



Department of  
Primary Industries



# Primary producer communication requirements in adverse events needs analysis

Department of  
Primary Industries



**Report title:** Primary producer communication requirements in adverse events needs analysis

**Client:** Department of Primary Industries

**Version:** Final

**Date:** 26 October, 2023

**Cover photo:** NSW DPI © State of New South Wales

This work is copyright of Cred Consulting. Reproduction of this document or any part thereof is not permitted without written permission of Cred Consulting. The ideas, experiences and reflections of all people who were involved in this project or contributed to its findings are acknowledged. Appropriate acknowledgement is requested for the use of any quotations from this document. All reference and image sources are acknowledged and referenced in figure captions and in text citations.

**Disclaimer:** The information contained in this publication is based on research, knowledge and understanding at the time of writing (July 2023).

## **Cred Consulting acknowledges the Traditional Custodians of the lands on which we operate.**

We pay our respects to the Traditional Custodians, Ancestors and Elders, past and present.

We recognise the strength, resilience and contributions of First Nations Peoples, and the eternal and spiritual connection held in the lands, skies and waters, through cultural practices and beliefs.

Our team is proud to live, learn and thrive in the place we now call Australia, and recognise sovereignty has never been ceded by First Nations Peoples of this continent.

As embedded in our values, we are committed to building connected, healthy and resilient communities and creating purposeful outcomes that reflect our deep appreciation for the peoples and cultures that make us who we are and shape where we are going — together as one.

# Table of contents

<b>1.</b>	<b>Introduction</b>	<b>6</b>
1.1	Background	6
1.2	Purpose	6
1.3	Methodology	7
1.4	Glossary and definitions	8
1.5	DPI's role	9
1.6	About adverse events	10
<b>2.</b>	<b>Research findings</b>	<b>12</b>
2.1	Summary of findings	12
2.2	Desktop research findings	14
2.3	What are relevant ways for information about adverse events to be organised and presented to primary producers?	16
2.4	When do primary producers want to receive information about adverse events?	18
2.5	Who do primary producers want to receive information from during adverse events?	19
2.6	Why do primary producers come to government agencies during an adverse event?	21
2.7	Additional findings	21
<b>3.</b>	<b>Needs analysis</b>	<b>22</b>
3.1	Overview	22
3.2	Needs and recommendations	22
3.3	Assessment of communication methods	24

# Executive summary

A recommendation from a review into the 2017–2020 NSW drought was to use a range of information and communication channels to communicate with primary producers. While the NSW DroughtHub is the primary channel used to provide information to primary producers, some primary producers are unaware of it or face issues accessing the information in a timely manner, or that is locally relevant.

This *Primary producer communication requirements in adverse events needs analysis* (the Needs analysis) for the Department of Primary Industries (DPI) identifies the communication preferences of primary producers during periods of adverse events. It is based on a literature review of existing resources and research delivered post 2018, and testing of findings through two focus groups with ten primary producers.

## Overview

Primary producers need communications and information to enable them to prepare for, respond to and recover from adverse events in a manner that mitigates the immediate and residual economic, social and environmental impact to their farm business. Communications needs of individual primary producers depends on many factors, including their geographic location, literacy levels, access to technology, digital connectivity, and level of connectedness to social and community networks.

With a range of adverse events impacting primary producers, and a host of government agencies involved in communicating with them, the need for clear, coordinated and trusted communications from DPI and other agencies has emerged as a priority need. In addition to clarity, ease of access, local relevance, and trusted relationships, primary producers need information in a range of formats depending on the purpose of the information, the immediacy of the adverse event (including during danger periods), and the duration and impact of the adverse event.

## Needs and recommendations

### 1. Preferred channels and methods during adverse events

Research indicates that during periods of adverse events primary producers prefer centralised information, as well as information that is tailored to the local geography from trusted sources. These include:

- digital channels including text messages, apps and social media – useful for immediate and localised messaging
- person to person methods, such as one-stop shops, pop-ups, two-way radios, and community meetings that communicate directly
- radio that has local content and understanding of local conditions
- local Facebook groups, and other community groups.

Websites and hard copy materials are useful for centralising coordinated information about government agencies roles and contact details in the one place. Focus groups with primary producers also indicated that hard copy directories and websites are most useful to prepare for disasters, but not during an adverse event when immediate information is needed.

While emails and websites were identified in a DPI study (2022b) as preferred, focus group participants indicated that emails are no longer trusted given the amount of hacking that occurs, and the difficulty of knowing which email from which group to trust.

***“We should use existing apps wherever possible – I have Hazards Near Me on my phone. We don’t need 4 or 5 different apps – we need one consolidated app.”***  
***- Focus group participant***

## **2. Information most needed during adverse events**

Research indicates that, in general, primary producers have a good understanding of what to do during an adverse event. However, focus group participants indicated a need for information on what to do during the 'emergency' periods of adverse events to protect produce and personal safety.

Given the social and health impacts of disasters both during and after the event, support to navigate systems to seek financial assistance or technical/bio-security information (e.g. stock health) post adverse event are also needed.

Primary producers also need to know which agency is responsible for what aspect of adverse event management.

***“We need relationships with people at DPI. We have relationships with Local Land Services, so those networks can be trusted.”***  
***- Focus group participant***

## **3. Structuring and coordinating information**

Research indicates there is currently no one-stop shop for primary producers to find information about adverse events during the event, with most information about recovery.

While DPI provide information and resources to support primary producers during drought and biosecurity events, there is limited information or strategies in place for how to communicate with primary producers during other adverse events, such as floods, bushfires or pandemics.

Focus group participants also indicated that DroughtHub, as well as other government websites are difficult to navigate, particularly during times of stress. There is a need for timely, reliable, accurate and accessible information to enable primary producers to make effective and well informed decisions.

***“Drought portal needs to be really simply presented and easy to navigate – not everyone is tech savvy and connectivity isn't everywhere.”***  
***- Focus group participant***

## **4. Strategies for communicating with primary producers during adverse events**

To increase access to information and communications during periods of adverse events, the following is recommended:

- Prepare a communications plan that identifies the types of communication methods that will be used depending on the type of disaster and the phase. A range of communication methods should be utilised and overreliance on a single channel, such as a website, needs to be avoided to ensure broad audiences are reached. Table 2 in Section 3 provides an assessment of the benefits and limitations of different channels. Priority channels during adverse events include text messages, in person, local radio, hard copy and local social media.
- Delivery of face to face communications from trusted people including DPI, NSW Local Land Services (LLS), stock and station agents, and local community leaders should be considered.
- Information needs to be centralised and coordinated regardless of government agency responsibility. This includes websites, hardcopy information, and one-stop shop community meetings and pop-ups.
- Information needs to be locally specific and relevant to local conditions to ensure its accuracy and relevance.
- Clarity is needed around the different roles of government agencies across the prepare, respond and recovery phases. This can be provided on websites and in hardcopy, distributed to homes and in community spaces prior to adverse events. Outdated hardcopy materials can result in customer confusion and frustration when they can't connect or find help in their time of need.
- Create a database of local community leaders, community social media groups (e.g. Facebook groups) to distribute information during events.

# 1. Introduction

## 1.1 Background

Communication is central to how primary producers prepare for, respond to and recover from adverse events. However, the communications needs of individual producers depend on many factors, including location, literacy levels, access to technology, or how well networks collaborate, or are connected during adverse events.

The NSW DroughtHub was the primary channel for providing and accessing information on how to maintain long-term business viability during the 2017–2020 drought in NSW. However, feedback identified that many primary producers did not know about DroughtHub, faced constraints in accessing the digital hub, or were unable to find relevant information online and in a timely manner.

In addition to drought, primary producers across NSW have been impacted in recent years by other adverse events, including bushfires, floods, the pandemic, and biosecurity events like the Varroa mite.

Similar communications challenges to those with experience during times of drought are impacting access and use of Department of Primary Industries (DPI) information by primary producers across a broader range of adverse events. A recommendation has been made to use a range of information and communication channels.

## 1.2 Purpose

This *Primary producer communication requirements in adverse events needs analysis* (the Needs analysis) for the Department of Primary Industries (DPI) identifies the communication preferences of primary producers during periods of adverse events.

Using quantitative and qualitative evidence, this research report provides recommendations on:

- the communication channels that are most effective for information distribution to primary producers
- measures of success for communication during periods of adverse events
- strategies to increase the use of communications materials and content during periods of adverse events for decision making by primary producers, and
- the most effective structure for information to be organised for different platforms.

This Needs analysis will support DPI to deliver the best services for their customers during periods of adverse events.



Image source: NSW DPI © State of New South Wales

## 1.3 Methodology

This Needs analysis responds to the following research questions:

- How do primary producers want to receive information?
- What is the most relevant way for information about adverse events to be organised and presented to primary producers?
- When do primary producers want to receive information about adverse events, and from whom?
- Why do primary producers come to government agencies during an adverse event?

### Desktop research

A desktop review of existing international and local research relating to communications during adverse events was undertaken to build understanding about effective communication approaches for delivering important information to primary producers in NSW.

More than 20 local to international studies, surveys and reports dating from 2018 onwards were reviewed to inform this Needs analysis.

*A full reference list is provided in Appendix 1.*

### Focus groups with primary producers

Two online focus groups were conducted with a total of 10 primary producers from across NSW.

The purpose of these focus groups was to truth-test findings from the desktop research, to learn from lived experience and to consolidate recommendations regarding communicating with primary producers during adverse events. The outcomes from these focus groups inform the key findings and recommendations in Section 3 with quotes from the primary producers included throughout this report.

*See Appendix 2 for the Information sheet sent to potential participants, and Appendix 3 for the outcomes of the two focus groups.*



Image source: NSW DPI © State of New South Wales

## 1.4 Glossary and definitions

For the purpose of this Needs analysis, the following definitions are used when referring to communications approaches:

### Communications and information

- **Methods (also known as channels)** are the ways information is shared with the audience, for example in-person conversations, community meetings, written letters, emails, webinars, or radio. Methods can span digital and face to face approaches, and can include written, verbal, visual and audio formats.
- **Platforms** are the specific technological and software systems that facilitate the sharing of information, for example an online meeting held via Zoom, drought resources hosted on the DroughtHub website, or emails sent via Mailchimp.

### Adverse events

An adverse event is broadly defined as a natural disaster and other extraordinary event or incident that has a negative impact on an area, disrupts the community, and causes significant social, environmental and economic damage. These events often have flow-on social impacts, such as stress, mental health effects, and reduced social cohesion.

Types of adverse events most likely to occur in NSW include:

- flood
- drought
- bushfires
- landslides
- storms
- pandemic
- biosecurity emergencies, such as the Varroa mite or Japanese encephalitis virus.

Human behaviour also causes adverse events, such as hazchem spills, environmental degradation and transport accidents.

### Primary producer

For the purpose of this research, Cred adopts the Australian Taxation Office definition.

*“A primary producer is an individual, trust or company carrying on a primary production business, alone or in partnership. You are a primary producer if you run a business of:*

- *plant or animal cultivation*
- *fishing or pearling*
- *tree farming or felling.*

Primary producers are diverse and have differing communications needs. To understand the different communications needs and preferences of primary producers, this research considers the various ages, genders, education levels, literacy skills, digital literacy, and geographic locations – from living near town to areas with telecommunication blackspots – of primary producers.



## 1.5 DPI's role

As outlined on the DPI 'Emergency Management' webpage, DPI has a range of responsibilities in supporting primary producers through adverse events. Under the NSW State Emergency Management Plan, DPI is the appointed combat agency for biosecurity emergencies, and also a support agency as the Agriculture and Animal Services Functional Area in natural disasters and other emergencies.

Alongside partner organisations, DPI provide agricultural, animal and community assistance during emergencies, including:

- assist primary producers, animal owners and the community in preparing for emergencies
- coordinate support during emergencies that impact on animals and plants, including maintaining animal welfare, and
- provide relief assistance to primary producers to help recovery.

DPI provide systems, processes, resources, and tools to manage emergencies and assist in building safer and stronger communities.

Current communications methods and channels used by DPI include:

- Websites, e.g. DroughtHub, NSW State Seasonal Update

- Mobile app, e.g. Farm Tracker app
- Online information portal and tools, e.g. Seasonal Conditions Information Portal, Interactive Combined Drought Indicator.

In addition, DPI work closely with the NSW Local Land Services (LLS) to provide on the ground assistance to primary producers, including advice, resources and contacts leading up to, during, and after an emergency event. LLS operate an agriculture and animal emergency hotline and provide contact details for local staff members who can be contacted in an emergency.

Communications during recent adverse events, such as the COVID-19 pandemic, taught us that the way we access information is changing. This highlights the need to review how DPI communicate with primary producers during these times.

DPI research (as detailed in Appendix 1, reference list) has been undertaken to understand communications preferences of primary producers, which identifies preliminary opportunities for improving content and reach.



## 1.6 About adverse events

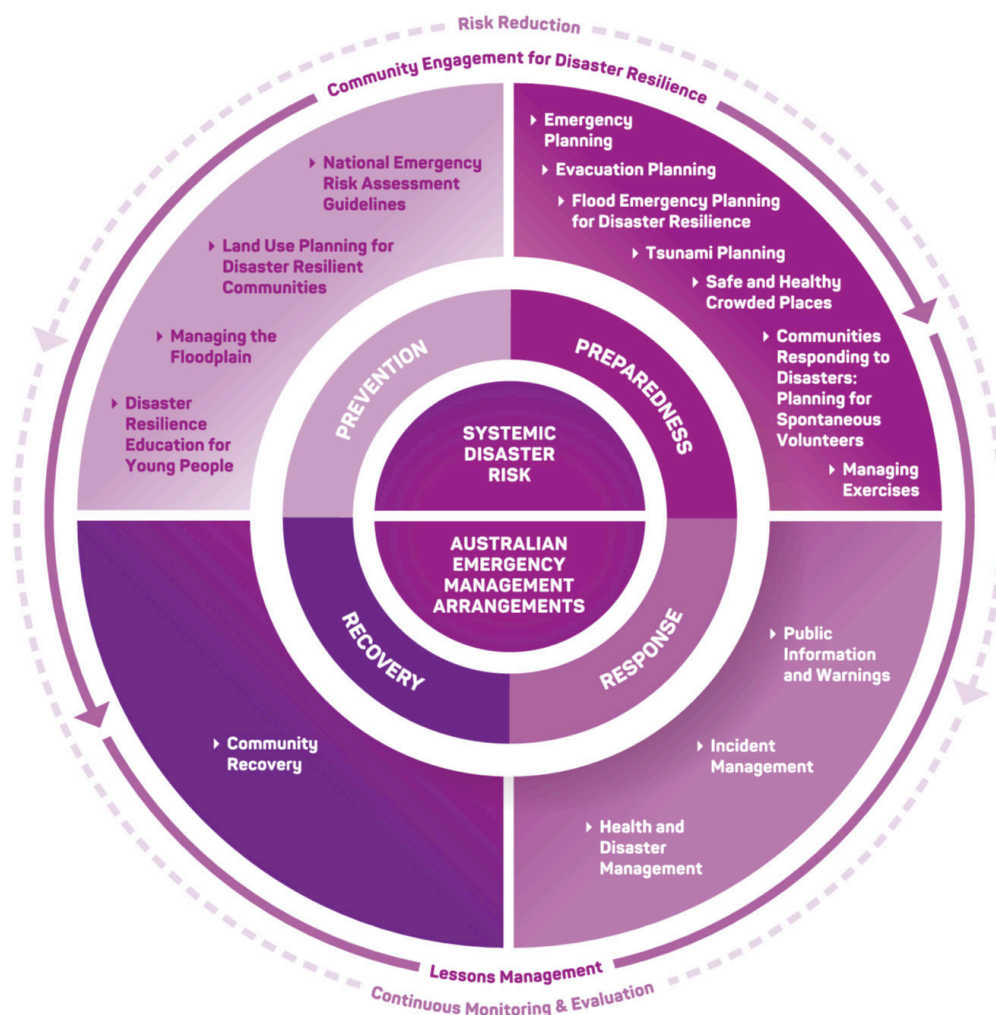
### Phases

As shown in Figure 1, the Australian Institute of Disaster Resilience (AIDR), the National Institute for disaster risk reduction and resilience, identifies four phases in managing adverse events:

- Prevention
- Preparedness
- Response, and
- Recovery.

This research focuses on the '*response*' phase, concentrating on communication approaches for primary producers during periods of adverse events.

Figure 1 - The emergency management cycle represented as a 'policy landscape' (AIDR 2021).



### Adverse events duration and scale

Adverse events range in duration, scale and impact, from local to global. Table 1 provides an overview of event duration depending on the adverse event, as well as the potential scale. Focus group participants indicated that the ‘Immediate’ (also considered the danger period) is a priority time for them to receive trusted and consistent communications about response to adverse events.

*“The impacts might be immediate, but what is the period of danger? What is the difference between what we need to know during the danger period, compared to once the danger is over?”*

*“Some events are short-term, sharp and life threatening, but droughts can be years long. Danger could be a useful word to use when talking about duration – so the duration of the danger of the event.”*

*- Focus group participants*

**Table 1 - Understanding the impact of events duration and scale (source: Reference list Appendix 1 and focus groups with Primary Producers)**

Type	Event duration			Scale		
	Immediate (also considered the danger period)	Short-term	Long-term	Local	Regional	National
Floods and storms	✓	✓		✓	✓	
Drought			✓	✓	✓	
Bushfire	✓	✓		✓	✓	
Landslide	✓	✓	✓	✓	✓	
Biosecurity emergencies		✓	✓		✓	✓

## 2. Research findings

This section summarises findings based on desktop research and highlights approaches to communicating with diverse primary producers during adverse events. *A full reference list is provided in Appendix 1.*

### 2.1 Summary of findings

The desktop review found the following:

- **There is limited research into the communications preference of primary producers across Australia and in NSW even though different agencies provide strategic advice on how to communicate with primary producers.** Focus groups with primary producers, as part of this research project, provide an important evidence-base on the insights, perspectives and lived experience of primary producers.
  - **Primary producers are a diverse group.** Producers vary in age, geographic location, digital literacy and education. Therefore a range of communications methods and formats are required to ensure all primary producers can be reached during adverse events.
  - **Primary producers prefer in-person communication channels, and information that is tailored to the local geography.** There is opportunity to create community networks to disseminate information effectively during an adverse event.
  - **There is no one-stop shop for primary producers to find information about adverse events.** While DPI provide information and resources to support primary producers during drought and biosecurity events, there is limited information or strategies in place for how to communicate with primary producers during other adverse events, such as floods, bushfires or pandemics. This means that primary producers have to seek information and updates from multiple sources, such as SES during a flood or the NSW Rural Fire Service for bushfires.
  - **Most resources focus on preparing for and recovering from adverse events.** In general, there are many resources, such as websites, factsheets and videos, with information on how to prepare for adverse events for the general public. There are also resources and assistance programs to support people recovering from an adverse event.
  - **Telecommunications are not reliable during some adverse events, such as floods and fires.** Many information sources explain that during an emergency, telecommunications and power may not be available, suggesting that individuals cannot rely on one single communication channel.
  - **Radio is a reliable communications channel.** Many government agencies, including Infrastructure Australia and NSW Reconstruction Authority, identify radio communication as the most reliable channel during emergency events and recommend that community members, including primary producers, pack a battery operated UHF radio in their emergency packs.
  - **In general, primary producers have a good understanding of what to do during an adverse event.** Some studies suggest that primary producers have greater understanding about adverse events and how to prepare and respond to emergencies compared with people living in metropolitan areas.
  - **Communications strategies help agencies to collaborate and respond effectively during an adverse event.** Many government agencies recommend a communications and information strategy be prepared to ensure systems are established and can be mobilised effectively when an adverse event arises.
- These findings identify some gaps and opportunities in communications information, and will inform recommendations to DPI on how best to communicate with and support NSW primary producers during an adverse event.

## Focus group testing

In addition to the research, the focus group participants provided some further nuanced understanding of the barriers primary producers face to receiving timely and accurate information during adverse events.

- Given the number of NSW Government agencies now involved in adverse event response and recovery, participants indicated that they are not clear on the different roles of different government agencies which can create confusion on where to get information.
- Website and emails are not a preference because there is a lot of email hacking and they receive so many emails from so many groups it is difficult to know which ones to trust.
- Declining government representatives on the ground with an understanding of local conditions and needs means that a lack of trust, or correct information, is a community challenge.
- The accuracy of information from different sources was also identified as a challenge.

*“Landslides can block key roads, particularly for areas with one road in and out, and when it takes a long time to fix the road – a landslide can impact a lot of people.”*

*“If you have access to people who are independent and don’t have an axe to grind, it’s really helpful. We might need advice or critiques on what we’re doing or planning to do.”*

*“Up until a year ago I had no idea what DroughtHub was, and I’m a connected guy. There’s a massive disconnect, even among those who are very connected. Those who are not connected have no idea what’s happening.”*

*“If the app says you’re on fire and you’re not, you do question the accuracy of the information.”*

*- Focus group participants*

## 2.2 Desktop research findings

### 2.2.1. Channels and formats

Email, the DPI website and apps are the most preferred communications channels among landholders (i.e. NSW farmers), based on the DPI Seasonal Conditions Reporting, Monitoring and Forecasting Survey Report published in October 2022. However, this preference varies across age groups represented in the survey responses. Email was the most preferred channel for respondents between 60–69 years old, while the DPI website and apps were more popular with landholders between 20–39 years old.

Survey results also indicate that landholders have different communications preferences to government employees, research organisations and charities. As shown in Figure 2, landholders like to receive information about drought through face to face presentations, local rural radio, and hard copy in mail. Findings from the NSW Government Drought Relief Measures Evaluation Report (2021) also found that many primary producers struggled to access Rural Assistance Authority (RAA) drought measures, which used online channels, requiring producers to draw on the support of frontline staff to interact with the agency and apply for financial assistance.

Further research identifies that personalised formats are preferred. Research by Bryant, L., Garnham, B. and Posselt M. (2022) into suicide prevention strategies for male farmers in South Australia found there is an overwhelming preference for outreach counselling services to support mental health, as it provides timely assistance when and where it is needed in a discreet and confidential manner, is easily accessible by direct phone call rather than referral through healthcare providers, and can be tailored specifically to support men in farming.

The second stage of Bryant et al.'s research project involved a series of co-design workshops with farmers and suicide prevention groups to develop information resources tailored to male farmers. The resources created through this process include:

- print media articles with personalised stories from farmers
- audio podcasts sharing six farmers' personal stories
- magnetised Mental Health Services Directory at the LGA-level
- drink coasters and bar mats for pubs and clubs
- community calendars with QR codes
- community events and launches of resources, and
- short videos with service providers introducing themselves and their services.

While these are not specific to communications approaches during an adverse event, it indicates the types of communications channels and formats preferred by male primary producers.

### 2.2.2. Language

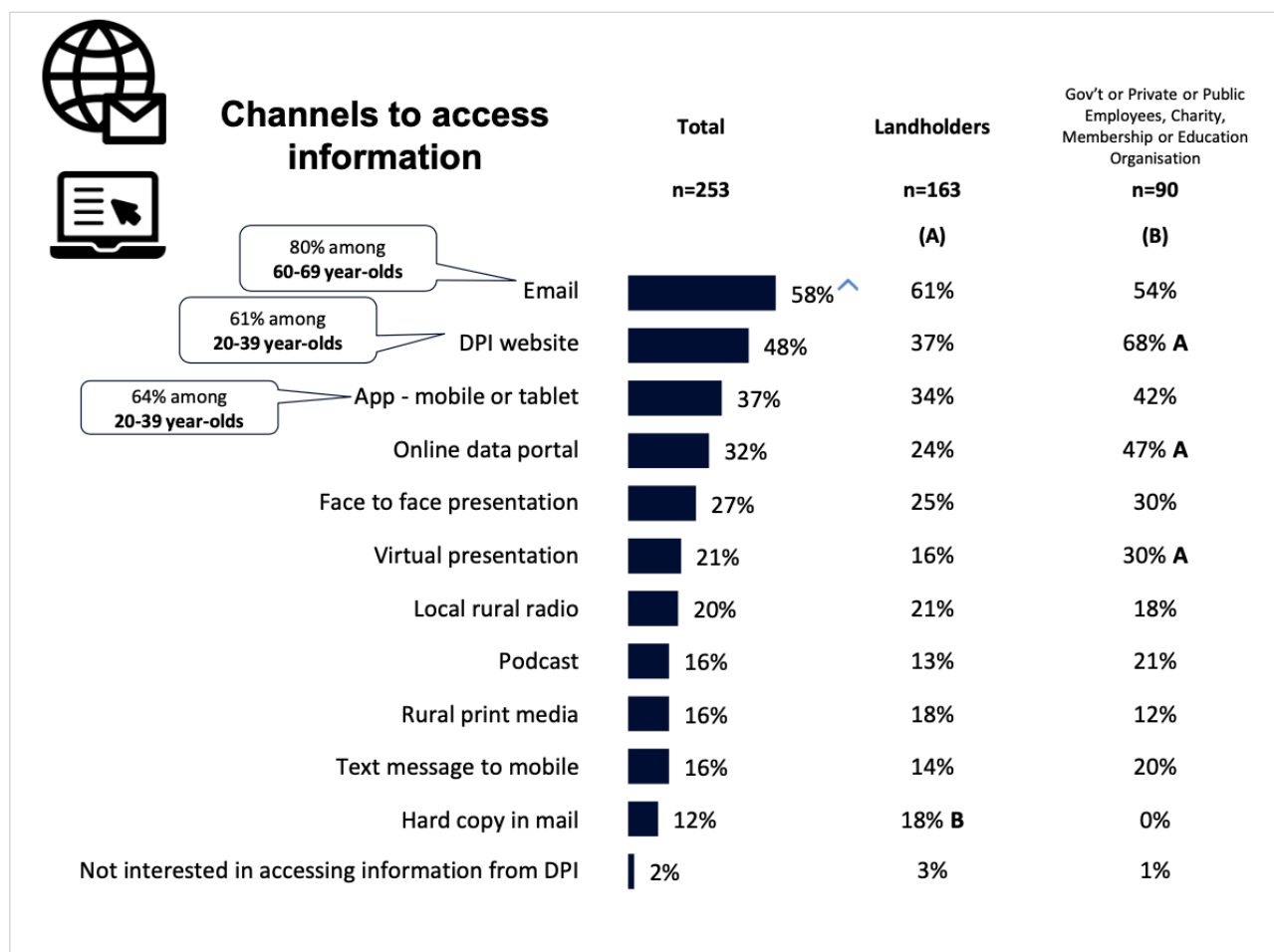
A review of several emergency and crisis preparedness resources and campaigns for the NSW Department of Customer Service in 2023 identified preferred language trends, including:

- simple messaging with a clear call to action, and
- easy to understand and highly localised information.

Research from Whittaker et al. (2021) to understand community preparedness and response to the 2017 NSW Bushfires also found that when it came to information about emergency warnings there was a clear preference for highly localised, up-to-date and useful information.

In addition, the DPI Seasonal Conditions Reporting, Monitoring and Forecasting Survey Report recommends using language and terminologies that resonate with the target audience. For example, one survey respondent asked for “less government styled language”, and other recommendations from the report include using data or visualisations that are easy to interpret and maps that are easy to navigate and view.

Figure 2 - Landholders preferred communications channels during drought events (DPI 2022).



### 2.2.3. Platform

More primary producers are turning to social media to connect with industry contacts and conduct business. Farm Progress' social media survey finds that farmers in the United States access a variety of resources through social media, including articles, photos, video content, podcasts and more. Generally, younger farmers interact with a wider variety of content types, while farmers 65 years and older say they are most likely to interact with short articles. Social media platforms, including Facebook, Twitter and YouTube, are also becoming more popular for streaming, education and news.

Mobile apps, such as FarmTracker, can be downloaded from the App Store or Google Play. The DPI Seasonal Conditions Reporting, Monitoring and Forecasting Survey Report indicates low usage of mobile apps, and notes that "a farmer will usually only try once to find something like that". The report recommends for the NSW DPI FarmTracker app to be more easily found and downloaded by users.

Radio stations are another communications platform. ABC Radio is the primary platform for emergency information. Community radio stations also provide local updates, such as 2CE East Coast Radio, Shoalhaven FM, or Highland FM.

## 2.3 What are relevant ways for information about adverse events to be organised and presented to primary producers?

Online podcasts are also becoming more commonplace. For example, LLS regional teams have launched various podcast series, tailored to different regions in NSW, and which provide expert advice, tell local stories and share relevant information for producers.

While the above highlights different platforms for sourcing information in emergencies, overall, there is limited information about the platforms favoured by primary producers in NSW.

### 2.3.4. Key findings

- The communications channel preferences among primary producers differ depending on age. For example, a DPI survey (2022b) indicates that primary producers between 60–69 years prefer email, while primary producers between 20–39 years are comfortable with and prefer to access information from websites and apps.
- Primary producers have different communications channels preferences compared with other stakeholders, with a general preference for hard copy and face-to-face channels, and formats such as in-person presentations, local radio, and hard copy in mail.
- Language that is simple with clear messaging and calls to action is recommended for emergency and crisis campaigns. There is also a preference for localised information.

**Research indicates there is no one way to present and organise information for primary producers**, and that how information is presented will depend on the adverse event and the target audience. Further, the DPI Drought Relief Measures Evaluation Report (2021) recommends that a range of information and communications channels be used when informing primary producers about drought conditions and measures.

However, responses from the DPI survey report (2022b) indicates that primary producers value information presented in the following ways:

- Fact sheets with simple messaging that is easy to digest and outlines key information (25% of landholder survey respondents indicated that difficulty in understanding the data and information provided about drought is a barrier to drought preparedness)
- In-person communication – for example, information sessions, presentations, or liaising with staff on the ground
- Maps, charts and tables can help primary producers to better comprehend the information.

While online hubs and mobile apps provide a centralised platform for information, the DPI survey (2022b) indicates that these channels are not widely used by primary producers. Survey responses show that 64% of landholders are satisfied with DroughtHub, and only 14% are satisfied with the FarmTracker app. **There is opportunity for DPI to improve the user experience of their websites and apps and to tailor content for primary producers.** For example, the ability to export data from the website will allow producers to perform their own analysis, and users with limited internet to interact with the data offline.



### 2.3.1. Social capital

Leneman et al. (2021) indicate that **social capital, i.e. the potential to benefit from social relations, is especially important during crises**. Similarly, the DCS (2023) review of emergency and crisis communications found that community connectedness and cohesion is critical for increasing resilience and mitigating impacts of adverse events.

Many studies suggest community involvement is essential for information dissemination, and that **connected communities can activate formal and informal networks in emergency situations**. In addition, Khan et al. (2022) also suggest that involving communities in emergency planning and decision-making can help to build trust with government agencies.

### 2.3.2. Essential information

The Disaster Response Playbook (2022), provides guidance to the energy sector around the roles, processes, and use of emergency response agency information during emergencies. It recommends the following information be provided to customers during disaster events:

- Information on how to stay safe during the event.
- Information on how to report hazards or loss of supply.
- Messaging reassuring that emergency coordination knows about them and their situation during a disaster event.

The playbook also indicates that communication needs to be:

- consistent
- practical and community appropriate, including translating severe weather information to be easy to understand
- timely and coordinated, and
- tailored to the needs of specific customer groups, e.g. people with limited mobility, people who may experience a prolonged outage and people in remote locations.

### 2.3.3. Geographic location

Localised information is most useful for primary producers. The DPI Seasonal Conditions Reporting, Monitoring and Forecasting Survey Report, published in October 2022, indicates that landholders would like to receive information at the LGA level (75%), followed by farm level (51%) and then State-wide overview (43%) when making decisions about managing extreme seasonal conditions.

### 2.3.5. Key findings

- Present information in a range of formats to increase reach. Where possible, use simple messaging, easy to understand language, and tailor information to the needs of primary producers.
- Provide information at the LGA-level.
- Use social capital to help disseminate information. AIDR suggests that communities that are more socially connected and cohesive are more likely to be resilient and bounce back from adverse events.
- While websites are useful for finding information in a central location, survey results suggest that primary producers are less likely to use websites and apps for information about adverse events.

## 2.4 When do primary producers want to receive information about adverse events?

Finding the right balance between providing enough information without overwhelming the recipient is crucial in effective communication. Khan et al.'s (2022) research into risk communications through the COVID-19 pandemic found that excessive communication can have negative effects. For example, it can lead to misinformation, or be overwhelming, resulting in feelings of anger, frustration, undue fear, and even self-harm.

On the other hand, insufficient communication can result in confusion, high dependence on rumours, and fear. Khan et al. recommend that government agencies aim for 'adequate communication', providing people with enough information to understand precautions, consider measures and make informed decisions.

Regarding primary producers, research suggests that NSW farmers want to receive information prior to an adverse event where possible, to prepare and/or make decisions on how to respond and mitigate potential impacts. For this reason, weather and seasonal climate forecasts reports are essential for primary producers.

The DPI Drought Relief Measures Evaluation Report (2021) found that recent drought-relief measures were successful in providing immediate drought relief, supporting primary producers in maintaining the welfare of their livestock, and enabling primary producers to continue to operate their businesses and spend money in the community.

### **Case study: Queensland Government supported primary producers through the COVID-19 pandemic by proactively checking in**

Responding to the COVID-19 pandemic, the Queensland Government Department of Agriculture and Fisheries (DAF) created more than 100 Agricultural Coordination Officer (ACO) roles with the purpose to support primary producers, the agriculture industry and local governments.

ACOs are locality based and equipped with industry experience, skills and contacts to provide rapid assistance to primary producers in emergency scenarios. Key roles include:

- proactively checking-in with stakeholders to see how they are going and ensure that they have the information needed to manage their situation
- providing a key coordination role acting as a Case Manager representing agricultural interests impacted by an event, and

- communicating with businesses subject to specific government directives to ensure they are aware of their obligations and to assist them in meeting those obligations.

The Minister for Agricultural Industry explained that DAF staff have always worked closely with producers:

*"In these extraordinary times, we will build on these existing relationships to provide coordinated, timely support, including assisting producers and industry to access relevant information quickly without having to navigate a myriad of websites and in some cases with limited or no connectivity."*

DAFs Disaster Management Plan: 2021–22 Disaster Season indicates that ACOs will continue to support primary producers to recover from adverse events, such as the coronavirus pandemic and floods.

## 2.5 Who do primary producers want to receive information from during adverse events?

The evaluation also indicates that primary producers will not consume information unless required. It notes there was greater awareness of measures when primary producers were required to access them. When primary producers were not required to take steps to access a measure, the measure tended to contribute less to their decision-making. This indicates that primary producers may not seek information or adopt measures unless required, which poses a potential challenge for communications during adverse events with longer durations, such as drought and biosecurity events, where immediate impacts may not be felt.

### 2.5.1. Key findings

It is important to find the right balance between providing enough information without overwhelming the recipient.

AIDR's Australian Emergency Management Arrangements resource (2019) states that dealing with emergencies requires shared responsibilities, and identifies the following stakeholders as having roles:

- Australian Government
- State government
- Local government
- Communities
- Families and individuals
- Schools and school communities
- Emergency management volunteers
- Critical infrastructure owners and operators
- Businesses, industry and primary producers
- Residential and small businesses
- Land use planners
- Design, building and construction industries
- Insurance industry
- Non-government organisation
- Not-for-profit sector
- Natural resource management bodies
- Broadcasters and information dissemination mechanisms
- Scientists and researchers.

Primary producers obtain information from various sources to build their understanding and help make informed decisions. Where primary producers source information will vary from context to context, and will depend on the adverse event.

Regarding biosecurity events, DPI (2022a) research found that approximately one in four primary producers surveyed had no preference as to who provided the biosecurity resources. In terms of specific providers of biosecurity resources, primary producers expressed a higher level of preference for DPI.

Some of the sources where primary producers currently receive information include:

- **Industry associations, such as NSW Farmers Association.** Many primary producers are members of associations or cooperatives. These organisations provide valuable information about market conditions, supply chain disruptions, and opportunities for support and collaboration during adverse events, such as biosecurity emergencies and drought.
- **Government agencies.** DPI for example has a role to play in providing information about biosecurity events and drought, and work to provide information to primary producers.
- **Emergency services, such as Rural Fire Service (RFS) and State Emergency Services (SES).** Primary producers may depend on emergency services for up to date information and emergency warnings. For example, during the 2019–2020 NSW Bushfires, the RFS ‘Fires Near Me’ webpage and app was widely used to track fire activity.
- **Community networks.** Primary producers often rely on their local farming communities for information sharing and assistance. Word-of-mouth communication and informal networks play a crucial role in distributing information during adverse events.
- **Meteorological agencies, such as Bureau of Meteorology (BoM).** Primary producers rely on meteorological agencies for accurate weather forecasts and early warning alerts. Timely information about severe weather events, such as storms, floods, and droughts, helps Producers to prepare for and mitigate the potential damage from weather events. DPI (2022b) research indicates that BoM is the most used and known source for weather and climate information. While the DPI Climate webpage provides information on seasonal conditions and drought, usage by primary producers is low.
- **Scientists.** Marjan et al. (2021) indicate that scientists are a more trusted source of official information than government agencies, however scientists rarely play a role in emergency response communication.

Local, trusted sources are also important for information and support. Findings from community engagement undertaken by Cred Consulting for Snowy Valleys Council ‘Our Connected Community Roadmaps’ (2022) indicates that community hubs are important places for people living in regional and rural localities to source essential information and receive support during and after an adverse event. Local service outlets and social connectors, such as post offices, libraries and RSLs, were also identified as places where residents go for information and to receive emergency support.

Many residents residing in localities across the Snowy Valleys also requested noticeboards be installed in village centres. Noticeboards can facilitate direct communication between residents, government agencies and emergency services during adverse events, such as information about evacuation plans, weather warnings and emergency contacts, and can also serve as a platform for residents to share assistance offers.

### 2.5.2. Key findings

- Primary producers receive information from various sources, including government agencies, emergency services, industry associations, as well as community networks.
- Information about who primary producers in NSW want to receive information from during adverse events is limited, and requires further consultation with primary producers.

## 2.6 Why do primary producers come to government agencies during an adverse event?

There is limited information on why primary producers come to government agencies during an adverse event, however, research suggests that producers depend on government agencies for up-to-date and legitimate information, financial assistance, and coordination with other agencies.

- **Information dissemination.** During adverse events, government agencies generally act as authoritative sources of information. For example, during the COVID-19 pandemic, NSW Health were responsible for delivering case updates, determining prevention measures, and providing advice to community, business, support services, and health practitioners.
- **Financial assistance and relief programs.** Many government agencies establish relief programs that assist primary producers to prepare and recover from adverse events. These programs may offer financial assistance, grants, or low-interest loans to help producers rebuild and resume their operations. For example, the Australian Government Drought Assistance Fund supports eligible primary producers with future drought preparation, payment for outstanding bills, fodder or water, or to implement drought recovery activities.
- **Consultation and coordination with other key stakeholders.** Government agencies are well placed to work alongside emergency services, non-government organisations, and other government agencies and stakeholders to undertake consultation, pool resources, and coordinate responses during adverse events.

Focus groups with primary producers will help to further understand why primary producers come to government agencies during an adverse event.

## 2.7 Additional findings

Additional findings were identified in the desktop review which may be of relevance to DPI when communicating with primary producers during an adverse event.

- **Some messages need to follow existing nation-wide protocols.** Across Australia, some hazards, such as bushfire and tsunamis, have nationally agreed warning frameworks that set out different levels of alert and message content. In some jurisdictions, there are agreed warning frameworks that are used across multiple hazards. Where relevant, issuing evacuation warnings should be consistent with these frameworks.
- **Government agencies should work alongside community representatives.** The AIDR Evacuation Planning Handbook recommends that government agencies with previous relevant experience or good local knowledge to help identify assembly points and egress routes, and provide critical advice (such as telephone blackspots and poor coverage, suitable radio stations, and effectiveness of evacuation routes in previous events). Local knowledge may also assist in identifying groups with specific needs in the affected communities.

## 3. Needs analysis

### 3.1 Overview

Primary producers need communications and information to enable them to prepare for, respond to and recover from disasters.

Under the NSW State Emergency Management Plan, DPI is the appointed combat agency for biosecurity emergencies, and also a support agency as the Agriculture and Animal Services Functional Area in natural disasters and other emergencies. Alongside partner organisations, DPI provides assistance to primary producers, animal owners and the community in preparing for emergencies, assists in coordinating support during emergencies that impact on animals and plants (including maintaining animal welfare), and provides relief assistance to primary producers to help recovery.

With a range of disasters impacting primary producers, and a range of government agencies involved in communicating with primary producers, the need for clear, coordinated and trusted communications from DPI and other agencies is a priority. Focus groups highlighted the need for clarity around the roles of different government agencies during disasters, as well as receiving information from trusted sources both in person and digitally.

In addition to clarity and trusted relationships, primary producers need information in a range of formats depending on the purpose of the information, the immediacy of the adverse event (including during danger periods) and the duration and impact of the disaster.

### 3.2 Needs and recommendations

#### 1. Preferred channels and methods during adverse events

Research indicates that during periods of adverse events primary producers prefer centralised information, text messages, in-person communication channels, and information that is tailored to the local geography from trusted sources. These include:

- digital channels including text messages, apps and social media – useful for immediate and localised messaging
- person to person methods, such as one stop shops, pop-ups, two-way radios, and community meetings that communicate directly
- radio that has local content and understanding of local conditions
- local Facebook groups, and other community groups.

Websites and hard copy materials are useful for centralising coordinated information about government agencies roles and contact details in the one place. Focus groups also indicated that hard copy directories and websites are most useful to prepare for disasters, but not during an adverse event when immediate information is needed.

While emails and websites were identified in a DPI (2022b) study as preferred, focus group participants indicated that emails are no longer trusted given the amount of hacking that occurs, and the difficulty of knowing which email from which group to trust.

## 2. Information most needed during adverse events

Research indicates that in general primary producers have a good understanding of what to do during an adverse event. However, focus group participants indicated a need for information on what to do during the 'emergency' periods of adverse events to protect produce and personal safety.

Given the social and health impacts of disasters both during and after the event, support to navigate systems to seek financial assistance, or technical/bio-security information (e.g. stock health) post adverse event are also needed.

Primary producers also need to know which agency is responsible for what aspect of adverse event management.

***“We need relationships with people at DPI. We have relationships with local land services, so those networks can be trusted.”***  
***- Focus group participant***

## 3. Structuring and coordinating information

Research indicates there is currently no one-stop shop for primary producers to find information about adverse events during the period of the event, with most information about recovery.

While DPI provide information and resources to support primary producers during drought and biosecurity events, there is limited information or strategies in place for how to communicate with primary producers during other adverse events, such as floods, bushfires or pandemics.

Focus group participants also indicated that DroughtHub, as well as other government websites are difficult to navigate, particularly during times of stress. There is a need for timely, reliable, accurate and accessible information to enable primary producers to make effective and well informed decisions.

***“Drought portal needs to be really simply presented and easy to navigate – not everyone is tech savvy and connectivity isn't everywhere.”*** - Focus group participant

## 4. Strategies

To increase access to information and communications during periods of adverse events, the following is recommended:

- Prepare a communications plan that identifies the types of communication methods that will be used depending on the type of disaster and the phase. A range of communication methods should be utilised. Overreliance on a single channel, such as a website needs to be avoided to ensure broad audiences are reached. Table 3 provides an assessment of the benefits and limitations of different channels. Priority channels during adverse events include text messages, in person, local radio, hard copy and local social media.
- Delivery of face to face communications from trusted people including DPI, LLS, stock and station agents, and local community leaders should be considered.
- Information needs to be centralised and coordinated regardless of government agency responsibility. This includes websites, hardcopy information, and one-stop shop community meetings and pop-ups.
- Information needs to be organised to be locally specific and relevant to local conditions to ensure its accuracy and relevance.
- More clarity is needed around the different roles of government agencies across the prepare, respond and recovery phases. This can be provided on websites and in hardcopy distributed to homes and in community spaces, prior to adverse events. Outdated hardcopy materials can result in customer confusion and frustration when they can't connect or find help in their time of need.
- Create a database of local community leaders, community social media groups (e.g. Facebook groups) to distribute information during events.

### 3.3 Assessment of communication methods

Research completed for this Needs analysis indicates there are a range of ways to communicate during an adverse event.

- Digital channels, including text messages, apps, local radio and social media are useful for immediate and localised messaging.
- In-person methods, such as door knocking or community meetings, can be used to communicate directly.
- Websites and hard copy materials are useful for collating information about government agencies roles and contact details, in the one place.
- Selecting the appropriate communications channel will depend on the type of adverse event, the information that needs to be communicated, and the target audience.

Table 2 provides a summary of the different communications channels and tools available, as well as the benefits and limitations during adverse events and examples, as identified through the desktop research review.

*“ABC radio (from Tamworth) was a key point of info during bushfires. Everyone could access it and it was important during immediate response. We were also getting emergency alerts on our mobile phones which was really good. But there are varying ranges of connectivity in the district. Power outages were common during fires with issues recharging phones and getting connection.”*

*“Word of mouth is a good thing. It’s important to identify who the trusted network is in the local area, and use that network.”*

*“Text messages are the best way, and automated phone calls. It all depends on the urgency. The issue with that is you often lose signal in disasters. In most cases, you have to go back to ABC radio. The local stations will jump in over the top of the program and provide live updates.”*

*“There are two main areas where info is disseminated – local saleyards and local produce stores (all agricultural producers are there). Everyone has a relationship with those people. A pop up stall at those locations could be good.”*

*“Factsheets explaining drought monitoring are not useful during adverse events. If you’re in drought, you know you’re in drought. Factsheets and flyers are a waste of money and are thrown in a corner. This is all online and most people can access someone who can help them get that info.”*

*“Community sessions and drought recovery days are often located really far away. In a time when you have a million other things on and no money, it’s really hard. We need these things to be more local. Some areas offer shuttle buses to a government service where you can do admin things like apply for a license. One stop shop.”*

*- Focus group participants*



Table 2 - Summary of benefits and limitations of communication methods (source: Desktop research, see Appendix 1, and focus group testing)

Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<b>Digital and broadcasting communications methods</b>			
<b>Website</b>	<ul style="list-style-type: none"> <li>• Generally handles high traffic loads and can have in-built redundancy.</li> <li>• Collates information in one central platform.</li> <li>• Opportunity to provide real time information.</li> <li>• Can provide information in various formats, including text, illustrations, audio, video and maps.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires internet access and power.</li> <li>• Requires access to computer, mobile phone, or tablet, and digital literacy.</li> <li>• Telecommunications infrastructure can be impacted during some adverse events, such as bushfire and storms.</li> <li>• May not be easy to navigate and therefore is not immediate particularly in times of danger when emergency information is required quickly.</li> <li>• Requires up to date, real time, and localised information.</li> </ul>	<ul style="list-style-type: none"> <li>• NSW DPI DroughtHub</li> <li>• NSW Farmers 'Emergency contacts'</li> <li>• New Zealand Government 'Resources for adverse events'</li> </ul>
<b>Apps</b>	<ul style="list-style-type: none"> <li>• Ability to send push notifications when there are new incidents, emergencies, or information changes.</li> <li>• Present information in engaging formats, e.g. interactive maps.</li> <li>• Provides real time information.</li> </ul>	<ul style="list-style-type: none"> <li>• May not have mobile technology or digital literacy.</li> <li>• Requires up to date, real time, and localised information. There are also competing apps with different information.</li> <li>• Dependent on power and internet access. Telecommunications infrastructure can be impacted during some adverse events, such as bushfire and storms.</li> </ul>	<ul style="list-style-type: none"> <li>• Farmtracker NSW helps users to monitor seasonal conditions and connects users to other useful government services.</li> <li>• Hazards Near Me NSW provides real time information about emergency events and advice on how to stay safe. <i>This app is supported by focus group participants but concern about accuracy of information.</i></li> </ul>

Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<p><b>Social media</b></p>	<ul style="list-style-type: none"> <li>• Opportunity to provide real time information and quick updates.</li> <li>• Increasingly used by emergency services to disseminate information.</li> <li>• Information can be shared in existing trusted local community social media groups (e.g. local Facebook groups).</li> <li>• Social media groups provide a forum for users to give opinions and raise issues.</li> <li>• Can organise paid ads to increase reach.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires access to computer, mobile phone, or tablet.</li> <li>• Some Primary Producers may not have internet access.</li> <li>• Dependent on power and internet access. Telecommunications infrastructure can be impacted during some adverse events, such as bushfire and storms.</li> <li>• Requires digital literacy.</li> </ul>	<ul style="list-style-type: none"> <li>• Facebook pages and online community groups</li> <li>• Instagram</li> <li>• Twitter</li> </ul>
<p><b>Television</b></p>	<ul style="list-style-type: none"> <li>• Broadcast news and updates on local TV networks.</li> <li>• Relies on TV signals, which can be more reliable than Internet signals.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires power.</li> <li>• Unlikely to watching TV in an emergency, more likely to go out to paddocks and listen to radio.</li> <li>• TV does not provide localised information anymore.</li> </ul>	<ul style="list-style-type: none"> <li>• Television, mobile phone or tablet.</li> </ul>
<p><b>Phone calls</b></p>	<ul style="list-style-type: none"> <li>• Landline phones are reliable and will continue to work during power outages.</li> <li>• Emergency services can pinpoint the location of callers.</li> <li>• Opportunity to conduct phone tree, which are effective for communicating urgent information.</li> </ul>	<ul style="list-style-type: none"> <li>• Telecommunications infrastructure can be impacted during some adverse events, such as bushfire and storms.</li> <li>• Personal phones are unsustainable and use significant resources which would not be time efficient during emergencies.</li> </ul>	<ul style="list-style-type: none"> <li>• Not recommended.</li> </ul>

Primary producer communication requirements in adverse events needs analysis

Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<b>Text messages</b>	<ul style="list-style-type: none"> <li>• Can send localised emergency alerts and brief information updates.</li> <li>• Opportunity to send mass text messages, reaching up to 10,000 at a time meaning very efficient during emergencies.</li> <li>• Opportunity to send multimedia messages (MMS).</li> <li>• Text messages are a preferred tool identified by focus group participants.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires power and phone reception.</li> <li>• There may be privacy legislation or issues regarding contacting people by text.</li> </ul>	<ul style="list-style-type: none"> <li>• Neighbourhood Care Network in Bellingen send text messages to provide alerts and information.</li> <li>• Emergency Alert is the national telephone and text-based alerting system used by emergency services to deliver messages to mobile and landlines in an identified warning area.</li> </ul>
<b>Radio</b>	<ul style="list-style-type: none"> <li>• Battery-operated radios do not rely on telecommunications or power and are very reliable in emergency situations.</li> <li>• Accessible for people with low literacy.</li> <li>• Opportunity to deliver information in languages other than English.</li> <li>• Generally stream their programs online for free, enabling you to listen back.</li> <li>• Usually used out on the paddock where Primary Producers are likely to be.</li> <li>• Local radio is a preferred tool identified by focus group participants.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires radio station to be producing and on air during an adverse event.</li> <li>• Relies on power to transmit.</li> <li>• Reduced local radio stations, with ABC radio no longer localised.</li> </ul>	<ul style="list-style-type: none"> <li>• ABC Radio.</li> <li>• Community radio stations, e.g. 2CE East Coast Radio or Shoalhaven FM.</li> <li>• The Standard Emergency Warning Signal (SEWS) is a warning siren that can be played on television and radio that is immediately followed by a warning message with a clear action call.</li> </ul>
<b>Email</b>	<ul style="list-style-type: none"> <li>• Can be easily targeted to a specific audience.</li> <li>• Ability to hyperlink to other information within the email.</li> <li>• Easily distributed through existing community networks or mailing lists.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires digital literacy.</li> <li>• Difficulty in maintaining contact details.</li> <li>• Requires power and internet access.</li> <li>• Risk of newsletter being allocated to 'spam'. Focus group participants indicated they do not trust emails and receive too many emails to know which one to refer to.</li> </ul>	<ul style="list-style-type: none"> <li>• Not recommended.</li> </ul>

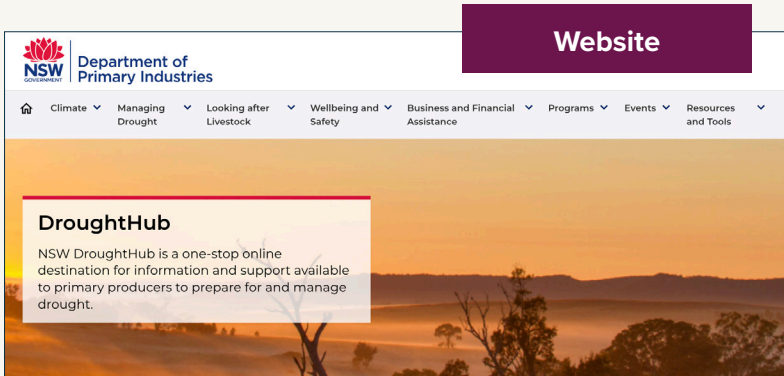
Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<b>Podcasts</b>	<ul style="list-style-type: none"> <li>Share important and useful information in interactive way.</li> <li>Opportunity to download in advance.</li> </ul>	<ul style="list-style-type: none"> <li>Requires digital literacy.</li> <li>Not time relevant, not localised. Not identified as a channel by focus group participants.</li> </ul>	<ul style="list-style-type: none"> <li>Requires access to computer, mobile or tablet.</li> <li>Local Land Services 'Seeds for Success' podcast series.</li> </ul>
<b>Virtual meetings and presentations</b>	<ul style="list-style-type: none"> <li>Opportunity to organise spontaneous meetings in urgent scenarios.</li> <li>Potential to reach larger audience.</li> </ul>	<ul style="list-style-type: none"> <li>Requires digital literacy.</li> <li>Requires power and internet access.</li> </ul>	<ul style="list-style-type: none"> <li>Requires access to computer, mobile or tablet.</li> </ul>
<b>In-person and analog communications methods</b>			
<b>Door-knocks</b>	<ul style="list-style-type: none"> <li>Engage with and support community members that are socially isolated and/or vulnerable.</li> <li>Direct communication channel.</li> <li>Not reliant on technology.</li> </ul>	<ul style="list-style-type: none"> <li>May not be able to access remote locations during some adverse events, such as floods and fires.</li> <li>Would need to be a trusted person to be safe, people generally don't like random "drop-ins".</li> <li>Unsustainable in terms of human resourcing, would require volunteers and/or assistance officers.</li> <li>High risk of incorrect information/inability to monitor or control information quality or customer experience.</li> </ul>	<ul style="list-style-type: none"> <li>NSW SES Community Liaison Teams conducted door knocking to provide flood-affected residents in Lismore and Murwillumbah with clean-up advice.</li> </ul>
<b>Two-way radio</b>	<ul style="list-style-type: none"> <li>Two-way radios are reliable and will continue to work during power outages.</li> <li>Low cost equipment to access people without access to technology.</li> </ul>	<ul style="list-style-type: none"> <li>Risk of incorrect information being delivered.</li> <li>Probably more effective for person to person communication, than mass delivery of information.</li> </ul>	<ul style="list-style-type: none"> <li>Reportedly landholders in Eugowra have invested in two-way radios as an effective communication tool.</li> </ul>

Primary producer communication requirements in adverse events needs analysis

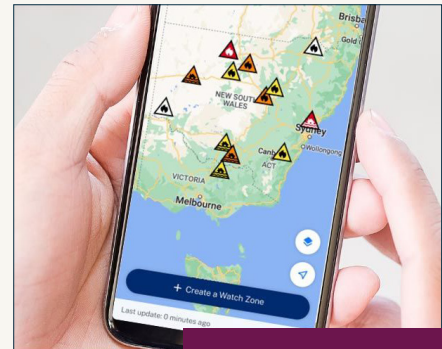
Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<b>Community meetings and forums</b>	<ul style="list-style-type: none"> <li>• Direct communication channel.</li> <li>• Provides opportunity to ask questions, receive immediate answers and discuss options alongside peers.</li> <li>• Builds social capital by up-skilling Primary Producers and improves community connection.</li> <li>• In-person contact is consistently identified as the most effective, efficient and trusted form of communication.</li> <li>• Provide broad information to the community as a whole.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires Primary Producers to be aware of the meeting, have the time and means to physically attend. Must be well communicated in multiple formats including posters in shops, text messages etc.</li> <li>• Potential for community conflict and emotional views to be expressed without mediation.</li> <li>• Could be challenges if there are dangerous events, and when Primary Producers are occupied keeping their produce safe.</li> <li>• Requires access to meeting spaces.</li> </ul>	<ul style="list-style-type: none"> <li>• It is recommended that community meetings include seats, tables and light refreshments.</li> </ul>
<b>Community sirens</b>	<ul style="list-style-type: none"> <li>• Provides immediate alert and call to action.</li> </ul>	<ul style="list-style-type: none"> <li>• Not all localities have community sirens installed.</li> </ul>	<ul style="list-style-type: none"> <li>• Victoria's Country Fire Authority have been working with townships to install community sirens.</li> </ul>
<b>Pop-ups/one-stop shops/community hubs</b>	<ul style="list-style-type: none"> <li>• All information/government agencies in one place to access information and receive support, making it easier for Primary Producers to get the right information from the right people.</li> <li>• Can be held anywhere – parks, marquees, local shops etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Opening hours may be limited.</li> <li>• Resource intensive, particularly when adverse event such as drought is dispersed over a large geographical area.</li> </ul>	<ul style="list-style-type: none"> <li>• Hawkesbury River Council's Recovery Centres and Community Hubs equip residents with information and resources to recover from emergency events, including flood and fire.</li> </ul>
<b>Noticeboards</b>	<ul style="list-style-type: none"> <li>• 24-hour service provision.</li> <li>• Allows community members to offer assistance.</li> <li>• Allows community members and emergency services to update.</li> <li>• Can facilitate a local meeting place.</li> </ul>	<ul style="list-style-type: none"> <li>• Can be damaged.</li> <li>• No control over, or knowledge of, who receives and does not receive the information.</li> <li>• Information can become outdated if not monitored and managed.</li> </ul>	

Methods	Benefits during adverse events	Limitations during adverse events	Tools and examples
<b>Posters</b>	<ul style="list-style-type: none"> <li>• Can be put up in local shop/workplace.</li> <li>• Provides essential information in engaging format.</li> <li>• Ability to localise issues and information.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires physical distribution.</li> <li>• Content is set once printed and it not real-time.</li> </ul>	
<b>Fridge magnet/ contact directory</b>	<ul style="list-style-type: none"> <li>• Ability to localise information and contact details.</li> <li>• Useful for “who to contact” information.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires physical distribution.</li> <li>• Content is set once produced.</li> </ul>	
<b>Factsheets and flyers</b>	<ul style="list-style-type: none"> <li>• Physical copy can be retained for later use.</li> <li>• Easy to produce and use.</li> <li>• Can be read in privacy, at a time of their choosing.</li> <li>• Can be dropped in letterboxes or slid under doors.</li> <li>• People can pass them on to others.</li> <li>• Can be made available on websites.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires literacy skills.</li> <li>• Can be easily lost or damaged.</li> <li>• Requires physical distribution.</li> <li>• Content is set once printed.</li> </ul>	
<b>Local newspapers</b>	<ul style="list-style-type: none"> <li>• Provide information relevant to the geographical area.</li> <li>• Existing level of trust and respect.</li> <li>• Opportunity to share local stories.</li> <li>• Opportunity to promote community networks and emergency contacts details.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires literacy skills.</li> <li>• Requires printing.</li> <li>• Content is set once printed.</li> <li>• Requires local paper to be operating during an adverse event.</li> <li>• Reduced local newspapers.</li> </ul>	
<b>Handbooks and guides</b>	<ul style="list-style-type: none"> <li>• Physical copy can be retained for later use.</li> <li>• Can be dropped in letterboxes or slid under doors.</li> <li>• Can be made available on websites.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires literacy skills.</li> <li>• Requires physical distribution.</li> <li>• Content is set once printed.</li> </ul>	

## Examples of communications methods

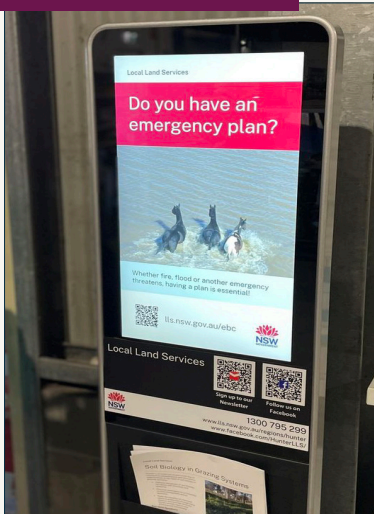


Website

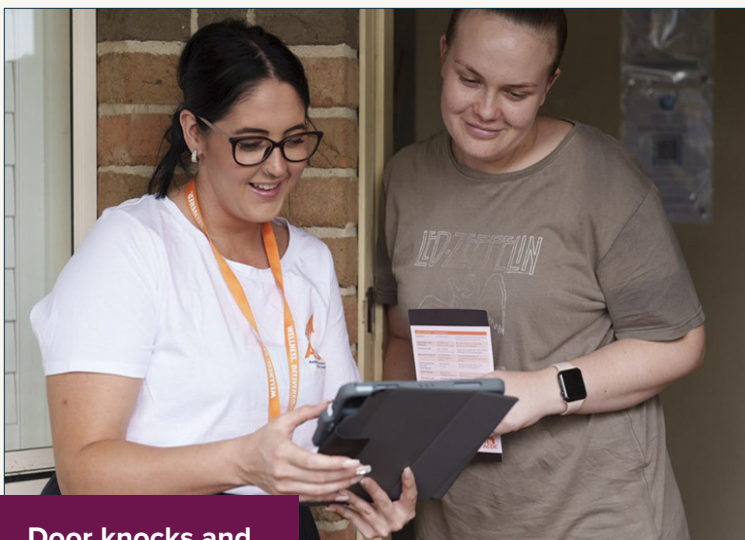


Mobile app, notifications and texts

Digital screens in local shops



In-person meetings and workshops



Door knocks and home visits



Social media posts

# Appendix 1: Reference list

- Australian Disaster Resilience Knowledge Hub. Available at: <https://knowledge.aidr.org.au/>
- Australian Institute for Disaster Resilience (2021). *Systemic Disaster Resilience Handbook*. Melbourne, Victoria. Accessed at: <https://knowledge.aidr.org.au/resources/handbook-disaster-risk/>
- Australian Institute for Disaster Resilience (2019). Australian Emergency Management Arrangements. Accessed at: [www.knowledge.aidr.org.au/resources/australian-emergency-management-arrangements](http://www.knowledge.aidr.org.au/resources/australian-emergency-management-arrangements)
- Australian Government (2023). Drought Loan. Accessed via: <https://www.ric.gov.au/drought>
- Australian Government (2019). Drought in Australia: [https://www.agriculture.gov.au/sites/default/files/documents/advice-long-term-strategy-drought-preparedness-resilience\\_1.pdf](https://www.agriculture.gov.au/sites/default/files/documents/advice-long-term-strategy-drought-preparedness-resilience_1.pdf)
- Australian Red Cross (2022). Communicating in Recovery. Available at: <https://www.redcross.org.au/globalassets/cms-assets/documents/emergency-services/communicating-in-recovery-resource.pdf>
- Bryant, L., Garnham, B. and Posselt M. (2022). *Tailoring. Suicide Prevention Strategies for Men in Farming Occupations*. University of South Australia.
- Clear Horizon (2021). NSW Government Drought Relief Measures Evaluation Report Final. NSW DPI.
- Cred Consulting (2022). Our Connected Community Roadmaps. Snowy Valleys Council.
- Country Fire Authority (2023). Farm Fire Safety Resources. Available at: <https://www.cfa.vic.gov.au/plan-prepare/how-to-prepare-your-property/farms/fire-safety-on-the-farm>
- Country Fire Authority (2022). Farm Sector Content Review. Available at: <https://engage.cfa.vic.gov.au/farm-review>
- Khan, S., Mishra, J., Ahmen, N., Onyige, C., Lin, K., Siew, R. and Lim, B. (2022). Risk communication and community engagement during COVID-19. *International Journal of Disaster Risk Reduction*.
- Leneman, M., Jordans, E., and de Balogh, M. (2021). Cultural factors in livestock emergency management. *Australian Journal of Emergency Management*.
- NSW Local Land Services (2023). 'Help & Advice'. Accessed via: <https://www.lls.nsw.gov.au/help-and-advice>
- New Zealand Government Ministry for Primary Industries (2023). 'Adverse Events'. Accessed via: <https://www.mpi.govt.nz/funding-rural-support/adverse-events/>
- NSW DCS (2023). Emergency and Crisis Preparedness Communications. Desktop literature review, social and media analysis.
- NSW DPI (2023). Droughthub. Available at: <https://www.droughthub.nsw.gov.au/>
- NSW DPI (2023). 'Emergency management.' Accessed at: <https://www.dpi.nsw.gov.au/emergencies/emergency/what-is-dpi-role>
- NSW DPI (2022a). Biosecurity attitudinal research. Available at: <https://www.dpi.nsw.gov.au/biosecurity/community-engagement-and-education/attitudinal-research/2022-biosecurity-attitudinal-research-report>
- NSW DPI (2022b). Seasonal Conditions Reporting, Monitoring and Forecasting Survey Report. Available at: <https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/have-your-say>
- NSW DPI (2021). Drought Relief Measures Evaluation Report Final. Available at: [https://www.droughthub.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/1454241/NSW-Drought-Relief-Measures-Evaluation-Report-FINAL-23-12-21-1.pdf](https://www.droughthub.nsw.gov.au/__data/assets/pdf_file/0003/1454241/NSW-Drought-Relief-Measures-Evaluation-Report-FINAL-23-12-21-1.pdf)
- NSW DPI (2019). Managing Drought Guide (Ninth Edition). Available at: [https://www.droughthub.nsw.gov.au/\\_\\_data/assets/](https://www.droughthub.nsw.gov.au/__data/assets/)
- NSW DPI (----). Summary: A perspective on the effects of stress on decision making following disaster.
- Whittaker, J., Haynes, K., Wilkinson, C., Tofa, M., Dilworth, T., Collins, J., Tait, L. and Samson, S. (2021). *Black Summer – How the NSW Community Responded to the 2019-20 Bushfire Season*. Bushfire and Natural Hazards CRC.



# Appendix 2: Focus group information sheet



Department of  
Primary Industries



## Focus group: How best to communicate with primary producers during an adverse event

### Information Sheet

NSW Department of Primary Industries | August 2023

Thank you for your interest in participating in the NSW Department of Primary Industries (DPI) focus group with primary producers.

#### About the research project

Effective and timely communication between the DPI and primary producers is essential to enabling preparedness and response during periods of adverse events. DPI, alongside partner organisations, has a range of responsibilities in supporting primary producers during periods of adverse events and is conducting research to better understand the communication needs and preferences of primary producers.

DPI is working with Cred Consulting to conduct research, which will inform the most effective communication channels for primary producers; strengthen measures of success; and improve strategies to increase access to information during periods of adverse events. This research includes:

- analysing existing studies, reports, and survey results, and
- two focus groups with primary producers to gather feedback on research findings, understand lived experiences, and inform recommendations arising from our research.

#### What are adverse events?

An adverse event is broadly defined as a natural disaster and other extraordinary event or incident that has a negative impact on an area, disrupts the community, and causes significant social, environmental, and economic damage. Adverse events range in duration, impact, and scale, from local to global.

The types of adverse events most likely to occur in NSW include:

- Floods
- Drought
- Bushfires
- Storms
- Landslides
- Pandemic
- Biosecurity emergencies, such as the Varroa mite or Japanese encephalitis.

### **What will be talking about in the focus groups?**

On behalf of DPI, Cred Consulting will facilitate two x 1-hour online focus groups with primary producers living across NSW.

We seek your participation and feedback around the communications preferences of primary producers during periods of adverse event. On the day, we will present research findings to focus group participants, and our conversation will be guided by a range of questions including:

- What type of information do primary producers want and when do they need it? Do information needs differ depending on the type of adverse event?
- Who do primary producers want to receive information from during periods of adverse events and why?
- How can DPI and partner agencies improve communications and the supply of information to primary producers?
- What are the preferred formats for primary producers to receive information and why?

### **How will we use the information from the focus groups?**

Your feedback will inform recommendations to DPI about communicating with primary producers during periods of adverse events and support DPI to deliver the best services for their customers.

With your permission, Cred Consulting will record the online focus groups for reporting purposes. Your name will not be attributed to any comments or recommendations.

We look forward to meeting with you online.

# Appendix 3: Focus group findings

This section summarises findings based on two focus groups that were held with primary producers and identifies key themes in their communication preferences during adverse events.

## About the focus groups

Two focus groups were held with a diverse group of primary producers living in NSW. The purpose of the focus groups was to test the desktop research findings and seek feedback around the communications preferences of primary producers during periods of adverse events.

The focus groups were held on the following dates:

- Tuesday 29 August 2023, 4:30pm-5:30pm
- Wednesday 30 August 2023, 3pm-4pm.

Participation in the focus groups was recruited through DPI networks.

Cred Consulting facilitated the focus groups online via Zoom. The sessions commenced with a brief presentation describing the project and sharing research findings, followed by a facilitated conversation that was guided by the following questions:

- How do information needs differ depending on the type of adverse event and duration?
- How do primary producers want to receive information about adverse events?
- What type of information do primary producers need during periods of adverse events?
- Who do primary producers want to receive information from during adverse events?
- How do primary producers think DPI and partner agencies can improve the supply of information to them?

Participants were provided the opportunity to share their feedback and ideas throughout the one-hour sessions.

## Quick findings

The focus groups found that:

- Primary producers prefer word of mouth communication from trusted people in the community.
- Primary producers expressed a desire for a dedicated long-term officer at DPI who is responsible for sharing information and being a consistent source of truth and trusted voice for the community.
- Where digital channels such as radio and apps such as Hazards Near Me are used, content should be produced locally so it is accurate, reliable and timely.
- There is a need for more clarity on the role of DPI and other government agencies during adverse events.
- One-stop shop events at convenient locations with a range of government agencies are an effective way to share information and provide advice on a range of topics at one time.
- DPI should work with trusted community groups and local leaders to help establish relevance in the community and bridge the disconnect between government agencies and primary producers.

## How do information needs differ depending on the type of adverse event and duration?

Participants indicated that information needs differ depending on the type of adverse event and duration, and that there are different stages to adverse events that have different impacts. Landslides, for instance, are an immediate, short-term event but have long-term impacts on the community if they block key roads. Similarly, floods are a short-term event but once the water recedes, the ground stays wet for months.

Participants recommended that the “danger period” should be identified when classifying the duration and scale of an adverse event.

## How do primary producers want to receive information about adverse events?

Participants discussed a range of channels through which they have received information about adverse events in the past, and identified their preferred channels moving forward.

There were some mixed opinions about digital and broadcasting channels and in-person and analog channels, but in general across both focus groups, participants expressed a preference for word-of-mouth communication during adverse events.

Participants advised that many areas have internet and mobile connectivity challenges (which is exacerbated during adverse events), and many people in their community have low digital literacy. They noted that while digital tools are important, they will not reach everyone, so there is a need for information to be shared through a variety of communication channels that are accessible to the whole community.

*“Many of us don’t have high digital literacy. This is partly due to age, never needing it before and not being able to afford to get increased connectivity through Starlink.”*

*“Starlink and improved technology has come on board since the last drought, but often the people who need the technology the most are the least likely to adopt that technology.”*

## Digital and broadcasting communication channels

Participants generally indicated that radio and text messages are their preferred digital and broadcasting communication channels.

Participants stated that radio is the channel that most people use during adverse events because it provides important updates and is accessible by everyone, regardless of location or connectivity challenges. They indicated a preference for local radio in that it provides more relevant, locally-specific information, and noted that this content is often lost in the larger broadcast channels. Participants suggested that local mobile broadcasting networks should be set up throughout the region to enable more accurate, locally-produced content during adverse events.

Participants indicated that short, sharp text messages and emergency alerts have worked well in the past when information needs to be disseminated quickly, noting that during adverse events they do not have much spare time to spend on their device.

Participants expressed support for apps like Hazards Near Me as important tools, however noted that the information on the app is not always accurate or up-to-date, so there is a lack of trust in the data. This was a common theme throughout the focus groups, in that some participants were skeptical of the accuracy of new technology during adverse events and preferring to trust local information, for example a person manually checking the river gauge. Participants saw value in rectifying this issue and making the app more user-friendly. Similarly, DroughtHub was seen as an important tool but one that needs to be more user-friendly and easy to navigate for those with lower levels of digital literacy.

*“If the app says you’re on fire and you’re not, you do question the accuracy of the information.”*

Participants noted that social media is an interesting channel, with local Facebook groups holding some value in disseminating information, but ultimately unreliable as a source of news.

Participants stated that emails are a less effective form of communication due to the high volume of emails they receive and the prevalence of scams, noting that they would generally only attend to emails from trusted sources in the community. Participants also noted that they do not watch television during adverse events.

### **In-person and analog communication channels**

Participants generally indicated that word of mouth is their preferred communication channel because the information comes from a trusted source in the community who has knowledge and experience on the ground. They identified the importance of an ongoing local contact from DPI who they can build a relationship with.

Participants expressed support for community meetings and forums, such as the Service NSW one-stop shop program, as they are helpful, convenient and prompt people with information they may not have previously considered. However, participants noted that these sessions are often located far away and can be difficult to get to in a time of stress and tight budgets. They suggested providing free shuttle buses to the session and offering opportunities for people to complete other administration tasks at the same time, such as applying for a license.

Participants highlighted the importance of promoting these sessions effectively (particularly through word of mouth and local radio), using trusted local leaders to encourage people to attend. They also identified the need for better coordination of the government representatives at these sessions, to ensure they are well-informed and working together.

Participants had mixed opinions about the value of fridge magnets, factsheets and flyers. Some participants indicated that they are useful for

certain types of information (such as a directory of key contacts), while others expressed concern that they are not usually referred back to, given the information is available online.

***“All of the posters that I have picked up are still rolled up in the office cupboard.”***

Participants noted that local newspapers are experiencing declining readership and may not be an effective communication channel in the future. Participants also indicated that door knocking is not an effective communication channel.

## What type of information do primary producers need during periods of adverse events?

Participants indicated that they generally require the following information during periods of adverse events:

- Accurate information about the adverse event and how they should respond
- Key contacts for different problems
- Technical assistance regarding feed and water nutrition
- Information about road closures
- Advice on the best route to reach their cattle
- Advice on the best strategy to manage their pastures
- A dedicated contact to provide advice to support primary producers through decisions, critique their plans and help improve their operations
- Connections to mental health services and support.

However, participants noted that the type of information they require depends on the adverse event, the duration and the level of impact. For example, in a fire they need to act quickly, whereas floods often come with some notice.

Some participants expressed confusion about the role of DPI in information dissemination during adverse events, and as a result, they found this question difficult to answer. They recognised the important role DPI has in areas such as research, biosecurity and assessments of climatic situations, but not many participants had dealt with DPI during adverse events before or considered DPI their first port of call when looking for information. Participants stated that it can be difficult to rely on a steadfast line of information and support from DPI when staff change regularly and there are a range of overlapping organisations and agencies who provide similar information during and after adverse events.

Participants indicated that there is a considerable disconnect between DPI and primary producers, with even the most connected people not having the information they need.

***“Up until a year ago I had no idea what DroughtHub was, and I’m a connected guy. There’s a massive disconnect, even among those who are very connected. Those who are not connected have no idea what’s happening.”***

There was a strong desire from participants for better coordination of agencies and combining of information about adverse events into a one-stop shop. Participants saw a need for DPI and other agencies to understand what their role is, establish relevance in the community and connect more effectively with primary producers through ongoing one-on-one relationships. One participant noted that NSW Farmers used to help facilitate this connection.

Participants indicated that some technical information gaps (such as nutritional classes) are currently being filled by stock and station agents, but they expressed a preference for information, advice and critiques on approaches to come from an independent source (such as DPI) through interpersonal relationships with officers on the ground. It was noted that stock and station agent presentations are often sponsored by private companies as a promotional tool. While there is local experience and knowledge, participants valued the opportunity to be guided by external experts to improve the way they operate and change their approach.

***“If you have access to people who are independent and don’t have an axe to grind, it’s really helpful. We might need advice or critiques on what we’re doing or planning to do.”***

## Who do primary producers want to receive information from during adverse events?

Participants indicated that they want to receive information through conversations with people they trust in their community. They noted that word of mouth is their most trusted source of information because it comes from people on the ground who know the area well.

Participants expressed concern that information about adverse events in the media can be unreliable because it is produced outside the area and does not necessarily reflect what is actually happening on the ground. Participants noted that this information is often dramatised.

Participants generally noted that information in their area is usually disseminated through local saleyards, the local land service, stock and station agents, local fire brigades and local produce stores (with each one providing different types of information). They stated that these representatives have expansive networks and talk to a wide range of people, so they receive information quickly. Some participants saw value in pop-up stalls being held at these locations to reach primary producers.

While there were some mixed views on the exact sources that are trusted in certain areas, due to some areas not having an operational saleyard or a local land service focused on primary producers, it was agreed that word of mouth is still the preferred approach for receiving information. However, participants recognised that this is difficult to implement, due to networks and trusted sources of information being unique to each individual.

Participants ultimately expressed a desire for a dedicated long-term officer at DPI who is responsible for sharing information and being a consistent source of truth and a trusted voice for the community. Participants were concerned that staff at DPI are continually changing, and they saw value in a permanent staff member who they can build a relationship with and work together to proactively plan for adverse events. This would also provide primary producers with one key contact, reducing confusion around who to contact to gain assistance.

Participants suggested that DPI work with trusted community groups to host meetings and forums. They noted that there is currently a disconnect between government agencies such as DPI and the community, in that information is not flowing effectively and government representatives do not have adequate local knowledge to be of assistance. There was also some concern that government agencies are focused on meeting key performance indicators (KPIs), rather than helping primary producers.

***“You need to have a presence to begin with, and you have to go to local networks people trust and seek local knowledge. Sometimes the government puts things into place that they believe reflects our community but it doesn’t work.”***

Participants also saw value in creating new ways for people to connect with each other, particularly for those areas without an operational saleyard.

## How do primary producers think DPI and partner agencies can improve the supply of information them?

Participants provided recommendations for how DPI and partner agencies can improve the supply of information to primary producers. Their recommendations are summarised below:

- Permanent, funded officer at DPI who is based locally and is the key ongoing contact for primary producers.
- Bottom-up approach based on local connections, people on the ground and trusted sources of information.
- Ensure information provided in NSW Government apps like Hazards Near Me is accurate and timely.
- Provide hard copy fact sheets with a directory of key contacts, different agencies and their roles.
- Host webinars to communicate information to primary producers.
- Provide local opportunities to build social connections and relationships to help meet the needs of the community and reduce feelings of isolation and loneliness.
- Close the loop and advise participants about the outcome of this research.



**Cred**  
CONSULTING

02 9357 2476  
[info@credconsulting.com.au](mailto:info@credconsulting.com.au)  
[www.credconsulting.com.au](http://www.credconsulting.com.au)  
ABN 57 620 957 815