*

*Everybody agrees that the dam definitely overflowed and there's this conversation around why, there's a lot of anger about the management of the dam and given the amount of rain that we have been having, surely, it's foreseeable that this could be a problem and why aren't they strategically releasing water to relieve the pressure in the dam. {NSW024}*

As mentioned, there were numerous mentions of local development overpowering local stormwater drainage capacity or changing the flow. In some cases, there were comments about development and infrastructure also impacting evacuation options. Another resident was keen to suggest that modifications to the highway could be used to assist, by providing additional evacuation options when lower-lying local roads were flooded.

*We always had a plan: we have to evacuate, take the laptop and the red folders. Unfortunately, council had approved some development further up our road and it channelled water down our street, so we were cut off two days before the river came. Because of the construction, they had put up metal fences [behind property], so we could have taken the panels off our back fence, loaded our cars up and our boat and taken something with us and got out but that wasn't an option because of the construction. [NSW003]*

*And if they did put an emergency gate entry onto the M1, we definitely probably would have used that. [NSW026]*

This final quote summarises some of the underlying sentiment in this theme. First, the certainty of a link between the infrastructure/development/maintenance issue and the extent of the flooding and second, a sense of resignation, in being powerless to change it any time soon.

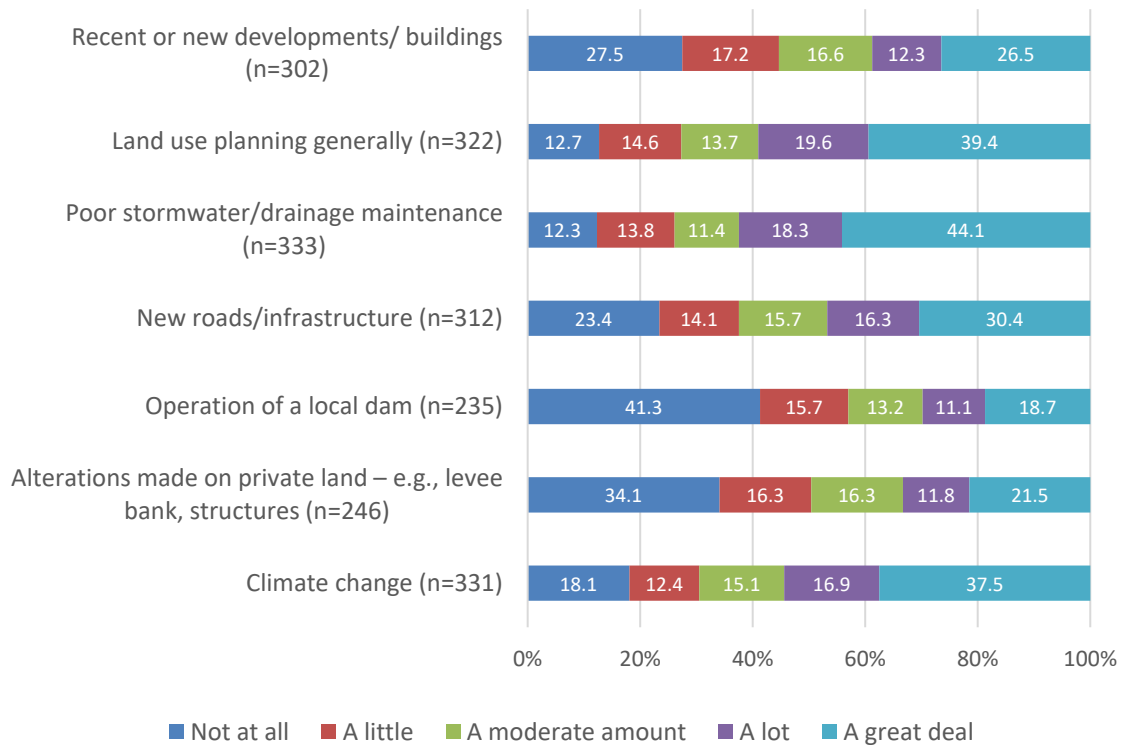
*No, well the main thing is that we used to be on the highest bit of land and now we're on the lowest bit of land, you know, because of all the levee banks and everything. It's a bit strange*



*how that happens, but anyway, and we won't be compensated for that. {NSW054}*

Sensemaking is an important process that helps provide meaning to collective experiences, especially those that are ambiguous or confusing. It can be an individual, or social process, i.e., groups can share ideas and come to a collective understanding, as well as individuals. Helping to make sense of an event, especially something as significant as a flood, by identifying plausible contributing factors can help rationalise what has occurred, and is also relevant to the framing of blame, which is a significant feature in this theme as well.

The survey included a question about the perceived contribution of a range of infrastructure – dams, levees, roads, and stormwater/drainage, and local development to the flooding. Data for this question are shown in Figure 17.



**Figure 17. Attribution of a range of factors to flooding. Total sample. Not applicable responses were excluded from responses, so the total N ranged from 235 to 331)**

Clearly, some of the infrastructure issues listed will be localised, such that they either don't apply to as many people and/or when they are applicable within an area their (perceived) impacts are unlikely to apply equally to all residents, e.g., levee banks. The data clearly show that poor stormwater and drainage maintenance and general land use planning issues are felt to be responsible for contributing to the flooding respondents experienced, with 62.4% and 59.0%, respectively feeling these contributed a lot or a great deal.

A series of chi-square tests was undertaken to explore associations between the attribution of infrastructure blame (a great deal + a lot vs other options) with state, age, and gender. The only significant associations for state were for climate change, with those in NSW more likely to attribute climate change to contributing to the flooding than those in QLD (P<0.05, \*). Relative to males, female were more likely to report stormwater (P<0.001, \*\*\*), new roads/infrastructure (P<0.05, \*), dam operations (P<0.05, \*), and climate change (P<0.001, \*\*\*) as contributing to flooding. No statistically significant associations were found with age.



## Policy implications

This theme focussed on the attribution of various structures and actions to exacerbating the extent of the flooding experienced. Both the interview and survey data suggest that stormwater/drainage and land use planning were regarded as major factors, along with climate change.

The attribution of responsibility and blame are central topics in political science – and these link to voting behaviour. In disaster science and psychology, blaming ‘others’ is a recognised cognitive process during the recovery phase of disasters, and is linked to unhelpful emotional states of anger and resentment<sup>22</sup>. The decisions and actions of governments (including lack of action/s) is central to the established narrative around ‘no natural disasters’ – where some hazards are natural and unavoidable, such as floods, but only become disasters due to human actions and decisions<sup>23</sup>. Identifying people and organisations to blame when their (in)actions or decisions result in harm, mobilises activism. For policy makers and others in authority, the implications are clear.

Local councils have been directly blamed for poor maintenance of stormwater drains, and both local and state governments have been blamed for allowing new developments (and other infrastructure projects) to go ahead without sufficient consideration to their contribution to floods. A perceived lack of attention to maintenance, dredging, management, operations, and planning are felt to have contributed to the harm experienced. These attributions usually result in anger and frustration within communities, which can complicate future engagement and interfere with their recovery.

It is essential that local council, state government and other related groups acknowledge the concerns of communities, engage in direct in-person dialogue, review the evidence (independently if required), and report back with openness and transparency. Remediation and/or actions, e.g., changes to processes, regularity of maintenance schedules, etc. need to be reviewed to identify the most effective and efficient approaches to take. Any changes or action taken should be promoted so that communities are aware of these changes and/or additional things that are being done or planned to mitigate future disaster risk.

Residents are sentinels and often good sources of information about drainage issues. Their feedback should be sought and acted on, as appropriate, as part of the broader assessment of the most efficient ways to manage future flood risk, as noted above.

In the planning area, local councils and planning departments need to be more aware of the impacts of approving developments in flood prone areas, or upstream catchment areas.

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<sup>22</sup> Mazepus, H, van Leeuwen, F. Fairness matters when responding to disasters: An experimental study of government legitimacy. *Governance*. 2020; 33: 621– 637. <https://doi.org/10.1111/gove.12440>

<sup>23</sup> Raju, E., Boyd, E. & Otto, F. Stop blaming the climate for disasters. *Commun Earth Environ* 3, 1 (2022). <https://doi.org/10.1038/s43247-021-00332-2>



## Overview of additional policy-relevant content areas driven by the survey structure

As mentioned in the overview section, this second data section is focused on five content areas determined by the structure of the questionnaire. The preceding themes were driven by the qualitative interview data and were salient issues common to many residents and were selected largely on that basis. The themes, or content areas that follow have been selected because they weren't addressed – or were only partially addressed - in the qualitative themes and were felt to be of importance to key research stakeholders and in areas that have important policy-relevant implications.

As mentioned earlier and used in some of the earlier themes, the quantitative survey data allow for broader trends in the data to be identified and for statistical analysis to be undertaken to identify significant associations between variables.

The five survey-driven content areas that follow are described briefly below.

<b>Preparedness</b>	Exploration of residents' preparedness for flooding, why some were unprepared, and what actions were taken.
<b>Information, warnings, and trust</b>	How residents first found out about the flooding, their trust in sources of information, the timeliness of warnings, who they received warnings from, problems with accessing warnings, and their preferred source of information in future.
<b>Sheltering and rescue</b>	Exploration of the experiences of those who stayed in their homes during the flooding. Why they chose to stay, problems encountered, and information about help with either relocation after flooding, or emergency rescue.
<b>Housing – modifications, reconstruction, and adaptation</b>	Information about modifications undertaken before flooding, current living situation and conditions, challenges in reconstruction/repairs, and future plans for modifications and/or moving on.
<b>Sources of support and recovery</b>	Who residents received support from, and how satisfied they were, and how they feel they are managing in their recovery.



## Policy-relevant content areas driven by the survey

### Preparedness

Preparedness actions are important to minimise damage and losses, and a core activity that response agencies and local council are involved in promoting before floods. The survey included a set of questions about flood and general emergency preparedness and actions that respondents took ahead of the flooding.

Respondents were asked how they felt about their level of preparedness at the time the flood happened. Their responses are presented in Table 6.

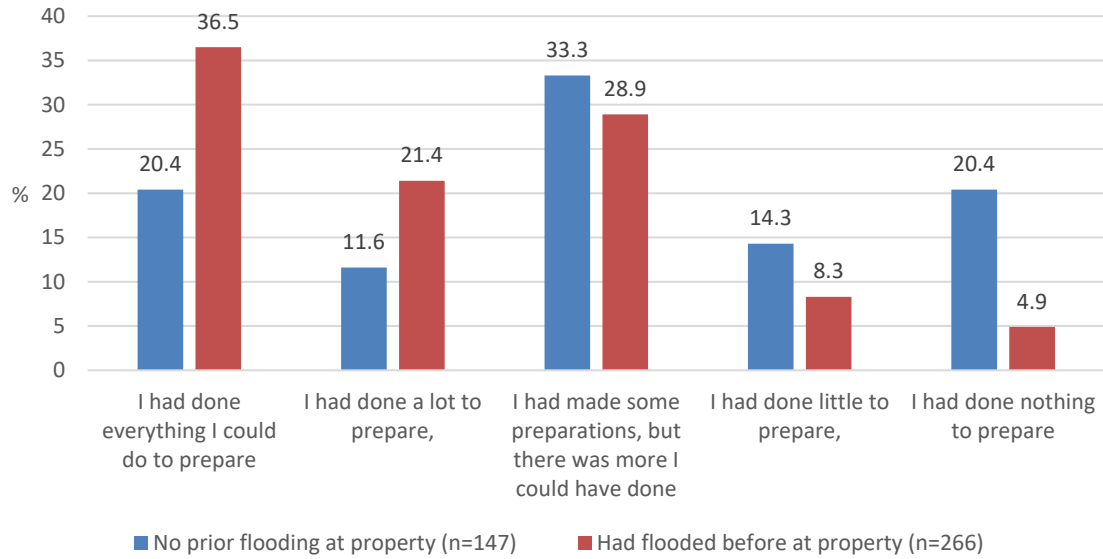
**Table 6. At the time the flood happened, which of the following best describes your feelings about your level of preparedness?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
I had done everything I could do to prepare	96	34.4	31	23.1	127	30.8
I had done a lot to prepare	53	19.0	21	15.7	74	17.9
I had made some preparations, but there was more I could have done	78	28.0	48	35.8	126	30.5
I had done little to prepare	25	9.0	18	13.4	43	10.4
I had done nothing to prepare	27	9.7	16	11.9	43	10.4
Total	279	100.0	134	100.0	413	100.0

Overall, around 20% of respondents felt they had done little or nothing to prepare, and around half (48.7%) felt they had done a lot or everything they could. Preparedness data were split into two categories, as described in Table 1 early in the report, with the first two categories coded as 'higher preparedness' and the remaining three coded as 'lower preparedness'. Respondents in the NSW sample reported being more highly prepared than those in QLD ( $P < 0.01$  \*\*, NSW 53.4% c.f. QLD 38.8%).

The preparedness data were explored using the block of variables detailed in Table 1. Statistically significant associations were found with previous flood experience at property/location and the time available to prepare for flooding. Those with prior experience of flooding and those with longer to prepare (24hr+) had higher reported levels of preparedness (both  $P < 0.001$ , \*\*\*). The relationship between prior experience and preparedness are shown below in Figure 18.

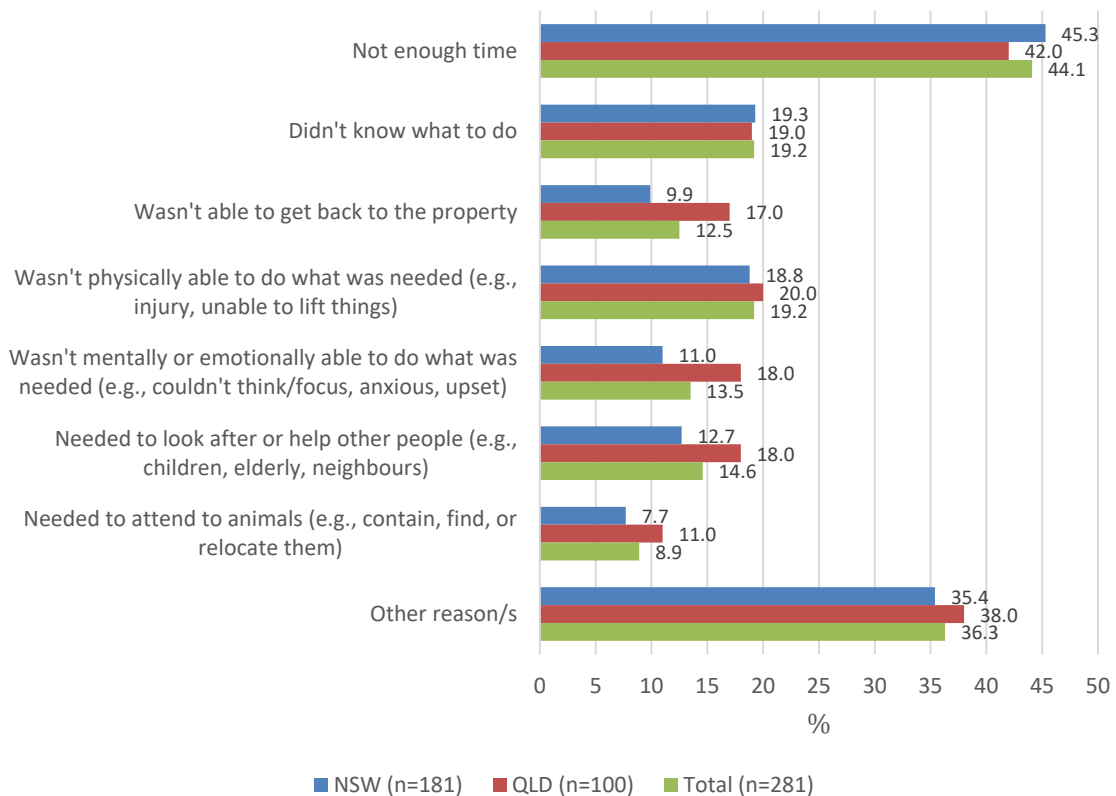




**Figure 18. Levels of preparedness at the time of the 2022 flood/s. Comparison between those with and without experience of prior flooding at their property before 2022.**

From the data in Figure 18 it’s clear that those who had experienced prior flooding at their property rated their preparedness higher, more than one third (36.5%) reported that they had done everything they could do to prepare, compared to only 20.4% of those who had not experienced prior flooding.

Those who were not fully prepared, i.e., excluding those who reported having done everything they could do to prepare, were asked why they weren’t able to be fully prepared. Figure 19 summarises these responses.



**Figure 19. Reasons for not being fully prepared (multiple responses permitted).**



Residents reported a number of reasons for why they were unable to be fully prepared. Time has already been shown to be an important factor, and was the main reason given. Clearly there were physical issues that impeded preparedness activities, as well as emotional concerns and the need to attend to others. It is concerning that around 19% of respondents reported that they didn't know what to do.

The 'other reasons' category was endorsed by more than a third of respondents, so this was explored further<sup>24</sup>.

Approximately 30% of the open text comments referred to aspects of underestimating the risks and not feeling there was a need to prepare/prepare more than they did. Some had taken action to move things up higher to a certain level but weren't expecting the water to get higher still, others didn't expect the flooding to be as bad – or worse – than flooding in previous years. Some examples include:

*I believed we had done enough: moving books, furniture, and possessions upstairs and out of harm's way on Friday and Saturday but was not expecting the supercell which hit Brisbane on the Sunday.*

*Denial at the extent it would impact.*

*Because the flood was not expected to impact our home as we had been there for 3 previous floods in 14 years but this one was exceptional.*

Another third of comments related to a lack of general awareness that flooding could happen or was likely to happen, either due to a lack of warning specifically or just not knowing it was possible. Some example comments are below.

*No early warning that the flood would be catastrophic.*

*New to the area...Wasn't sure how fast and high the water would rise. had to get horses out.*

*We were first to flood before any warnings etc. Were unsure when to commit to action.*

*We had no idea it would flood, there was no warning for this area or Brisbane in general at that point. As it had not come into the property in 2011, no one thought it would be bad in this area!!!!!!*

The majority of other comments were reiterating some elements covered in the main options, such as health issues, mobility, or strength due to older age, or other infirmity, injuries, and other factors that made it hard to take protective action. Examples include:

*Was pregnant at the time and couldn't do the heavy lifting required. Also didn't have the vehicle space to load things to remove from property.*

*I am reliant on support workers to access the community, and due to the rising waters in outer suburbs the supports I had were unable to physically get to me.*

*My family of 5 contracted COVID the day before roads became cut off, so we couldn't get to any shops to get supplies as we were forced to isolate.*

A few respondents mentioned other reasons, such as reassurances of others – comments made by political leaders, local SES telling one person the flooding wouldn't be as bad as a previous year and denying them sandbags. One person reported they had only moved in on the day before. Another made the following comment about the lack of information available.

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<sup>24</sup> Some exemplar comments are provided here and for open text responses of 'other' categories for some survey questions later. These responses are typically short and provide insights regarding the responder's context and interpretation of the question. They also provided feedback on how respondents are reacting to questions, e.g., if asked to provide one response, sometimes 'other' is chosen and multiple responses or explanations are provided. At other times when a list of options is provide, 'other' is used to expand or combine that list of options. Example comments are provided to aid understanding and are generally not analysed further.



*You learn new things every time. I don't believe there's been any effort to document and share info about preparing with detailed info (i.e., Beyond just packing medicines and important papers etc.). There's a lot that can be done to minimise damage and to minimise the clean-up but there's no central source of info to capture all the lessons our community has learnt.*

As well as 'other' reasons, some further exploration was made of those who said they 'didn't know what to do'. Initial exploration of the data suggested that those in the NSW sample and those with no previous experience of flooding at the same property/location were more likely to report not knowing what to do, and those in the older age category (65+) were less likely to report this. Those who reported their preparedness at the time of the flooding as low, were also much more likely to say they didn't know what to do to prepare.

In this section of the survey respondents were also asked about 17 actions that they may have taken to prepare. These data are summarised in Table 7.

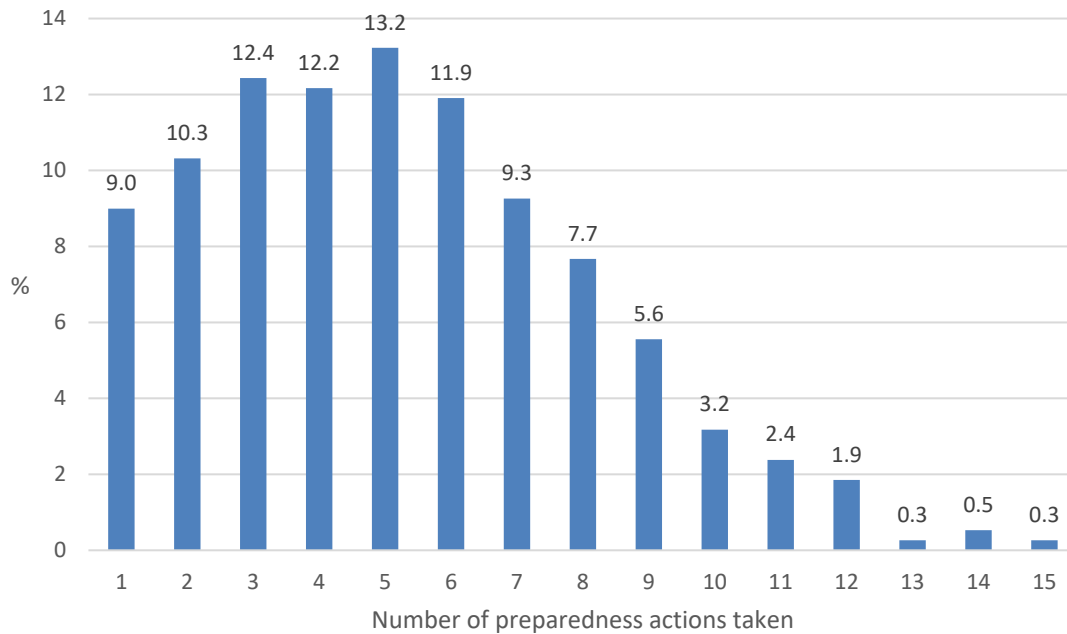
**Table 7. Actions undertaken to prepare, prior to the flood. (Multiple responses permitted, with N/A responses removed).**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Charged up cell phone, laptop, and/or other devices	205	80.7	92	77.3	297	79.6
Turned off electricity or gas at mains	53	25.9	24	23.8	77	25.2
Moved furniture, other possessions/stock higher up	141	69.8	56	58.3	197	66.1
Moved empty vehicle(s) to a safer location	135	70.7	55	61.1	190	67.6
Moved packed vehicle(s) to a safer location (e.g., with belongings, clothes, documents)	66	41.3	41	48.2	107	43.7
Moved pets to a safer location	75	51.4	42	55.3	117	52.7
Moved livestock to a safer location	30	62.5	9	29.0	39	49.4
Moved pumps from rivers/dams	19	34.5	5	19.2	24	29.6
Moved equipment to higher ground	67	63.2	20	38.5	87	55.1
Placed sandbags around house/doorways/garage	35	22.4	16	20.0	51	21.6
Placed sandbags over drains/in toilet bowls	16	10.2	3	3.7	19	8.0
Prepared an evacuation kit	86	45.5	40	40.4	126	43.8
Stocked up on food and water	140	59.3	60	52.6	200	57.1
Stocked up on personal medications/health products	124	56.1	62	54.9	186	55.7
Stocked up on items for babies and infants	13	31.0	5	20.0	18	26.9
Secured objects that were likely to float or cause damage	100	53.8	46	45.1	146	50.7
Relocated or secured waste containers, chemicals, and poisons	43	31.2	19	24.4	62	28.7

As can be seen from the data presented in the table, large proportions of the respondents had charged up their phones/devices, had moved furniture and cars, and stocked up on food, water, and medications. Relatively few respondents has placed sandbags over drains and in toilets or had turned off electricity or gas.

Clearly some actions were only applicable to a subset of respondents (small N), like baby/infant items, moving pumps in dams, etc. Only a quarter or respondents with babies/infants has stocked up on items for them, and only around half of respondents with pets and livestock has moved them to safer locations. It's possible that many people with pets were keeping them with them and either evacuating together or sheltering in place.

To look at these data differently a count variable was created to calculated the total numbers of preparedness actions people took. Figure 20 shows the distribution of results. The mean number of actions was 5.2, with a median of 5.0.



**Figure 20. Count of the number of preparedness actions taken by respondents.**

Due to some actions not being applicable for some respondents a recalculation of action counts was repeated for the five most common/universal actions, i.e., charging phone, moving furniture, moving empty car, stocking up on food/water, and stocking up on medications/health products. This was undertaken to allow for statistical analysis to be performed. With the new 'Big5' preparedness actions, the distribution was 1=17.4%; 2=20.7%, 3=28.3%; 4=19.9%, and 5=13.6%. The mean was 2.9, with 3.0 as the median.

A series of one-way analysis of variance (ANOVAs) were performed to look at relationships between the actions count and state and the Table 1 block of variables. The only statistically significant effects noted were for time to prepare, where respondents with more time took more actions ( $P < 0.05$ ) mean number of actions was 2.67 for <2hr; 3.01 for 2-24hr; and 3.35 for 24hr+, and with reported levels of preparedness, where those who reported as being more highly prepared had undertaken more actions ( $P < 0.001$ , \*\*\*), mean number of actions was 2.96 (lower preparedness) and 3.19 (higher preparedness).

Finally, in the question about preparedness actions taken, an 'other' category was included. Forty-seven respondents provided information in open text. Several respondents made comments about not being able to take action and others provided further information about things they did. A selection of these activities is included below.

*Arranged to stay with family,*

*cleared debris from creek,*

*bought extra pet and livestock feed,*

*cleaned onsite drains and waterways,*

*dug drainage trench from backyard to storm drain,*

*made stands to raise motorbikes,*

*had child picked up by relative,*

*monitored weather and emergency advice, packed up and moved in motorhome,*

*prepared boats with emergency supplies and secured them in a safe place,*



*purchased fuel for generator,*

*registered for early warning dam release alerts, secured vessel to mooring on long rope.*

A few respondents gave similar comment about digging trenches and managing rainwater as it fell, others provided more information about helping neighbours and ensuring that family members were either all together or all evacuated.

## Policy implications

This section summarised the preparedness data collected in the survey. There was variation in levels of preparedness and the protective actions undertaken, but generally, overall levels of preparedness appear quite high, with only 20% reporting very low levels of preparedness. Higher levels of preparedness at the time of the flooding were generally related to the amount of time that was available to act and to previous experience of flooding. So, with more than 60% of the sample having experienced flooding previously it seems reasonable that preparedness levels are better than might otherwise be expected for the general population. Other factors found to impede the ability to prepare included physical limitations – strength, health, taking care of others, and not knowing what to do. Clearly there are opportunities here for response agencies and local councils to assist with guidance and plans to help residents, who need assistance, make plans for support.

Some people who hadn't prepared, or hadn't prepared fully, either had underestimated the need to prepare or prepare for a higher level of flooding, or hadn't been aware of the need, or of the possibility of flooding occurring. Some attributed this to not having received warnings. Given the speed and severity of flooding in many places and more than a third of respondents never having been flooded at their property it is not surprising that many were unprepared or caught out being underprepared. Again, for response agencies and local councils there is a need to instil awareness of flood risk in those who haven't been flooded before, and data and personal testimonies from the Jan-Jul 2022 floods should be helpful for conveying the uncertainty of future flooding to those who may feel at low, or no, risk.

Many respondents had undertaken at least three preparedness actions – mostly charging phones, raising furniture and possessions, moving vehicles, and stocking up on supplies, but some other activities, such as blocking off sinks, drains and toilets, had been completed by very few people. The data provided here are useful for stakeholders to help them identify where more attention is needed in promoting certain preparedness actions. It would also be beneficial to review, with flood-affected residents, whether some of the actions undertaken had been useful in preventing damage/losses. Respondents were also able to identify other actions that they undertook. Some of these could be added to preparedness advice.

There is always a need for more community engagement and support for community emergency preparedness. Response agencies and local councils should prepare to source and share this survey information and build the skills and resources that people need to prepare appropriately for a future flood event. Specifically, provide workshops, online resources, hard copy materials, and training for householders to assist them in developing effective flood plans. The aim should be to instruct people in what they need to do, and then help them operationalise that information for their own home etc. This will also provide an opportunity to set people's expectations of what support they can call on during a flood emergency and what expectations are on them too.

Given the importance of social learning theory<sup>25</sup> (in which people learn from observation and symbolic modelling) and the emphasis placed on localised and contextualised knowledge for each community, there is an opportunity for local opinion leaders to share their flood preparation activities and plan i.e., model flood preparedness, to encourage others to improve their planning too.

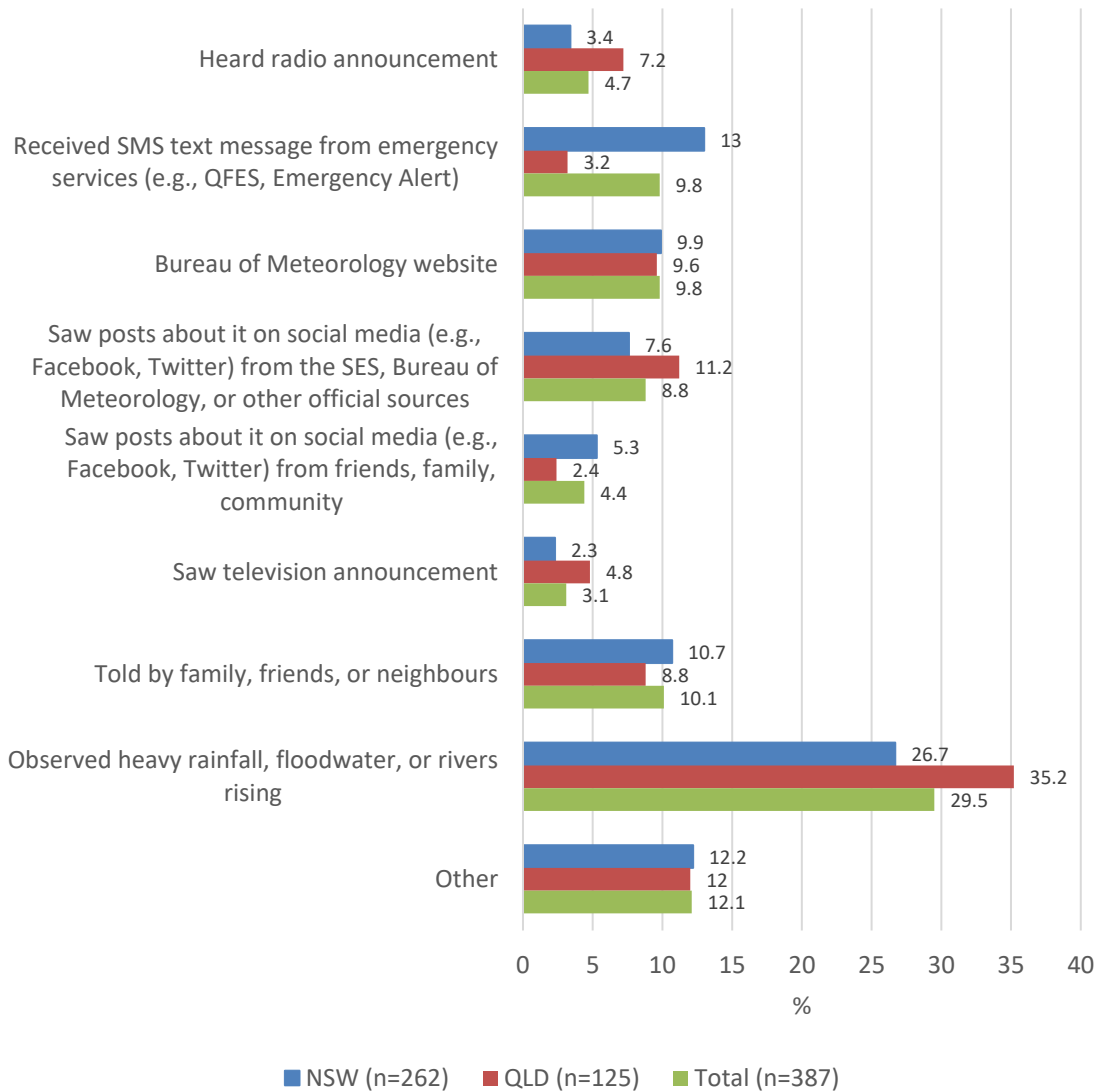
<sup>25</sup> Bandura, A. (2021). Psychological modelling: conflicting theories (Classic edition. ed.). New York: Routledge



## Information, warnings and trust

This second survey content area includes questions about how respondents received information, the sources they received information from, and issues in accessing information.

The first question in this block asked respondents about how they first found out about the flood. They were only able to provide one response. These data are summarised in Figure 21.

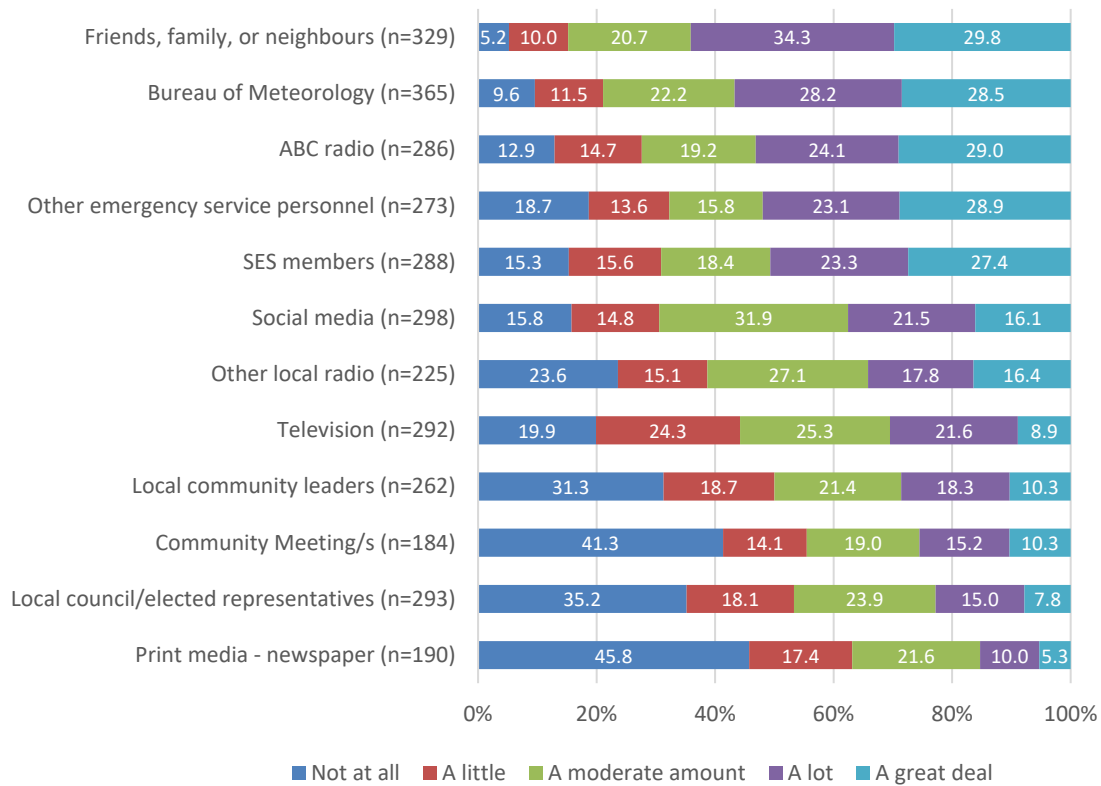


**Figure 21. How residents FIRST found out that their town or suburb was likely to experience flooding.**

A majority of respondents first found out about flooding via their own observations of rainfall and rivers rising. This appears to be more likely for those in QLD, with over a third of respondents (35.2%) selecting this option. Clearly SMS messages were used more in NSW in early alerts and other sources include official social media, the Bureau of Meteorology website, and word of mouth. Assessment of the ‘other’ sources, via open text comments, indicated that many people either said they didn’t get any warnings or that they found out via a number of sources. However, some mentioned Higgins Storm Chasing and other specific social media pages, and others mentioned seeing media coverage of other locations and knew the floods would be coming.



Respondents were then asked about their trust in different sources of information for understanding the likely extent and location of flooding. Figure 22 summarises the data for this question.



**Figure 22. Level of trust in difference sources for help in understanding the likely extent and location of flooding (n/a responses removed).**

Data in Figure 22 summarise responses, ordered by descending levels of trust (‘a great deal’ + ‘a lot’). Official sources of information, such as BOM, ABC, and emergency services are high on the list, but all are below family, friends, and neighbours. Local council and elected representatives were near the bottom in this list.

These data were collapsed for statistical analysis with ‘higher trust’ = ‘a great deal’ + ‘a lot’ and the other options combined forming a ‘lower trust’ category. These data were analysed by and within state and using the set of variables detailed in Table 1, using chi-square tests for responses concerning trust in BOM, ABC, SES, and Local Council/Elected Representatives only. Statistically significant results are shown below.

BOM	NSW	Those with previous experience of flooding had higher trust	P<0.05, *
	Total	Those who had more time to prepare (24+ hours) had higher trust	P<0.01, **
	NSW	Those who had more time to prepare (24+ hours) had higher trust	P<0.01, **
ABC Radio	QLD	Those with no previous experience of flooding had higher trust	P<0.05, *
	Total	Older respondents (65+) had higher trust	P<0.05, *
	NSW	Older respondents (65+) had higher trust	P<0.05, *
	QLD	Those who had more time to prepare (24+ hours) had higher trust	P<0.05, *
	QLD	Those who had lower levels of preparedness had higher trust	P<0.05, *
SES	Total	Women had higher trust	P<0.01, **
	NSW	Women had higher trust	P<0.01, **

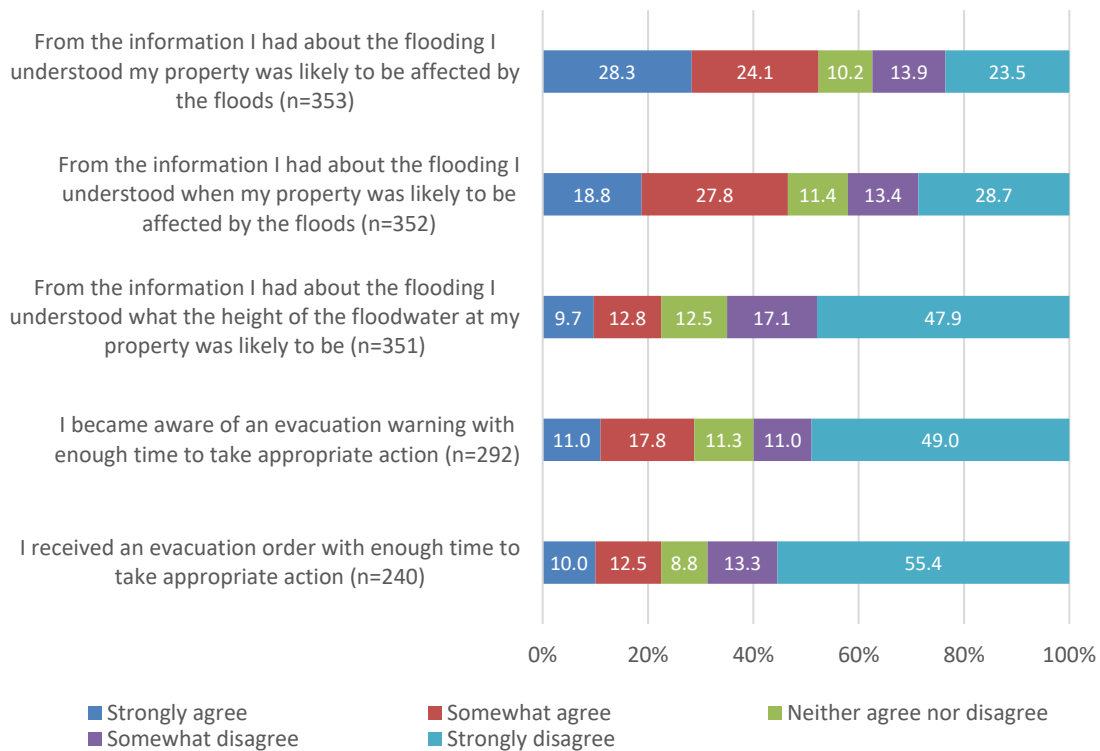


Local Council	Total QLD	Those who had lower levels of preparedness had higher trust	P<0.01, **
		Those who had lower levels of preparedness had higher trust	P<0.01, **

Only 12 of the 108 chi-squared tests performed (4 sources x 9 variables x 3 levels – Total, NSW and QLD) were statistically significant. For most findings there are some plausible reasons that might help explain associations, but these are only tentative. Those with more time to prepare had longer to evaluate official information and probably found BOM forecasts and weather information more useful and trustworthy, and those with previous experience of flooding were possibly more familiar with BOM information and could make more use of it. With ABC radio it’s possible that those with no prior experience of flooding and lower levels of preparedness were relatively more dependent on information, and older people were more familiar with relying on ABC radio.

The only significant finding related to trust in SES was the gender comparison, where women reported higher trust than men. It’s difficult to know why this would be the case but possibly men, in general, took on a greater responsibility in flood protective actions and responses (moving furniture, helping in rescue and resupply) and feel more frustrated by events, or simply that female are more trusting. Without pre-flood data it is hard to know. Local council in QLD would have had a more significant role in promoting flood preparedness, so probably QLD residents would be used to turning to local council for this type of information and that was more useful for those who were less prepared overall.

In the third question in this section, respondents were asked to indicate their level of agreement with a set of five statements about their understanding and use of warnings. These responses are shown in Figure 23.



**Figure 23. Level of agreement with statements about understanding and use of information and warnings.**

Data in Figure 23 show that around half of the survey respondents (52.4%) felt that the information they had about the flooding had enabled them to understand whether they would be affected by floodwater, and just under half (46.6%) felt it helped them understand when they might be affected. Far fewer (22.5%) felt that information had helped them understand the likely height of the floodwater and more than double that proportion (47.9%) disagreed strongly about information helping them understand the likely height of the

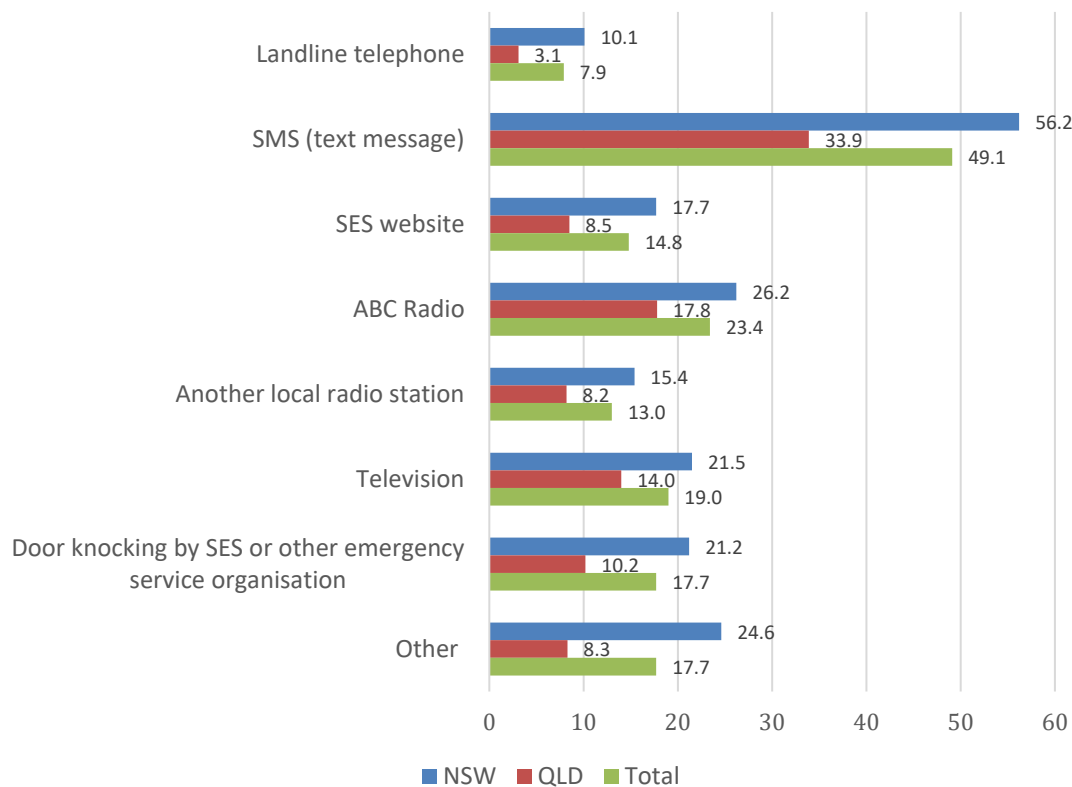




floodwater. Although evacuation warnings and orders applied to fewer respondents (N/A responses were removed), around half of respondents strongly disagreed that these arrived with enough time to enable them to take appropriate action (49.0% and 55.4%, respectively).

Responses to these questions were analysed by state and the block of variables in Table 1. For all the questions those respondents who had more time to prepare (24hr+) were more likely to agree with the statements and those who were more prepared were also more likely to agree with the statements. For the first four statements (i.e., excluding the evacuation order statement), those who had previous experience of flooding at their property were more likely to agree with the statements and those who had flood/storm water damage their home in 2022 were less likely to agree. There were no differences in responses between NSW and QLD respondents, or for males and females, or for respondents in different age categories.

Respondents who were at home, or able to get back to their property during the flood/s, were asked if they received an official warning from the SES about the flooding in their area via a number of different channels/approaches. Figure 24 summarises the responses.



**Figure 24. Routes through which official SES warnings were received (Multiple responses permitted).**

Respondents received official SES warnings via a number of routes, with SMS text messages being the most frequently noted, and with NSW respondents being significantly more likely to receive SMS text messages than the QLD respondents ( $P < 0.001$ , \*\*\*). In further analysis, generally, those who had less time to prepare were less likely to receive SES warnings via SMS, Website, and ABC Radio messages. Older respondents (65+) were less likely to receive SMS text messages, QLD respondents were less likely to get messages via website, and those who had flood/storm water damage their homes in 2022 were more likely to get a landline call and were more likely to get door knocked.

Investigation of the open text to identify what 'other' routes for messaging were, revealed that some respondents mentioned the BOM website, neighbours, Police, SEQ Water dam water release text, text from family member, a general SMS from council, and others just mentioned that they received no warnings.



Respondents were asked if they had any problems accessing warnings or information due to a number of reasons, Table 8 presents the responses.

**Table 8. Source of problems for accessing warnings and information.**

	New South Wales (N = 182)		Queensland (N = 70)		Total (N = 252)	
	N	%	N	%	N	%
Pre-existing mobile phone blackspot/poor reception	46	25.3	14	20.0	60	23.8
Loss of mobile phone or landline connection/outage during the flood	100	54.9	23	32.9	123	48.8
Electricity outage/loss	99	54.4	22	31.4	121	48.0
No mobile phone/landline on property	11	6.0	3	4.3	14	5.6
Didn't know where to look	18	9.9	15	21.4	33	13.1
Other	36	19.8	24	34.3	60	23.8

Large proportions of respondents encountered issues with accessing warnings and information, with almost half encountering problems due to loss of phone connections and electricity outages, these generally appeared to be more widespread for the NSW respondents. Around a quarter of respondents were in pre-existing areas of poor mobile coverage. Interestingly, 13.1% reported that they didn't know where to look for warnings and information. This appeared to be a greater issue for QLD respondents (21.4%, cf. 9.9% for NSW respondents).

'Other' problems that were listed in open text responses were a mix – with a large number of respondents mentioning there were no issues because there weren't any warnings, and some said they had no problems. Other responses included:

*We didn't have a battery radio and we don't have TV.*

*Council information was not current.*

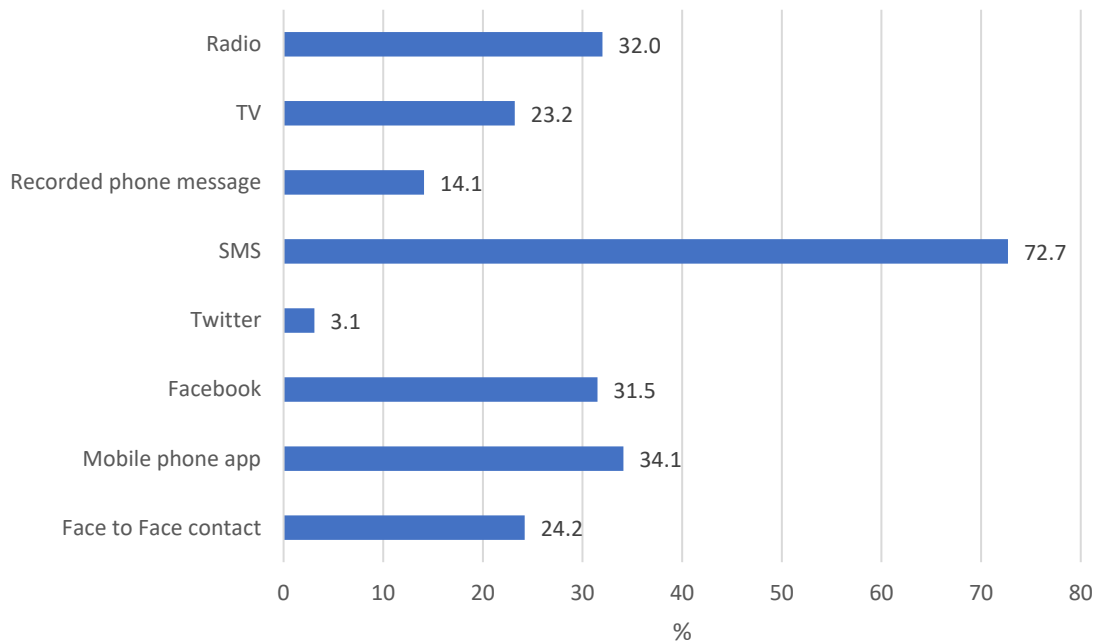
*Information was broad and not specific, so it was difficult accessing information to make plans from.*

*Telstra substation went underwater, so no internet.*

*No time to check.*

*Facebook posts are difficult to navigate and present the most commented on posts first, so finding the latest information is challenging.,*

Finally, respondents were asked what their preferred methods would be for getting information and warnings for future floods. Figure 25 summarises these responses. Responses for this question were very similar for NSW and QLD respondents, so are shown for the full sample.



**Figure 25. Preferred methods for receiving future flood warnings.**

SMS text messages are a very clear preferred source, with Apps, Facebook, and Radio as next most preferred.

## Policy implications

This detailed section covered a range of issues covered in the survey around how residents sourced information and used information and warnings, their challenges in accessing it, and their preferences for the future. There are numerous policy implications contained in these data for response agencies, local councils, broadcasters, BOM, and telecommunications providers.

The role of friends, family, and neighbours was highlighted in both alerting residents to flooding and being their most trusted source of flood information. The high proportion of the sample attributing their initial awareness of the floods to their own personal observations is interesting but is coupled with the word of mouth and comments about messages being received via contacts. Again, this underscores the importance of connectedness for early warnings, and points to the need for agencies to promote the sharing of information with neighbours and checking in on others.

The analysis of trust in various sources for information indicated that relative trust for official organisations like SES, BOM, ABC and other emergency services was high, but trust in local councils was notably lower. Further analysis found relatively few differences in levels of trust between states or age/gender characteristics, but there were broader indications that having more time to act before the flooding, prior flood experience, and levels of preparedness generally related to higher trust. It is likely that having more time to understand and utilise the information was important. These findings highlight the need for response agencies, BOM, and local councils to continue to promote preparedness and strive to provide as much lead-time for forecasting severe conditions that could lead to flooding to assist preparations.

The value of SMS text messages for delivering warnings was clear in the data, as both the most frequent route through which respondents received SES warnings, but also as their preferred route for messaging in the future. Although this is clear from the data, there are also serious concerns about those who are not receiving these messages and those who may not be able to access them. QLD respondents did not receive SMS messages to the same extent as those in NSW (possibly due to different usage by authorities), and older people



(65+) were less likely to receive them. In addition, around half of respondents had problems accessing warnings due to lack of mobile phone connectivity and electricity outages. If there is going to be higher community reliance on SMS and internet connectivity there needs to be infrastructure and technical solutions to maintain the systems that support them. This has clear implications for policy.

ABC radio and TV were additional sources being used for receiving information, and obviously they have many of the same issues re. electrical supply, and increasingly televisions are being used without terrestrial connections/run via internet. Older people were using ABC Radio more than younger people and, in comments, it was clear that older people, those with health issues, and those without mobile phones and televisions were not being alerted to the flooding – often seemingly not having neighbours or family members contacting them. In interviews, elderly residents mentioned the stress on family members trying to find out about them too – especially with additional communications issues and surge demands on authorities.

The vulnerability of certain segments of the population in how they received warnings and information require urgent attention. There is a need to create a list (or have self-registration) of vulnerable people who might need assistance with flood communications, preparedness before the event, and evacuation during (or before). Alternatively emergency service organisations could work to connect and collaborate with funded service providers and community services that have direct connections with vulnerable groups. Help to more vulnerable people needs to be offered proactively rather than waiting for those residents to ask for it. Official contact could be made via landlines and door knocking and given obvious issues of connectivity and access during floods, there needs to be integration with a local, systematic community mobilisation approach to ensure that no one is left behind.

Finally, there were indications that a sizeable proportion of the sample didn't know where to look for information. This appeared to be more of an issue for those in QLD. In addition, those in QLD were not getting as much SES information via SMS or via websites, as those in NSW. Trust in local councils was also relatively low, which would appear to be more prevalent for those in QLD too. There is a priority to address a range of issues here.

One approach could be to create a consistent information system as a source of truth for those affected by flood emergencies. This system should be designed to share information in multiple ways, and not just online or via social media: it should include the capacity to launch a dedicated radio program from the ABC on a dedicated frequency during significant flood or disaster events. That could be coupled with an additional 'push' for battery-operated radios!

While it is acknowledged that some councils have web-based dashboards to provide information to residents, the current versions (especially outside Brisbane) were often not updated with the latest data in a timely, accurate, or sufficiently localised way, and loss of power meant that people could not access this information. In interviews most participants were not aware of these dashboards or did not know where to find this information, and the survey information suggest this is a broader problem. Creating a single-entry point to consistent and accurate information will allow a clear focus to be maintained in pre-flood communication, publicity, and training. It is likely an initiative of this scale will need to be managed at a state level. Such a system would need to be integrated with the Bureau of Meteorology to incorporate real time weather and flood data and warnings. Once this system is in place, it could be extended to include subpages that provide the highly localised information that participants seek, which could be managed and populated by local councils. Parts of the system can be made permanently available, while other elements can be created in advance and brought into play when a flood emergency develops.

Further development of messaging systems that deliver information that recipients perceive as being 'for' them, i.e., that is relevant to their location and circumstances, would be helpful. This could also help with message acceptance and could incorporate personal message delivery channels as well, for example, door knocking, letterbox drops, geotagged texts etc.



## Sheltering and rescue

The actions of respondents during the flood/s are of importance to help understand the use of information, warnings, decision-making, environmental cues, the role of others (neighbours etc), and the consequences for individuals of their decisions/actions. A massive amount of information about these individual circumstances was collected in the interviews and is difficult to condense within a qualitative theme, so some of this content has been presented as a survey-driven content area in the report. Further exploration and analysis of the qualitative data is required.

In the survey, respondents were asked whether they stayed, left/evacuated, or were not at home during the floods<sup>26</sup>. Because this was an important branching question in the survey there was a need to provide further information to respondents to ensure they were directed as intended. This information, and the data provided is summarised in Table 9.

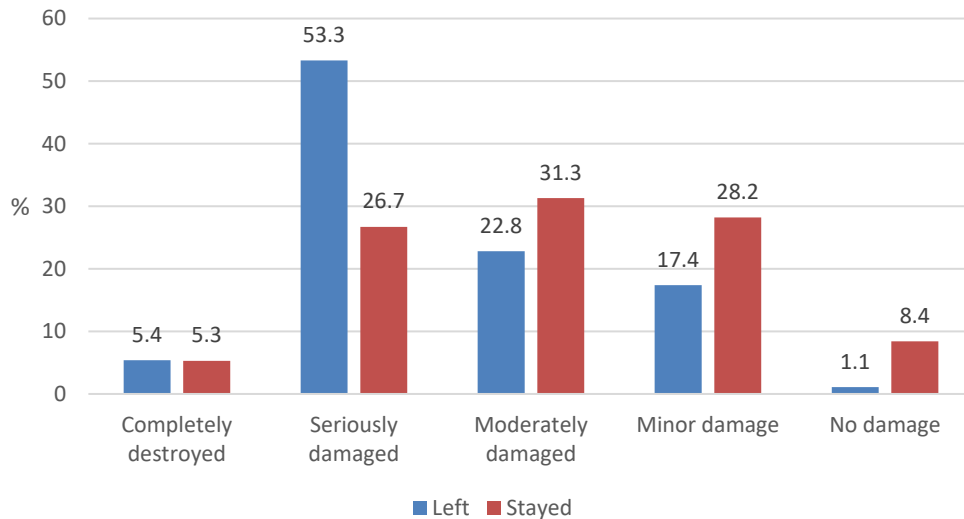
**Table 9. Top level breakdown of what respondents did during the flood.**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
NOT AT PROPERTY (not there, not able to return, did not experience flood directly)	24	9.2	10	7.9	34	8.8
LEFT PROPERTY / SELF-EVACUATED (left before flooding, left early, or left during the flooding without needing help with relocation or rescue by other people)	68	26.2	47	37.3	115	29.8
STAYED AT PROPERTY / UNABLE TO LEAVE / NEEDED HELP WITH RELOCATION OR RESCUE (cut-off, trapped, or isolated, returned to property and stayed, chose to stay, and/or needed help to be rescued or relocated by other people)	168	64.6	69	54.8	237	61.4
Total	260	100.0	126	100.0	386	100.0

To understand more about the circumstances and the people who chose to stay or leave these data were analysed, using chi-squared tests, for the total sample and within states, using the set of variables detailed in Table 1. Those who were not at their property were excluded from the analysis as they did not make a decision to stay or leave.

The analysis identified statistically significant findings that were consistent across both states. Those aged 65+ and those who had previous experience of flooding at their property were consistently more likely to stay, and those who had flood/storm water damage to their home in 2022 were consistently more likely to leave. In the total sample those who had more than 24 hours to prepare were also likely to stay ( $P < 0.05$ , \*). In the NSW sample, females were more likely to stay ( $P < 0.05$ , \*). The 'level of damage to home' variable wasn't included in the aforementioned analysis ('flood/storm water damage to the home' was used as an indicator of flood 'impact'), however, the relationship between the level of damage to the home and the decision to stay or leave is shown in Figure 26 for information.

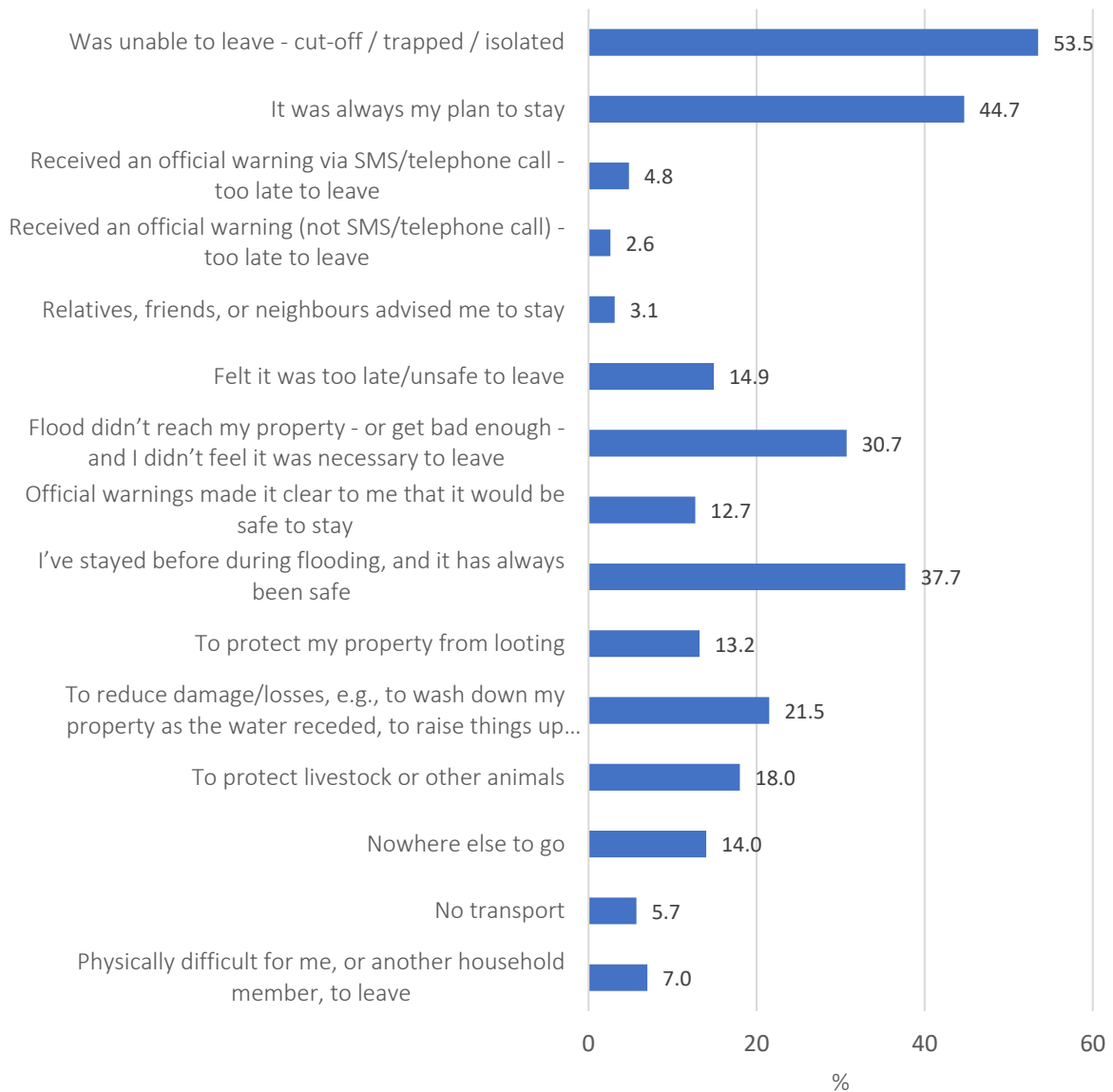
<sup>26</sup> Not all questions about staying/sheltering are included in this report. Summary data for all questions can be found in the Technical Report.



**Figure 26. Damage to home and decision to stay or leave (Total sample, n=238)**

From the data in Figure 26 it can be seen that those who sustained less damage to their homes were more likely to have stayed/sheltered in place. Further exploration of the stay/leave decision showed that there were no significant associations between the decision to stay/leave with the availability of private vehicles, or whether the resident was a homeowner or renter, or owned animals.

The following questions in this section were only asked to those respondents who stayed/sheltered in place during the flood. These respondents were asked why they stayed during the flood. Figure 27 summarises these data. This question was a multiple response question and it was possible for a range of responses to be given.



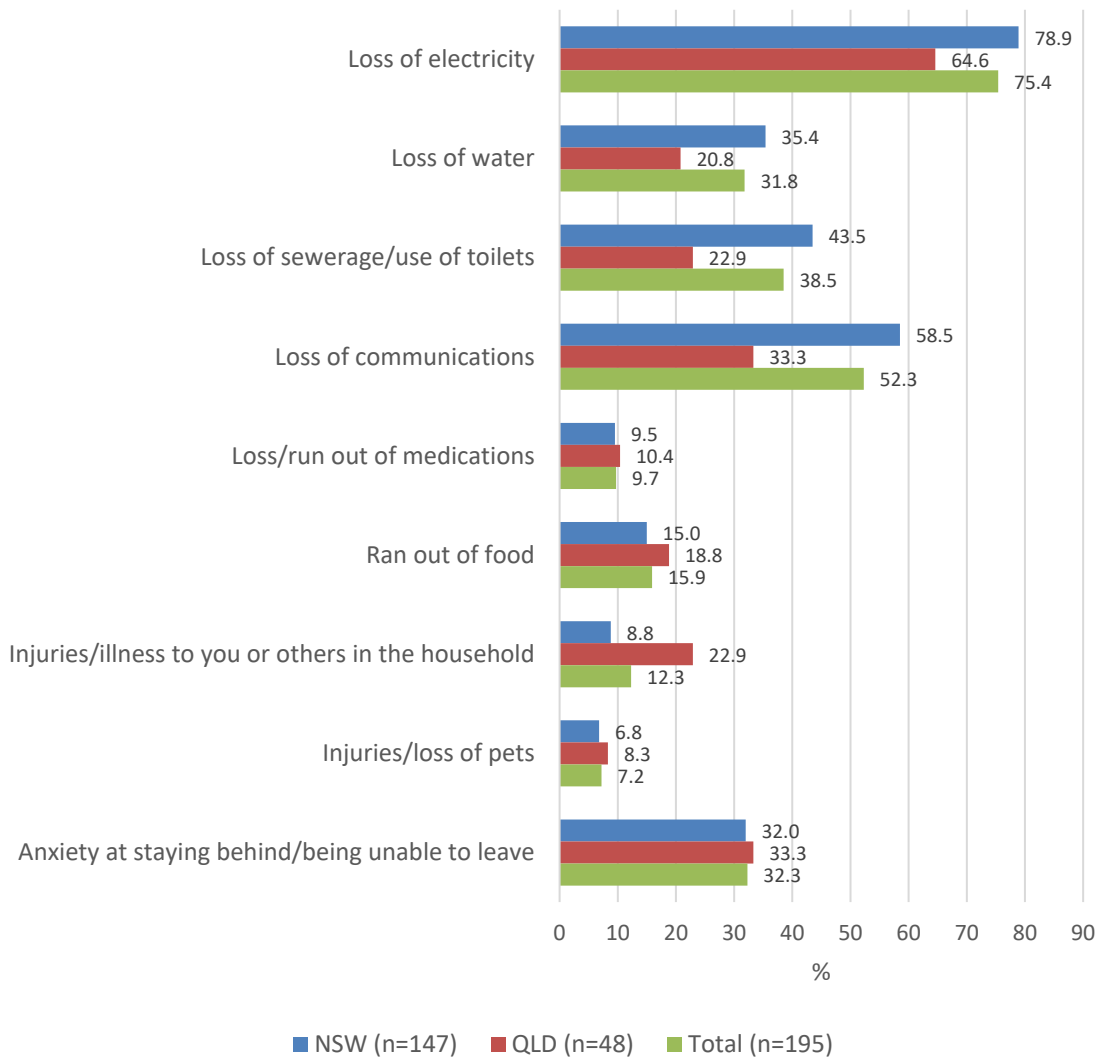
**Figure 27. Reasons respondents stayed during the flood (n=228) (Multiple responses permitted).**

There was clear evidence that quite a large proportion of the sample always intended to stay (44.7%). However, worryingly, a higher proportion of the sample (53.3%) reported that they stayed because they were unable to leave. It should be noted that these groups aren't necessarily mutually exclusive, as those who planned to stay could also have been unable to leave.

There are a broad mix of experiences represented in the sample, and just under a third indicated that the floods didn't reach their property or get sufficiently bad for them to need to leave. The impact of previous experience was evident, with more than a third (37.7%) indicating that this had influenced their decision to stay. There were a range of active reasons for staying – such as protecting animals (18.0%), protecting property from looting (13.2%), and being there to reduce damage and losses (21.5%). There was also some evidence of more concerning reasons to stay, though, such as having nowhere to go (14.0%), having no transport (5.7%), and physical difficulties making it hard to leave (7.0%).



Respondents were asked about any problems they faced whilst sheltering in place during the floods. These data are summarised below in Figure 28.

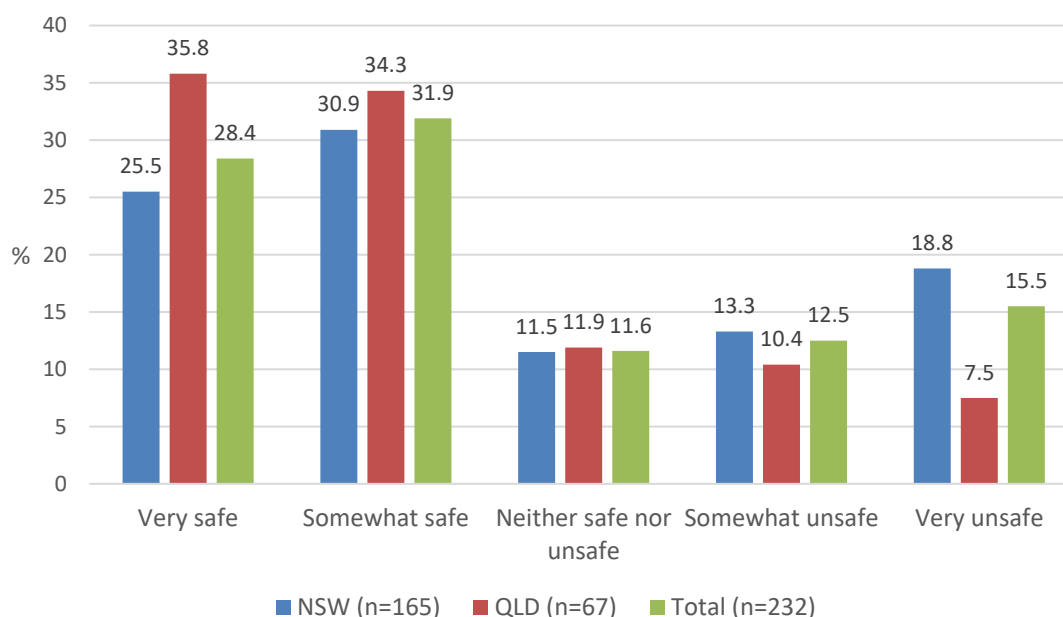


**Figure 28. Problems encountered whilst sheltering at home during the flood. (Multiple responses permitted).**

Those who stayed at home during the flooding encountered a range of problems. A number of the issues reported around loss of services were more prevalent for those in the NSW sample. Given the threat of the flooding and the lack of connectivity (communications, electricity etc), it is unsurprising that a third of the sample felt anxious about their situation.

Respondents were asked about how safe they felt during the flood. These responses are summarised in Figure 29.





**Figure 29. Feelings of safety whilst sheltering in place during the flood.**

The distribution of responses in Figure 29 show that the majority of respondents overall felt safe during sheltering; 70.1% in QLD and 56.4% in NSW felt very or somewhat safe. However, around a third of the NSW sample (32.1%) reported feeling unsafe or very unsafe. Differences in ratings are likely to be related to characteristics of the flood/floodwater as well as location, house structure, and demographic variables.

Analysis by state and the Table 1 variables showed that the differences between state shown in Figure 29 were not statistically significant – although they were close to the  $P < 0.05$  threshold ( $P = 0.052$ ). Females reported feeling less safe than males ( $P < 0.01$ , \*\*), those who had flood/storm water damage in their home felt less safe ( $P < 0.001$ , \*\*\*), and those with less than 2 hours to prepare also felt less safe ( $P < 0.001$ , \*\*\*). These last two findings support the predictable association between flood severity and feelings of safety. Interestingly, having flood insurance was also associated with greater feelings of safety whilst sheltering (Building/house  $P < 0.01$ , \*\*; Contents  $P < 0.001$ , \*\*\*). Although this sounds odd, it is likely to be a proxy for flood severity as well, given that fewer people who had been flooded previously had flood insurance and those without flood insurance were likely to be living in more flood prone/higher risk properties overall.

Respondents were asked to look back and say whether they through their decision to stay was the best decision. These data are shown in Table 10.

**Table 10. Was staying at your property the best decision?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Yes	122	75.8	60	87.0	182	79.1
Unsure	14	8.7	6	8.7	20	8.7
No, I/we should have left	25	15.5	3	4.3	28	12.2
Total	161	100.0	69	100.0	230	100.0

Despite the problems encountered and the mixed feelings about safety a large majority of residents felt that their decision to stay was the best decision. Statistically significant associations were identified between having flood/storm water damage to the home, the level of damage to the home, and feelings of safety. Those who felt unsafe were less likely to agree that staying was a good decision ( $P < 0.001$ , \*\*\*), similarly those who had



flood/storm water damage their home and those whose houses were significantly damaged or completely destroyed did not agree that staying was the best decision ( $P < 0.001$ , \*\*\*, and  $P < 0.01$ , \*\*, respectively). Males were more likely to feel that the decision to stay was the best decision ( $P < 0.05$ , \*).

Those who felt they should have left earlier were asked at what point they felt they should have left. This was an open text question/response.

A total of 55 respondents made comments. It was not possible to code the comments effectively, as many respondents mentioned quite specific content about timing and what they should have done in terms of actions. Many people mentioned leaving at a time when they still could, i.e., before roads or access was lost, or before vehicles were flooded in. Others mentioned that they would have left earlier if they had been warned, or been warned correctly, or early enough. For some the flooding occurred at night and they were not aware. Some example quotes are provided below.

*50/50 To stay meant we could continue to save possessions, to leave would mean less trauma.*

*I should have left when water entered my attached garage and before my car was completely trapped and flooded in even if I had only taken my car to higher ground and then returned.*

*If I had been given the correct information I would have left at that time. My street was already flooded and inaccessible when the SMS message came through from the SES. I was too late.*

*The minute Lismore levy bank was breached the day before we flooded.*

*I should have taken my children and dogs to my father's home where they would have been unaffected. I should have gone before any roads were cut. I probably would have returned to the home by myself though. I would have done these things if information given had stated it would exceed 2017 levels. By the time this was the reality it was too late to evacuate.*

*Given I have limited faith in the predictions now I would have left at the point that the river was close to major flooding (around 9m).*

*We couldn't leave. Water was too high, too quick.*

*Would have had to leave 2 days before due to rising stormwater before actual flood occurred.*

## Rescue

Of the 237 respondents who sheltered at home, 47 (19.8%) were rescued during the floods: 40 of 168 respondents (23.8%) in the NSW sample and 7 of 69 respondents (10.1%) in the QLD sample.

Of these 47 rescues, 21 (44.7%) were rescues in life-threatening situations (16 in NSW, 5 in QLD) and 26 (55.3%) were evacuations/assisted rescues in non-life-threatening situations (24 in NSW, 2 in QLD). Around three quarters of the rescues were undertaken by community members – 28 in boats/tinnies and 6 on kayaks, paddleboards, jet-skis or on other types of watercraft. Nine rescues were undertaken by emergency services.

Respondents were asked about their contact with emergency services via '000' or with the SES (132 500). Sixteen had contacted '000' and 14 contacted SES (Note, respondents could select both options here). Twenty-seven respondents wrote comments about their contact/attempted contact, 15 couldn't get through. A small number were given advice to get onto their roofs, some were told it was too dangerous to come out (night) and rescues would resume in the morning.

Those who were rescued were asked how long it was before they could be rescued, once they realised they needed to leave. Half of the non-life-threatening evacuations (12/24, 50.0%) did not take place until 6 hours or longer, and 42.8% (9/21) of those who needed emergency rescue needed to wait 6 hours or longer. Overall, 26.7% of rescues occurred within 2 hours and all rescues had been completed in less than 24 hours.



## Policy implications

This section contained a great deal of information about the decision to stay and shelter in place, or to leave and self-evacuate during the flooding, the reasons behind staying, and the issues faced. More than 60% of the sample sheltered, with those over 65 years of age and those who had experienced flooding previously at the same property/location being more likely to stay. There is evidence that those whose properties were more badly damaged (a proxy for flood severity) tended to leave, rather than stay. It is reasonable to assume that many of the people who CHOSE to stay did not experience flooding that was as severe, overall, and around a third indicated that the floodwater didn't reach the house/they didn't feel it was bad enough to leave. However, half were unable to leave, and had no choice.

There were multiple additional reasons why respondents sheltered, including active reasons, such as staying to reduce losses and stop looters, as well as passive reasons, such as not having anywhere to go.

There are numerous policy implications and useful pieces of information for stakeholders in this section. The data about decisions to stay (and the challenges of sheltering) provide useful discussion points for community engagement and assisting in personal flood planning and also make it clear that a large proportion of residents never planned to evacuate.

Given that a reasonable proportion of people reported that they had nowhere to go, it is important for suitable locations for evacuation centres to be identified and advertised well in advance of flooding in riverine flood environments. Plans should be created to get them open and running at a low level as soon as a 'prepare to evacuate' order is released, or a threshold that would give people enough time to take action to prepare and leave before flooding. Reducing barriers to evacuation, for example, by opening and advertising evacuation shelters and holding locations for pets to encourage early relocation, and waiving toll fees in city areas to assist traffic movements, should be considered to reduce the need for unplanned sheltering.

The sheltering data give a good breakdown of the problems encountered when staying in place, such as loss of services – telecoms, sewerage etc. In addition, data about levels of anxiety and feeling unsafe provide stakeholders with useful information when discussing flood plans with community members, and for use in printed resources or public information messaging.

It is interesting that given the problems encountered during sheltering that such a high proportion of respondents still believed that this was the best decision. This suggests that it will be hard for stakeholders to discourage this behaviour, and this may require policy review or decisions about how agencies wish to proceed. It's clear that there are a range of cost-benefits to making this decision. If people are willing to risk the possibility of injury, psychological trauma, and death (for themselves and other family members and pets), then there should be advice and support to enable them to anticipate and prepare for the high level of certainty that they will encounter these other problems – including the likelihood that they will require some form of assisted evacuation or emergency rescue. Most of the approaches to addressing *planned* sheltering require direct communication with communities. The survey data provided evidence that can be utilised in those communications. There are also implications for land use planning, i.e., that decision makers cannot rely on evacuation capacity solely as an effective management measure, as people in high hazard flood areas may not elect to evacuate.

Issues remain for those who did not plan to shelter. Clearly there was a group of respondents who were caught by floodwaters that had little or no warning, and who endured traumatic situations – some ending in life-threatening emergency rescues. Respondents were cut off by water over roads and landslides and had no option but to shelter in place. Early warnings, accurate and localised forecasts and warnings, live cameras, water gauge readings, and communication across a range of different platforms – as well as some community-to-community based alerting systems are required. Most of these ideas have already been covered in earlier sections.



In the aftermath of these experiences, again, there is a need to emphasise the requirements for mental health support, for impacted residents as well as those who responded (from community and emergency services), and those who were taking calls for rescue.

## Housing – modification, reconstruction and adaptation

In the survey, respondents were asked a series of questions about their current living situation and the condition of their flood-affected home. They were also asked about their plans for reconstruction, including flood-modifications, challenges encountered with reconstruction, and their plans for the future regarding their home.

### Pre-flood

Early in the survey, respondents were asked about their flood-impacted home, and what structural measures or modifications were in place to reduce the impacts of flooding. Figure 30 summarises these.

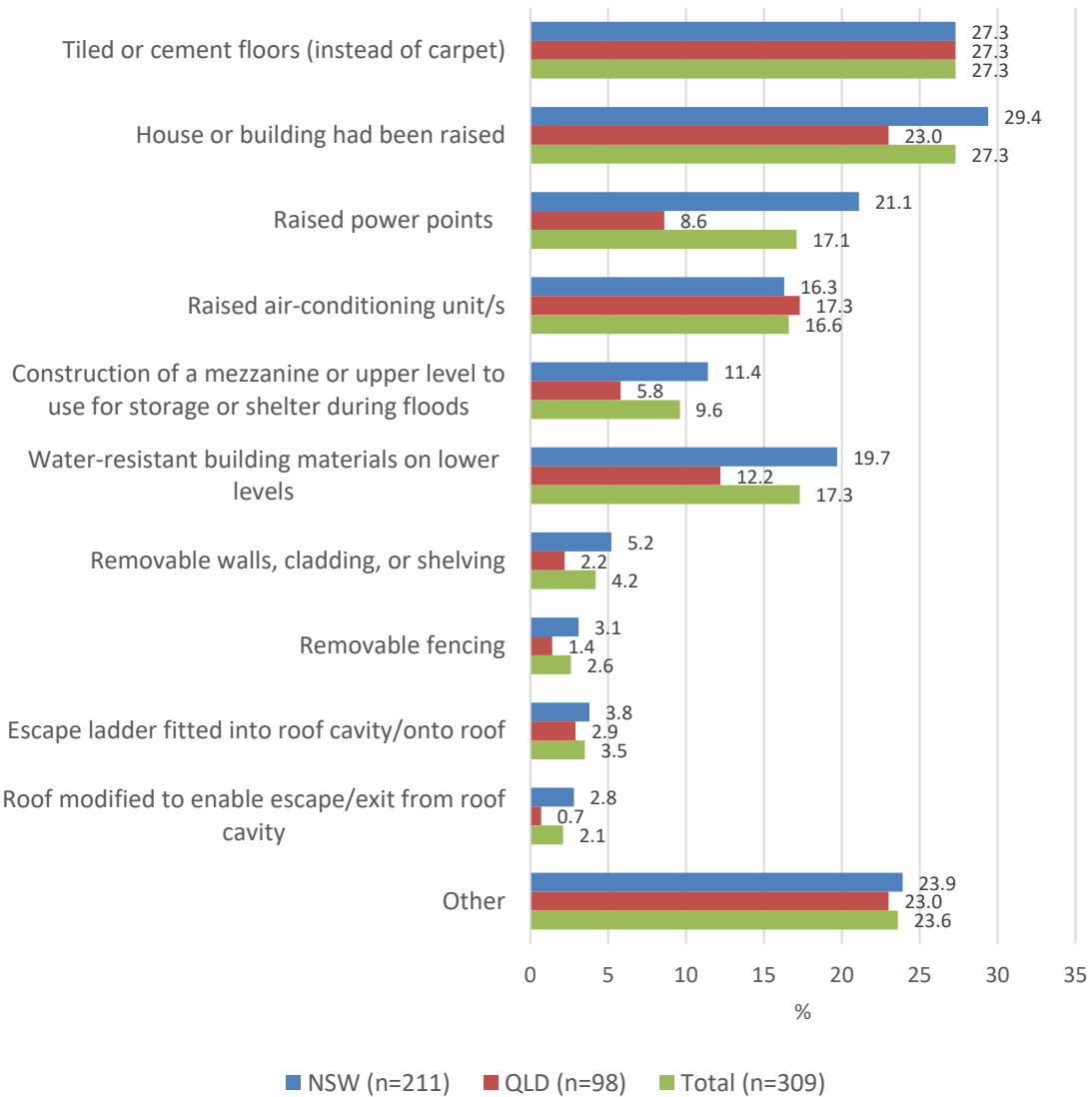


Figure 30. Structural measures or modifications in place before the flood.



Given that just under two-thirds of respondents were living in properties/locations that had been flooded previously it is unsurprising that modifications had been made to properties to reduce future flood risks. Around a quarter of respondents were living in raised houses and many had lower levels with water-resistant building materials and tiled/cement floors.

The 'other' category (open text) was explored to see what other modifications were mentioned. Eighty-two respondents made comments here, but more than half either mentioned that there was no need, as their home was above flood level or raised. Those who made specific comments mostly referred to external modifications to the areas outside the home. Many referred to drainage work, pumps, and land works to contour the land around the home and assist with run-off. A selection of comments is provided below, to show the diversity of actions that had been undertaken.

*Retaining wall to deflect high velocity water.*

*All downstairs shelving and cabinetry well above 1 in 100, hooks from downstairs ceiling to suspend items off the floor etc, downstairs dividing walls built with 3-inch gap to fall to enable easy hose out and clean up.*

*Driveway flood depth indicators.*

*Elevated driveways and access roads.*

*Full bund wall around property.*

*Gully on sewer raised above 1% AEP.*

*Separate electricity circuits for two floors.*

*Easy off internal door hinges.*

*Mound to store animals and machinery.*

*Large bamboo clumps and fig trees behind the house for landslide protection, drainage around and under house.*

For around three quarters of respondents (77.3%) their property was their primary residence, for 4.8% it was their business, and for 11.5% it was their home and business.

More than half (60.3%) reported that their property was a house or unit on a residential block, 18.7% were hobby farms/small acreages, and 7.9% were large farm properties.

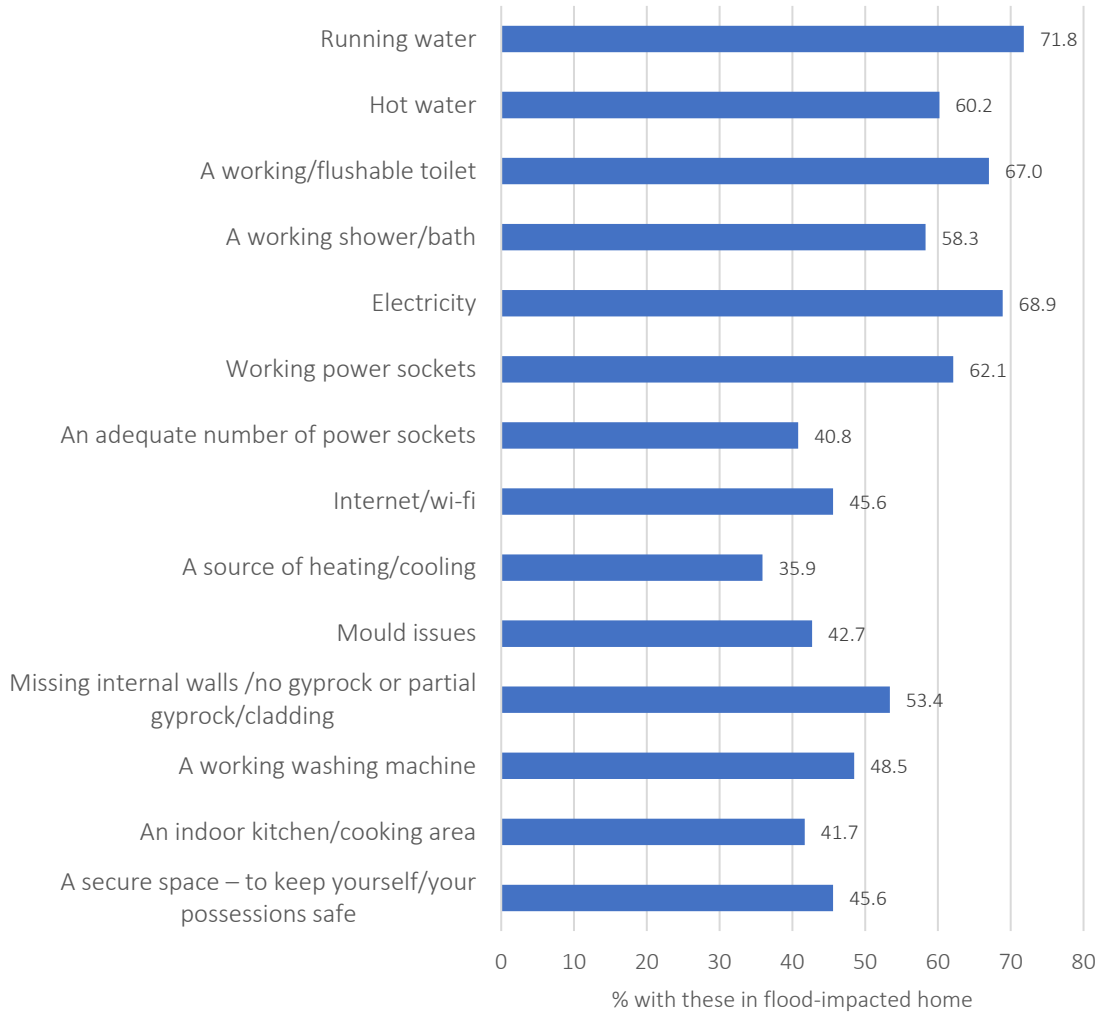
The majority (84.0%) were owned/mortgaged and 11.5% were rented. Just under half (46.0%) were single storey, and 43.5% were double storey.



## Post-flood

Respondents were asked whether their home was damaged by flood/storm water in the 2022 flood, 53.3% (n=204) responded yes. These respondents were then asked whether they were living normally/comfortable in their home now i.e., if their home was fully functional, secure, safe - repaired to a level where they could live in it as they did before the flood. Half of these respondents (50.7%, n=103) said no, these respondents were then presented with the next set of questions asking about the damage to their homes.

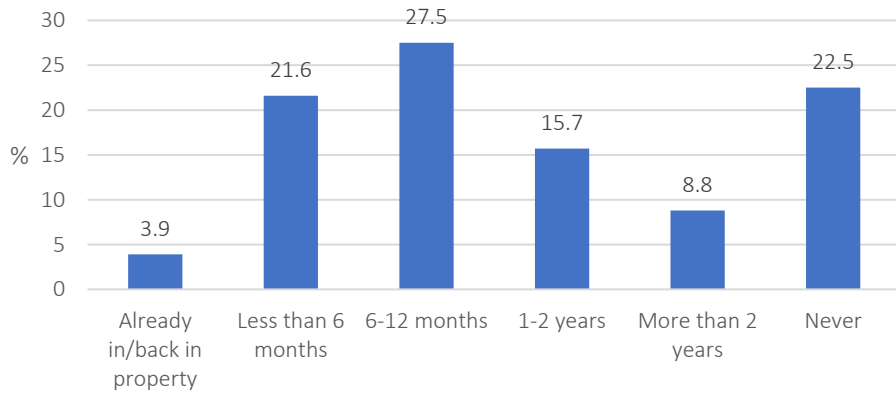
On average, respondents had been out of their homes for 9.8 months. They were asked to indicate what services and issues they had with their homes. Figure 31 summarises these data.



**Figure 31. Status of flood-affected home. ‘Currently, in your flood-affected home, do you have...?’ (Multiple responses permitted).**

As Figure 31 shows, many respondents were still missing essential services. Around a third did not have a working toilet, over 40% did not have a working shower or bath, and more than 30% did not have electricity. Only 41.7% had an indoor cooking area and a similar proportion (42.7%) had mould issues.

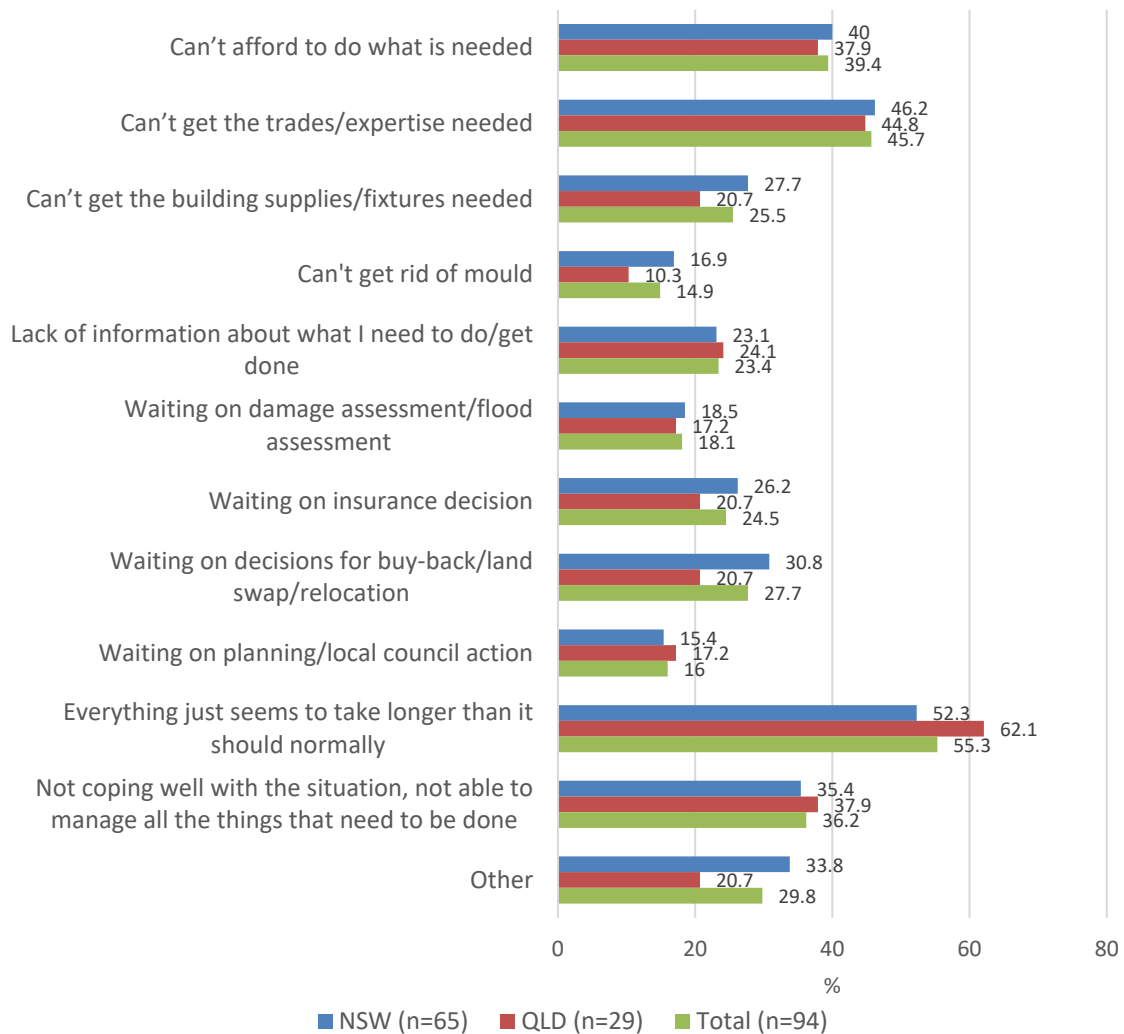
Just over three quarters of the respondents (76.5%) said there were things that still needed to be done to live in their home safely. They were also asked how long they expected it to be before they would be back living at home, and these data are shown in Figure 32.



**Figure 32. How long respondents expect it will be until they can be back living in their home.**

Almost half of the respondents hoped to be back in their homes within a year (from the time of data collection), and just under a quarter reported that they would never be able to return to live in their home.

Respondents were then asked about the challenges they faced trying to get back into living in their home. Responses are shown in Figure 33.



**Figure 33. What are the challenges facing you to get back into living in your home/property? (Multiple responses permitted.)**



At the time respondents were completing the survey (Dec 22 – Feb 23), 18.1% were waiting on a damage/flood assessment and 24.5% were waiting on an insurance decision, with a small indication that those in the NSW sample were more likely to be waiting on an insurance decision than those in QLD (26.2% cf. 20.7%).

A quarter (25.5%) reported that they couldn't get building supplies/fixtures and just under half (45.7%) reported they couldn't get the trades/expertise needed, with the NSW sample having more issues with the former (NSW 27.7%, cf. QLD 20.7%). There was also a noticeable difference between the responses in the two state samples regarding those waiting on decisions for buy-backs/land swaps and relocation (NSW 30.8% cf. QLD 20.7%).

Perhaps the most noticeable finding evident in Figure 33 is the large proportion of respondents reporting that everything just seemed to take longer than it should normally (55.3%). Here, the QLD respondents appear to be finding this more problematic (QLD 62.1%, cf. NSW 52.3%). Finally, it is interesting to note that over a third (36.2%) reported that they weren't coping well with the situation and weren't able to manage all the things that needed to be done.

The 'other' category (open text) was explored to identify any challenges overlooked in the response options. Twenty-eight respondents made comments about their situations. There were mentions by two or three respondents about waiting for decisions about the government buy-back scheme, waiting for insurers/insurance, having sold, or moved, emotional issues, and multiple occupancy issues. Some comments are provided below to provide insights into the range of different issues that were raised.

*Doing all the work ourselves to save money, but slows the process down, juggling family life/study/business in the midst of it.*

*Don't know how to manage or organise repairs, tradespeople just don't turn up, depression and confusion makes things harder.*

*No assistance for own house as it is part of a Multiple Occupancy.*

*We sold property and left could not continue to live there.*

*Have done government buyback.*

*Things are being done by a builder as he can get tradesmen. Builder been great communicating with help. Helps to make process less painful.*

*Uncertainty, trying to make decisions for which I am unqualified, trying to do it on my own as an elderly disability pensioner.*

*Qualified for government funding, only to have them come and assess, tell us we would have to move out, they would turn our house into a full construction zone (no enter zone) for 6-12 months, only to fix things not to flood spec. i.e., use gyprock walls and chipboard kitchen cabinets etc.*

*Continual material price rises and trade labour price increases.*

*Landlord is fighting with insurance.*

*Too traumatized.*

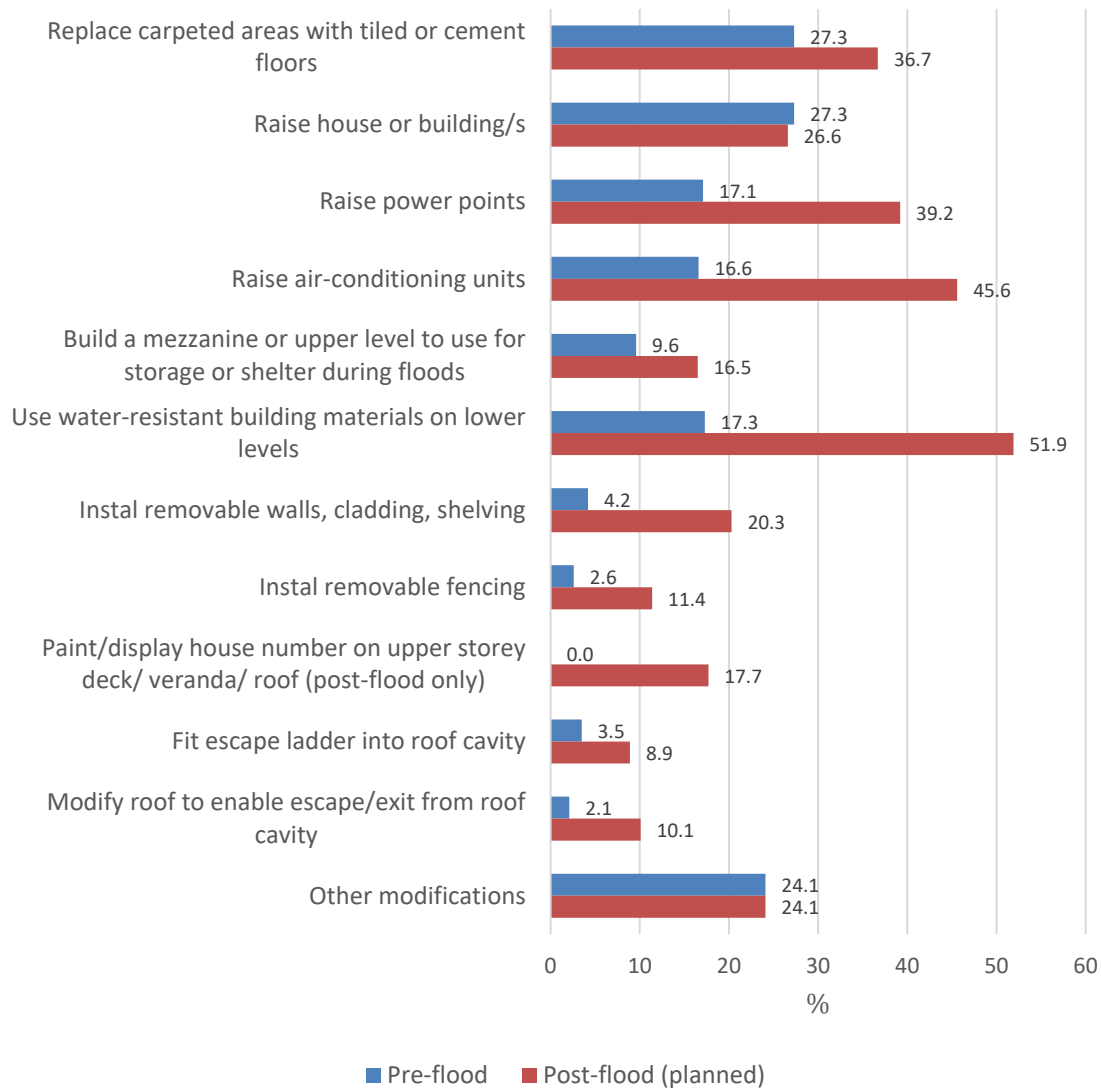
These comments exemplify the complexity of people's situations and raise a number of issues that cover organisational processes, scarcity of supply of materials and skilled labour, time/project management, lack of knowledge or skills to oversee or decide on actions, disputes and ineligibility, and issues of age, infirmity, and mental health.





Respondents were asked what flood modifications they were planning to instal/fit when reconstructing/ repairing/ rebuilding. These data are presented in Figure 34 for the total sample. For comparison, the pre-flood modification data for the total sample from earlier in this section are plotted alongside.

For further information, summary data by state are included in the Technical Report.

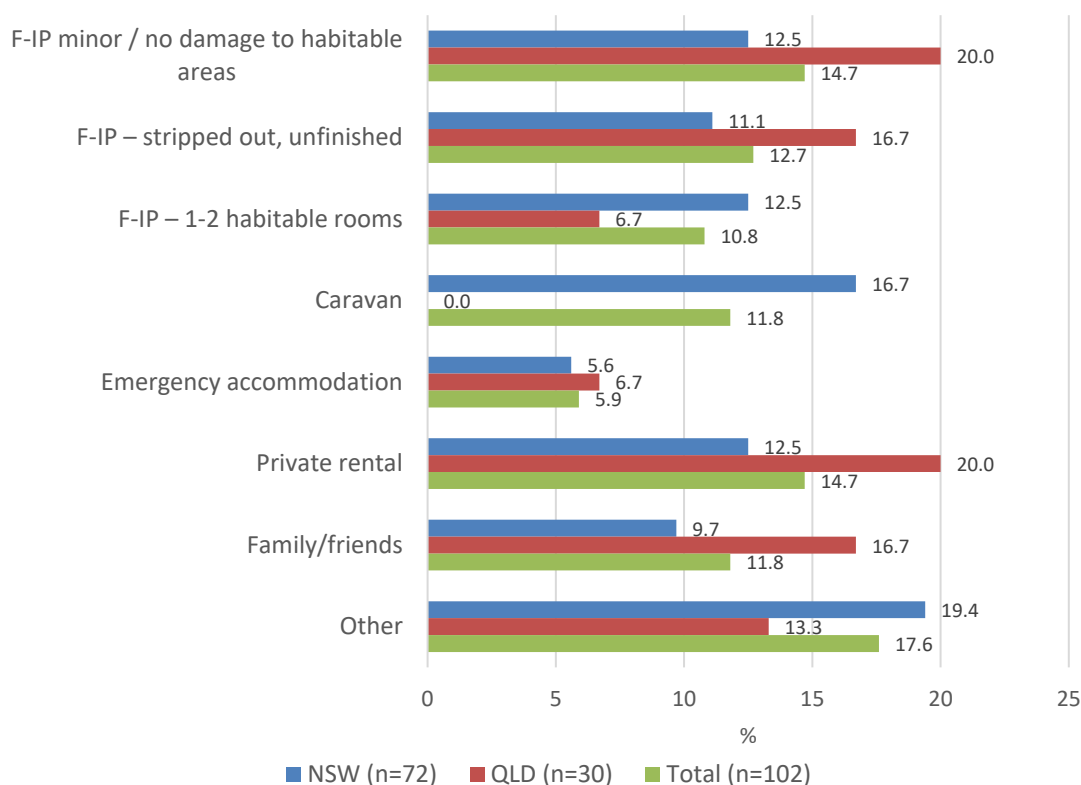


**Figure 34. Comparison of pre-flood structural modifications and planned post-flood modifications.**

Data in Figure 34 clearly show the changes planned post-flood, with more planning to use water resilient building materials on lower levels and raising air conditioners and power points. ‘Other’ modifications included stainless steel removable kitchens, all metal walls, ceilings and frames for lower storey, floor drains, split power circuits, hardwood floors and trims, drainage work/groundworks, and a specific business example of *‘installation of an electric winch and reinforced attic space to raise large appliances and workshop machines’*.

### Current living situation

Respondents were asked where they were living currently. Of the respondents mentioned earlier, who reported they were not living in their home normally/comfortably (in their pre-flood condition) 38.2% were living in their property in various states of repair, e.g., one or two habitable rooms, stripped out/unfinished. Figure 35 summarises these responses for the total sample and those in the NSW and QLD samples separately.



**Figure 35. Where respondents were currently living (F-IP = flood-impacted property).**

As shown in Figure 35, most QLD respondents were either living in their flood-impacted properties with minor or no damage to habitable areas, or they were in private rental accommodation. NSW respondents were mostly in ‘other’ accommodation or in a caravan. Further analysis of the ‘other’ category showed that it included living in sheds, in an office, in a newly purchased property, and various descriptions of combinations of living in a caravan and the shell of the property or splitting time between a mix of accommodation types.

When asked how satisfactory their living conditions were, just over a quarter (27.7%) reported unsatisfactory or very unsatisfactory (29.2% NSW, 24.1% QLD). These data were explored by state and the Table 1 variables, using chi-square tests, the only statistically significant association found was with age, where those in the middle age group (45-64) were less satisfied with their living conditions compared to the older and younger groups.

Respondents were asked how much longer they could manage living in their current conditions. Table 11 summarises these responses.

**Table 11. How much longer respondents can manage living in their current living conditions.**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
No limit – I can live like this for a year or more	33	46.5	10	33.3	43	42.6
No more than 6-12 months	22	31.0	6	20.0	28	27.7
No more than 3-6 months	7	9.9	10	33.3	17	16.8
No more than 1-3 months	7	9.9	2	6.7	9	8.9
No more than another month	2	2.8	2	6.7	4	4.0
Total	71	100.0	30	100.0	101	100.0

The majority of respondents (86.0%) indicated that they would be able to live in their current conditions for more than 6 months, but 12.9% would be struggling to stay with the same living conditions for 3 months or



less. These data were analysed by state and the Table 1 variables, using chi-square tests, the only statistically significant association found was with state, where the NSW sample was able to stay living in their current conditions (for 6+ months or more) to a greater extent than those in QLD (77.5% cf. 53.3%,  $P < 0.05$ , \*).

## Housing and the future

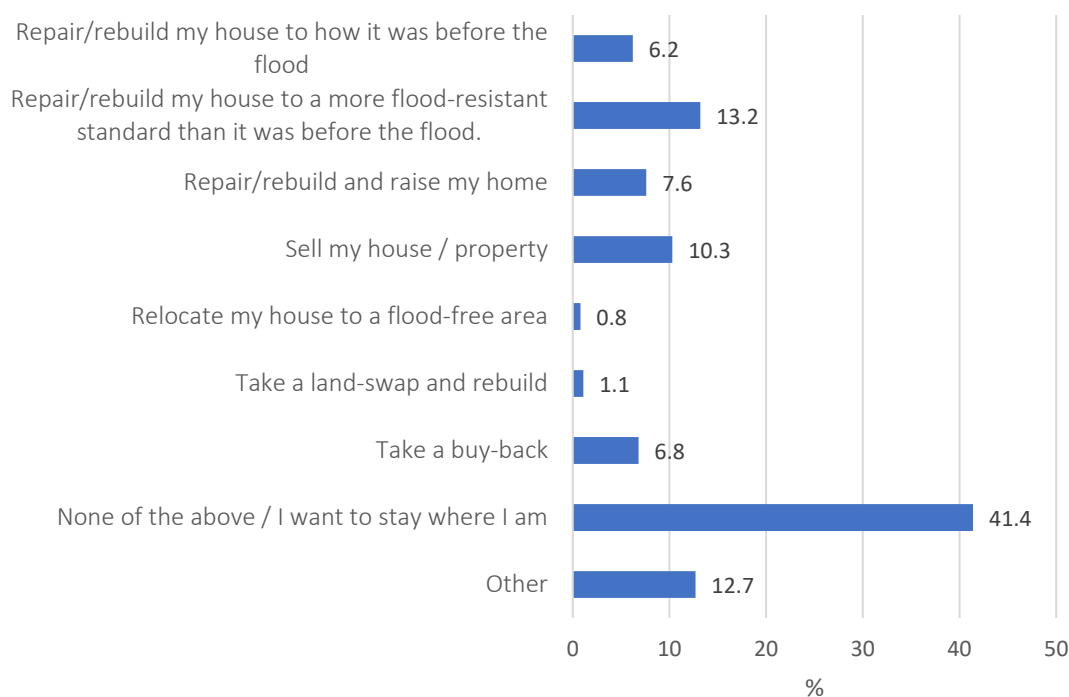
All respondent who had their homes damaged by flooding in 2022 were asked whether they felt their homes would be impacted by flooding again, these data are provided in Table 12.

**Table 12. Perceived likelihood that home/property will be impacted by flooding again.**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Extremely likely	55	41.4	32	47.8	87	43.5
Somewhat likely	48	36.1	23	34.3	71	35.5
Neither likely nor unlikely	15	11.3	5	7.5	20	10.0
Somewhat unlikely	13	9.8	5	7.5	18	9.0
Extremely unlikely	2	1.5	2	3.0	4	2.0
Total	133	100.0	67	100.0	200	100.0

As can be seen in Table 12, the majority (79.0%) see the risk of future flooding as extremely or somewhat likely. A series of chi-square tests was run to explore these findings, but no statistically significant associations were identified.

All respondents in the survey,  $n=370$  at this point in the questionnaire, were asked about their plans for the future, in terms of what they would like to do, or are doing, or planning to do. These data are presented in Figure 36. Results were very similar for QLD and NSW so data for the total sample have been shown here.



**Figure 36. What respondents would like to do/are doing/plan to do in the future (Single response).**

A large proportion of the sample was planning to stay, and presumably as they hadn't endorsed a different response (and this was a single response question) most of these respondents didn't have significant damage



to repair to their homes. Because some of the groupings were small, for analysis categories were collapsed into three groups– those who planned to stay or repair to previous standards (stay/repair), those who intended to improve their property/raise (improve), and those who intended to sell, relocate, land swap, buy-back (leave). These data were analysed by state and the Table 1 variables, using chi-square tests. Three statistically significant associations were identified. Those who had previously experienced flooding at their property were more likely to stay/repair and less likely to improve ( $P < 0.001$ , \*\*\*), those who had flood/storm water damage their homes in the 2022 flood/s were more likely to improve or leave, and less likely to stay/repair ( $P < 0.001$ , \*\*\*), and older residents (65+) were more likely to stay/repair and less likely to improve or leave ( $P < 0.05$ , \*).

It is likely that those who had previous flooding to their homes, had already decided to stay/accept the flood risk (either voluntarily or due to financial limitations due to previous flooding, lack of insurance, etc.) and probably already had some flood-proofing modifications in place (being in more flood prone locations overall) and therefore had less need, or money, to make improvements. The group who had damage to their home in the 2022 floods includes a group of previously unflooded residents, which may explain their greater desire to leave and the need to improve if they intend to stay. Older residents may have fewer options financially to move on and they may be more settled and/or willing to accept the flood risk over a shorter time horizon, compared to those in the younger groups.

Finally, all survey respondents were asked how safe they felt continuing to live in their property, considering future flood risk. Sixty-one percent felt either very or somewhat safe, and just under a quarter (22.8%) felt somewhat or very unsafe. As before, these data were explored by state and the Table 1 variables, using chi-square tests. Those who had experienced previous flooding and those with building/house insurance, and those with contents insurance were more likely to feel safe (all  $P < 0.05$ , \*), and those who had flood/storm water damage in the current floods were less likely to feel safe ( $P < 0.001$ , \*\*\*).

## Policy implications

This content area covered a broad set of questions about housing modifications and property conditions, reconstructions/repair challenges, living situations, and future housing plans for the survey respondent sample. The majority of this section focussed on those whose properties were damaged in the floods in 2022 and who could not live comfortably or safely in their homes. Given the prior history of flooding for many respondents, the variety and uptake of pre-flood modifications to properties was unsurprising and it is informative to compare that to their current plans for rebuilding. Reconstruction agencies can see where residents are planning, or being advised, to put their efforts/spend their money for future flood mitigation and provide guidance to ensure that these decisions have the best risk-return.

Given that more than 75% of the sample indicated that there were things that needed to be done to be able to live safely in their home, and more than 36% were living in their flood-impacted properties (and ‘other’ responses suggested they were some living in a mix of places with their flood-impacted property being one), it is reasonable to assume that there are some significant safety risks for these residents. Given the hardship that many have endured, rather than suggesting inspections or preventing people from choosing the best solutions for themselves and their families in the short term, local councils or organisations involved with public safety should consider how best to advise and remind people of the risks they may face, and where possible suggest simple and cost-effective ways to minimise those risks, using flyers or adverts.

The review of challenges for reconstruction and rebuilding raise a number of issues that have already been flagged. The cross-cutting theme of scarcity – of supplies and skills, and the surge in demand for assessments, insurance claims, and soaring costs is making it hard for people to make progress with rebuilding. A quarter of respondents are looking for more information and guidance to support them, and open text responses make it clear that some people are struggling due to disability, older age, emotional and mental health issues, managing other aspects of ‘life’ around the rebuild, or simply feeling out of their depth in terms of skills and knowledge to know what to do. More than a third of the sample reported that they weren’t coping, and over



half were feeling that everything was taking longer. Again, there is a clear need to support residents with the selection, prioritisation, and management of rebuilding tasks. As mentioned in the qualitative theme on insurance, pushing back the load on flood survivors is taking an additional toll on them. This ongoing source of stress, especially when considered in the context of waiting ‘in limbo’ for decisions about future housing options, is compounding and prolonging the stress of the flood event. As part of recovery, flood survivors should be assigned (or have an option to access) a case manager per family or property to coordinate the different demands of council, insurance companies and recovery programs, funded through joint State and Commonwealth Disaster Recovery Funding Arrangements, as well as being helped to access mental health services.

Exploration of where people are living currently found that a quarter felt their living conditions were unsatisfactory, with people in the 45-64 age bracket struggling more and those in QLD able to continue accepting their current living conditions for less time than those in NSW. There was also evidence that those in QLD were finding things were taking longer. The 45-64 age group is a working age cohort with relatively less time to recover financially from the impacts of flooding (compared to those who are younger). With the median age of parents in Australia being 31.7 - 33.7 years<sup>27</sup>, this age group is likely to have adolescent and teenage children to care for and be managing the impacts of flood disruptions/displacement on them, as well as juggling employment pressures. No doubt family composition is a factor in supporting people in temporary housing (and was picked up in some quotes earlier), but there are multiple pressures on this age group. The case management approach just mentioned could be a way to help speed up getting those people back home and take some of the load off the management of some of the tasks. If support is solely focussed on financial support, and needs are based solely on income and financial grounds, working families will often be missed. It is possible that what these families need more of is time, and assistance with the progressing tasks.

Finally in this section, the plans for future housing were explored. More than half the sample planned to stay and/or repair their property to its previous condition, around a quarter were planning to make improvement to reduce flood impacts and around a fifth were planning to leave – to sell or relocate. Despite the efforts going into rebuilding and repairing their property, 80% of respondents felt it was likely that they would be flooded again. It is hard to comprehend the mix of emotions involved in investing in reconstruction and repair in this situation. Many people have a mortgage on a flood-impacted property and no insurance, they may have experienced a very traumatic event during the flood, but they (and their family) also have multiple ties to their community and love (or loved) their home. There are many things to resolve when planning for the future. The requirement for mental health services and supports for complex financial decision-making in recovery are overwhelming and intertwined. Mental health services in regional areas, in particular, are already stretched and require greater funding. There is a need for financial counselling support to run alongside mental health support. Those responsible for policy and strategy in both areas need to work together to look for synergies in service delivery.

## Sources of support and recovery

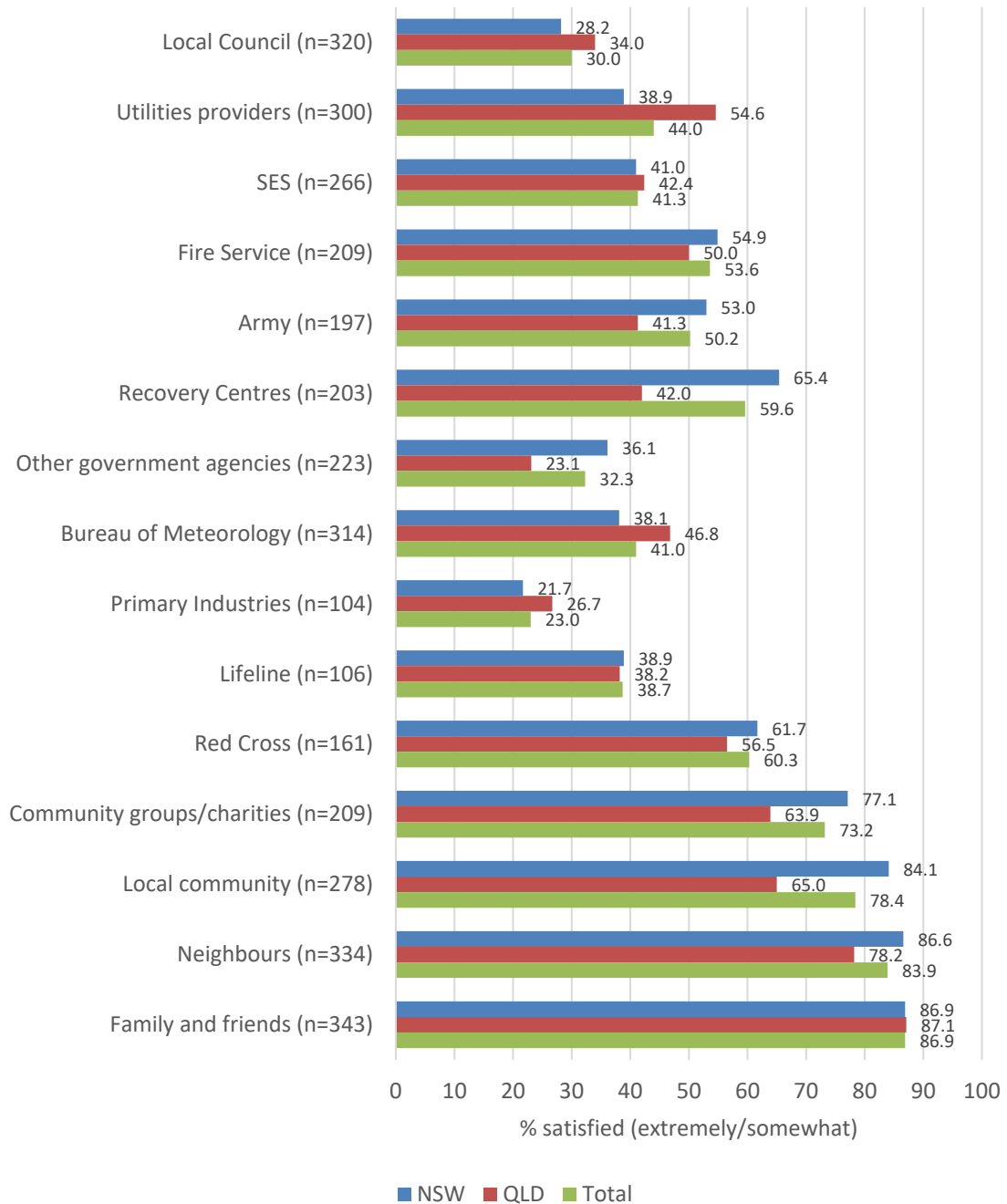
This final survey-driven content area focusses on satisfaction with various sources of support, i.e., official sources and community sources, and looks at the perceived impacts of the flood/s on community cohesion and feelings about community, and on individual’s perceptions of their recovery relative to others. These questions were in the ‘reflections’, ‘community’, and the ‘health and wellbeing’ sections at the end of the survey questionnaire.

Respondents were asked to rate their satisfaction with the support they received from a range of organisations/groups. These data are summarised in Figure 37. Not applicable options were removed, so that the overall number of responses (‘n’) varies. The ratings are only provided by respondents who received

<sup>27</sup> <https://www.abs.gov.au/statistics/people/population/births-australia/latest-release>



support from these organisations. Data are shown for the combined percentage of extremely and somewhat satisfied responses for the total sample, NSW, and QLD.



**Figure 37. Ratings of satisfaction with the support received. (N/A responses excluded)**

Data in Figure 37 provide an overview of respondents’ satisfaction with a range of organisations and groups. The importance of local community and family, friends and neighbours has been a thread throughout this report. Family, friends, and neighbours were the most trusted sources of flood information and were the people who helped most with the clean-up. It is not surprising that they feature as the providers of support with the highest satisfaction rating. Among the formal organisations providing support, the two main ‘recovery’ groups – Red Cross and Recovery Centres received the highest ratings, whilst Primary Industries, other government agencies and local council received the lowest ratings.



The data in Figure 37 were analysed by state and the Table 1 variables, using chi-square tests. Compared to the QLD respondents, those in NSW were more satisfied with the support received from recovery centres ( $P < 0.01$ , \*\*), local community ( $P < 0.001$ , \*\*\*), and neighbours ( $P < 0.05$ , \*). Those in QLD were more satisfied with the utilities providers than those in NSW ( $P < 0.01$ , \*\*).

Respondents who had damage to their home by flood/storm water in the 2022 floods were less satisfied with SES ( $P < 0.01$ , \*\*), BOM ( $P < 0.01$ , \*\*), and Primary Industries ( $P < 0.05$ , \*), compared to those who did not get damage in their home. Respondents with lower levels of preparedness were more satisfied with the support from local council ( $P < 0.01$ , \*\*), and females were more satisfied with the support received from local community, compared to men ( $P < 0.05$ , \*). Given the negative outcomes for those who had flood/storm water damage their homes it is understandable that they might feel less satisfied with support from SES and BOM, as the two listed organisations most closely associated with alerting and warning about the likely impacts of the extreme weather/floods.

Returning to community, respondents were asked two questions about community. The first was whether they felt the experience of the flood had changed their community, and the second asked whether the experience of the flood had changed their feeling of community. Responses to these questions are shown in Tables 13 and 14.

**Table 13. Do you think the experience of the flood/s has changed your community?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Yes, it has become closer and more cohesive	139	55.6	40	32.5	179	48.0
No, it is the same as it was before	76	30.4	68	55.3	144	38.6
Yes, it has made it more distant and less cohesive	35	14.0	15	12.2	50	13.4
Total	250	100.0	123	100.0	373	100.0

**Table 14. Do you think the experience of the flood/s has changed your feeling of community?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Yes, I feel more connected to my community	119	47.2	38	31.1	157	42.0
No, it is the same as it was before	106	42.1	66	54.1	172	46.0
Yes, I feel less connected	27	10.7	18	14.8	45	12.0
Total	252	100.0	122	100.0	374	100.0

Around half of respondents (48.0%) felt that the experience of the flood/s had made their community closer and more cohesive and 42.0% felt more connected to their community. As noted in Tables 13 and 14, if the experience of the flood/s was perceived to have changed the community at all it was likely to have made communities seem closer and more cohesive, and individuals were more likely to feel more connected.

The data in Tables 13 and 14 were analysed by state and the variables listed in Table 1, using chi-square tests. In addition, a measure of community participation was included – based on responses to a question about how actively involved participants were in community groups and organisation during the last 2 years.

Six statistically significant associations were found. Compared to respondents in QLD, those in NSW felt their community was closer and more cohesive ( $P < 0.001$ , \*\*\*) and they felt more connected to their community ( $P < 0.01$ , \*\*) as a consequence of the flood experience. Those who had not previously experienced flooding also felt their community had become closer and more cohesive, compared to those who had been flooded



previously ( $P < 0.05$ , \*), and those who had flood/storm water damage their home in the 2022 floods felt more connected to their community ( $P < 0.05$ , \*). Those who had actively participated in community groups in the past two years were more likely to feel that the community was more cohesive ( $P < 0.001$ , \*\*\*), and more likely to feel more connected to community ( $P < 0.01$ , \*\*), than those who had not been active community participants.

It is not clear if the differences between states were due to a greater community activation in NSW, or a stronger community focussed recovery in the months after the floods, or if the QLD sample (being relatively more rural/regional) felt more cohesive and more connected beforehand, and therefore any changes were less notable. For those going through their first flood experience it is perhaps understandable that they have seen their community in a slightly different light in recent times and have seen more community activity and felt more supported. Similarly, those who had their homes damaged in the 2022 floods and received greater impacts have probably received more direct support and help from the community in the clean-up and recovery.

Those who were active in the community before the floods also felt a difference as a consequence of the flood experience, even though they were also impacted. Presumably these respondents have seen an upturn in volunteering and community activity locally and feel that overall, there have been some positive community changes. They are also likely to have received help and support back to them, perhaps witnessing greater reciprocity in the community as groups and individuals interact to support each other.

Finally, respondents were asked about their personal recovery. They were asked about their degree of recovery and also how they rate of their recovery compared to others in the community. Responses to these questions are shown in Tables 15 and 16.

**Table 15. Given what you have experienced, how would you rate your own recovery to this point?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Very good	49	19.3	38	30.9	87	23.1
Good	62	24.4	22	17.9	84	22.3
OK	105	41.3	41	33.3	146	38.7
Poor	27	10.6	13	10.6	40	10.6
Very poor	11	4.3	9	7.3	20	5.3
Total	254	100.0	123	100.0	377	100.0

**Table 16. How does your own recovery compare with that of other people in your community?**

	New South Wales		Queensland		Total	
	N	%	N	%	N	%
Much faster	63	24.9	28	23.7	91	24.5
Somewhat faster	66	26.1	20	16.9	86	23.2
About the same	96	37.9	47	39.8	143	38.5
Somewhat slower	17	6.7	11	9.3	28	7.5
Much slower	11	4.3	12	10.2	23	6.2
Total	253	100.0	118	100.0	371	100.0

Approximately half the sample rate their recovery as good/very good, and much/somewhat faster than others in the community. These data were analysed using chi-square tests by state, the Table 1 variables, and by the community participation variable described previously.





No statistically significant associations were found between the recovery variables and state. Those who had less than 2 hours to prepare for flooding and those who had flood/storm water damage in their home in 2022 were more likely to rate their recovery as poor ( $P < 0.01$ , \*\*, and  $P < 0.001$ , \*\*\*, respectively). Those who didn't have insurance – both buildings/home and contents were also likely to rate their recovery as poor (both  $P < 0.001$ , \*\*\*), and those aged 45-64 were also likely to rate their recovery as poor ( $P < 0.05$ , \*). Those who were more active in the community and those who had previously been flooded, were more likely to rate their recovery as good/very good (both  $P < 0.05$ , \*).

Regarding the rate of recovery relative to others in the community, females rated their recovery as slower ( $P < 0.05$ , \*), those who had less than 2 hours to prepare for flooding rated their recovery as slower ( $P < 0.05$ , \*), and those who had flood/storm water damage their home rated their recovery as slower ( $P < 0.001$ , \*\*\*)).

Generally, it appears that those who had less time to prepare and those who had damage to their homes in the 2022 floods probably had a more severe flooding experience so the fact they rate their recovery as both poorer and slower than others is not surprising. As noted earlier, having flood insurance positively impacts financial situations but also it appears to be a proxy for prior flood experience, i.e., those who have been flooded previously were less likely to have insurance now. Therefore, the link to lower levels of recovery currently seems to be understandable. Challenges for those in the 45-64 age group have been mentioned previously, and could explain a slower recovery, and community participation as a protective factor also seems reasonable.

The higher levels of recovery for those with previous experience of flooding are intriguing, as it could be predicted that having been affected previously, and perhaps not fully recovered yet, they might be further disadvantaged. This group has, possibly, not had the same flood-shock as those who have not been flooded before and are demonstrating generally stronger resilience. They have had the experience of returning to an effective level of functioning after previous floods and may have been able to fall back on strategies to enable them to bounce back relatively better or quicker after the 2022 floods. This explanation is plausible, but tentative and could be examined further with multivariate analyses to establish the relative contribution of a range of factors to self-rated recovery.

## Policy implications

This content area focussed on community and recovery. The high levels of satisfaction with the support received from family, friends, and neighbours and the role they have played in other areas, highlighted in this report, show the strength that can come from building connections and supporting communities to function. This applies to all phases of disaster and at other times too. In addition, prior community participation has been shown to provide benefits in post-disaster recovery in this study. Local councils, response agencies, and all organisations involved in disaster risk reduction and emergency / disaster management need to incorporate community-building activities into their plans and demonstrate and promote the benefits of connection before, during, and after disasters to individuals during engagement activities.

Those groups active in 'recovery' – Red Cross, Recovery Centres, Community, were generally rated more highly for satisfaction. Whether this finding was due to the timing of the data gathering is unclear, but it does show the appreciation that flood impacted residents have for the help they receive in the weeks and months after a disaster event. The need to continue to support people into the long tail of recovery has been mentioned before and is reinforced here. Funding is needed to maintain a presence and to follow-up with people. Perceived support makes a difference to survivors. Stakeholders need to ensure funding is available to continue their work beyond financially driven, program funding, or arbitrary timelines (e.g., 12 months) and have decisions driven more by community need and feedback, rather than pre-determined budgets and reporting timelines.

The effects of prior flooding and flood impact were also identified clearly in this section. Those who had damage to their homes due to flood/storm water in the 2022 floods and those who had least time to prepare



(both taken to indicate higher levels of flood impact) reported lower levels of satisfaction with SES and BOM, and also poorer / slower recovery trajectories. Interestingly, there was some evidence that those who had experienced prior flooding, pre-2022, were rating their recovery slightly better than those who had not experienced prior flooding, suggesting that prior experience of recovery had some relative benefit. The reasons for this are not clear but could include knowing what to do to prepare better, how to access help and support, knowing psychologically that you can manage things after disaster, or possibly just not being thrown off balance as much as after a first flood experience. Those working in recovery and preparedness have the potential to learn a lot from disaster survivors and they can teach their communities too. Finding out what has worked and what has helped people to get by, to cope and to overcome challenges in recovery are valuable lessons for all stakeholders and can be incorporated into guides and resources.

Data in this section suggest there may be differences between the two states, with some issues for those in the QLD sample. It should also be noted that sample sizes are limited and margins of error in the data were noted earlier, therefore some caution is advised. Across this section, where difference between states were noted, they were mostly showing that QLD respondents were not doing as well as those in the NSW sample. They were less satisfied with local community, recovery centres, other government agencies, they didn't feel the flood experience improved cohesiveness of communities to the same extent as those from NSW or feel more connected. It's not clear whether those in the QLD sample were not as well supported generally or if communities didn't function or were, perhaps, just different due to the nature of the flooding/flood experience or geographic distribution. It would be helpful for stakeholders to review why these differences might have emerged, working with counterparts in NSW to review differences in the Jan-Jul 2022 flood events, approaches taken, and ongoing issues.

Finally, data collected in this study provide a baseline on early community recovery. Further longitudinal work can be undertaken to help chart recovery trajectories.



## Challenge areas

In this final section a review of the potential longer-term consequences and challenges posed by issues raised from the research will be briefly presented. These have been condensed into four main areas.

### Loss of trust in institutions

*Well, at this point in time, until we see some changes and some proper funding of organisations that have quality control and built in fail-safe mechanisms and take account of uncertainties with the changes from climate change – until we see that, I don't trust them. If it remains as it is, I would not trust them, and in fact, we will organise just in terms of this local catchment here. NSW009]*

Several of the qualitative themes point to issues that are likely to result in an increasing erosion of trust in a broad range of institutions. At their baldest, these are:

- Perceptions of a lack of transparency in access to, and trust in the accuracy of, flood data.
- Greater reliance on local knowledge, shortcomings in official forecasts, warnings, and dashboard information, and an inability to get local knowledge heard and acted on.
- A sense of being forgotten and abandoned during the floods.
- The lack of acceptance and pushback of community responders during response (local 'heroes' for many).
- The experience of managing the longer-term consequences of overzealous and inexperienced 'helpers' in the clean-up.
- Poor experiences with insurance companies, long waits for assessments, reports, and decisions, being left in limbo, watching the uninsured make progress, and being forced to use expensive suppliers of materials and skills.
- Delayed and complex processes to access emergency relief and recovery support from local and state government agencies.
- Bureaucratic hurdles encountered when trying to gain financial help and support.
- Being disconnected and feeling lost and dehumanised by approaches to temporary housing.
- Feeling exploited by others through their fraudulent and unnecessary applications for grants and perceptions of scams and wastage via insurance work and some government schemes.
- Community exhaustion having to provide support to community with burnt-out volunteers and a lack of support.
- Failures in state and local infrastructure decision-making and maintenance of structures that shouldn't have contributed to worsening the impacts of flooding.
- Perceived lack of action on climate change.

Although this is a 'worst case' list and confronting collectively, it suggests that there are many ways in which trust in institutions is being chipped away. The survey data indicated that although levels of trust in official organisations was still fairly strong, there were some groups whose levels of trust were relatively lower, e.g., those who experienced flooding for the first time in 2022, those who had less time to prepare and take action



before the flooding impacted them, and males. There is also evidence of a preference for relying more on community-generated information on social media and local knowledge, generally.

In interviews, residents' perceptions of a lack of funding at the local government level especially, and many institutions with closed, rigid, and inefficient approaches to issues of significance to them, was leading to a loss of confidence that improvements can or will be made in future. A lack of transparency and openness leads to suspicion, and in turn assignment of ulterior motives, belief in elaborate conspiracy theories, a lack of compassion, and questions around competency. In a time when misinformation and dis-information are rife, it is risky to rest. Open and honest communication and local, direct engagement with communities is needed to build and maintain trust.

As well as appealing to communities in practical ways, there is also a need to appeal to them at an emotional level too. A social licence is based on trust and confidence, some bonds have been broken and need to be healed.

*You would assume that you would get help but we've since learned that you are on your own no matter what. Don't even ask for it because it's not coming, and they made that abundantly clear with the second flood. They just said, "If you're not going to evacuate, we are not coming to rescue you, we are not going to save you, you will not get an ambulance, you will not get the police, you will not get anything" and I went, "I don't need anything. You gave us nothing the first the time, you're offering nothing the second time so why are you wasting your time here? Go and talk to someone who actually wants to listen to you". [NSW085]*

*I would rather that the State and Federal Government made no promises at all during times of natural disasters. Making promises during a time of natural disaster provides you with false hope which compounds the trauma that you are already experiencing when they fail to deliver on their promises. [NSW014]*

The responsibility for re-gaining and maintaining community trust falls to institutions across the entire emergency management system and does not fall to any single institution. Having a presence, being in direct contact with communities, hearing their concerns, signalling intentions when changes are coming or needed, and being around consistently beyond the first few days or weeks after a disaster event to allow for casual contact all help to maintain and support trust.

## Navigating the balance of control

*I think that the way forward is collaboration with emergency services and until they overcome that barrier that they have that says, "Well, we can't run the risk of having people doing stuff unauthorised" or whatever, I think there's going to be no solution to the problems that face us right here. [NSW050]*

The issue of trust continues in this second point. There is a shift underway towards a greater role for communities across emergency management, and this is needed both to engender a genuine sense of shared responsibility, but also to manage the surge in capacity needed to respond to more intense, more frequent, and concurrent and compounding disasters that will be faced in the future with climate change. There is a requirement for the response agencies to relinquish some of their control and power and find additional ways to work with and trust communities. This requires a workforce within emergency and disaster response agencies that have the necessary organisational and communication skills, as well as safe culture, to work in partnership with communities, especially communities that have experienced marginalisation and discrimination, such as Indigenous communities.

*You will always have the community responding to people who need help, so you're better off teaching them how to do that safely than worrying about, "Oh if we have them in some de facto*



*thing then we'll be liable, and dah, dah, dah", you know? They're going to be doing it anyway so at least teach them [NSW039]*

*Ideally, the community will be charged with doing their own rapid assessments because they're the ones who know what's going on, and then feeding that information back over to the SES. So, my big philosophy – this is my take-home message – is that programs from the top coming down, there's this little gap, you know, the sandwich, and they can't get... you know, breaking through the gap – it's never going to happen, no, because that's as far as you can go with your programs. What needs to happen is the community need to be supported to come up and meet those agencies at that point, and that's what's not really happening. [NSW051]*

As the quotes above attest, community will respond regardless. This has been said for many years, in the context of spontaneous volunteering, but it needs to be embraced. The NSW Independent Flood Inquiry recognised the need to find new ways to build critical skills in communities, and the survey data in this study confirms that there is interest and helps to identify where to focus. There is a need for a significant shift in emergency management.

*I think that there's now a bit of paralysis in the SES, like there was in the RFS after the bushfires. You know, they've gone through their internal reviews, they've been the subject of criticism from outside the organisation and no one wants to make decisions. [NSW050]*

The upside of the current post-flood situation is that there are increasing numbers of experienced, talented, creative, and networked individuals in communities who have taken up informal leadership roles in communities and who can work as conduits to encourage and inspire those communities to engage in emergency management activities. Even in communities where these leaders have not yet emerged, there are now individuals, household, and communities that are far more committed to disaster risk reduction and who will want to come along and be part of the change.

*I think sometimes we've become too reliant on the government to help us and even though people are really angry that they had to do it themselves, in a way maybe it's a good wakeup call that ultimately, you're responsible yourself.*

## Emotional impacts

A recurring theme throughout the data in this report is the impact of the flood/s, and all the various issues mentioned, on people's mental health and wellbeing, especially for children and young people. The acute trauma of the flood event/s and the shock for many of suddenly and unexpectedly being displaced and cast into the role of a 'homeless person' are hard to imagine. The sense of being lost, as a person, within the various processes of disaster is expressed in the following quote.

*You are not privy to a lot of things, which I think is pretty sad, because we are human-beings for heaven's sake! You are not - you don't even feel human anymore! Like, where's the interaction? Where's the empathy? Where's it all gone? I grew up in a family of ten. Wow! And this is just so foreign. It is like I have dropped on an alien planet... I am trying to get people to work together, for me! I'm no-one. I am nothing. I am just - I am treated like nothing. That's it! You are just another one of 'them'... And who are 'them'? [#Q2297]*

The sense of helplessness expressed by some residents was distressing, yet perfectly understandable. As mentioned in the broad cross-cutting themes, some people entered the Jan-July 2022 flood/s in less-than-ideal situations, managing financial, mental health and physical health challenges, and social difficulties. Others were well set up and had everything going in their favour, until everything changed.



*He was really like “But you could be any one of us. Your house has never flooded, you work, you’re insured, you’ve got your ducks in a row, you’ve paid your bills, all the rest of it, and you’re totally screwed. You’ve lost everything, insurance is doing nothing, you’re homeless, your kids are gone, haven’t cooked a meal in six months, totally having mental health breakdown and there’s no mental health support”. [NSW098]*

The floods were devastating for most people, and the scale and severity of the flooding was overwhelming. Coming to terms with loss, grieving for those losses, and having those losses acknowledged are important steps towards acceptance and recovery. As some of the quotes in this report have noted, loss of items like lounges and fridges are relatively easy to manage, but some things can never be replaced. Of significance here too, is the example of the indigenous community of Cabbage Tree Island, who have been displaced as a whole community with questions remaining over the return to their homeland, Country.

*Those mental health and those psychosocial issues are probably the biggest impact... I know people that have lost a generation’s worth of breeding stud stock that can’t be replaced, and they’re devastated. That’s not just a financial loss; on farming communities, to lose your precious bloodlines and their beloved ponies, and people... to lose their \$30,000 dressage horse that was their best friend – those sort of impacts, that’s nothing to do with the finances of it in that sense. Some people will never psychologically recover from that. [NSW007]*

*My horses are my babies and I love them, and it breaks my heart that I’ve lost two of them [crying]. I had to look at them as I was evacuated and the look that one of my horses gave me will haunt me until I die. I abandoned her [crying]. [NSW014]*

As those working in disaster recovery will already know, individual recovery trajectories vary greatly. An advantage of conducting this research project 3-12 months post-flood was that communities had passed the post-disaster ‘honeymoon period’ when resources and support were flowing. Many support services were packing up and withdrawing or had disappeared entirely and residents had been able to reflect on what had happened and their change in circumstances. We were able to listen to their experiences and their considered reflections and gather additional information through the survey. The role of (perceived) support checking-in, offering help, and showing empathy continue to be critical to post-disaster recovery.

It was encouraging to hear about the ways people were getting support from one another, and that some were able to access professional mental health support. The ongoing mental health sequelae of the floods will hopefully be tracked to help stakeholders better understand the long-term impacts and the ongoing needs of communities. Longitudinal work following the bushfires in Victoria in 2009; the 10 year Beyond Bushfires project<sup>28</sup>, has been valuable for understanding recovery trajectories following significant natural hazard events and has led to production of a range of resources to support recovery. Stakeholders supporting disaster impacted communities are also recommended to visit the Phoenix Australia disaster mental health hub<sup>29</sup> for further resources.

## More than disaster

*And I guess that’s the important thing about community hubs like ours, that we actually are funded in the service space, and I think what we bring that the rest of the perhaps disaster response forgets is that connection to the rest of the system because it’s not just about what you can get in flood grants, it’s what else you can get in the system, and I think that’s what the team has done so well because when that recovery centre closed, the recovery process continued for*

<sup>28</sup> <https://mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/beyond-disasters/projects/beyond-bushfires>

<sup>29</sup> <https://www.phoenixaustralia.org/disaster-hub/>



*months, and you know, [we're] still working with some families around that. And I think what we also discovered is for the people who came through who were connecting to the system, it wasn't just about the floods. As you work through that, then you're unpacking other things, and then (colleague's name) has found herself actually supporting people with other things, which in fact is what our DCJ funding is for because it's not a clean break, the flood's over, "By the way, I've got all this other stuff going on". ...I think that's an important [thing to] distinguish; we kind of put flood recovery as a nice and neat box and it's not. [NSW108]*

The final point arising from the research, both from flood-impacted residents and interviews with those in community hubs and neighbourhood centres (like the quote above) is the need to view things holistically and operate using a person-centred approach. As mentioned in the cross-cutting vulnerability context theme, disasters amplify pre-existing issues in communities. If the end goal is community resilience, then communities (and individuals) need to be supported and strengthened for peacetime too.

The pursuit of a person-centred, case management approach – which is already a goal in existing practice – should help to ameliorate many of the reported distressing emotions felt by residents moving through the disaster recovery system.