

Practice Note

Topics in this edition | capability | decision-making | emergency management | response



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Principles of best practice strategic crisis management arrangements for catastrophic disasters

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Why this matters

Australia is constantly challenged by the threat of natural hazards. Leaders are continually required to maintain public confidence in the context of uncertain crises. Even though the impact of natural hazards is generally well managed, there is always the inevitability that at some time, the impacts will exceed current capacity and thinking and result in a catastrophic outcome.

Catastrophic disasters overwhelm the current system, resources and governance, extending beyond regular emergency management capabilities. They significantly impact community structures, disrupt everyday functions and enhance the role of political arenas and media in shaping public perceptions (Department of Home Affairs, 2018; Quarantelli, 2006). Planning for these catastrophic disasters involves anticipating the inadequacy of existing plans and resources, recognising the interdependence of systems, compounding crises and preparing for cascading effects as society's complexity and disaster risks increase.

It is essential that crisis management arrangements adopt evidence-based best practice, with evidence that is widely recognised and understood by practitioners and policy makers.

Summary

Catastrophic disasters require the adoption of evidence-based best practice crisis management arrangements to ensure the capacity and thinking needed to meet communities' needs. This document sets out 10 best-practice principles for strategic crisis management for practitioners and policy makers.

Background

Catastrophes require different approaches to emergencies

The National Emergency Management Agency (NEMA) commissioned Natural Hazards Research Australia to identify key principles for best practice strategic crisis management arrangements for catastrophic disasters. This literature review and the 10 resulting key principles will assist in building the knowledge and understanding of practitioners and policy makers.

Australian emergency management predominantly employs a command-and-control model, structured around specific frameworks like the Australasian Inter-service Incident Management System (AIIMS) for fire, rescue and emergency services, and Incident Command and Control System (ICCS) Plus for police services. This model designates a lead agency for hazard events, with other agencies supporting under the direction of an Incident Controller.

While this model aims for efficient incident management and interoperability between agencies, criticisms highlight its limitations in handling catastrophic disasters given the activities of emergent groups (Wachtendorf and Kendra, 2017). While ideal for routine or smaller scale events, this model may struggle with complex, catastrophic disasters.

Method

The literature review considered the literature to identify best practice strategic crisis management arrangements for catastrophic disasters, as defined by the Australian Disaster Preparedness Framework.

The literature analysis was completed based on a search of global literature conducted from October to December 2023 using Google Scholar, as well as Google and Bing internet search engines for grey literature as well as literature suggested by NEMA. The report builds upon previous Bushfire and Natural Hazards CRC research on the topic of planning and capability requirements for catastrophic disasters.



Principles of best practice strategic crisis management arrangements for catastrophic disasters

1. Arrangements must allow for a nationwide approach

Australia must adopt a national perspective on catastrophes due to their potential cross-jurisdictional impact that requires a local to international response. The country faces the risk of compound disasters—sequential or concurrent events that could overwhelm emergency response capabilities. Historic catastrophes, such as the 2019–20 Black Summer bushfires and following incidences of flooding and COVID-19 demonstrate the challenge of managing compound disasters, including resource shortages and the need for national coordination.

2. Arrangements must allow for a collaborative and coordinated approach

Effective collaboration in emergency management transcends traditional command-and-control models, embracing a networked approach that fosters multi-organisational and intersectoral cooperation (Kapucu and Garayev, 2013). This model, supported by diverse and autonomous responding organisations, relies on coordination and emphasises flexibility, adaptability and shared objectives.

Leadership should be persuasive rather than directive to promote trust, consensus and collective action. The Australian National Coordination Mechanism exemplifies this approach, facilitating cooperation across government, not-for-profits and businesses, highlighting the importance of pre-established networks and the integration of emergent groups in the response to complex crises (Buffone and Cameron, 2023).

3. Arrangements must allow for decentralised decision making and distributed execution supported by centralised strategic coordination

Decentralised decision making in crisis management allows flexibility and rapid response, overcoming the limitations of centralised models that may not quickly adapt to evolving situations (Boin and McConnell, 2007). This approach empowers local personnel who often face the highest stakes decisions, to act based on on-the-ground realities. By supporting decentralised actions, centralised strategic coordination can ensure resource efficiency and informed local decision-making through effective communication and resource sharing across jurisdictions (Leonard and Howitt, 2010).

4. Arrangements must allow for flexibility, improvisation and scalability

Scalable and flexible arrangements for catastrophes are needed, moving beyond the single hazard focus to address compounding disasters. Traditional command-and-control approaches, criticised for their rigidity, fail to accommodate the dynamic nature of catastrophes (Tierney, 1993). Successful disaster management requires improvisation, flexibility and the ability to make rapid decisions in uncertainty. An understanding of actual human behaviour is needed to encourage local innovation, collaboration and the suspension of standard procedures to adapt to the unique challenges presented by catastrophic disasters (Comfort and Kapucu, 2006).

5. Arrangements must allow for the integration of civilian and emergent capability

Traditional emergency management structures emphasise a government-centric, all-hazards approach, however catastrophic disasters require a whole-of-community strategy that involves collaboration between government, community organisations and businesses. This approach acknowledges emergency management as a shared responsibility, urging community resources and capabilities integrated into disaster plans.

The COVID-19 pandemic and natural hazards such as the 2019–20 Black Summer fire season and 2022 floods in multiple states underscore the critical role of businesses and community organisations in disaster response. They also highlight the need for governments to facilitate rather than command response to allow for the more efficient use of resources and quicker decision-making by leveraging the private sector's capabilities and community groups' local knowledge, resources and connections with the most vulnerable and spontaneity.

6. Arrangements must promote and embrace foresight and sense making

Effective disaster management requires the foresight to analyse future risks and the sense making to understand current situations, with an emphasis on proactive planning and decision making under uncertainty. This foresight involves assessing potential challenges and opportunities at various scales, while sense-making focuses on interpreting the evolving nature of disasters.

This approach is vital for mitigating disaster consequences through early warning systems and mitigation efforts. Challenges arise when threats are identified too late or overestimating risk reduction measures, compounded by the complexity of the disaster and the need for rapid, informed decision-making amidst uncertain information.

7. Arrangements must be supported by capability

Effective disaster planning must account for the availability and mobilisation of resources, acknowledging the challenge of resource scarcity in catastrophic events (Sutton and Tierney, 2006). Needs assessment against available resources is essential to identify gaps, including unconventional resources and service providers. Regular exercises and drills are crucial to build awareness, enhance decision making and test plans to ensure preparedness and understanding of the roles and contributions of various organisations. These activities also improve teamwork and response knowledge, highlighting the importance of planning for truly catastrophic scenarios beyond the usual capabilities of emergency management agencies.

8. Arrangements must foster interoperability

Interoperability, the ability of different agencies' resources to work together, is crucial for effective collaboration in disaster response, demanding a "system of systems" approach (Binskin, M.D., et al, 2020). Challenges in achieving interoperability include the diverse nature of agencies and the need for common technology and procedures.

Events like the 2009 Victorian Black Saturday bushfires and Hurricane Katrina in 2005 in the United States have shown that gaps in interoperability can significantly impact disaster management effectiveness. Efforts like the adoption of AIIIMS in Australia and International Search and Rescue Advisory Group's (INSARAG) guidelines internationally aim to standardise practices for better coordination.

9. Arrangements must be supported by planning processes

Effective emergency planning is crucial for managing disasters, involving systematic preparation for response and recovery. Effective planning emphasises the use of resources efficiently, evolves with lessons learned and aims to protect life and enhance resilience.

Challenges arise in catastrophic disasters when infrastructure and resources may be overwhelmed, highlighting the gap between plans and actual occurrences. Planning should balance detailed strategies with flexibility, incorporating both all-hazard methodologies and specific scenario-based approaches to address complex emergencies (Boin and 't Hart, 2010). The planning process should prioritise adaptability and improvisation, recognising the limitations of traditional planning in facing unpredictable disasters.

10. Arrangements must be responsive and support elected officials' decision making and crisis leadership

Catastrophes inherently involve political dimensions, with leaders playing crucial roles in coordination, response and public communication, as evidenced during the COVID-19 pandemic. Therefore, effective emergency plans must accommodate the accountabilities of political figures across government levels, ensuring situational awareness is maintained and accountabilities can effectively be discharged while managing public expectations and media interest.



End-user statement

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“The National Emergency Management Agency (NEMA) partnered with Natural Hazards Research Australia to develop evidenced based crisis management principles to support national coordination arrangements for catastrophic disasters. The outputs of the project are already being used by NEMA and Natural Hazards Research Australia in the design of national crisis management policies, plans and operating models. They are also being shared broadly at national forums such as the AFAC24 Conference, National Space Weather Exercise and Higher Risk Weather Season Summit with strong interest from stakeholders. NEMA looks forward to launching the principles alongside Natural Hazards Research Australia and raising awareness of the research to further enable its utilisation. These principles represent global best practice and are drawn from research that is either contemporary or has stood the test of time. These principles and supporting evidence are invaluable as we tackle more frequent more intense disasters and crisis, and in particular, for Australian context as we continue to build our national crisis management arrangements to deal with consecutive, concurrent and compounding natural and human induced disasters that could result in catastrophic consequences”.

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