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National resilience

Lessons for Australian policy from international experience

Marc Ablong

February 2024

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About the author

Marc Ablong PSM is a Visiting Senior Fellow with the ASPI Defence, Strategy and National Security Program.

Marc joined the Department of Defence in 1993 after an earlier career in the finance and banking industry. During his 25 years with Defence, Marc held positions in capital equipment & acquisition policy, international policy, military strategy, maritime capability development, Air Force long-range planning, national support and mobilisation planning, information strategy and futures, strategic reform, and strategic policy. Marc was Chief of Staff of the 2009 Defence White Paper Team, providing strategic advice and support to the Principal Author. He was appointed First Assistant Secretary Ministerial and Executive Coordination and Communication in 2011.

In 2014, Marc was chosen to lead the development of the 2016 Defence White Paper, Integrated Investment Program and Defence Industry Policy Statement. Following the release of the White Paper, Marc was appointed as the inaugural First Assistant Secretary Contestability, and subsequently held roles as First Assistant Secretary Naval Shipbuilding Taskforce, First Assistant Secretary Defence Industry Policy, and acting Deputy Secretary Strategic Policy and Intelligence.

Marc was promoted to Deputy Secretary in the Department of Home Affairs in 2018. To deliver on the Home Affairs vision of a prosperous, secure and united Australia, over the last five years Marc has had responsibility for strategic guidance and capability planning; immigration policy; law enforcement policy; data policy; electronic surveillance reform; regional processing and resettlement; intelligence; critical and emerging technology policy; cyber security; national resilience and strengthening democracy. In May 2023, Marc commenced a senior visiting fellowship with the Australian Strategic Policy Institute, to pursue national security related research. He remains a Deputy Secretary in the Department of Home Affairs.

Marc has attended the Joint Services Staff College (1997), the Centre for Defence and Strategic Studies (2002) and completed the Advanced Management Program 190 (2016) at the Harvard Business School. Marc was awarded the Public Service Medal in the Australia Day Honours 2018.

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ASPI
Level 2
40 Macquarie Street
Barton ACT 2600
Australia

Tel Canberra + 61 2 6270 5100
Tel Washington DC +1 202 414 7353
Email enquiries@aspi.org.au
www.aspi.org.au
www.aspistrategist.org.au

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Executive summary

The challenges facing Australia are growing rapidly. The geopolitical environment is at its most challenging for many decades. Australia has lost the longstanding defence planning assumption that we would have a 10-year warning time for conventional conflict. New vulnerabilities are emerging in our digital economy and in cyberspace, placing more Australians at risk of losing their wealth, identities and wellbeing. Recent years have seen unprecedented droughts, floods and fires ravage our country. Climate change is increasing risk to the health and safety of Australian citizens, to our infrastructure, transport, water and telecommunications systems, to the natural systems and rich biodiversity of our country, and to Australia's economic fundamentals. Such unprecedented times require a fundamental rethinking about the ways Australia manages its vulnerabilities and mitigates strategic risks.

National resilience is a powerful concept to help nations develop the capacity to weather threats and challenges and emerge from crises in a better state than before. It helps to frame an understanding of the interconnected and interdependent nature of the systems that a state relies upon to function and provides a structure for making decisions during times of concurrent and cascading crises. National resilience also provides a powerful framework for deterring threat actors by ensuring that no single threat can overwhelm the basic functioning of the society and the state. It helps governments to identify, resource and prioritise their investments in preparedness for, response to and recovery from crisis.

Recent crises have demonstrated the importance of national resilience in overcoming the detrimental effects of disaster, threat and attack. The global Covid-19 pandemic presented a multidomain crisis with health, economic, societal and geopolitical impacts, which revealed inherent vulnerabilities across societies. Those countries that were better able to manage the multidomain nature of the crisis mobilised resources across all policy domains and managed the involvement of different institutions, agencies, industries and society. Societal and economic resilience proved to be among the most significant influences in weathering Covid-19 at the national level.

Hurricane Katrina in 2005 created devastation on a massive scale and resulted in the internal displacement of hundreds of thousands of Americans. We can all recall the chaotic scenes inside the Louisiana Superdome and the breakdown in public order in New Orleans. Post-incident reviews highlighted the failure of national resilience that the hurricane precipitated—described by the Select Bipartisan Committee of the US House of Representatives as a national failure at every level—individual, corporate, philanthropic and governmental. Subsequent changes to the national emergency-management system of the US shifted from response to risk reduction and resilience building, with a focus on a more robust and resilient system with the capacity to deal with uncertainty and change.

The 2011 earthquake off the coast of Japan, the resultant tsunami and the subsequent Fukushima nuclear disaster created one of Japan's worst peacetime crises. The displacement of 160,000 Japanese citizens, the destruction of more than 1 million buildings and the radioactive wastewater challenges that Japan has faced are another example of a cascading crisis, the effects of which are still being felt some 13 years later. The response to the disaster called into question the crisis-management system: subsequent reviews highlighted the poor functioning of the Kantei (the Prime Minister's Office), regulators and other responsible agencies in times of crisis. The Japanese Government has sought to implement a national resilience approach to reconstruction and recovery following the disaster to develop the community and industrial capabilities to rebuild societal and economic resilience within the affected region.

The Russian invasion of Ukraine provides a unique opportunity to study national resilience during times of conflict. Following the 2014 Russian annexation of Crimea, Ukrainian and international academics began to study the national resilience of Ukraine, and the Ukrainian Government began to proactively build specific national resilience capabilities as part of its national security and defence strategies to deal with hybrid threats as well as the threat of attack from Russia. As the events of 2022–23 have demonstrated, Ukraine has effectively and quite successfully weathered the worst that Russia has thrown at it. The societal resilience of Ukraine's citizens, the rapid ability to recover and rebuild following missile attacks and the robustness of Ukraine's industries during the war have proven to be decisive in Ukraine's continuing defiance. The psychological resilience of Ukraine's population is particularly noteworthy.

The UK has recently released its inaugural National Resilience Framework. In doing so, the UK has recognised its responsibility to be prepared for a future in which crises will have far-reaching consequences and are likely to be greater in frequency and scale than it's been used to. The framework requires a shared understanding of the acute and chronic risks that the nation faces, a renewed focus on preventing those risks emerging and a whole-of-society endeavour to build the nation's resilience for when the worst happens.

The US has recognised that national resilience is a core concept for the nation's national security, drawing on the strength and resilience of citizens, communities and the economy to prevent, protect against, mitigate, respond to and recover from threats and hazards to the nation.

The US National Preparedness System is predicated on the shared responsibilities of the entire nation, developing a posture that enables local communities, the private and nonprofit sectors, other organisations and governments at local, regional/metropolitan, state, tribal territorial and federal levels to work together to build the core capabilities and expertise necessary for safeguarding the country.

The Nordic and Baltic states, Ukraine and Singapore all employ national resilience as part of total/comprehensive defence strategies, recognising the fundamental importance of all sectors of society, industry and the community in ensuring that their countries remain free, resilient and secure. Delivering societal resilience requires a clear-eyed appreciation of risk—delivered through a national risk assessment process, a focus on the vital functions of the state that need to be secured, and the psychological defence of the citizenry.

The Organisation for Economic Co-operation and Development has established national resilience as good practice in the dynamic governance of critical risks. The World Economic Forum has placed national resilience at the forefront of its toolkit for meeting global risk, recognising that the increasingly interdependent and hyperconnected world requires nations to build the ability to withstand, adapt and recover from shocks. The North Atlantic Treaty Organization has identified national resilience as the essential basis for credible deterrence and defence.

The strategic circumstances facing Australia over the coming decades present multiple, cascading and concurrent crises. We can no longer rely on the verities of our past to meet those challenges. The institutions, policies and architectures that have supported the nation to manage such crises in our history are no longer fit for purpose. We must adapt and transform to the new realities, preserving our core national values and institutions, while creating innovative new ways of addressing emergent challenges and reducing our fragility.

Australia's national resilience has been tested and found wanting over recent years, and there have been mounting calls for a more strategic approach to national resilience across the nation. There are many lessons that we can learn from the experience of other nations in developing national resilience because many countries, including several key partners of Australia, started a national resilience approach more than 10–15 years ago. And the imperatives for us to do so have never been more apparent. National resilience would provide Australia with the ability to plan for, adapt to, prepare for, resist, respond to and recover from change and crisis, whether natural or man-made, singly or concurrently. The Defence Strategic Review, for

instance, devotes a chapter to the issues of national resilience and the need for a national defence strategy that brings all the elements of national power together to build the resilience of the nation towards the goal of deterring future threats. The Australian Parliament has issued several committee reports recommending the development of a national resilience framework, as did the Royal Commission into National Natural Disaster Arrangements following the 2019–20 fire season.

The Prime Minister has noted the importance of national resilience to the nation's future security, including the commitment to 'build an Australian National Prevention and Resilience Framework' under the Powering Australia plan as part of his election commitments prior to the 2022 federal elections.[1] The Minister for Home Affairs and Minister for Cyber Security has formed a new National Resilience Taskforce within the Department of Home Affairs, and a National Preparedness Taskforce has been established within the Department of the Prime Minister and Cabinet. This report aims to support those efforts by assessing international experience with national resilience and suggesting learnings that support formal consideration in the establishment of an Australian national resilience approach. In order to build that approach, this report encourages the government to consider the following nine recommendations:

Institutionalise national resilience through:

1. a national resilience strategy led by the Australian Government in collaboration with states and territories, industry and the community
2. a national risk assessment, prepared by the federal government as a classified document after consultation with the states and territories, industry and the citizenry, plus a publicly releasable version presented to the Australian Parliament and the nation
3. a national preparedness audit developed by the federal government in collaboration with state and territory governments, industry and civil society
4. a national preparedness plan agreed by the national cabinet.

Create institutional capability and capacity through:

5. establishing a coordinating office of national resilience within either the Department of the Prime Minister and Cabinet or the Department of Home Affairs
6. building national resilience training programs for governments, industry and civil-society leaders.

Establish a whole-of-society national resilience endeavour through:

7. establishing a national resilience council with industry, chaired by the office of national resilience
8. forming national resilience community liaison teams within the office of national resilience to work with communities.

Build national resilience for deterrence and grey-zone defence through:

9. adopting a whole-of-government and whole-of-nation approach to the National Defence Strategy to be delivered in 2024.

Introduction

During the summer of 2019–20, Australia endured one of the worst bushfire seasons in its recorded history: more than 24 million hectares were burned, 33 people were killed, more than 3,000 buildings were destroyed and nearly 3 billion animals were killed or displaced. Estimated national financial impacts were over $10 billion.[2] Added to this natural catastrophe, on 18–19 January 2020, a major dust storm swept through southern Australia, followed less than 24 hours later by a severe hailstorm in the nation's capital, damaging thousands of cars and hundreds of homes.[3] The cost of the hailstorm, which swept through Victoria, the Australian Capital Territory, New South Wales and Queensland, has been estimated at over $1.8 billion.[4]

Concurrently with that tragic fire season, the Covid-19 pandemic commenced. The first reported cases in Australia emerged on 25 January 2020, and the first death from the disease in Australia was recorded on 1 March 2020.[5] Over the subsequent three years, Australia suffered from 11,731,031 confirmed cases of Covid-19 and 24,244 related deaths.[6] The economic losses from the pandemic were estimated at $158 billion as at September 2022,[7] and the continuing cost of 'long Covid' has been estimated at $100 million per week.[8]

Early 2020 also saw the commencement of 'the most comprehensive punitive trade measures … used against any country in recent history'[9] when China applied coercive trade measures against a variety of Australian exports and a freeze on diplomatic relations between Canberra and Beijing.[10]

At the same time, Australia's supply chains came under significant threat, sparked by the Covid crisis and exacerbated by global trade dynamics and the commencement of the Ukraine conflict in early 2022.[11] The global shipping-container shortages of 2020,[12] the global crisis in port congestion,[13] the lack of workforce in the transportation sector, ransomware attacks against major logistics carriers and the AdBlue supply-chain crisis of 2021[14] all combined to place Australia's supply chains under significant stress.

March and April 2020 also saw a significant spike in cyberattacks in the form of Covid-19-themed cybercrime, as reported in the Australian Cyber Security Centre's *Annual cyber threat report, July 2019 to June 2020*.[15] That period included a major concerted cyberattack from a sophisticated, state-based cyber actor. The then Prime Minister, Scott Morrison, announced on 20 June 2020 that the ongoing cyberattacks were 'targeting Australian organisations across a range of sectors, including all levels of government, industry, political organisations, education, health, essential service providers and operators of other critical infrastructure'.[16]

During each of those events, the resilience of the Australian nation was tested and, in some cases, found wanting. In each case, subsequent reviews identified a lack of planning, preparedness, coordination and/or responsiveness as key factors affecting the outcome. Governments, industry, the community or all three groups lacked either the infrastructure, plans and resources or the foresight to anticipate likely events and prepare themselves to weather the crisis. Each crisis created avoidable damage and cost that required substantial additional resources to be applied to recovery. Moreover, the crises pointed to a lack of both capability and capacity to meet unexpected *concurrent* crises successfully. Collectively, the concurrent and often cascading crises of 2020 stretched the resilience—the collective capability and capacity—of the Australian federation, its economy and its society.

Taken individually, each of the crises of 2020 challenged the quotidian life and functioning of the Australian nation, its crisis-management capabilities and governance (at all three levels of government) and created new challenges for Australian industry and the Australian community. Collectively and concurrently, the crises created new uncertainties and complexities across the Australian polity.

While 2020 might seem to have been an extraordinary year in both the number and the complexity of crises, it can't be considered an outlier in terms of the natural and human-made shocks affecting the Australian nation. Between 2020 and 2023, Australia had to manage:

- a doubling of cybersecurity incidents, including some of the largest data breaches and the most serious ransomware cases in Australian history[17]
- some of the worst recorded flood disasters during 2021 and 2022[18]
- more Australians targeted for espionage and foreign interference than at any time in Australia's history[19]
- the re-emergence of right-wing extremism as a more visible and a growing threat to national security[20]
- an acute threat to Australia's supply chains sparked by the pandemic and exacerbated by the war in Europe.[21]

The threats and challenges facing Australia are increasing and are increasingly interdependent, raising the level of risk, complexity and uncertainty facing policymakers in their resolution. The Treasurer, Dr Jim Chalmers, identifies the framework increasingly used to explain this interaction of crisis and risk as a 'polycrisis'.[22]

Considering this recent historical experience, the Minister for Home Affairs, Clare O'Neil, gave a speech at the National Press Club on 8 December 2022 in which she spoke of the generational challenge facing Australia's security in this new era of risk and multiple, concurrent crises. Ms O'Neil called for new approaches to 'ensure Australians can continue to live a life of security and prosperity while global issues play out around us'.[23]

To support government define those approaches, Ms O'Neil established two taskforces (the National Resilience Taskforce and the Strengthening Democracy Taskforce) within the Department of Home Affairs:

> The National Resilience Taskforce will work to explore how Australia can be better placed to deal with shocks and crises. This will include looking at whether we have the right legislation and authorities to manage national challenges, how we are anticipating future shocks, and what we need to do to bounce back quickly—especially if we are confronted with multiple, concurrent events.
>
> [The] Strengthening Democracy Taskforce [will] identify concrete initiatives to bolster Australia's democratic resilience and enhance trust among citizens, and between citizens and governments.[24]

This report provides an early input into the work of the two taskforces within the Department of Home Affairs. It reviews international experience of national resilience strategies, planning and processes to find lessons for Australia and examines a series of case studies in which national resilience has (or has not) proved instrumental in the weathering of crises. Subsequent reports will address specific elements of national resilience and provide policy recommendations to improve Australia's national resilience across governments, industry and the Australian community.

Chapter 1: Defining national resilience

The concept of national resilience

The concept of national resilience isn't a new one, although its application across all the domains of national security has been a relatively recent phenomenon.

Resilience has long been recognised as a biological imperative, reflecting the ability of species to cope or even thrive in the face of rapid environmental change.[25] Signifying a capability for positive adaptation and anti-fragility despite adversity,[26] resilience is also applied to an individual's physical and psychological resilience to 'recover, rebound, bounce-back, adjust or even thrive following misfortune, change or adversity'.[27]

From the perspective of governments, the concept has lately been adapted to government policymaking to address the governance of complexity.[28] Within the disaster-management community, resilience has been a central concept since the 1970s. The UN International Strategy for Disaster Reduction established, as a strategic goal within the Hyogo Framework for Action 2005–2015, 'the development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards'.[29]

The UN further developed the concept of resilience in the Sendai Framework for Disaster Risk Reduction 2015–2030, making investment in disaster risk reduction for resilience its third priority for action.[30] The concept has since become a central element in several countries' efforts to prepare for and respond to natural disasters, both domestically and internationally.

Within the security studies discipline, national resilience has also taken on an increasing focus for national security planning. As the Royal United Services Institute notes:

> In recent years, countries in both Europe and North America have increasingly focused on the resilience of their armed forces, to ensure that military capacities are able to resist and recover from major shocks such as natural disasters, surprise armed attacks or threats to critical infrastructure. Civil preparedness is crucial to achieving this aim, forming a central pillar of Allies' resistance within a NATO context. Such aspirations cannot be achieved by the Armed Forces alone and must be viewed as a national responsibility. This will require governments, business and civil society to work together to prepare our societies to respond to vulnerabilities within a changing security environment.[31]

National resilience supports not just the capacity of a nation to weather threats and attacks but has an equally strong effect on deterrence through supporting 'political, military, and societal preparations [to] make [a nation] a less attractive target for adversaries—a wider contribution to deterrence for a modern era'.[32] The Defence Strategic Review, for example, notes that 'a high level of resilience would signal to an adversary the extent of Australia's resolve to defend itself. This would contribute to deterrence.'[33]

As in times of conflict, when the mobilisation of national resources to support the nation's defensive and offensive activities is required, national resilience provides a framework for addressing the mobilisation, preparedness, robustness and responsiveness of national, mostly civil, resources to resist hybrid threats or armed attack. The North Atlantic Treaty Organization (NATO) describes national resilience as:

> … both a national responsibility and a collective commitment. Each Ally needs to be sufficiently robust and adaptable to deal with the entire spectrum of crises envisaged by the Alliance. At the same time, the individual commitment of every Ally to maintain and strengthen its resilience reduces the vulnerability of NATO as a whole.[34]

Central to the rise of national resilience within national security discourse has been its utility as a framework for managing increasing volatility, uncertainty, complexity and ambiguity in the domestic and international environment, in which nations must make choices, invest in resourcing capabilities, prioritise action and govern turmoil. In the absence of certainty regarding the exact circumstances to be faced, a capacity to quickly adapt and respond becomes essential.[35]

Definitions of 'resilience' vary depending on the discipline in which the concept of resilience is applied.[36] Terms such as cyber- and critical-infrastructure resilience, environmental/ecological resilience, economic resilience, supply-chain resilience, energy resilience, societal/cultural resilience and democratic resilience abound in both the academic literature and government policy documents. Carl Folke, an academic at Stockholm University, provides a useful starting point for broadly defining resilience, suggesting that:

> Resilience is having the capacity to persist in the face of change, to continue to develop with ever changing environments. Resilience thinking is about how periods of gradual changes interact with abrupt changes, and the capacity of people, communities, societies, cultures to adapt or even transform into new development pathways in the face of dynamic change. It is about how to navigate the journey in relation to diverse pathways, and thresholds and tipping points between them … Resilience is the capacity of a system to absorb disruptions and reorganize itself to retain its function, structure and feedback, and therefore, identity.[37]

Sir David Omand, author and the inaugural UK Government Security and Intelligence Co-ordinator and Permanent Secretary at the Cabinet Office from 2002 to 2005, refines this, stating that:

> Resilience is the capacity to absorb shocks and to bounce back into functioning shape, or at the least sufficient resilience to prevent stress fractures or even system collapse. Resilience is therefore an undoubted public good.[38]

Various definitions of national resilience have been proposed by national authorities, international governance and other organisations in recent years. Table 1 highlights several of those definitions.

Table 1: Definitions of national resilience from various nations and international institutions

Organisation	Resilience definition
United Nations	The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures.[39]
Organisation for Economic Co-operation and Development	The ability of households, communities and nations to absorb and recover from shocks, whilst positively adapting and transforming their structures and means for living in the face of long-term stresses, change and uncertainty. Resilience is about addressing the root causes of crises while strengthening the capacities and resources of a system in order to cope with risks, stresses and shocks.[40]
World Economic Forum	Resilience is the ability to deal with adversity, withstand shocks, and continuously adapt and accelerate as disruptions and crises arise.[41]
North Atlantic Treaty Organization	The capacity to prepare for, resist, respond to and quickly recover from shocks and disruptions.[42]
European Union	The ability not only to withstand and cope with challenges but also to transform in a sustainable, fair, and democratic manner.[43]
United Kingdom	The ability to anticipate, assess, prevent, mitigate, respond to, and recover from known, unknown, direct, indirect and emerging risks.[44]
United States	The ability to withstand and recover rapidly from deliberate attacks, accidents, natural disasters, as well as unconventional stresses, shocks, and threats to our economy and democratic system.[45]
Canada	The capacity of a system, community or society to adapt to change or to a disturbance while keeping an acceptable level of function.[46]

The key elements of national resilience

Despite the definitional congruence identified in Table 1—national resilience as the ability of a country to plan for, adapt to, prepare for, resist, respond to and recover from change and crisis—different nations conceptualise the development of national resilience in different ways, as a function of their history, culture and governance architecture and the domestic and international environment in which they exist. The threats, both existential and quotidian, that drive each country's appreciation of risk and its response to that risk are all unique to that country. Nevertheless, there are some foundational elements that apply to all approaches to national resilience.

First, national resilience needs *systems thinking*. The increasing interdependencies between individual elements that make up a functioning society, with both domestic and international dimensions, have created a complex environment in which to think about risk, vulnerability and consequences. The failure of an electricity substation, for example, would have impacts on local homes and businesses, traffic lights and transportation systems, hospitals and telecommunications systems. As one recent *Times* article suggested, such a blackout could put a nation four meals away from anarchy.[47] Appropriately addressing such a crisis requires a perspective on the broader system. Governments looking to understand and address national resilience, particularly when addressing the polycrisis, must:

> … conceptualise a country as a system itself, which is both part of larger systems and comprised of smaller systems. Those larger systems include the global economy, the climate, communications networks that reach across borders, and so forth ... The proposed diagnostic framework for assessing national resilience to global risks considers five subsystems that make up a country system—its economy, environment, society, governance and infrastructure—and works from a definition of resilience often used in a systems context: the ability to maintain core functions in the wake of a major disturbance.[48]

The Organisation for Economic Co-operation and Development (OECD) recommends that nations 'establish and promote a comprehensive, all-hazards and transboundary approach to country risk governance to serve as the foundation for enhancing national resilience and responsiveness'.[49] Such a systemic approach is critical.[50]

Second, national resilience provides a new way to understand *hazards and risk* in an uncertain future. While plans can be developed for known contingencies, unknown contingencies can often unbalance a nation, resulting in unprepared and inadequate capabilities being unable to meet challenges as they emerge. The ability to respond quickly—through resistance, adaptation or recovery—is core to successfully navigating crises.[51] Agility and adaptability—or the capacity to be anti-fragile[52]—is fundamental to a more effective and efficient capacity to manage hazard, as Tom Mitchell and Katie Harris, from the Overseas Development Institute, suggest:

> Recent literature [has] tended to focus on resilience more as a process than an outcome, involving learning, adaptation, anticipation and improvement in basic structures, actors and functions. The focus on resilience as a process draws attention to the notion of resilient systems: resilience is not a state but a dynamic set of conditions, as embodied within a system ... Risk and resilience approaches share four key characteristics:
>
> - they provide a holistic framework for assessing systems and their interaction, from the household and communities through to the sub-national and national level
> - they emphasise capacities to manage hazards or disturbances
> - they help to explore options for dealing with uncertainty, surprises and changes
> - they focus on being proactive.[53]

The World Economic Forum, for instance, has developed the concept of national resilience to 'function as the "MRI" for national decision-makers to reveal underlying weaknesses in global risk readiness that may not be apparent via more traditional risk assessment methods'.[54] The World Economic Forum's 2013 *Global risk report* posits that 'resilience is most important for risks that are difficult to predict and/or where there is little knowledge on how to handle such risks (Figure 1).

Figure 1: Resilience is most important for unpredictable risks or when there's little knowledge about effective measures

Predictability of risk			
	High	Emphasise resilience over anticipatory strategies	Use anticipatory strategies
	Low	Strengthen resilience	Emphasise resilience over anticipatory strategies
		Small	Large
	Amount of knowledge of a risk and effective measures to deal with it		

Source: World Economic Forum, *Global risk report*, 2013.

Third, national resilience involves:

1. shared awareness and shared goals
2. teamwork and collaboration
3. the ability to prepare and mobilise in the face of a crisis.[55]

Building a national resilience systems view requires a *shared situational awareness and a common understanding* of the goals that a nation seeks to pursue. While that may seem axiomatic, history is replete with examples of crises in which contributing organisations have had different expectations of the outcomes sought. Confusion, arguments about resource allocation and challenges for leadership have defocused the efforts of both planners and first responders and resulted in a suboptimal response-and-recovery process. Effective and common situational awareness and common goals are also the key to effective *teamwork and collaboration*.

Teamwork and collaboration between government, industry and civil society underpins all national resilience efforts. Bringing together the right stakeholders and ensuring that they have the requisite situational awareness and shared understanding of the challenges ahead establishes two of the three key attributes of national resilience. Energising the efforts of all participants in the national resilience challenge brings to the fore the need to *prepare and mobilise*. The Global Access Partners / Institute for Integrated Economic Research—Australia National Resilience Project, established to bring together public- and private-sector thought leaders to develop an integrated national resilience framework for Australia, notes that:

> There is no verb for 'resilience'; the verb 'prepare' is the most relevant in this case. There is an opportunity to learn from Defence preparedness concepts and systems and to adapt and implement them across our wider society. As a nation we need to prepare for future disasters/crises and not just wait to react. 'Crossing our fingers' and hoping is not a method we can afford to employ. In addition to preparing, we must be able to mobilise the nation to address an emerging threat.[56]

Mobilisation for national resilience requires a focus on the nation's total resources and their allocation and prioritisation to meet the needs of the nation.[57] The preparedness and mobilisation of resources within a national resilience framework isn't a simple process; in fact, it's often a wicked problem in which 'coordination and collaboration between actors and organisations are crucial, but often difficult to fulfil. The problem transcends organisational borders, policy areas and administrative levels, necessitating transboundary coordination. Public organisations face important capacity constraints in the efforts to handle the complexities.'[58]

Academics Hanneke Duijnhoven and Martijn Neef note that:

> The challenges contemporary society is faced with are characterized by great uncertainty and complexity, making it an almost impossible task to develop adequate policies and strategies to deal with these challenges. Confronted with pressures related to climate change, geopolitical tensions, economic crisis,

> terrorism, resource scarcity and other current developments, our society is faced with the question how we can cope with and adapt to these pressures and continue living our lives in a qualitatively acceptable manner. This is not an easy endeavor.[59]

It's therefore important to guard against creating a sense that national resilience is simply an engineering problem based on *inputs + process = outcomes*. As academics Louise Comfort, Arjen Boin and Chris Demchak suggest:

> Attempts to improve resilience are susceptible to the same complaint that is lodged against other efforts at social engineering … [W]e may greatly overestimate the ease with which organisational and individual behaviour can be changed. Societies (and their governmental systems) are highly complex; in some respects, deeply resistant to change; and in some respects, shaped by long-term trends that are difficult to resist.[60]

Australia's history of national resilience

Australia is no stranger to the terrain of national resilience. In the post-9/11 environment, substantially greater focus was put on the security of Australia's vital systems, including its critical infrastructure. The first identified discussion of national resilience in this context occurred during a meeting of the Australian Government Critical Infrastructure Advisory Council in 2009, at which the then Attorney-General, Robert McClelland, stated the aim of his government's efforts as:

> A more resilient nation where all Australians are better able to adapt to change, where we have reduced exposure to risk, and where we are all better able to bounce back from disaster.[61]

Having adopted the Sendai Framework for Disaster Risk Reduction in 2015 to manage national natural disasters, as well as to shape our humanitarian and disaster-relief efforts in the region, Australia has built national resilience into its emergency-management schema. The Department of Home Affairs established the National Resilience Taskforce in April 2018 to provide the national direction needed to underline climate and disaster risk and improve national resilience across all sectors in Australia.[62] The taskforce sought to build a national consensus on 'the significance of drivers for action [based on] genuine national coordination, information and guidance to ensure all relevant decision-makers have the information and decision-support tools necessary to meet this challenge'.[63] The National Disaster Risk Reduction Framework delivered by the National Resilience Taskforce states that:

> Australians depend on reliable and affordable food, water, energy, telecommunications, transport networks (including road, rail, aviation and maritime), and financial services. These functions also depend on each other. The networks that ensure the sustained delivery of food, water and energy involve complex interactions between infrastructure, people, the environment, money, and technology. A failure in any of these elements could have wide-ranging consequences across communities, businesses, governments and economies.[64]

While much of the Australian discussion of national resilience has focused on natural disasters—a natural preoccupation for a country with the history and propensity for natural disasters such as Australia—it's been far less prevalent as an integrating concept within the broader national security dialogue.

The sole Australian national security strategy, released in 2013, identified 'strengthening the resilience of Australia's people, assets, infrastructure and institutions' as one of eight pillars of national security, with a focus on preparing the nation for security challenges, including resilience against pandemics and bio-threats, natural disasters, violent extremism, and threats to critical infrastructure.[65]

Despite this, the concept was only marginally discussed in the *2016 Defence White Paper*, which noted that 'A sustainable national support base that enables and sustains Defence and adds to Australia's resilience will be fundamental to our future security and prosperity'.[66] It was only with the release of the 2023 Defence Strategic Review that the concept of national resilience significantly entered the Defence lexicon. The review emphasised, through a chapter on 'Deterrence and resilience', the ability of the nation to withstand, endure and recover from disruption as part of the new concept of deterrence by denial. As the Defence Strategic Review notes:

> A high level of resilience would signal to an adversary the extent of Australia's resolve to defend itself. This would contribute to deterrence.[67]

The challenge for Australia in future is to bring the established doctrine of national resilience for natural disasters and the new concept of national resilience as an element of defence strategy together into an overarching framework.

For this report, national resilience is defined as:

> the ability of Australia to plan for, adapt to, prepare for, resist, respond to and recover from crisis and change, whether natural or man-made or singly or concurrently.

The key elements of national resilience discussed in this report include:

1. *societal resilience*—involving the resilience of the individual, community and whole of society
2. *economic resilience*—involving firms, industry sectors and the national economy
3. *governance resilience*—involving all three levels of Australian government and the institutions of the state
4. *systemic resilience*—the interdependence and synthesis of societal, economic and governance resilience.

The following chapters examine international experience in which a broad national security-relevant framework for national resilience has been employed—one that captures an all-hazards approach to managing crisis—to identify lessons for Australia in meeting this new challenge.

Chapter 2: Selected case studies in national resilience

The Covid-19 pandemic

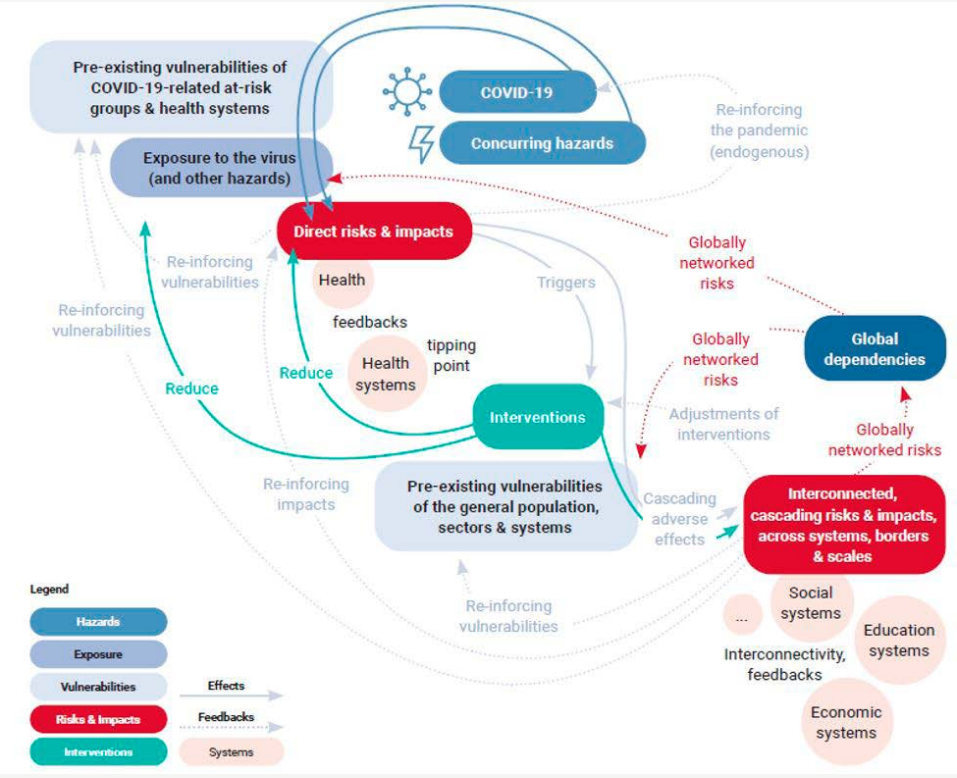
In December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first identified in an outbreak in the Chinese city of Wuhan. The subsequent global pandemic has resulted in 71,549,718 confirmed cases of Covid-19; 6,974,473 resulting deaths were reported to the World Health Organization by 25 October 2023.[68]

The pandemic resulted in a multidomain global crisis with health, economic, societal and geopolitical impacts. As the UN Office for Disaster Risk Reduction (UNDRR) suggests:

> The impacts have revealed inherent vulnerabilities across societies and have unveiled major deficiencies in pandemic prevention, preparedness, and response initiatives locally, regionally and globally. In addition to the direct health effects, COVID-19 and the interventions taken to contain the spread of the disease and protect at-risk groups, such as school and business closures, stay-home orders or travel restrictions, have led to grave cascading impacts on interconnected sectors and systems. Thereby, effects of the pandemic have not only been felt locally but, as a result of global interconnectivities and interdependencies of systems, have led to cascading effects in other parts of the world. For example, the interruption of international commercial and touristic flows have had major consequences for countries that have either experienced very limited infection rates or even the complete absence of COVID-19 cases.[69]

Figure 2 shows the UNDRR's model of Covid-19 impacts.

Figure 2: Conceptual model of the systemic nature of Covid-19 risks and impacts



Source: UN Office for Disaster Risk Reduction (UNDRR), UN University Institute for Environment and Human Security (UNU-EHS), 2022, *Understanding and managing cascading and systemic risks: lessons from COVID-19*, UNDRR, Geneva, UNU-EHS, Bonn, 2022, online.

The pandemic has been described as 'the most enduring, severe population-level emergency … since the end of the Second World War in 1945'[70] and as 'the worst peacetime catastrophe of modern times'.[71] The preparation for, response to and recovery from Covid-19 provided a unique case study of national resilience as diverse countries managed their way through this multidomain crisis. Covid-19 was 'a real-time example of what has been anticipated and studied for some time in resilience science—multisystem impacts coming from the overlap of an acute crisis and ongoing chronic stressors, such as historical structural inequities, that are exacerbating it'.[72]

Few countries were prepared for a global pandemic on the scale of Covid-19. While pandemic disease was an element of the national risk assessments of several countries prior to the outbreak of Covid-19, few countries had implemented comprehensive pandemic preparedness measures or planned for the national non-health impacts of a pandemic. As the Council on Foreign Relations notes:

> Pandemics are not random events. Outbreaks of well-known infections and new diseases occur regularly. These outbreaks can spread easily on this interconnected planet and impose significant human and economic costs, making preparedness imperative. Since the 1990s, successive US administrations, as well as other governments and international organizations, have acknowledged this reality. In the United States, this recognition has been reflected in multiple national security strategies and intelligence assessments, blue-ribbon commissions, and simulation exercises that anticipated many of the challenges the world encountered in 2020.
>
> … US and global efforts to prepare for the inevitability of pandemics provided the illusion—but not the reality—of preparedness. Despite a succession of previous global public health emergencies, the United States and other governments failed to invest adequately in prevention, detection, and response capabilities to protect the populations most vulnerable to infectious disease outbreaks, or to fulfill their multilateral obligations to international organizations and to one another. The COVID-19 pandemic laid bare these failures in global and US domestic preparedness and implementation, exposing important lessons that had not been learned, critical initiatives left unfunded, and solemn obligations that had not been met.[73]

In the UK, for instance:

> The UK had, since at least 2008, undertaken what were, by global standards, relatively sophisticated analyses of potential catastrophic risks to the country, and had long identified a pandemic as among those likely to have the greatest impact. A full-scale government exercise to prepare for pandemic influenza was held in 2016. Yet it is hard to trace significant major expenditure and effort commensurate with this risk, whether in line departments, in the centre of government or in the local resilience infrastructure. Specifically, it is acknowledged that problems identified as part of the 2016 pandemic flu exercise known as Cygnus remained unaddressed.[74]

The initial synthesis report of the OECD suggests that, 'while pandemics featured prominently in national risk assessments prior to 2020, preliminary lessons show that countries nonetheless had insufficient capacity to anticipate shocks of this magnitude.'[75] Significantly, few countries assessed the critical preparedness of non-health sectors, or the interdependencies between measures to reduce the health impacts and impacts on other critical sectors of the economy.

Crisis management was particularly difficult in the early days of the pandemic. As Giliberto Capano et al. suggest, 'in the case of a global pandemic another entire range of issues lies beyond the aetiology and epidemiology of the disease itself, including how to deal with the social, economic and political crises which result from its spread, and from the public health interventions undertaken to prevent or control it'.[76] Dutch Prime Minister Mark Rutte explains this succinctly in noting that he had to make 100% of the decisions with less than 50% of the required information.[77]

Despite the deep uncertainty surrounding the pandemic, countries that were better able to manage the multidomain nature of the crisis were seen to mobilise resources across all policy domains and the involvement of stakeholders across different institutions, agencies, industries and society. The OECD suggests that:

> Governments put in place, if needed, structures and mechanisms to ensure a co-ordinated response (almost half of OECD countries deployed new institutional arrangements to manage the pandemic) … and developed protocols to clarify the responsibilities of each actor in managing the crisis response.[78]

Communication was a key element of the crisis response. Businesses and citizens expected their governments to provide factual information, counter misinformation and provide a steadying hand. Clear, concise and timely information boosts citizens' trust and encourages public compliance with policy guidance.[79] Countries with higher levels of public trust and confidence in government achieved better results from such communications than those with limited levels of trust.[80] The challenge of crisis communication during the pandemic has been described by academics Arjen Boin et al. as follows:

> The challenge for crisis leaders can be simply stated but is quite complex: they have to motivate people who are unlikely to suffer from the virus to make a personal and long-term sacrifice that will not be compensated. They can do this through a mixture of 'muscles, sermons and prayer'. Some governments relied heavily on the state's muscles: lockdowns were enforced with armed patrols and heavy fines. Other governments relied on communicating a convincing story: explaining why solidarity was needed and evoking a sense of shared responsibility (the 'responsible' citizen). Most states used a combination of the two strategies.[81]

Societal resilience (that is, the ability of societies to maintain their core functions while minimising the health impact of the pandemic and other societal effects[82]) has been identified as a core element of successful management of the Covid-19 crisis. The significant vulnerability of the community space as a transmission vector for the virus required measures that restricted social interactions. Those countries with high social trust, a willingness for collective social support, voluntary assistance measures and mutual assistance typically had better responses to the pandemic.[83] Countries that also implemented social-protection measures to cope with the negative socio-economic impacts of the pandemic fared better at managing social acceptance of restrictions on civil liberties, including lockdowns, movement restrictions and curfews.[84]

The impact of the pandemic on the global economy is being considered as 'nothing short of a catastrophe—it plunged the global economy to its deepest recession since the Great Depression, pushing millions into poverty as businesses closed and jobs were lost'.[85] Analyses of the economic performance of several countries during Covid-19 have concluded that countries with high *economic resilience* prior to the pandemic have delivered higher levels of recovery than those with lower economic resilience.[86] Moreover, those that focus on measures of economic resilience for the post-pandemic global economic environment are better positioned for long-term success. Karl Schwab and Bob Sternfels suggest that a key starting point needs to be 'a consolidated view of the resilience themes. This will enable us to better understand the opportunities for sustainable and inclusive growth—for companies, countries, and societies. We must strengthen our resilience muscles now.'[87]

Covid-19 also challenged the normal functioning of many existing governance systems. The use of emergency powers, including restrictions on public freedoms such as freedom of movement and assembly and the right to privacy, challenged the proper functioning of government.[88] *Governance resilience* was particularly challenging for many jurisdictions, which were unable to maximise the benefits across their governance systems as local, state and federal governments struggled to align policies and practices.[89] The OECD suggests that countries must 'safeguard citizens, build and maintain public trust, and support the healthy functioning of democratic systems, which are key to societies' capacity to absorb shocks' if they're to strengthen resilience in the Covid-19 and post-Covid environment.[90]

As noted above, Covid-19 presented policymakers with a crisis that wasn't confined solely to the health system, engaging economic, community-welfare, law-enforcement, diplomatic, education, intragovernmental and national security policymakers in new systemic challenges. The pandemic's toll included 'the cascading collapse of entire production, financial, and transportation systems, due to a vicious combination of supply and demand shocks'.[91] *Systemic resilience* provides a means to manage such systemic risks—risks that have the potential to cause the breakdown of an entire system rather than simply the failure of individual parts. Countries that performed better during the pandemic were better at building resilience 'beyond health systems and encompass[ing] social, economic, environmental and governance systems'.[92] The UNDRR suggested that 'policies, plans and actions need to be based on an evolving perception of risks and how to govern them that builds resilience into the interconnected systems that are characteristic of contemporary society'.[93] The UNDRR went on to note that:

> The systemic approach accounts for the crucial linkages among issues that are often treated separately in governmental and scientific 'silos'. Systemic risks cannot be addressed by a single agency nor by many siloed ones. No one agency has the mandate, ability, or resources to address all aspects of disaster risk, especially in situations of multi-hazards; rather, many sectors of the government should work together on response, recovery, prevention, and resilience building.[94]

Hurricane Katrina

Hurricane Katrina, the third most deadly hurricane in US history,[95] made landfall in the early morning of Monday 29 August 2005. With winds approaching 130 miles per hour and storm surge as high as 27 feet, the hurricane battered the northern Gulf Coast from Mobile, Alabama, to New Orleans, Louisiana, affecting nearly 93,000 square miles (an area roughly the size of Great Britain).[96] The flooding devastated the city of New Orleans, killed an estimated 1,392 people, damaged or destroyed more than 300,000 residences and resulted in economic damage approaching US$200 billion.[97]

While Hurricane Katrina is a dramatic case study of the power of nature to create devastation on a massive scale, the true lessons from the event emerge from the study of the national resilience of the US and the affected communities—how they prepared, reacted and responded to an event of such magnitude. Several highly influential reviews were conducted in the aftermath of the hurricane, including by the Select Bipartisan Committee of the US House of Representatives, by the Committee on Homeland Security and Governmental Affairs of the US Senate and by the White House.

The Select Bipartisan Committee concluded that:

> Katrina was a national failure, an abdication of the most solemn obligation to provide for the common welfare. At every level—individual, corporate, philanthropic, and governmental—we failed to meet the challenge that was Katrina.[98]

The findings of the Select Bipartisan Committee identified failures at all levels of government that undermined and detracted from the efforts of first responders, private individuals and organisations. As the final report of the committee notes:

> [T]he preparation for and response to Hurricane Katrina show we are still an analog government in a digital age. We must recognize that we are woefully incapable of storing, moving, and accessing information—especially in times of crisis.[99]

The national emergency-management system of the US, which relies on state and local governments identifying needs and requesting resources, was overwhelmed by the degree and scope of destruction, even though many parts of the system could have and should have anticipated the destruction. The committee identified a failure of initiative and a failure of agility. Response plans at all levels of government lacked

flexibility and adaptability, which delayed the response efforts. Critical elements of the National Response Framework were executed late, ineffectively or not at all. Infrastructure wasn't built to withstand the most severe events; for example, there was a failure to adequately plan for alternative communications capabilities when the main communications systems were destroyed, which impaired response efforts, command and control and situational awareness. The collapse of local law enforcement and public order and a lack of effective public communications led to civil unrest and further delayed relief.[100]

The Senate committee's report similarly concluded that:

> The suffering that continued in the days and weeks after the storm passed did not happen in a vacuum; instead, it continued longer than it should have because of—and was in some cases exacerbated by—the failure of government at all levels to plan, prepare for, and respond aggressively to the storm. These failures were not just conspicuous; they were pervasive. Among the many factors that contributed to these failures, the committee found that there were four overarching ones:
>
> 1. Long-term warnings went unheeded and government officials neglected their duties to prepare for a forewarned catastrophe.
> 2. Government officials took insufficient actions or made poor decisions in the days immediately before and after landfall.
> 3. Systems on which officials relied to support their response efforts failed.
> 4. Government officials at all levels failed to provide effective leadership.
>
> These individual failures, moreover, occurred against a backdrop of failure, over time, to develop the capacity for a coordinated, national response to a truly catastrophic event, whether caused by nature or man-made.[101]

The White House's 'lessons learned' review identified 14 specific lessons for the federal government, which affected all aspects of the federal response (see box).

The White House: lessons from Hurricane Katrina

1. *National preparedness:* There were critical flaws in unified management of the national response; command and control structures within the federal government; knowledge of preparedness plans; and regional planning and coordination.
2. *Integrated use of military capabilities*: Various challenges were identified in the use of military capabilities during domestic incidents, including limitations under federal law, Department of Defense policy on responding to requests for assistance, and a lack of coordination between active-duty military and National Guard operations, and between the President and the Governor.
3. *Communications*: There was a lack of national, statewide or regional communications plans to incorporate additional and alternative communications assets, and poor operability and interoperability between communications systems to meet the needs of emergency responders.
4. *Logistics and evacuations*: The highly bureaucratic supply processes of the federal government were not sufficiently flexible and efficient and failed to leverage the private sector and 21st-century advances in supply-chain management.
5. *Search and rescue*: There was a need for greater coordination between urban search-and-rescue taskforces, the Coast Guard and military responders which, because of their very different missions, train and operate in very different ways, including the inability to effectively coordinate their operations.
6. *Public safety and security*: Local, state and federal law-enforcement agencies were ill-prepared and ill-positioned to respond efficiently and effectively to the crisis, demonstrating poor coordination, unity of command, collaborative planning and training with state and local law enforcement and detailed implementation guidance.
7. *Public health and medical support*: Local and state public-health and medical assets were overwhelmed, placing even greater responsibility on federally deployed personnel. Immediate challenges included the identification, triage and treatment of acutely sick and injured patients; the management of chronic medical conditions in large numbers of evacuees with special healthcare needs; the assessment, communication and mitigation of public health risk; and the provision of assistance to state and local health officials to quickly reestablish healthcare delivery systems and public-health infrastructure.
8. *Human services*: Federal preparation for distributing individual assistance proved frustrating and inadequate. Because there was no single mandated federal point of contact for all assistance, disaster victims confronted an enormously bureaucratic, inefficient and frustrating process that failed to effectively meet their needs. The federal government's system for the distribution of human services wasn't sufficiently responsive to the circumstances of many victims—many of whom were particularly vulnerable—who were forced to navigate a series of complex processes to obtain critical services in a time of extreme stress.
9. *Mass care and housing*: Federal, state and local plans were inadequate for a catastrophe that had been expected for several years. State and local officials had no choice but to direct thousands of individuals to inadequate and unprepared sites immediately after the hurricane struck. The federal government's capability to provide housing solutions to the displaced Gulf Coast population proved to be far too slow, bureaucratic and inefficient.
10. *Public communications*: Federal, state, and local officials gave contradictory messages to the public, creating confusion and feeding the perception that government sources lacked credibility. The media, operating 24/7, gathered and aired uncorroborated information, which interfered with ongoing emergency-response efforts. The federal public-communications and public-affairs response proved inadequate and ineffective.

11. *Critical infrastructure and impact assessment*: The federal government's ability to protect and restore the operation of priority national critical infrastructure was hindered by four interconnected problems. First, the response, guided by the National Response Framework, did not account for the need to coordinate critical infrastructure protection and restoration efforts across the emergency support functions. Second, the federal government didn't adequately coordinate its actions with state and local protection and restoration efforts. Third, federal, state and local officials responded to Hurricane Katrina without a comprehensive understanding of the interdependencies of the critical infrastructure sectors in each geographical area and the potential national impact of their decisions. Fourth, the federal government lacked the timely, accurate and relevant ground-truth information necessary to evaluate which critical infrastructure was damaged, inoperative, or both.
12. *Environmental hazards and debris removal*: Federal officials failed to appropriately identify environmental hazards and communicate appropriate warnings to emergency responders and the public. Additionally, unnecessarily complicated rules for removing debris from private property hampered the response.
13. *Foreign assistance*: Federal agencies weren't prepared to make the best use of foreign support. The government lacked the capability to prioritise and integrate such a large quantity of foreign assistance into the ongoing response. Absent an implementation plan for the prioritisation and integration of foreign material assistance, valuable resources went unused, and many donor countries became frustrated. Nor did the government have mechanisms in place to provide foreign governments with whatever knowledge was available regarding the status of their nationals.
14. *Non-governmental aid*: Non-government organisations (NGOs) contributed to the relief effort despite government obstacles and with almost no government support or direction. Government agencies didn't effectively coordinate relief operations with NGOs. Often, government agencies failed to match relief needs with NGO and private-sector capabilities. Even when agencies matched non-governmental aid with an identified need, there were problems in moving goods, equipment and people into the disaster area.

Source: 'The federal response to Hurricane Katrina: lessons learned', The White House, Washington DC, February 2006, online.

Because of Katrina, the focus of much of the US emergency management system has shifted from response to risk reduction and resilience building. The US Army Corps of Engineers has rewritten much of its policy to incorporate disaster risk and resilience, with a focus on 'a more robust and resilient system with some capacity to deal with uncertainty and change'.[102] The Obama administration introduced the term 'resilience' in the 2010 National Security Strategy, identifying the need to 'ensure our national resilience in the face of the threat and hazards'.[103] The inaugural Quadrennial Homeland Security Review identified—as one of the three concepts essential to, and forming the foundation for, a comprehensive approach to homeland security—the capability and capacity to 'foster individual, community, and system robustness, adaptability, and capacity for rapid recovery'. The review also established 'Ensuring resilience to disasters' as one of five mission areas, with the aim to 'create a Nation that understands the hazards and risks we face, is prepared for disasters, and can withstand and rapidly and effectively recover from the disruptions they cause'. [104]

Significant efforts were also developed to better support community resilience, including enhancements to public communications, better linkages with NGOs in planning for disasters, and better integration between federal, state and local governments and agencies.[105]

The Fukushima nuclear disaster

On 11 March 2011, a magnitude 9.0 earthquake occurred 130 kilometres offshore, proximate to the city of Sendai in Miyagi Prefecture on the eastern coast of Honshu Island. The earthquake resulted in a massive tsunami, which inundated about 560 square kilometres, killed around 19,500 people, destroyed or damaged

more than 1 million buildings, and damaged ports and towns in its path. The economic cost of the earthquake, tsunami and resulting nuclear accident is estimated at over US$210 million.[106]

Eleven reactors at four nuclear power plants in the region were operating at the time of the earthquake and tsunami. All shut down automatically when the earthquake hit. At the Fukushima Daiichi 1–3 and 4 reactors, the 15-metre tsunami submerged and damaged the seawater pumps for both the main condenser circuits and the auxiliary cooling circuits. The diesel generators, electrical switchgear and batteries, all located in the basements of the turbine buildings, were inundated. That resulted in a blackout of the station and isolated the reactors from their ultimate heat sink. The tsunami also damaged and obstructed roads, making outside access difficult. A nuclear emergency was declared, and at 8:50 pm the Fukushima Prefecture issued an evacuation order for people within 2 kilometres of the plant. At 9:23 pm, the Prime Minister extended that to 3 kilometres; at 5:44 am on 12 March, he extended it to 10 kilometres; on Saturday 12 March, the evacuation zone was extended to 20 kilometres. Around 160,000 people were evacuated, of whom about 41,000 have yet to return home. By September 2020, 2,313 indirect disaster-related deaths among evacuees from Fukushima Prefecture had been identified, not caused by the radiation but by the countermeasures and psychosocial aspects. There's also been a dramatic increase in depression, post-traumatic stress disorder, substance abuse and suicides, driven by the evacuations, stigmatisation and an amplified perception of radiation risks.[107] Since the accident, the national cabinet and the Diet have initiated committees to examine the actions taken by the government (see box).

Final report of the investigation committee on the accident at the Fukushima nuclear power stations of Tokyo Electric Power Company

1. Many of the important decisions that were made in relation to the responses to the accident, including evacuation measures, were undertaken by relevant Cabinet members, the Chairman of the Nuclear Safety Commission of Japan, senior Nuclear and Industrial Safety Agency key officials and senior TEPCO officials away from the Crisis Management Center (Emergency Operations Team). The emergency responses should, in general, be based at a location close to the accident site where the relevant information is easy to obtain in a nuclear emergency, and the activities at the accident site are easy to grasp.
2. Accurate information proved to be difficult to obtain and was not coordinated effectively to support decision-making. The government emergency response headquarters should be set up in a way which enables the government people access to the necessary information while staying in government facilities like the Prime Minister's Office, without moving to the nuclear operator's head office.
3. The process for declaring a nuclear emergency was ineffective, with time lost due to the desire to gather additional information and develop policy options. Priority should have been given to the declaration of a nuclear emergency, rather than a search for details on the development of the situation and on relevant laws.
4. The Prime Minister's Office directed many of the actions on the immediate response, actions that would be extremely relevant to on-site response that should first be taken based on the judgment of nuclear operators in their responsibility, which are in the best position to grasp the on-site situation and possess special and technical knowledge. The government and the Prime Minister's Office should leave the response action to the operator, if the operator is taking the appropriate response, and only if the response is assessed to have been inappropriate or inadequate, they should issue an order for the appropriate actions. It should be considered inappropriate for the government and the Prime Minister's Office to spearhead the response and intervene in the on-site response from the onset of the incident.
5. This evacuation order was issued on the fifth floor of the Prime Minister's Office, based on a judgment that preparations in readiness would be necessary for the possibility of an incident occurring at Fukushima. The

judgment was not based upon the information on the specific conditions at each unit of the Fukushima plant, such as the injection of water into the nuclear reactors, or the water levels and pressures in the nuclear reactors.

6. Urgent information was not released to the public in a timely manner, and the multiplicity of spokesmen meant that some remarks were awkwardly made to avoid references to a 'core meltdown'. These remarks were extremely inappropriate in the sense that they had misguided local residents and emergency response staff at the central government and on site, who were desperately in need of information.
7. Emergency preparedness measures were not based on a comprehensive risk analysis. When implementing severe accident measures in urgent need, the regulating authorities should also verify and review, using risk analysis methods or other means, the effectiveness of those measures in the event of a natural disaster.
8. The lack of forethought given by the national government and most local governments to the occurrence of a nuclear accident in the form of a complex disaster highlights the inadequacies in Japan's crisis management attitude, in both aspects of the safety of nuclear power plants as well as safety of the surrounding local communities. When reviewing the existing safety measures at nuclear power stations, risks of a large-scale complex disaster should be sufficiently considered in emergency preparedness.

Source: Investigation Committee on the Accident at the Fukushima Nuclear Power Stations of Tokyo Electric Power Company, *Final report*, Secretariat of the Investigation Committee on the Accident at the Fukushima Nuclear Power Stations of Tokyo Electric Power Company, 2012, online.

The Diet's commission confirmed many of those same challenges, noting that 'the root causes were the organizational and regulatory systems that supported faulty rationales for decisions and actions, rather than issues relating to the competency of any specific individual.'[108] Specifically, the commission found as follows:

- The situation continued to deteriorate because the crisis management system of the Kantei, the regulators and other responsible agencies did not function correctly. The boundaries defining the roles and responsibilities of the parties involved were problematic, due to their ambiguity.
- The residents' confusion over the evacuation stemmed from the regulators' negligence and failure over the years to implement adequate measures against a nuclear disaster, as well as a lack of action by previous governments and regulators focused on crisis management. The crisis management system that existed for the Kantei and the regulators should protect the health and safety of the public, but it failed in this function.
- The residents in the affected area are still struggling from the effects of the accident. They continue to face grave concerns. The government and the regulators are not fully committed to protecting public health and safety; … they have not acted to protect the health of the residents and to restore their welfare.

The challenges identified in the two commissions discussed above provide lessons for any nation seeking to manage a complex emergency and build national resilience to ensure better preparation for, response to and recovery from crisis. Those lessons include the following:

1. Complex contingencies and crises that affect communities, industries and national functions necessitate the mobilisation of multiple resources from across a system. In the early stages of the Fukushima response, there was an inadequate grasp of where those resources were located, how they could be mobilised and what the consequences of their deployment and employment might be.
2. Decentralisation of crisis-management responsibilities and authorities effectively means that no unified system exists to manage the crisis and to ensure effective command and control and public messaging to affected communities.

3. For this disaster, the lack of a comprehensive legal system for crisis management resulted in decisions being made through ambiguous procedures, which resulted in confusion and exacerbated the detrimental impacts of the disaster.

Peter Ennis notes that 'the economic, political and social consequences of the Triple Disaster [earthquake, tsunami and nuclear accident] have changed Japan in fundamental ways.'[109] One of the many ways in which the disaster has changed Japanese policy and process is in national resilience and the government's approach to managing complex crises. Academic and author Michelle Spencer defines four primary lessons that the Government of Japan has learned from the disaster:

1. *Trust is essential.* Often leaders are unwilling to admit they do not have all the answers but providing incorrect information solely for the purpose of not having to say 'I don't know' does more harm than good. Government entities need to have clear lines of communication between each other and the public. Transparency is vital, but having a singular message is paramount to maintaining trust.
2. *Two-way communications are vital.* In the age of Internet, Facebook, and Twitter, expectations of communication and feedback are high.
3. *Something or someone will always fail, and some will always respond better than expected.* Resilience requires expecting the unexpected and thinking the unthinkable. Catastrophic events beyond the public's wildest dreams will occur and the government (at all levels) must help to prepare the population. Communities (even virtual ones) are often the source of stability and support, but early involvement in planning and information sharing will lessen the stress of the crisis as it unfolds.
4. *Recovery is long-term.* While it is apparent that the cleanup from Fukushima will require decades of rebuilding and cleanup, the psychological effects are harder to measure, but important to recognize. Post-traumatic stress and depression in Japan are widespread, as are other stress-related illnesses. Addressing the mental well-being of the population over time will be as essential to recovery as rebuilding structures.[110]

The resilience of the communities evacuated from Fukushima and the surrounding environs was found to be a key factor in the recovery from the disaster. Ten years after the tsunami, communities and individuals with higher resilience were identified as having reduced psychological distress.[111]

For industries with low-probability, high-consequence technologies or processes, consideration of complex contingencies and combination scenarios (an earthquake and a tsunami) should be mandatory, and such industries must improve system resilience against events possibly regarded as unknown by focusing on 'systematic surveillance and reduction of unforeseen events, together with guidelines for assessing countermeasures'.[112]

The Japanese Government has also sought to implement a national resilience approach to reconstruction and recovery following the disaster, launching the Fukushima Innovation Coast Framework to develop both human resources and industrial clusters in the coastal area of Fukushima Prefecture, generating innovative industries and employment. The government is also working with prefectural and municipal governments, citizens, the local community and firms to deliver a vision for the future of the region.[113] Key to the government's resilience efforts are the economic resilience initiatives aimed at diversification of the local economy and the effective use of resources for economic rehabilitation and reconstruction, to quickly reduce the duration of business interruption and any negative impacts.[114]

The Ukraine conflict

On the morning of 24 February 2022, Russian forces invaded a largely unprepared Ukraine. A short air campaign around 4:00 am local time targeted Ukrainian air defences, supply depots, and airfields across unoccupied Ukraine. That was followed by Russian ground forces advancing on four primary axes: Belarus/Kyiv; Kharkiv; Donbas; and Crimea–Kherson.[115] Over the following 18 months, the initiative has swung between both sides, although the front lines have remained relatively stable for almost a year. The number of military casualties has climbed to an estimated half a million. Meanwhile, Russia continues to bombard Ukraine's cities and blockade its ports, and Ukraine has stepped up drone attacks on Russian ships and infrastructure. Fighting and air strikes have inflicted nearly 22,000 civilian casualties, while 5.1 million people are internally displaced and 6.2 million have fled Ukraine.[116]

The Ukraine conflict provides a unique opportunity to study national resilience during times of conflict. Following the 2014 Russian annexation of Crimea, several studies were undertaken into the national resilience of Ukraine. Those studies have found that the 2014 conflict affected and radically changed Ukraine's national security planning and national resilience activities (see box).

Ukrainian Government national resilience actions since the 2014 annexation of Crimea

1. Enhanced the national security system to better deal with hybrid threats and resourcing for national security. The National Security Strategy of Ukraine 2020 establishes resilience as a fundamental principle of security, defined as the ability of society and the state to quickly adapt to changes in the security environment and maintain the sustainable functioning of the state.
2. Strengthened national resilience as a strategic goal in Ukraine's national security strategies through:
   - creating a multilevel risk assessment system
   - improving strategic planning, analysis and crisis management
   - establishing an information security doctrine for the individual and society and a cybersecurity strategy for the security of information systems and cyberspace as an ecosystem
   - developing the resilience potential of local communities and regions.
3. Supported the role of civil society as a self-organising actor in defending the nation and nation-building activities that support national security, and seeking to build a relationship of trust and collaboration between state authorities and civil society.
4. Worked to create a regulatory framework to ensure the resilience of the regions and territorial communities from the point of view of crisis management and the civil security system.
5. Established processes for enhancing community solidarity and volunteering by Ukrainian citizens, including offering help to each other with transportation, food, security and housing.
6. Increased public–private partnerships in key areas of national security and resilience, including cyber resilience, health, housing and search and rescue.
7. Worked with NATO and allied countries by:
   - modernising command, control, communications and computer structures and capabilities
   - reforming the logistics and standardisation systems of the Armed Forces of Ukraine
   - enhancing Ukraine's cybersecurity capabilities
   - countering improvised explosive devices and managing explosive ordnance disposal and demining.[117]

Since its independence from the Soviet Union in 1991, Ukraine has had a strong sense of nationalism, typified by the Orange Revolution of 2004. That sense of nationalism, which 'served as a national awakening, establishing Ukraine's democratic credentials and setting the country on a path that diverged sharply from the increasing authoritarianism of Vladimir Putin's Russia',[118] established a deep sense of societal resilience.[119] Pippa Norris, a comparative political scientist, and Kseniya Kizlova, an associate research fellow at VN Karazin Kharkiv National University in Ukraine, note:

> [W]illingness to engage in defending the country prior to the outbreak of war is predicted by strong feelings of Ukrainian nationalism, as many expect. But it is also associated with the endorsement of democratic values among ordinary citizens, controlling for the demographic characteristics of sex and age. This is not just rhetoric; feelings of nationalism (our land), as well as the genuine desire to protect democratic freedoms (our rights), fuel activism in the resistance.[120]

Ukraine describes and employs national resilience as a key tool in its national-security strategy. Recognising both the challenges of resistance to aggression and the drivers for response and recovery, Ukraine's employment of the concepts of national resilience is:

> … a process of enhancing a capacity of a national community to heal from trauma, effectively resist perpetrators of violence, and positively transform intergroup relations removing communities from the contexts of chronic violence and war. Instead of seeing themselves as victims of Russian intervention and as a divided nation with the weak and corrupted Government, citizens of Ukraine were empowered to mobilize resources, capacities, and strengths of the national community to address chronic violence. The practices of resilience developed by the national community of Ukraine, including volunteerism, critical approach to history, and dialogue, do not only aid Ukrainians in the adaptation to the chronic violence but also in the transformation of the nature and the impact of the violence on the national community.[121]

Studies of societal resilience in Ukraine have indicated that 'Ukrainians reported the highest level of community and societal resilience and hope, while at the same time they also reported the highest level of distress symptoms and sense of danger, as well as the lowest level of well-being and a quite low level of morale.'[122] The psychological resilience of Ukraine is therefore paramount during the current conflict. Mykola Nazarov, an academic, notes that:

> Psychological resilience also plays a crucial role in wartime. Air strikes and artillery attacks on critical infrastructure in the first weeks of the war were meant to provoke panic among the civilian population. During this period, a broad spectrum of media personalities, analysts, public opinion leaders, and former and current officials worked through social media to maintain public morale. Most importantly, this initiative was not centralised. Social media posts reflected the authors' personal opinions and spheres of expertise.[123]

Ukraine recognises that economic resilience will be a core pillar of its defence strategy for managing the conflict and its survival over the long term. Almost 30% of Ukraine's GDP has been lost, while its main Black Sea trade routes remain blockaded. At present, over 50% of Ukraine's budget spending is planned for the defence sector. The World Bank has identified economic resilience as fundamental, developing an Economic Resilience Action Plan for Ukraine that identifies measures to support resilience during the conflict (Phase 1) and measures for reconstruction and recovery (Phase 2).[124] Ukrainian businesses have demonstrated considerable resilience during the crisis by focusing not only on the traditional tools of 'building resiliency in supply chains and navigating geopolitical shifts' but also on 'revenue diversification and maintaining a resilient workforce'.[125]

Ukraine's decentralisation reforms, following its independence from the Soviet systems that it had inherited, have been identified as one of the key elements of its surprising resilience to the Russian attacks. Those reforms established municipal governments (*hromadas*) with considerable local autonomy, self-governance and substantial financial resources. Consequently, 'the increased level of trust through decentralisation reform may explain the critical role hromadas played in building resilience during the 2022 invasion, as empowered municipalities backed by strong trust of their citizens can work more effectively.'[126]

Chapter 3: The United Kingdom's national resilience framework

In December 2022, the government of the UK released the UK Government Resilience Framework. The framework articulates how the UK Government will deliver on a new strategic approach to resilience, based on three core principles:

- A developed and shared understanding of the civil contingencies risks we face is fundamental.
- Prevention rather than cure wherever possible: a greater emphasis on preparation and prevention.
- Resilience is a 'whole of society' endeavour, so we must be more transparent and empower everyone to make a contribution.[127]

The new framework (the first official statement on national resilience) stems from the Integrated Security Review released by the government in 2021, which promised an increased commitment to security and resilience to protect the nation against threats.

From civil defence to civil contingencies

While the 2022 UK Government Resilience Framework was the first resilience strategy prepared by the UK, it draws on a long history of resilience planning.[128] In the period after World War II, the UK enacted the *Civil Defence Act 1948* (with associated laws and regulations) as:

> … an enabling measure, giving authority to Ministers to make the utmost preparations possible to safeguard the people of our country from attack, in so far as civil defence can do it. But it also makes provisions of a preparatory character which are of some importance and which noble Lords will see set out in full in Clause 1. They provide for:
>
> a) the organisation, formation, maintenance, equipment and training of civil defence forces and services;
>
> b) the organisation, equipment and training for civil defence purposes of police forces, fire brigades, and employees of local or police authorities employed primarily for purposes other than civil defence purposes;
>
> c) the instruction of members of the public in civil defence and their equipment for the purposes of civil defence;
>
> d) the provision, storage and maintenance of commodities and things required for civil defence; and
>
> e) the provision, construction, maintenance or alteration of premises, structures or excavations required for civil defence, and the doing of any other work required for civil defence.[129]

For the purposes of the *Civil Defence Act 1948*, 'civil defence' was defined as 'measures, other than actual combat, for affording defence against a hostile attack by a foreign power'.[130] To enable the Act, the UK Government established the Civil Defence Corps to 'provide the basic organisation and staff for many of the new functions imposed on local authorities'.[131] The corps undertook activities from 1949 to 1968, at which time the then Prime Minister announced that the civil-defence function would be reduced to a 'care and maintenance basis' and the Civil Defence Corps disbanded.[132]

In 2001, the then UK Prime Minister, Tony Blair, established the Civil Contingencies Committee (supported by the Civil Contingencies Secretariat) to 'bring together a range of responsibilities which had previously been dispersed across several different Departments'[133] in order to 'improve the UK's preparedness and response

to emergencies (arising from threats or hazards or both), and the resilience of central, regional and local government'.[134]

Sir David Omand, the inaugural UK Government Security and Intelligence Co-ordinator and Permanent Secretary at the Cabinet Office from 2002 to 2005, notes that:

> The creation of the Civil Contingencies Secretariat in the Cabinet Office was a prudent step that pre-dated 9/11 and reflected lessons learned from such episodes as the fuel dispute and foot and mouth disease. But since then, we have deliberately sought to make counterterrorism, through the protection and preparation campaigns, the driver in thinking about national resilience. That was the right response after 9/11 and the one the public expected and supported.[135]

In 2004, the UK enacted the *Civil Contingencies Act*,[136] repealing and replacing the *Civil Defence Act 1948*, 'to deliver a single framework for civil protection in the United Kingdom—providing a framework to meet the challenges of the 21st century'.[137] The Act was a response to a series of catastrophes in the UK, including the September 2000 fuel crisis, severe flooding in the autumn and winter of 2000, and the outbreak of foot-and-mouth disease in 2001.[138]

In 2021, the UK Government announced the commencement of work on a comprehensive national-resilience strategy as an element of the Integrated Security Review, stating that:

> Resilience has long been part of the UK's approach to national security. But in an increasingly interconnected world, in which we cannot predict or stop all of the challenges ahead, we need to renew our approach—making resilience a national endeavour, so that as a country we are prepared for the next crisis, whatever it might be.[139]

That followed critical reviews of the governance, structures and outcomes of resilience work over the 20 years following the establishment of the Civil Contingencies Committee and Secretariat, including by the National Audit Office and the Independent Review of the Civil Contingencies Act 2004 and its Supporting Arrangements.[140]

This short history demonstrates that the UK has adapted itself to the threats of the day, establishing legislation, structures and approaches that meet the demands of protecting the nation and its people as threats arise. The 2022 UK Government Resilience Framework reflects that trend. The Chancellor of the Duchy of Lancaster stated in his foreword to the framework:

> We live in an increasingly volatile world, defined by geopolitical and geoeconomic shifts, rapid technological change and a changing climate. This context means that crises will have far reaching consequences and are likely to be greater in frequency and scale in the next decade than we have been used to. We have a responsibility to prepare for this future.[141]

The framework is guided by three principles:

1. *A developed and shared understanding of the civil contingencies risks we face is fundamental*: it must underpin everything that we do to prepare for and recover from crises. The risks that impact our prosperity and stability are complex and dynamic, and they pose more profound structural and societal questions. We need to adapt the resilience system to face these and incentivise risk-based decision making around our new understanding. This will start with the actions outlined in this document around practical steps to improve our risk system;
2. *Prevention rather than cure wherever possible*: resilience-building spans the whole risk cycle so we must make sure we focus effort across the cycle, particularly before crises happen. It is more cost effective to invest in risk prevention and building resilient systems that can withstand crises rather than to rely solely on having the world's best crisis response systems. Accomplishing this means putting resilience at the heart of our decision making and investment, well beyond areas that are explicitly focused on

emergencies. This framework sets the direction for actions we are already taking to improve the system, with the new standing resilience function in the UK Government taking forward sustained work to identify issues that require action to prevent or mitigate risk; and

3. *Resilience is a 'whole of society' endeavour*, so we must be more transparent and empower everyone to make a contribution. We need to prepare for and respond to emergencies on a whole of system, whole of society scale. This means organising society in a coherent, resilience-focused way, but also taking a much broader focus on resilience. This includes how we structure the centre of the UK Government, what we expect of businesses, the local tier, voluntary organisations, community groups, and the public.[142]

A shared understanding of risk and contingency

The first element of the UK Government Resilience Framework's action plan starts by examining risk. The framework states that:

> The starting point of all resilience work is understanding risk. In this framework we use 'risk' to refer to civil contingency risk. A risk can be any event that poses a serious threat to safety and security of livelihoods either locally or nationally, this can include, amongst others, threats to lives; health; critical infrastructure; economy; and sovereignty. These risks can be acute (e.g. flooding and terrorist attacks) or chronic (e.g. an enduring health emergency or serious and organised crime).[143]

The UK evaluates risk in a cascading framework that starts with the classified National Security Risk Assessment and its public counterpart, the National Risk Register (NRR). The NRR:

> … assesses the likelihood and impact for each risk, following a rigorous and well-tested methodology. Risks can manifest in different ways, with different levels of severity. To ensure the UK is prepared for a broad range of scenarios, the NRR sets out a 'reasonable worst-case scenario' for each risk. These scenarios are not a prediction of what is most likely to happen, instead they represent the worst plausible manifestation of that particular risk (once highly unlikely variations have been discounted). This enables relevant bodies to undertake proportionate planning. The NRR includes information on the capabilities required to respond to and recover from the emergency, should the risk materialise.[144]

The NRR focuses on acute risks at the national level, along with chronic risks.[145] Risks below the national level are identified in community risk registers, which the NRR describes as follows:

> Although the UK Government has an important role to play in assessing and planning for risks, the local level is critical to the UK's resilience. The 38 Local Resilience Forums (LRFs) in England, the 4 LRFs in Wales, 3 Regional Resilience Partnerships (RRPs) in Scotland and Emergency Preparedness Groups in Northern Ireland play a critical role in bringing local responders, such as the emergency services, together to plan for risks. Local resilience partners produce Community Risk Registers (CRRs), which focus on the highest priority risks in each local area. The NRR should be read in conjunction with the CRR for the relevant local area.[146]

Prevention rather than cure

The second element of the UK Government Resilience Framework action plan aims to strengthen the prevention and preparedness functions. That includes the establishment of 'a dedicated function for resilience, the Resilience Directorate, to focus on the prevention and mitigation of both acute and chronic risks rather than only dealing with the consequences of crises'.[147]

The framework recognises that responding to crises once they begin often deals only with the immediate consequences of much longer term challenges. Prevention and preparedness activities that aim to reduce

vulnerabilities and mitigate risks before they eventuate in a crisis are fundamental to the UK's future security. The 'security through resilience' model, in which 'operational activity can be focused on long-term system-level interventions', forms a new operating model for UK national security:

> … expanding the UK's approach to resilience by introducing greater emphasis on addressing strategic vulnerabilities—the underlying economic, societal, technological, environmental and infrastructural factors that leave the UK exposed to crises or attacks. This will complement the action set out in the Resilience Framework. In combination with the approach to deterrence and defence set out under pillar two, this forms a new operating model for national security—with the majority of government effort orientated towards protective and preparatory action ('security through resilience'), so that operational activity can be focused on long-term, system-level interventions, such as disrupting high-harm criminal networks overseas.[148]

A whole-of-society endeavour

The UK Government Resilience Framework recognises that resilience can't be a function of government alone. The framework states that:

> The resilience of the United Kingdom cannot depend solely on the ability of the public sector to organise emergency preparedness or lead a response in times of crisis. The private sector already provides many services and much expertise on resilience and is essential in preparing for and managing long term risks, in addition to their role in responding to crises. Our vision is for a much fuller integration of these private and third sector partner organisations into our resilience frameworks, through a combination of new opportunities, guidance and obligations.[149]

The framework also recognises that it isn't just the private sector and non-profit organisations that will be critical to the national resilience efforts. The role of the community is also key, as the framework notes:

> The UK Government's Community Resilience Development Framework sets out that community resilience in England is enabled when the public are supported to harness local resources and expertise to help themselves and their communities to: prevent, prepare for, respond to and recover from disruptive challenges, in a way that complements the activity of emergency responders; as well as planning and adapting to long term social and environmental changes to ensure their future prosperity and resilience.
>
> For communities, our 'whole-of-society' approach to resilience means that everyone recognises their role in, takes responsibility and contributes to, the UK's resilience. To achieve this, the UK Government will support greater community responsibility and resilience, driving a cultural shift where everyone who can, is prepared and ready to take action and support themselves during an emergency. This will mean those needing more specific or tailored support can be prioritised.[150]

What can Australia learn from the UK?

Australia has a similar history to the UK in moving from a post-World War II civil defence mindset to one specifically focused on emergency management.

In the period immediately prior to World War II, as the federal government began to plan for the war, discussions commenced with the state governments on the protection of the civil population and the maintenance of essential civil services. The federal government held that those civil protection and preparation measures were the responsibilities of the individual states and that the federal government would play a coordinating role. That distribution of responsibilities wasn't defined by constitutional powers, but through negotiation between the federal and the state governments through a series of conferences

in 1936–1939 (and well into the war itself).[151] Despite the imperatives of the war, the various roles and responsibilities remained an area of dispute between the two levels of government; some matters, such as air-raid precautions, shelters, warning signals and passive defensive measures, were being argued for almost the entirety of the direct air threat to Australia from 1939 to 1942.[152]

In 1949, the federal and state governments agreed on a working definition of civil defence activities as:

> … comprising all measures, other than active defence, taken to minimise the effects of enemy attack on the civil population. It includes the organisation of the nation, so that the people can maintain their will to win, industry can continue essential production, public services can function and governments can govern.[153]

The Commonwealth Directorate of Civil Defence provided the coordinating agency for the activities of the federal government and liaison with the state governments until 1974, when the directorate was disbanded and the government established the Natural Disasters Organisation, whose 'main preoccupation in peacetime is in mitigating the effects of natural disasters, but the primary role is to ensure that civil defence requirements in the organisation, especially those related to training and equipment, have the dual capability for meeting both the civil defence and natural disasters requirement'.[154] The Natural Disasters Organisation then became Emergency Management Australia, and on 1 September 2022 the National Emergency Management Agency (NEMA). The agency's purpose is to enable more secure, stronger and resilient communities before, during and after emergencies.[155] Over the period from 1974, the civil-defence element of the natural-disaster agency has taken a back seat to its focus on natural disasters, although the NEMA has been given an all-hazards mandate, albeit with a focus on natural hazards.

However, unlike the UK, Australia still allocates the responsibility for managing many civil contingencies to several different departments. The Australian Crisis Management Framework lists eight different ministers and six departments of state as holding responsibility for leading the Australian Government response to and recovery from a crisis, depending on whether that crisis emerges from a hazard internationally or domestically or affects a specific domain (such as a plant- or animal-biosecurity threat, a public-health or human-biosecurity crisis, an energy supply crisis, a threat to an offshore petroleum facility, a transportation incident or a space event).[156] Governance of such crises between the federal and the state governments, and between different ministers and departments across the Australian federation can be problematic, leading to the commissioning by the National Emergency Ministers Meeting of the Independent Review of National Natural Disaster Governance Arrangements to better prepare governments for the demands of increasing future natural disasters.[157]

Australia also doesn't have a formal national resilience framework to act as the integrator across the Australian federation, or with industry and the community, to better prepare for and mobilise resources ahead of crises emerging. The work of the 2018 National Resilience Taskforce focused mainly on natural disasters and building resilience for only a small range of all-hazards circumstances. And, while there have been numerous academic and think-tank calls to develop such a framework (for example, the Global Access Partners Pty Ltd and Institute for Integrated Economic Research—Australia Ltd reports *A complacent nation: our reactions are too little, too late, and too short-sighted* and *A national resilience framework for Australia*)[158], the development of such a framework remains unfinished business.[159]

The UK's process for creating a legislative power for action, setting out a national strategy, developing a national risk assessment and focusing efforts through a single organisation are all worthy of consideration in the Australian context. The UK's NRR includes information on risks that have a substantial impact on the country's safety, security and/or critical systems at the national level. It includes information about 89 risks, within nine risk themes: Accidents and system failures; Conflict and instability; Cyber; Geographic and diplomatic; Human, animal and plant health; Natural and environmental hazards; Societal; State threats;

and Terrorism. As a public document, it provides a unique tool to mobilise public attention on key national risks—risks that government can't tackle alone, but that require a whole-of-society approach to strengthen defences and build a more resilient nation.[160] Australia doesn't have a public statement of critical national risks similar to the NRR; nor does it bring together in a classified format both the national security and civil security risks in a similar manner to the National Security Risk Assessment.

Stemming from this lack of a common understanding of the risks faced by the nation, Australia also doesn't bring together national preparedness challenges in a form that allows for prevention and mitigation activities that reduce the vulnerabilities and mitigate the risks before they eventuate in a crisis.

There are lessons for Australia from a more detailed evaluation of the UK experience, particularly in conceptualising and developing a framework that seeks to integrate security and resilience, and to prosecute that integration as a whole-of-society endeavour focused on prevention.

Chapter 4: The National Preparedness System of the United States

The US adopted resilience as a core concept within the context of national security in the 2010 National Security Strategy released by the Obama administration, explaining that:

> We are now moving beyond traditional distinctions between homeland and national security. National security draws on the strength and resilience of our citizens, communities, and economy. This includes a determination to prevent terrorist attacks against the American people by fully coordinating the actions that we take abroad with the actions and precautions that we take at home. It must also include a commitment to building a more secure and resilient nation, while maintaining open flows of goods and people. We will continue to develop the capacity to address the threats and hazards that confront us, while redeveloping our infrastructure to secure our people and work cooperatively with other nations.[161]

That core concept was then institutionalised as part of the Department of Homeland Security's strategy through its National Preparedness Goal, based on the Presidential Policy Directive 8: National preparedness, which is used to describe the US approach to preparing for threats and hazards.[162] The National Preparedness Goal defines success as:

> A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.[163]

The Department of Homeland Security's Quadrennial Homeland Security Review in 2014 subsequently listed the strengthening of national preparedness and resilience as one of the five key objectives, or missions, in meeting that goal.[164]

From civil defence to homeland security

US planners first began to place a focus on civil defence in post–World War II strategy development for total war, and on the increased vulnerability of US cities, industry and population to strategic bombing and nuclear attack.[165] As Stephen Collier and Andrew Lakoff note in the *Journal of Theory, Culture & Society*:

> For US military strategists before and during the Second World War, domestic war mobilization and strategic bombing of the enemy were merely two sides of the same coin. Strategists understood the war as a struggle among competing 'military-industrial complexes' and assumed that the nation with the greater capacity to produce the instruments of industrial war would prove victorious. The challenge of mobilizing US industrial production systems found its counterpart in attempts to destroy the enemy's industrial capacity. But during the Second World War, American war planners did not have to confront the vulnerability of American cities and industry, since the country was never subjected to sustained bombing campaigns. It was only in the immediate postwar period, during the early Cold War, that reducing the vulnerability of the US to a surprise enemy attack was defined as an urgent technical problem and political concern.[166]

From that beginning, US planners recognised the need for 'non-military' defence efforts to 'strengthen [the] capacity to substantially withstand attack, our national resiliency, by insuring the continuity of civil government and the protection of civilian life'.[167] To meet that need, the US established a range of organisations, including the Federal Civil Defense Administration and the Office of Defense Mobilization, to manage the national, including economic, challenges required for the civil mobilisation of resources.

In the early 1970s, as a consequence of major natural disasters during the late 1960s, the US began to argue that civil defences could be employed for peacetime disaster preparedness—described as 'dual-use local preparedness'.[168] That resulted in the establishment of the Federal Emergency Management Agency (FEMA) in 1979, with the dual functions of civil defence and emergency management.[169] An interagency group chaired by Samuel Huntington developed Presidential Policy Directive 41: US civil defense policy, which identified the key missions for FEMA as:

1. enhance deterrence and stability
2. reduce the possibility of Soviet crisis coercion
3. enhance the survivability of the American people and its leadership in the event of nuclear war
4. include planning for population relocation during time of international crisis
5. be adaptable to help deal with natural disasters and other peacetime emergencies.[170]

During the 1970s and 1980s, scientific advances in the understanding of natural disasters and the interconnectedness of critical systems and infrastructure led to a greater understanding that 'the nation had become economically, technologically and psychologically dependent on a number of "highly complex service networks" for "our daily wellbeing".'[171] At the same time, increasing interagency tensions over responsibility for defence, counterterrorism and civil defence, coupled with poor performance in responding to a series of natural disasters in the late 1980s and early 1990s, led FEMA to place a greater focus on natural-disaster management and mitigation measures to reduce the risk of catastrophic damage and to de-prioritise broader security-related civil defence efforts.[172]

The 11 September 2001 terrorist attacks resulted in the appointment of the first Director of the Office of Homeland Security in the White House, 'to oversee and coordinate a comprehensive national strategy to safeguard the country against terrorism and respond to any future attacks'. The Department of Homeland Security formally came into being with the passage of the Homeland Security Act by Congress in November 2002, to further coordinate and unify national homeland security efforts, commencing operations on 1 March 2003. FEMA functions were transferred to the department that same day.[173]

National preparedness

The National Preparedness Goal begins with the statement that:

> Preparedness is the shared responsibility of our entire nation. The whole community contributes, beginning with individuals and communities, the private and nonprofit sectors, faith-based organizations, and all governments (local, regional/metropolitan, state, tribal, territorial, insular area, and Federal).[174]

To deliver on the National Preparedness Goal, the US has established a:

> … security and resilience posture through core capabilities that are necessary to deal with the risks we face. We use an integrated, layered, and all-of-Nation approach as our foundation for building and sustaining core capabilities and preparing to deliver them effectively.[175]

The core capabilities, by mission area, are described in Table 2.

Table 2: Core capabilities, by mission area

<table>
<tr><th>Prevention</th><th>Protection</th><th>Mitigation</th><th>Response</th><th>Recovery</th></tr>
<tr><td colspan="5">Planning</td></tr>
<tr><td colspan="5">Public information and warning</td></tr>
<tr><td colspan="5">Operational coordination</td></tr>
<tr><td colspan="2">Intelligence and information sharing</td><td rowspan="4">

Community resilience
Long-term vulnerability reduction
Risk and disaster resilience assessment
Threats and hazards identification</td><td colspan="2">Infrastructure recovery</td></tr>
<tr><td colspan="2">Interdiction and disruption</td><td rowspan="3">Critical transportation
Environmental response / health and safety
Fatality management services
Fire management and suppression
Logistics and supply chain management
Mass care services
Mass search and rescue operations
On-scene security, protection and law enforcement
Operational communications
Public health, healthcare and emergency medical services
Situational assessment</td><td rowspan="3">Economic recovery
Health and social services
Housing
Natural and cultural resources</td></tr>
<tr><td colspan="2">Screening, search and detection</td></tr>
<tr><td>Forensics and attribution</td><td>Access control and identity verification
Cybersecurity
Physical protective measures
Risk management for protection programs and activities
Supply chain integrity and security</td></tr>
</table>

Note: Planning, public information and warning, and operational coordination are common to all mission areas.
Source: Department of Homeland Security, *National Preparedness Goal*, 2nd edition, US Government, 2015, online.

Sitting below the National Preparedness Goal is a system, laid out in Presidential Policy Directive 8: Announcing the National Preparedness Goal. The National Preparedness System is to:

> … help guide the domestic efforts of all levels of government, the private and nonprofit sectors, and the public to build and sustain the capabilities outlined in the national preparedness goal. The national preparedness system shall include guidance for planning, organization, equipment, training, and exercises to build and maintain domestic capabilities. It shall provide an all-of-Nation approach for building and sustaining a cycle of preparedness activities over time.[176]

The National Preparedness System includes:

- a series of *integrated national planning frameworks*, covering prevention, protection, mitigation, response and recovery, to align key roles and responsibilities
- an interagency operational plan to support each national planning framework, providing a more detailed *concept of operations*; descriptions of critical tasks and responsibilities; detailed resource, personnel and sourcing requirements; and specific provisions for the rapid integration of resources and personnel
- department-level *operational plans* to support the interagency operational plans, as needed
- *resource guidance*, such as arrangements enabling the ability to share personnel and provide equipment aimed at nationwide interoperability; national training and exercise programs; and evaluation mechanisms
- recommendations and guidance to support *preparedness planning* for businesses, communities, families and individuals
- a consistent methodology to measure the *operational readiness* of national capabilities at the time of assessment, with clear, objective and quantifiable performance measures, against the target capability levels identified in the National Preparedness Goal.[177]

The six parts of the US's National Preparedness System

1. *Identifying and assessing risk* through the National Risk and Capability Assessment.
2. *Estimating capability requirements* against the core capabilities and mission areas in the National Preparedness Goal.
3. *Building and sustaining capabilities* to identify the best way to use limited resources to build capabilities.
4. *Planning to deliver capabilities* to coordinate plans with other organisations and stakeholders.
5. *Validating capabilities* through participation in exercises, simulations or other activities to identify gaps in plans and capabilities.
6. *Reviewing and updating* to ensure plans evolve with risks and resources.

Source: Federal Emergency Management Agency, *National Preparedness System*, US Government, no date, online.

What can Australia learn from the US?

The National Preparedness System provides a highly structured and plan-driven process for enhancing the preparedness and mobilising the efforts of government, the private and nonprofit sectors and the public to support the security and defence of the homeland. The establishment of core missions, the identification of key capabilities and integrated national plans to cover the major contingencies likely to affect the US reflect the joint military appreciation background for much of the system's development. As a structured process, it enables the Department of Homeland Security and FEMA to assess the nation's emergency management capabilities across the federal, state and local government sectors in preparing for crises. It also supports the prioritisation of federal preparedness grants provided to state and local jurisdictions.

There are lessons for Australia to learn from a more detailed assessment of the US approach. As a federation, we have much to learn from the methodology that the US uses to engage with and support the work of state and local preparedness efforts. Much of the first-responder work in times of crisis is conducted at the local level, supported by state and then federal authorities. Ensuring that the local community is better prepared for and better able to respond to a crisis—particularly in terms of planning, public communications and operational coordination—ensures that federal resources can be applied in areas of specialisation that best support local needs and requirements.

Pre-developed national planning frameworks, operational plans and resources guides provide substantially greater visibility of the needs to the nation and support the cross-jurisdictional prioritisation of particularly scarce resources—a challenge that Australia has had to face in many of our natural disaster responses over the past decade. The exercise program within the National Preparedness System is also a critical means to ensure that plans can be effectively carried out and that any deficiencies or vulnerabilities not identified in plans can be rectified prior to any major crisis. Australia has been developing national exercise programs, particularly for critical infrastructure as part of the requirements of the *Security of Critical Infrastructure Act 1998*. While the work program is a substantial and important element in building Australia's national preparedness, there's much that can be learned from the US in using the exercise program to enhance system performance.

Chapter 5: National resilience in the Nordic states

The Nordic states, consisting of Denmark, Norway, Sweden, Finland and Iceland, as well as the Faroe Islands, Greenland and Åland (an autonomous island region of Finland), have long held a consistent view regarding the need for crisis preparedness. While the precise terminology is country-specific, concepts such as 'total defence' (Sweden and Norway) and 'comprehensive security' (Finland) have underpinned national efforts to develop and maintain national resilience within the Nordic region.

This reflects the geographical, economic and demographic challenges of the region, as a NordForsk report notes:

> The Nordic societies are small and open and are highly exposed to the pressures of globalisation. Engagements in global flows are beneficial to economic growth and prosperity. However, globalisation and more open European borders have made it easier for organised groups and persons acting outside of the law to take advantage of the Nordic societies' interdependencies and relative openness.
>
> While the Nordic countries are in no way identical, they do share many values and features that can facilitate shared mind sets and joint actions in the field of societal security. Their geographical proximity means that disasters in one country may have consequences in another and that many societal security challenges will cross boundaries.[178]

In 2008, Thorvald Stoltenberg, a former Norwegian Minister of Defence and Minister of Foreign Affairs, was commissioned to review and provide recommendations for more intensive security collaboration in the Nordic region. His proposals for Nordic cooperation on foreign and security policy presaged an enhancement in the level of Nordic cooperation on societal or comprehensive security across the region.[179] That was followed in April 2009 by a meeting of Nordic ministers with responsibility for civil protection and preparedness to deliberate on how to deepen and broaden cooperation on civil protection and preparedness, resulting in the signing of the Nordic Declaration in Haga.[180]

The convergence of security planning around a common concept of societal or comprehensive security emerged from the post–Cold War evaluation by the Nordic countries of the threats and risks shared by all Nordic citizens and the identification of a need to be able to mobilise across society and the region to meet those threats and risks:

> [T]he attacks of 11 September 2001, March 2004 (Madrid) and July 2007 (London) brought terrorism—and its links with crime and smuggling of destructive technologies—to the top of the agenda; but harsh lessons were also taught by a series of international pandemics from SARS through to bird flu; by the 2004 Indian Ocean tsunami which cost the lives of 543 Swedish citizens and many other Nordics; and by other natural disasters serious enough to cause real pain in Nordic economic and social life, such as the winter storm that hit Southern Sweden just after the tsunami.[181]

Total defence

The concept of total defence is one shared by all the Nordic countries. The concept 'combines both military and civilian aspects of defence planning and preparation for war. It is based on another common Nordic notion—the whole-of-society approach—aimed at deterring aggression and responding to threats in a comprehensive manner.'[182] Mikael Wigell et al., for the Finnish Institute for International Affairs, suggest that total defence is often linked to the concepts of:

Societal security, referring to the 'the ability of a society to persist in its essential character under changing conditions and possible or actual threats'. Especially in more policy-oriented interpretations, societal security can be summarised as society's ability to function under duress in the context of a holistic threat environment, and it thus underlines the importance of securing vital functions of society.

Civil preparedness, referring to efforts to ensure that 'basic government functions can continue during emergencies or disasters, in peacetime or in periods of crisis'. Preparedness activities aim to respond to threats and disruptions in a way that minimises their negative effects on society and individuals.

Crisis preparedness, referring to the ability to respond to both human-made and natural disasters and to cope with their consequences. It highlights the crisis management aspects of preparedness, although it also means a continuous process of planning and building capacity.

Security of supply, referring to the availability of a product, service or function.[183]

National risk assessments

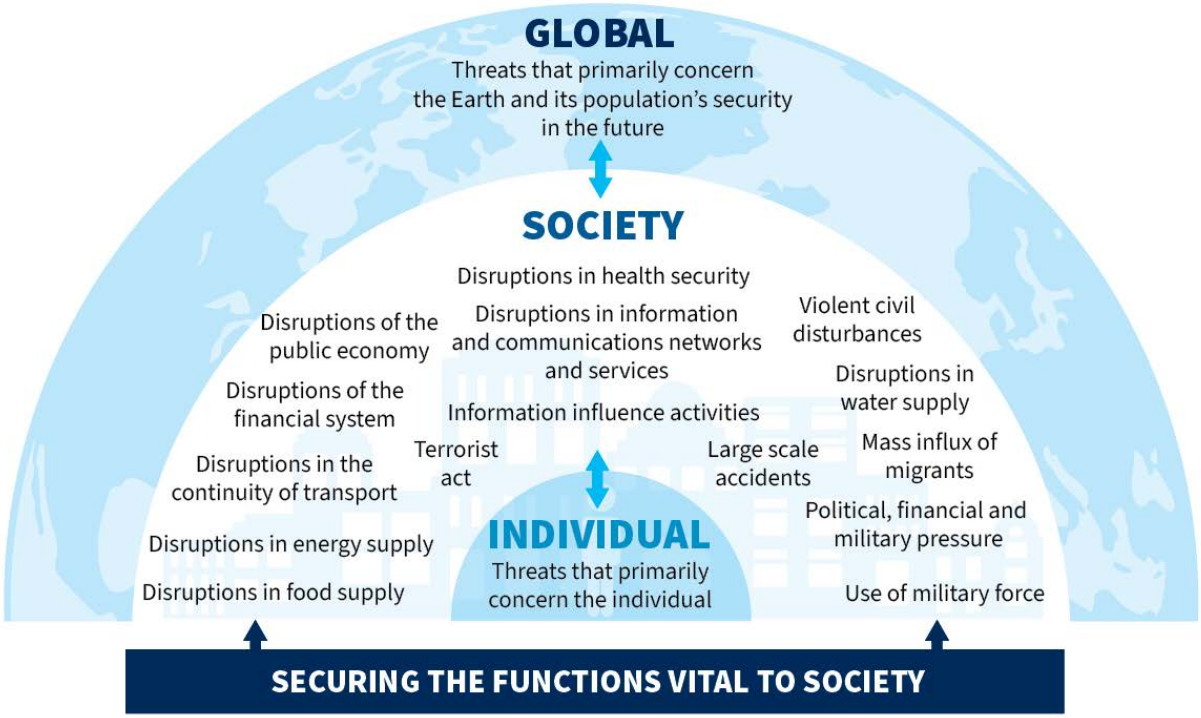
In 2010, the European Commission began requiring member states to undertake regular assessments of risk under the European Union Civil Protection Mechanism.[184] All the Nordic countries engage in the national risk assessment process.

Denmark prepared its first National Risk Profile in 2013. The assessment identifies 10 of the most serious natural and man-made risks of emergency, according to the Danish Emergency Management Agency, and provides a narrative description for each of the characteristics, possible consequences, past occurrences and possible future trends. The latest National Risk Profile, published in 2022, identifies 14 risks: heatwaves and droughts; storms and hurricanes; coastal flooding; extreme rain; highly virulent diseases; animal diseases; water- and foodborne diseases; nuclear accidents; accidents with chemical substances; maritime accidents; transportation accidents; cyber incidents; terrorist acts; and space incidents.[185] The National Risk Profile provides the starting point for a suite of related guidance for:

- *Crisis management in Denmark*—a general and unclassified introduction to the tasks, organisational structure and distribution of responsibilities within the Danish national crisis-management system.
- *Comprehensive preparedness planning*—a guide to emergency planning for 'all entities that play a part in Danish society's collective emergency preparedness', including how each entity can develop emergency planning assumptions on the most critical functions needing to be protected, and the most serious threats to those functions.
- *Risk and vulnerability analysis*—a user guide originally published in 2005, following a 2004 study (Denmark's National Vulnerability Evaluation), which recommended that a generally applicable risk and vulnerability analysis (RVA) model should be developed for use by government authorities in preparedness planning.[186]

Finland prepared its first National Risk Assessment in 2015. Its 2023 National Risk Assessment identifies a series of threat scenarios and disruptions and assessments of their consequences as highlighted in Figure 3.[187]

Figure 3: Threat scenarios and disruptions in the 2023 Finnish National Risk Assessment



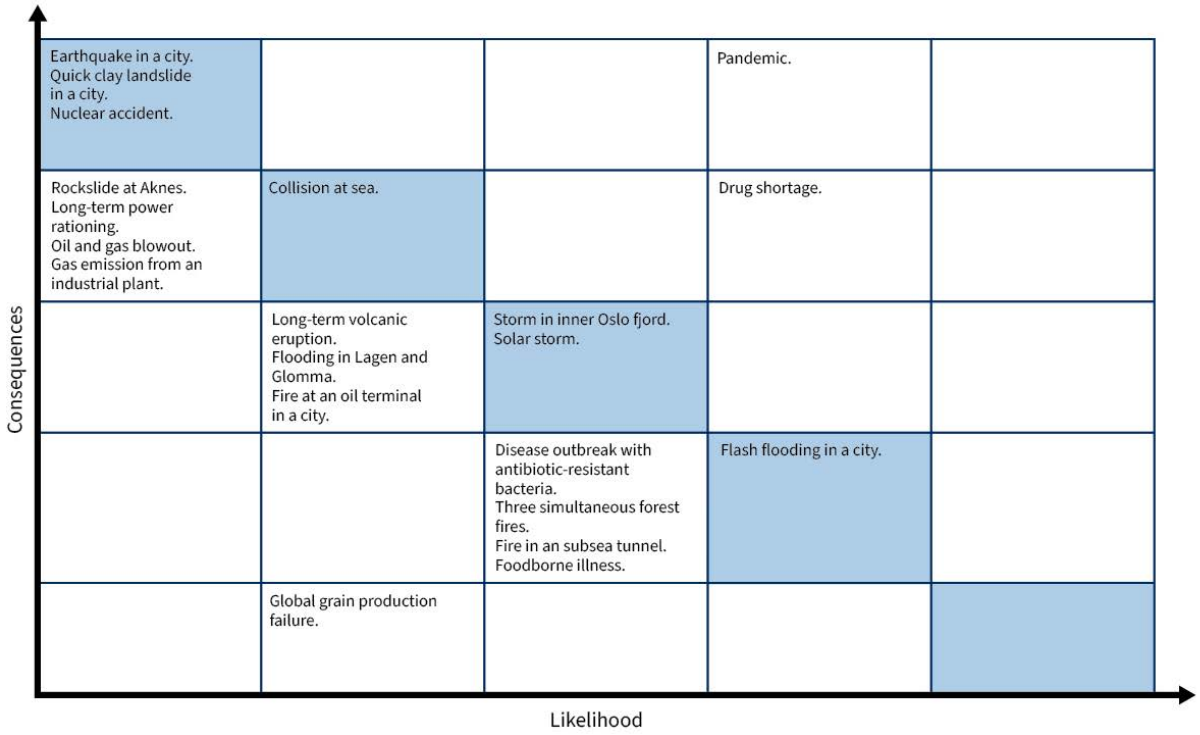
Source: Finnish National Risk Assessment, 2023, online.

Norway prepared the first edition of its National Risk Assessment in 2011. The fourth edition, titled 'National Risk Analysis 2014', outlined 15 risk areas and 20 analyses of specific disaster scenarios that can affect Norwegian society. Subsequently, Norway turned that assessment into an *analysis of crisis scenarios* (ACS) to recognise the broad systems perspective necessary to help analyse the complex nature of modern risks. The purpose of the ACS is threefold:

1. to provide decision-makers with an easily accessible comparative overview of disaster risks
2. to provide input to risk analyses and emergency planning in the ministries, sectors and authorities at regional and local levels
3. to contribute to capacity planning for worst-case scenarios that might occur in the future.[188]

The 2019 ACS is 'divided into 16 risk areas. The areas cover the entire risk spectrum from natural disasters to aggression by foreign states. For each risk area, there are from one to three risk analyses (a total of 25), based on specific scenario descriptions.'[189] The intentional acts (cyberattack on electronic communications infrastructure, terrorist attack in a city, cyberattack on financial infrastructure, and school shooting) are considered in terms of consequences, but aren't considered in terms of likelihood (Figure 4).

Figure 4: Risk matrix with the 21 unintended events in the analysis of crisis scenarios



Notes: Intentional acts are omitted in the matrix. Events in the same square have approximately equal risk.
Source: Norwegian analysis of crisis scenarios, 2019, online.

The Swedish Civil Contingencies Agency prepared five annual national risk assessments between 2012 and 2016:

> Since that time, the focus of this work has changed, from scoring risk and identifying the most serious for the Swedish people to assessing vulnerabilities and capabilities as an essential first step towards identifying risk management measures both for the emergency preparedness system and for the population. The resulting product—entitled the National Risk and Capability Analysis—is used to analyse capabilities both for prevention and for response.[190]

The only publicly available National Risk Assessment, the 2012 first edition, identified 27 serious national events in which the human, economic, environmental, political or social impact is deemed to create a crisis in society.[191]

Achieving society-level resilience

Society-level resilience, conceptualised as 'a new way of thinking about modern security challenges whereas it includes aspects concerning both safety, covering mainly unintended crises and internal threats, and security, covering mainly intended crises and external threats',[192] has become a mainstay within the Nordic region. As a bridge between state security and human safety, it allows for a more comprehensive appreciation of how scarce resources can be best applied to deliver a 'force multiplier' in managing crises.

Building societal resilience requires an understanding of what essential systems are needed to maintain the functioning of society before, during and after a crisis. Once those essential systems are identified, plans and capabilities to safeguard them can be developed, trained for, exercised and postured for success:

> Resilience is based on the security of society's vital systems, such as key infrastructures, institutions and public services. Equally, the functions and services they perform are critical to maintaining economic and political order. To achieve society-level resilience, these various elements must be in place and as well prepared as possible to hold in a crisis.[193]

Within the Nordic region, Norway and Finland have the most structured approach to understanding and managing those vital functions of society (see box).[194]

Norway's 14 vital functions

- *Within the theme of 'governability and sovereignty'*: governance and crisis management, and defence.
- *Within the theme of 'security of the population'*: law and order, health and care; emergency services, ICT security and nature and the environment.
- *Within the theme of 'societal functionality'*: security of supply, water and sanitation, financial services, power supply, electronic communication network and services, transport, and satellite-based services.

Source: Norwegian Directorate for Civil Protection, *Vital functions in society: what functional capabilities must society maintain at all times?*, Norwegian Government, 2017, online.

Finland's vital functions of society

- *Leadership*: Ensuring leadership is vital, as it provides the basis for safeguarding all other functions. Functioning leadership must be secured in all situations and at all operative levels. Effectively dealing with incidents requires close cooperation between the parties responsible for providing the situation picture and for communications.
- *International and EU activities*: International activities cover all levels and sectors of Finnish society. Providing a basis for international cooperation and participation in crisis prevention are an integral part of the safeguarding of other vital functions of society. Security cooperation at EU level is integral part of security planning in administrative branches.
- *Defence capability*: Finland will safeguard its independence and territorial integrity by maintaining and developing a defence capability tailored to its security environment. The maintenance of Finland's defence capability is to establish deterrence against the use of military force and the threat of using military force. If necessary, Finland will repel military threats against it by means of military force.
- *Internal security*: By maintaining internal security, Finland can prevent and counter criminal activities against it and its population, and prevent accidents, environmental damage and other similar incidents and threats, and successfully manage their consequences. The work is supported by close cooperation between other national and international authorities, the European Union and actors at all administrative levels.
- *Economy, infrastructure and security of supply*: Ensuring the functioning of the economy, infrastructure and security of supply helps to safeguard funding and other resources for vital functions. The domestic and international infrastructure, organisations, structures and processes essential for vital functions are safeguarded.
- *Functional capacity of the population and services*: Functional capacity of the population and its well-being are safeguarded by maintaining the key Basic services. They help to ensure independent living in all situations.
- *Psychological resilience*: Psychological resilience means the ability of individuals, communities, society and the nation to withstand the pressures arising from crisis situations and to recover from their impacts. Good psychological resilience facilitates the recovery process.

Source: Security Committee, *Vital functions*, Finnish Government, no date, online.

For Sweden, total defence 'denotes all of the activities needed to prepare Sweden for war and comprises both military and civil defence. Civil defence refers to society as a whole's resilience in the event of the threat of war and actual war.'[195] Civil defence aims to strengthen resilience in several important societal functions: health care; food and drinking water supply; transport; law enforcement and security; financial preparedness; energy supply; electronic communications and mail; protective security; cybersecurity; protection of the civilian population; and psychological defence.[196]

Competitive national service

One key element of building and maintaining society-level resilience adopted by the Nordic countries is the concept of *competitive national service*—a conscription model 'based on selectivity and gender-neutrality … as a modern, 21st-century system of addressing the recruitment needs of the armed forces as well as maintaining a connection with society'.[197] While conscription fell out of favour in some of the Nordic countries at the end of the Cold War, the rise in geopolitical tensions, declining recruitment to all-volunteer armed forces and a need to redress societal expectations for defence and national security have led to the reintroduction of national service in all Nordic (and many Baltic) countries in recent years. The new approach to national service has generated substantial favourable sentiment from politicians and communities throughout the Nordic region.

The new model focuses on selective, rather than universal, national service. For example, in Denmark, the armed forces select the top performers from a range of evaluations, and conscripts can indicate their willingness to serve. Reluctant conscripts are rarely selected. Conscripts are also given the option of selecting their preferred functions within the armed forces. Despite military service not being mandated for women, a significant number of women opt for national service, and the Danish armed forces have managed to reach a high female participation rate among conscripts.[198]

While the principal purpose of the national service model in the Nordic states is to enhance the armed forces' key roles, the Scandinavian model also benefits the broader national defence/security of those countries, focusing on particularly important civil–military skills such as critical infrastructure protection, civil population protection and civil defence, and cyber defences. In that way, the benefits of a highly skilled cadre with the relevant skills in national defence, able to maintain those skills when returning to civilian life, can benefit the national resilience of the nation over the long term.

Security of supply

Given the Nordic states' economic interdependencies (particularly in the areas of energy, communications and digital infrastructure, transportation, food and pharmaceuticals), the security of supply is a critical strategic risk. For Finland, security of supply is embedded in its comprehensive security system, in which government, businesses, not-for-profit organisations and citizens work together in safeguarding the vital functions of society against a wide range of challenges. In Sweden, security of supply is a fundamental element of the crisis-preparedness system and civil defence planning under the total defence concept. In Norway, security of supply also aligns with the Norwegian total defence process.[199]

The Finnish National Emergency Supply Agency and the Swedish Civil Contingencies Agency have developed a common strategic road map for security-of-supply cooperation. Finland and Norway have also concluded an agreement to exchange goods and services during military conflicts, crises and internal disruptions and to develop joint preparedness measures. And Finland, Sweden and Norway have also promoted security of supply on a tripartite basis to deepen cooperation to secure the product and service flows crucial to the basic functions of society.[200]

What can Australia learn from the Nordic states?

The Nordic countries have a highly developed architecture for national resilience, ranging across national security, defence and civil contingencies. The comprehensive or total defence approach sees Nordic countries evaluate threats and conceive of strategies to meet those threats holistically. That's hardly surprising, given their geography, their populations and the significance of the threats directly faced at their borders. In identifying the vital functions of society that underpin the security of their nations, and focusing their policies, programs and resources on those functions, there's much to learn for Australia.

Identifying psychological resilience as a vital function, Nordic countries are developing methodologies to better inoculate their citizens against malign influences such as mis- and disinformation, foreign influence and other threats to social cohesion. That work strengthens Nordic democracy and supports the maintenance of continued community and political will for the work of the nation in defence and security.

Their focus on the security of supply is also worthy of note in the Australian context. Nordic states are paying particular attention to those critical supply chains that ensure the continuation of their national economies and societies. Investments in robust and resilient supply chains necessary for both quotidian and crisis demands of the nation help to ensure that critical needs can continue to be met irrespective of circumstances.

Similarly, the Nordic approach to national service is worthy of consideration in Australia. Over the past decade, there have been numerous calls for some form of national service that would alleviate the endemic recruitment and retention problems faced by the ADF and volunteer organisations in the emergency-management and community-support domains. While conscription has a chequered history in this nation, a voluntary or selective obligation for national service, with the ability to select whether that service occurs in uniform, in frontline emergency services or in public service, is well worth additional consideration.

Chapter 6: Other national resilience programs

This section highlights several significant international national resilience initiatives and programs, as well as some specific country-level programs.

Singapore

Singapore employs the 'total defence' concept to build national resilience. The concept involves 'every Singaporean playing a part, individually and collectively, to build a strong, secure and cohesive nation' (see box).[201]

The six pillars of Singapore's 'total defence' concept

1. *Military defence:* a strong and formidable defence force that makes potential aggressors think twice before attacking Singapore.
2. *Civil defence:* the capability and capacity of Singaporeans to pitch in to help and be able to take care of themselves. When a crisis occurs, to be effective first responders, helping one another regardless of race, religion, or self-interest, and to know whom to call, where to go, and what to do in an emergency.
3. *Economic defence:* keeping the economy strong and resilient, enabling it to carry on and recover quickly should it be confronted by any challenge or crisis in the future, such as a global downturn or economic strangulation that could shake investor confidence in Singapore.
4. *Social defence:* everyone making an effort to trust one another and to strengthen the bonds across the different ethnic groups so that we are strong and united especially during times of national challenges.
5. *Digital defence:* the ability to respond to cyberattacks that target networks and infrastructure, as well as threats that can be perpetrated through the digital domain such as fake news and deliberate online falsehoods.
6. *Psychological defence:* Singapore's ability to overcome threats and challenges that come our way depends on the collective will of our people to defend our way of life, the resolve to stand up for Singapore when pressured by forces that undermine our national interests, and the fighting spirit to press on and overcome crises together.

Source: Ministry of Defence, *Total defence*, Government of Singapore, 2023, online.

The National Security Coordination Secretariat coordinates security resilience across the Singaporean Government. Guided by the Strategic Framework for National Security enacted in 2004, resilience is placed at the heart of Singapore's strategic response to the country's challenges and threats. In his 2023 Budget speech, Deputy Prime Minister and Minister for Finance Lawrence Wong noted that Singapore needed to continue to build a more resilient nation, stating that:

> We are entering a new era where disruptions will likely happen more frequently. So, we will have to consider additional redundancies and safety buffers that we can fall back on during a crisis. Having such buffers does not mean that we will not suffer damage when hit by a shock. But it will enhance our ability to absorb the shock, rebound from the crisis, and emerge stronger from it.

At the same time, we should recognise that building resilience comes at a price.

a. For example, diversification means buying from multiple sources. But this also makes things more expensive because we are no longer buying only from the cheapest source.
b. The stockpiles of food and essential items will require space and will need to be maintained. Even if a crisis does not materialise or is less severe than expected, such costs still need to be funded.

The Government will spend more on resilience, but we also need to be judicious in how we use public monies to secure effective and enduring improvements in our national resilience.[202]

For Singapore, the key to national resilience remains the Singaporean people. As Minister Wong noted, 'when there is a high level of solidarity and trust amongst our citizens, and when Singaporeans feel a strong sense of collective ownership and responsibility for each other, we will be able to withstand any shocks together.'[203] Maintaining social cohesion and trust within the Singaporean community, the Ministry for Home Affairs provides the overarching lead for the Community Engagement Programme, which 'seeks to strengthen the understanding and ties between people of different races and religions, and encourage different sectors of society to pick up skills and knowledge in coping with emergencies'.[204] The program is managed through five clusters: religious and community-based organisations and cultural groups; educational institutions; media and academics; grassroots organisations; and businesses and unions.

The Baltic states

In the immediate aftermath of their independence in 1991, the three Baltic states of Estonia, Lithuania and Latvia 'developed small land-centric armed forces and tried to complement them with territorial defence troops and societal resilience and resistance under the framework of total defence modelled after the Nordic nations'.[205] Facing a significant military and hybrid threat from Russia, the Baltic states enhanced their integration with regional partners and NATO and their bilateral relationships within the EU and with the UK and developed policy, legislation and organisational architecture to support a comprehensive national-defence concept.[206] Within each state, legislative arrangements were put into place to provide policy for and manage crises as part of comprehensive security arrangements.

Estonia enacted the 2009 Emergency Act, which:

> … provides the legal basis for crisis management and preparations on a geographical basis but also in relation to the continuous operation of 46 named kinds of vital public services including the supply of energy, transport, communications, food, water, health and emergency services … the Act governs all aspects of crisis management and preparedness that are not separately provided for in other legislation (principally the Estonian State of Emergency Act and the Wartime National Defence Act).[207]

Estonia's comprehensive national defence strategy covers Estonia's activities in five areas: 'social cohesion and national resilience, economic security and vital services, internal security and public order, military defence, and international activities'.[208] To support the strategy, the Estonian Defence League was created. The organisation is:

> … a voluntary national defence organisation operating in the area of government of the Estonian Ministry of Defence, which is organised in accordance with military principles, possesses weapons and holds exercises of a military nature. The purpose of the Defence League is to enhance, by relying on free will and self-initiative, the readiness of the nation to defend the independence of Estonia and its constitutional order.[209]

The league operates the Estonian Defence League School, which is a non-formal educational institution focused on providing leadership and instructor training to volunteers and professionals.[210] The league also

enables the rapid mobilisation of volunteers during crises; regular 'snap mobilisations' see more than 85% of volunteers reporting to their units.[211] Significantly, following cyberattacks on the information infrastructure of Estonia in 2007, the Cyber Defence Unit of the Estonian Defence League was established to 'strengthen the professional cyber defence skills of its volunteer members in order to prepare and enhance support capabilities that can be provided in crisis'.[212]

Lithuania's 'total defence' policy directly aims to combat the hybrid warfare concepts used in the Russian annexation of Crimea in 2014. The concept aims to deter armed attack against the country and protect the independence, sovereignty and territorial integrity of the nation. The strategic principle of Lithuania's defence would see all resources mobilised for Lithuania's defence and all means, both military and non-military, used:

> Lithuania is protected by weapons by the army and other institutions forming the armed forces.
>
> Lithuania's independent defence efforts are complemented by collective defence—the national armed forces defend Lithuania together with NATO allied forces.
>
> All civilian authorities contribute to the defence by providing support to the armed forces and ensuring the performance of vital state functions.
>
> Citizens defend the state with weapons and take part in unarmed civil resistance.[213]

A critical pillar of Lithuania's deterrence approach is the role of the citizenry and a whole-of-society approach, which:

> … rests on the conviction that if society can maintain awareness of threats, it is immune to the disinformation and develops the ability to defend the country. Its defence is supported by education and motivating citizens to defend the state, boost their resilience, and increase non-violent and armed resistance skills.[214]

To enhance whole-of-society coordination, Lithuania has enacted legislation covering the imposition of a state of emergency and civil protection during crises to:

> … establish the legal and organisational framework for the organisation and functioning of the civil protection system, the competence of state and municipal institutions and agencies, the rights and duties of other agencies, economic entities and residents in the sphere of civil protection.[215]

The basis for Latvian national security is 'a unified understanding between the decision makers and society regarding the stability and security of internal policy that is closely connected to the international security situation. The stronger the internal policy of the Republic of Latvia is, the more effective it will be when reacting and reducing vulnerability caused by external factors'.[216] Latvia's comprehensive national defence main objective is to:

> … get the Latvian population ready to defend the country, facilitate efficient crisis management at the national level and support critical functions of the state, including the work of government, energy supply, health care, logistics, international relations, sustainability of defence capabilities, internal security, economy and infrastructure, psychological resilience, etc., during crisis or other emergency. These critical functions will be planned, coordinated and implemented by government bodies in partnership with private actors, NGOs and inhabitants.[217]

That places a significant focus on education. The Latvian National Defence Education program is available in years 10, 11 and 12 of secondary school, and years 2 and 3 for students of educational establishments offering vocational education and training. The learning targets of National Defence Education allow pupils and students to acquire competencies in 'civic awareness and patriotism, state defence skills, leadership and teamwork, healthy lifestyle and physical exercise'.[218] Latvia has enacted legislation (the Law on Emergency Situation and State of Exception) to support coordination and planning of the national defence effort.[219]

Organisation for Economic Co-operation and Development

At a meeting of the OECD Council at ministerial level held in Paris on 6–7 May 2014, a set of recommendations of the council on the governance of critical risks were agreed. Those recommendations recognised, among other issues, that:

- effective risk governance is a means of maintaining or achieving national competitive advantage against a backdrop of numerous geopolitical, environmental, societal and economic uncertainties
- critical risks may develop quickly and through unforeseen pathways to spread across borders, resulting in adverse impacts of national significance, disrupting vital infrastructure sectors, degrading key environmental assets, negatively impacting public finances and eroding public trust in government
- citizens and businesses expect governments to be prepared for a wide range of possible crises and global shocks and to handle them effectively should they arise.[220]

Based on those issues, the OECD recommended that members:

- establish and promote a comprehensive, all-hazards and transboundary approach to country risk governance to serve as the foundation for enhancing national resilience and responsiveness
- build preparedness through foresight analysis, risk assessments and financing frameworks to better anticipate complex and wide-ranging impacts
- raise awareness of critical risks to mobilise households, businesses and international stakeholders and foster investment in risk prevention and mitigation
- develop adaptive capacity in crisis management by coordinating resources across government, its agencies and broader networks to support timely decision-making, communication and emergency responses
- demonstrate transparency and accountability in risk-related decision-making by incorporating good governance practices and continuously learning from experience and science.[221]

The recommendations recognise that new vulnerabilities and interconnections are amplifying the economic impacts of extreme events. The High Level Risk Forum provides a platform for exchanges of applied knowledge and the development of shared understanding on cutting-edge themes related to risk governance, disaster risk and crisis management.[222]

World Economic Forum

In the eighth edition of its *Global risk report* prepared in 2013, the World Economic Forum proposed to construct a framework to assess national preparedness and build resilience to global risks. The forum's framework proposed that a national-resilience system should consist of five core subsystems:

1. *Economic subsystem:* includes aspects such as the macroeconomic environment, goods and services market, financial market, labour market, sustainability and productivity.
2. *Environmental subsystem:* includes aspects such as natural resources, urbanization and the ecological system.
3. *Governance subsystem:* includes aspects such as institutions, government, leadership, policies and the rule of law.
4. *Infrastructure subsystem:* includes aspects such as critical infrastructure (namely communications, energy, transport, water and health).
5. *Social subsystem:* includes aspects such as human capital, health, the community and the individual.[223]

Each of the subsystems has a series of resilience components (based on system characteristics and system performance):

- Characteristics:
  - *Redundancy*—having excess capacity and diverse ways to accomplish the same objectives
  - *Robustness*—having fail-safes and firewalls and the ability for decision-making to become either more hierarchical or more modular when necessary
  - *Resourcefulness*—having networks of trust that enable flexible self-organising to adapt to crises in novel ways
- Performance:
  - *Response*—having good feedback mechanisms that enable the early recognition of emerging issues and the ability to mobilise quickly
  - *Recovery*—having the capacity to rebound from a crisis by absorbing new information and adapting quickly to new circumstances.[224]

National resilience has featured as a key topic in subsequent *Global risk reports*, most recently in the 2023 edition, which noted:

> [D]efensive, fragmented and crisis-oriented approaches are short-sighted and often perpetuate vicious cycles. Lack of preparedness for longer-term risks will destabilize the global risks landscape further, bringing ever tougher trade-offs for policymakers and business leaders scrambling to address simultaneous crises. A rigorous approach to foresight and preparedness is called for, as we aim to bolster our resilience to longer-term risks and chart a path forward to a more prosperous world.[225]

European Union

The EU has a suite of programs and initiatives aimed at bolstering individual EU members' national resilience and the resilience of the union itself. Among them are the following:

- The *EU Civil Protection Mechanism*, created in 2001, aims to strengthen cooperation between the EU countries and 10 participating states on civil protection to improve prevention, preparedness and response to disasters.[226]
- The *Directive on the Resilience of Critical Entities*, which entered into force on 16 January 2023, aims to 'strengthen the resilience of critical entities against a range of threats, including natural hazards, terrorist attacks, insider threats, or sabotage, as well as public health emergencies'. Under the new rules, the following provisions apply:
  - Member states will need to adopt a national strategy and carry out regular risk assessments to identify entities that are considered critical or vital for the society and the economy.
  - In turn, critical entities will need to carry out risk assessments of their own and take technical, security and organisational measures to enhance their resilience and notify incidents.
  - Critical entities in the EU providing essential services in six or more member states will benefit from extra advice on how best to meet their obligations to assess risks and take resilience-enhancing measures.
  - Member states will need to provide support to critical entities in enhancing their resilience. The European Commission will provide complementary support to member states and critical entities by developing a union-level overview of cross-border and cross-sectoral risks, best practices, guidance material, methodologies, cross-border training activities and exercises to test the resilience of critical entities, among others.[227]

- The *2020 EU Security Union Strategy* identifies four interdependent strategic priorities to be taken forward at the EU level, in full respect of fundamental rights: (1) a future-proof security environment, (2) tackling evolving threats, (3) protecting Europeans from terrorism and organised crime and (4) a strong European security ecosystem, built around the following common objectives:
  - *Building capabilities and capacities for early detection, prevention and rapid response to crises*: To be more resilient and to prevent, protect against and withstand future shocks, including capabilities and capacities for early detection and rapid response to security crises through an integrated and coordinated approach, both globally and through sector-specific initiatives (such as for the financial, energy, judiciary, law-enforcement, healthcare, maritime and transport sectors) and building on existing tools and initiatives.
  - *Focusing on results*: A performance-driven strategy based on careful threat and risk assessment to target efforts to best effect.
  - *Linking all players in the public and private sectors in a common effort*: Through more intense cooperation between member states, involving law-enforcement, judicial and other public authorities, and with EU institutions and agencies, to build the understanding and exchange needed for common solutions. Cooperation with the private sector is also key, more so given that industry owns an important part of the digital and non-digital infrastructure central to fighting crime and terrorism effectively. Individuals themselves can also contribute, for example through building the skills and awareness to combat cybercrime or disinformation.[228]

North Atlantic Treaty Organization

Article 3 of the North Atlantic Treaty of 1949 states that:

> In order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack.[229]

In 2021, the heads of state of the North Atlantic Alliance 'affirmed that national and collective resilience are an essential basis for credible deterrence and defence and the effective fulfilment of the Alliance's core tasks, and vital in our efforts to safeguard our societies, our populations and our shared values.'[230] The organisation has established the Resilience Committee to set out the priorities for resilience activities within the alliance. The committee is 'responsible for maintaining a planning and review cycle for resilience, including the establishment, assessment, review and monitoring of resilience objectives to guide nationally developed resilience goals and related implementation plans.'[231] The work of the Resilience Committee is supported by six specialised planning groups responsible for providing advice on resilience matters in their respective fields of expertise:

1. The Civil Communications Planning Group provides advice on building resilience in the communications sector.
2. The Civil Protection Group addresses ways to ensure continuity of government as well as the ability to deal effectively with uncontrolled movements of people.
3. The Energy Planning Group is responsible for the oversight of resilient energy supplies.
4. The Food and Agriculture Planning Group addresses resilience matters in the food and water sector.
5. The Joint Health Group covers the allies' ability to deal with mass casualties and disruptive health crises.
6. The Transport Group, subdivided across inland surface, maritime and aviation, supports resilient civil-transport systems.[232]

Civil preparedness forms a key element:

> Military efforts to defend NATO territory and populations need to be complemented by robust civil preparedness to reduce potential vulnerabilities and the risk of attack in peacetime, crisis and conflict.
>
> Civil preparedness has three core functions: continuity of government, continuity of essential services to the population and civil support to military operations. These critical specifications have been translated into seven Baseline Requirements for national resilience against which Allies can measure their levels of preparedness.
>
> Military forces, especially those deployed during crises and conflict, depend heavily on the civilian and commercial sectors for transport, communications, energy and even basic supplies such as food and water, to fulfil their missions. Robust civil preparedness ensures that these sectors are ready to withstand attacks or disruptions and can continue supporting NATO's military forces at all times.[233]

Chapter 7: Lessons for Australian policy

The need for Australian national resilience

Australia finds itself uniquely vulnerable to both domestic and global forces that create cascading and concurrent crises that affect the entire nation. Our unique biodiversity is highly vulnerable to both the impacts of a changing climate[234] and biosecurity threats to our livestock and natural flora and fauna.[235] Our trade-dependent economy is highly vulnerable to supply-chain failures and trade disruptions in the global marketplace. Our democracy faces new, multifaceted and complex threats.[236] And, when considering our national defence, 'for the first time in 80 years, we must go back to fundamentals, to take a first-principles approach as to how we manage and seek to avoid the highest level of strategic risk we now face as a nation.'[237]

The strategic circumstances that Australia contemplates over the coming decades present multiple, cascading and concurrent crises. Ensuring a safe and secure Australia, able to withstand the inevitable shocks that we'll face into the future, will require a more comprehensive approach to strategy than we've adopted over the past seven decades. We can't rely on the sureties of the past. The institutions, policies and architectures that have supported the nation to manage such crises in our history are no longer fit for purpose.[238] Andrew Henderson suggests that 'Australia is struggling under the cumulative effects of continuous and concurrent crises',[239] while others suggest that 'the nation's foundational institutions and civic infrastructure have become fragile and complacent, lacking the robustness and resilience to face the unexpected and prevail.'[240]

This isn't an indictment of any government or institution for failing to deliver when crises arise. Rather, it's a consequence of a world that's changed far faster than envisaged, and systems and institutions that haven't markedly changed from those established during a more secure and predictable strategic age. James Boddam-Whetham, CEO of Noggin, notes that:

> Federal government officials have their hands full with concurrent crises: emerging subvariants, war in eastern Europe, the prospect of hostilities in the western Pacific, civil unrest, cyber-attacks, supply chain disruptions and staffing shortages, inflation, and natural disasters.
>
> Indeed, many of these threats require all-of-government mobilisations, rapidly depleting federal resources needed to prepare for more frequent, intense, and complex emergencies. Responding to these threats will require quick decision-making from federal governments.[241]

The imperative and urgency for Australia to develop and implement national resilience has been recognised by successive governments, the Australian Parliament, Australian academics and Australian industry over the past decade, albeit, as noted in previous chapters, within a specific context or domain such as national disaster resilience, economic resilience or critical infrastructure resilience.

As Australia hasn't been faced, historically, with existential risks, ongoing terror campaigns or major-power adversaries operating on our borders, the 'lucky country' has been relatively immune to the forces that have reshaped our strategic environment.[242] However, as the Lowy Institute's annual poll highlights, Australians' feelings of safety have fallen from 92% in 2010 to 50% in 2020; the 2023 poll showed that only 63% of Australians felt safe.[243] The recognition that risks and threats now directly affect the lives and livelihoods of Australians has led the Australian Government to seriously assess the safety and security of our nation and look to new means to assure that safety and security. However, much of that effort remains siloed within specific institutional contexts—defence, foreign affairs, law enforcement and so on. The AUKUS

arrangements, the annual public threat assessments from intelligence agencies and a raft of new laws and institutions to counter threats ranging from foreign interference, cybersecurity, emergent technology, artificial intelligence and supply-chain failures to human and animal biosecurity threats are all representative of this trend.

Many of the most consequential vulnerabilities and risks for Australia have no specific risk owner, and many identified risks require action across multiple departments and agencies at all levels of government. Many of the vital functions of the state, to use the Nordic definitions, are equally the responsibility of federal and state/territory governments operating through arrangements and agreements without a solid framework or governance structure. Who, for instance, is responsible for the security of Australia's supply chains, the establishment of stockpiles of critical materiel, land planning for natural disaster resilience, or the diversity and adaptability of our economy?

That lack of clarity on accountabilities, responsibilities and procedures can lead to confusion and, in some cases, can exacerbate a crisis. In one such example, the scattering of passengers from the cruise ship *Ruby Princess* in March 2020 was considered to be 'the biggest single source of infections in Australia' to that point in the Covid-19 pandemic.[244] The Special Commission of Inquiry into the Ruby Princess subsequently noted:

> Whilst the Commonwealth Department of Health has the primary responsibility for matters of human biosecurity, it does not have officers or physicians at Australia's borders and has entered into arrangements with DAWE [the Department of Agriculture, Water and the Environment] and NSW Health for the provision of frontline human biosecurity services. In the lead up to the Ruby Princess passengers' disembarkation on 19 March 2020, those human biosecurity arrangements did not operate as intended. There was poor communication between responsible agencies. Policies were ignored. The Biosecurity Officers' practices deviated from the written requirements. And HBOs [human biosecurity officers] did not have a clear understanding of their role.[245]

Anne Twomey, Professor of Constitutional Law at the University of Sydney, addresses the challenges of multilevel government during crises, referencing the *Ruby Princess* incident in the following terms:

> There were some significant failures in appropriate levels of Commonwealth and State cooperation and taking of responsibility. One concerned officials letting people off a cruise ship, the Ruby Princess, without adequately testing for coronavirus or implementing quarantine measures. This resulted in a dispute about whether it was Commonwealth officials (with responsibility for border control and quarantine) or State officials (with responsibility for public health) who were responsible for this failure. It appears that there were failures at both levels of government, and in particular a failure to accept responsibility.[246]

Australia hasn't had a comprehensive national security strategy—to coordinate and integrate all elements of national power for the purposes of the nation's security—since the 2013 strategy released by the Gillard government. Without an overarching strategy to coordinate the use of all the elements of national power to deliver national effect and security, the Australian national security enterprise will always be suboptimal. The Defence Strategic Review, for instance, recognises that national defence must include a whole-of-nation effort to develop strategic resilience, in which the national defence strategy is only a part of a broader national strategy. While the Defence Strategic Review proposes this from within the lens of national defence, similar judgements have been made about Australia's climate risk, financial and economic risk, and disaster management risk.

As discussed in previous chapters, the challenge for policymakers has been to develop approaches that deal with multiple, concurrent and cascading crises, rather than individual, 'once in a century' crises. National resilience has been used by other jurisdictions, including those previously discussed, as one means to deliver a more systemic approach to preparing for and managing polycrises. Prime Minister Anthony Albanese

recognised the importance of a more encompassing, all-hazards approach to national resilience in his pre-election speech to the Lowy Institute in March 2022, stating:

> And fundamental to our national security is our national resilience. As all of you at Lowy understand, Australia's national security is bound-up in so much more than our defence capability, critical as it is. In the complex, interconnected, rapidly changing strategic environment of the 2020s, national security also means:
>
> - Cyber-security
> - Energy security
> - Economic security
> - Environmental security.
>
> Keeping Australians safe means planning for global shocks—be it conflict, pandemic, financial collapse or environmental disaster … And investing in the country's capacity to adapt to crisis, building the resilience and resolve to ensure we can come through challenging times together. That's the other vital element of the resilience that underpins our national security—our unity as a country.[247]

In a similar vein, the Joint Standing Committee on Foreign Affairs, Defence and Trade's inquiry into the implications of the Covid-19 pandemic for Australia's foreign affairs, defence and trade noted that:

> The COVID-19 pandemic revealed problems with the resilience of the supply chains that provide critical inputs into the provision of goods and services in Australia. The extent of the vulnerability laid bare by a health emergency also raised the prospect that Australia's critical national systems as a whole—the key assets and industries that underpin our national sovereignty—could be exposed to risk in other types of emergencies, such as a threat to national security. This reality has shown the need for a methodology to assess risk more broadly and identify where vulnerability exists.[248]

The committee therefore recommended:

> … that the Australian Government develop a national resilience framework to assess which elements of Australia's critical national systems are vulnerable to high-consequence supply chain disruptions.[249]

In the final report of the Royal Commission into National Natural Disaster Arrangements established after the 2019–2020 bushfires, the royal commissioners noted that:

> Australia's recent and still unfolding history is a useful illustration of how resilience can be stretched or exceeded due to consecutive events and compounding impacts. Australian individuals, communities and businesses have been impacted by fire, flood, drought and a global pandemic within the last 12 months—and, for many, the impacts have been concurrent or consecutive.[250]

The royal commissioners concluded that:

> … we need 'whole-of-nation', 'whole-of-government' and 'whole-of-society' cooperation and effort. …
>
> *We need strategic leadership directed at resilience.*
>
> Making the nation more resilient to natural disasters calls for 'strategic imagination' and 'big country thinking'—a national response and national strategic leadership.
>
> The Australian Government should lead in the development and coordination of long-term, national strategic policy directed at making Australia resilient to natural disasters. It is uniquely placed to see the national picture, the national risks, and the impacts on all Australians. However, like all governments, it should also increase its capacity to address the complex and long-term strategic problems in disaster risk management and resilience.[251]

A comprehensive national resilience framework would also make economic sense for Australia. According to a 2021 report on the economic costs of natural disasters in Australia, they currently cost the Australian economy $38 billion per year, and that cost is expected to rise to at least $73 billion per year by 2060. The report suggests that:

> The Australian economy is facing $1.2 trillion in cumulative costs of natural disasters over the next 40 years even under a low emissions scenario. This shows there is the potential for large economic gains from investments to improve Australia's resilience to natural disasters.[252]

Australian and international studies show that investments in resilience can reduce the costs of natural disasters by at least 50% annually,[253] theoretically unlocking almost $0.6 trillion for alternative use in the Australian economy. Additionally, as discussed in previous chapters, investment decision-making focused on multiple-use capabilities can leverage investments for natural-disaster preparedness, civil defence and national defence needs, ensuring that Australia is resilient against a diverse range of crises in the most efficient ways possible.

What would a more resilient Australia look like?

A more resilient Australia would be better prepared for crises. There would be a common understanding of the significant risks that the country faces and a 'Team Australia' approach to meeting those risks across the full spectrum of potential crises.

The annual disaster season would be met with confidence, and with a suite of capabilities postured and ready to face the worst that nature could deliver. Clear lines of authority and channels of communication between government authorities and communities would ensure that individuals, neighbourhoods and remote communities have prepared disaster plans and local resources for immediate response and have understood and practised command-and-control arrangements. National-level capabilities, combining industry, civil society and government equipment and personnel, would be prepared and ready for deployment.

Australia would also be well prepared for man-made crises, such as a significant national cyberattack or the failure of national critical infrastructure or systems of national significance. The nation would have invested in resilience across our economy, supply chain and infrastructure, having placed redundancy and robustness at the heart of decision-making. Whether the threat emerges as a consequence of deliberate action, such as an economic coercion campaign or a malicious actor, or from an accident or systems failure, any disruption would have minimal impact, as stockpiles, alternative supply sources or redundant systems would be able to support at least the minimum viable service levels necessary to keep vital functions operating.

A more resilient Australia would be a more adaptable Australia, able to weather the adverse effects of climate change and other chronic changes to our national or international circumstances. A nationally resilient Australia would have a strong and vital democracy and an informed citizenry that's psychologically and societally resilient to misinformation and disinformation that threatens our unity and coherence as a nation. Institutions of the state would be trusted to defend and protect Australia, its people and the rule of law. Such an assured Australia would value our fundamental freedoms (freedom and dignity of the individual, freedom of religion, freedom of speech and freedom of association), our commitment to the rule of law and parliamentary democracy, and our willingness to help others during times of crisis.

And, should major conflict threaten Australia or our direct interests, the nation would be postured and prepared to fight and win. National preparedness and national mobilisation plans would ensure that the national industrial base has the capability and capacity to support both our military needs and the national needs that continue during any crisis, including circumstances in which Australia finds its sea, air or digital lines of communication with the world cut or disrupted. Australia would have robust prioritisation plans

for personnel, essential commodities and supplies (such as petroleum, oil and lubricants) and industrial surge capacities for sovereign capabilities and munitions. Investment decisions for infrastructure would have considered both defence and civilian-use requirements, enabling the dispersal of military forces, their maintenance and logistics, and meeting the needs of civilian protection (including health services, emergency shelters, mortuary services and other protective measures).

Learning 1: Institutionalising national resilience thinking

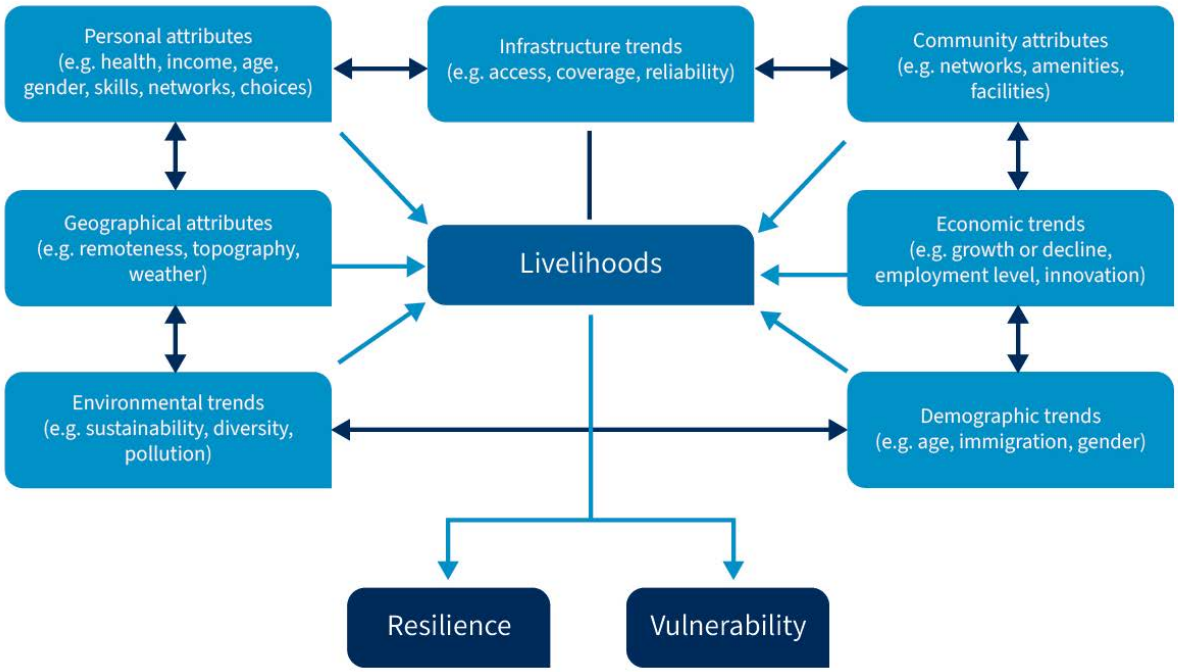
Australia has only limited resources to achieve all its national purposes, and, without a coordinating strategy that can pull together and integrate all the strategic risks that Australia faces, we can't be assured that the resources we have are effectively and efficiently employed. Such a strategy must involve not just the Australian Government, but the states, the territories, municipalities, Australian industry, civil society and the community to deliver a whole-of-nation approach.

As noted in the preceding chapters, other nations have already addressed the need for an overarching *strategy to build national resilience*. For the UK, that takes the form of the UK Government Resilience Framework released in December 2022. For the US, the National Security Strategy (mandated by section 603 of the Goldwater–Nichols *Department of Defense Reorganization Act of 1986*) provides the overarching strategic guidance, while the National Preparedness System is directed through Presidential directive. For the Nordic and Baltic states, Ukraine and several other nations, national resilience strategies are deeply embedded in the comprehensive / total defence strategies that have driven national security.

What would this look like for Australia? We can't institutionalise national resilience as a systemic approach to deal with national risk without a national strategy. Whether that be through the development of a national security strategy or the development of a specific national resilience framework/strategy that links economic, diplomatic, defence, infrastructure, civil protection and security elements of national power is immaterial. What counts is that, if we are to—as the Prime Minister mused—'invest in the country's capacity to adapt to crisis, building the resilience and resolve to ensure we can come through challenging times', we must have a strategy and a plan for the resourcing of the national preparedness of the nation for an uncertain future.

A whole-of-system national resilience strategy could commence with the development of a comprehensive *national risk assessment*, identifying all the acute and chronic risks that the nation is likely to face, evaluated against reasonable worst-case scenarios. For the past decade, the OECD has promoted national risk assessments as best practice in country risk management and as a policy tool to identify and analyse those events that could cause significant disruption at the national scale. The range of factors that influence both hazard and risk is highlighted in Figure 5.

Figure 5: Direct and indirect external factors outside the control of people or nations that lead to a state of more or less vulnerability or resilience



Source: Department of Home Affairs, *Profiling Australia's vulnerability: the interconnected causes and cascading effects of systemic disaster risk*, Australian Government, 2018, online.

An Australian national risk assessment could identify all possible hazards—both chronic and acute—that could cause national-level disruptions to the economy and society in the immediate term and over the longer term, including:

- natural disasters (fires, floods, earthquakes, tsunamis, cyclones and extreme weather, and space weather)
- threats to public health (pandemics)
- threats to the environment (flora and fauna biosecurity)
- threats to public order (including violent extremism, terrorism and attacks on our social cohesion)
- subversion of the democratic system (including threats that compromise, weaken, destabilise, undermine or sabotage the institutions of the state)
- disruption of critical infrastructure
- major industrial or infrastructure accidents (including nuclear, chemical or transportation)
- cyber threats
- financial and economic threats (including supply-chain threats)
- threats to international peace and security.

While each of these hazards poses a substantial challenge in their own right, there are many structural and systemic issues that are common to all, and for which a common framework, resources and capabilities can resolve much.

Such a risk assessment should perforce be a sensitive and classified document if it's to be of maximum usefulness to policy- and decision-makers. Nevertheless, it will be important that other stakeholders (including the other Australian governments within the federation, industry and the citizenry) are conversant with the significant risks that they may face and are able to play their parts in preparing for and mitigating those risks. The government could consider a publicly releasable version of the national risk assessment to keep those stakeholders informed and involved. The US, the UK and other countries have managed to deliver both classified and unclassified assessments for that purpose.

Following the development of a national risk assessment, a *national preparedness audit* could be developed in collaboration with state/territory governments, industry and civil society to identify vulnerabilities and gaps in Australia's current capabilities and capacities to meet the risks identified in the national risk assessment. Without a clear understanding of how prepared Australia is to meet not just each individual hazard, but the interactions between hazards that create more existential risks for Australia, there's little prospect of appropriately prioritising resources across the nation.

The lack of a preparedness audit's outcomes was noted during the Covid-19 crisis. Australian decision-makers in the national cabinet didn't have an accurate picture in the early days of the pandemic of the capacity of the hospital system (the number of beds in intensive care units, ventilators, personal protective equipment, ambulances and mortuary services) upon which to make planning decisions. Similarly, decision-makers weren't able to mobilise non-military resources to support Covid-19 measures or emergency-management requirements during recent crises, resulting in the ADF taking on a disproportionate burden to support those activities. Moreover, Australia needs a mechanism to allow for prioritisation between resources required for prevention and those required for preparedness.

Prioritisation is essential if Australia is to use its limited resources to maximum effect. Our limited population base places constraints on the number of personnel who can be deployed for critical tasks, and workforce skilling challenges remain one of Australia's largest productivity risks.[254] Such risks can become acute during periods of crisis. Volunteers are essential to Australia's crisis resilience, but volunteer numbers are in decline across the nation.[255] For many of the volunteer emergency services that form the backbone of natural disaster response, the ageing population, the ongoing impacts of Covid-19, the housing and cost of living crises and other factors are reducing participation in volunteering.[256] Experienced and capable personnel in emergency services will often come from law enforcement and the military, and some also undertake reserve service in the ADF. Many of the most capable emergency doctors and nurses fill positions in our public hospitals, volunteer for Australian medical assistance teams deployed overseas and undertake reserve service. Deploying such personnel in one scenario means losing access to them in another, or in their peacetime roles. Such pressures also face the ADF, as the Department of Defence noted in its recent submission to the Select Committee on Australia's Disaster Resilience:

> While the ADF is proactively postured to support the response to domestic disaster relief, the unprecedented scale, duration and frequency of support is unsustainable without accepting significant impacts to ADF preparedness for its primary defence of Australia role.[257]

It was for that reason that Australia established labour controls during World War II and established a list of reserved occupations, for which the needs of wartime industrial or agricultural production were given priority ahead of military service. The *Commonwealth war book* maintained that prioritisation after the war ended with a policy objective of 'achieving the best possible use during the war of men and women for the military and civilian war effort, as it may be defined from time to time by the Government.'[258] Similar considerations were needed during the Covid-19 crisis, when the national cabinet developed a list of occupations for which workers were exempted from isolation measures due to the criticality of their work.[259]

Once a national preparedness audit has been completed, Australia would be well placed to develop a *national preparedness plan* to invest in, mobilise and prepare capabilities to support national resilience. A national preparedness plan would allow decision-makers to identify opportunities to invest in multi-use capabilities that meet day-to-day requirements as well as meeting needs in a crisis. For example, future investments in the national transportation system to meet Australia's economic and business needs could be—at the time of investment decisions—evaluated for their capability to support the rapid mobilisation and deployment of resources into emergency zones. Investments through the National Reconstruction Fund, aimed at diversifying and transforming Australia's industry and economy, could be assessed for their ability to reduce supply-chain risk, improve civil defence and protection systems and enhance defence capabilities. Civil society resources able to support natural-disaster mitigation could be identified to allow for the ADF to be more focused on its preparedness for national emergencies. National stockpiles of critical supplies could

be assessed for their capacity to deal with supply-chain crises, while also ensuring that Australia has the necessary consumables required during a national crisis.

Many other countries with similar resource constraints to Australia's have adopted national preparedness planning as part of their national-security architecture to meet these needs. Road networks in Scandinavian countries establish emergency shelters to meet blizzard conditions on the roads while at the same time ensuring that such shelters can be used to disperse military forces during a time of war. Investing in such multi-use cases ensures that every dollar spent results in multiple returns, enhancing resilience across the nation. Such measures meet multiple needs and add to the deterrence capabilities of the nation.

Learning 2: Creating institutional capability and capacity

As important as a national strategy, risk assessment, preparedness audit and preparedness plan are to developing national resilience in Australia, even the best of those strategies and plans will fail without a substantial change to the institutional capability and capacity of the national resilience ecosystem. As noted in previous chapters, Australian policymaking continues to be undertaken as a siloed activity within each minister's and department's responsibilities as set out in the Australian Administrative Orders. Crisis management is coordinated only at the level of the National Security Committee of Cabinet (for those crises within the purview of the Australian Government) and the national cabinet (for those crises involving both the federal and the state/territory governments). While significant interagency and intergovernmental work is undertaken by officials, and through ministerial councils, it remains challenging to develop a national enterprise for national resilience.

As one example, the terms of reference for the Independent Review of National Natural Disaster Governance Arrangements seek recommendations for how the federal, state, territory and local governments should work together to better prepare for, respond to and recover from naturally occurring, rapid-onset events that cause serious disruption to communities or regions.[260] This is important work. However, the review is focused solely on natural disasters, not all hazards (that is, including man-made hazards).

This is a systemic and institutional challenge for Australian policymaking. Creating the capability and capacity within the Australian nation to improve national resilience will require us to move beyond the current institutional challenges. For the UK, the Civil Contingencies Secretariat and the new Resilience Directorate within the Cabinet Office provide a mechanism to coordinate across UK governments. For the US, the National Security Council operates within the White House to craft whole-of-government actions. Many countries employ legislative means to ensure collaborative actions across government and industry.

For Australia, a legislative solution could be considered to bring together the federal resources necessary for national resilience. Such an approach has some merit, as the existing *National Emergency Declaration Act 2020*[261] has very high bars for declarations in circumstances of a natural disaster. No other legislation enables the Prime Minister or a relevant minister to coordinate national resources for national resilience purposes.

However, any Act of that type wouldn't bind the states and territories and wouldn't be an effective means for generating industry and community involvement. Rather than seeking a legislative solution, government could consider changes to the processes and procedures for building national resilience.

Establishing a central institutional 'home' for national resilience within the Australian Government, able to coordinate and lead across the federal government and to collaborate with the other Australian governments, industry and civil society, would be a good start. Akin to the Office of National Intelligence leadership role in the national intelligence community, an *Office of National Resilience* could ensure coherence in the national resilience efforts that Australia needs to undertake. The mandate of the office could be formalised, through both an Act of parliament and an intergovernmental agreement with the states and territories, to ensure that the office survives multiple changes of government. The Office of National Resilience could be established within the Department of the Prime Minister and Cabinet, given its coordinating role across government,

or the Department of Home Affairs, given its mandate to address (non-defence, non-foreign-policy) national-security issues and the positioning of the NEMA within the Home Affairs portfolio.

The office could be tasked with preparing the national risk assessment, national preparedness audit and national preparedness plan, working with and across all departments and governments and with industry. To ensure that all federal departments are both contributing to and prioritising the preparedness efforts, the office of national resilience could be staffed with personnel from across all 16 federal government portfolios. Seconding staff from the states and territories, from the Australian Local Government Association and from industry and civil society would ensure that important perspectives and issues are brought into the discussion from the outset.

The office could create institutional connections with the many offices and organisational elements that have been established to deal with specific elements of resilience, such as the Office of Supply Chain Resilience, the Australian Centre for Disease Control, the Australian Climate Service, the National Preparedness Taskforce and the NEMA. In some cases, there would be value in subsuming those specific offices into the larger whole.

Specific *national resilience training programs* could be developed to support the development of the office and be made available to other departments, governments and industry and civil society leaders. The Nordic and Baltic states' establishment of holistic training programs that create longstanding alumni who understand and can contribute to national resilience work could be used as an exemplar for this work.

Supporting the broader Australian community to build people's individual and communal resilience capabilities should also be considered. As noted throughout this report, there's a growing understanding that the ADF can't respond to all of the crises and challenges that we may face, whether those threats be natural or man-made. Other elements of Australian society need to be able to act as first responders, allowing the ADF to build and maintain the capabilities to meet its primary mission to defend Australia from armed attack. National resilience training and capability building at the local community level should be a key factor in any national resilience planning within Australia.

A number of jurisdictions use national service as one method to build capability within the nation and the basic skills (and often quite specific professional skills) required to support national resilience. Other nations, less willing to enact national service models, have developed resilience training for teenagers and young adults. As Elisabeth Braw suggests, 'Trained civilian volunteers could carry out easier contingency duties such as building sandbag barriers, along with grey-zone defence duties such as identifying disinformation or minimising disruption to their daily lives and the daily lives of their communities after a crippling cyber-attack.'[262] While Australia has a strong history of volunteer emergency services, emergency-service organisations are facing a recruitment and retention challenge. *National resilience training for teenagers* and young adults could be considered as part of national resilience planning within Australia, building on successful models such as the ADF's Gap Year program.

Learning 3: Establishing a whole-of-society endeavour

The safety and security of Australia isn't a task that can be left to governments alone. The national industrial base, the active involvement of civil society and an informed and engaged community are all necessary elements of building our national resilience. It's long been understood that a strong, resilient and diverse economy is critical to our national security and building the capabilities needed for defence and national security. The 2023–2030 Australian Cyber Security Strategy recognises the critical role that citizens and businesses have in ensuring their own cybersecurity and the contributions that a more resilient civil society and commercial ecosystem make to the nation's cyber defences. Australian climate policies have long recognised the impact that each individual Australian has in the national response to climate adaptation and building our national resilience to climate impacts. And, increasingly, our disaster management policies and practices recognise that dealing with emergencies isn't simply a matter for governments, and that

individuals, families and the community play a role in determining how well communities are safeguarded from emergencies and their ability to recover from crises.

While governments have consistently told industry that it's the critical partner in defence efforts, that hasn't always been consistently observed. A true partnership must move beyond the transactional: both partners should be actively engaged in decision-making that's critical to the success of the endeavour. Understandably, that's never easy; probity issues, contractual obligations, security imperatives and procurement rules will often stymie the best of intents. Nevertheless, if Australia is to build true national resilience, governments will need to be more forthcoming with industry on both the risks and investment imperatives that will drive our resilience efforts. We should be encouraged by the increasing interchange between intelligence agencies and industry, sharing information on the geostrategic environment, specific threat information and risk assessments. Such interchanges could be institutionalised and regularised.

Australia should learn from the examples cited in previous chapters, such as the work on societal security within the Nordic states, where the resilience of industry in contributing to the vital functions of society are both recognised and managed in partnerships between government and business. Australia might consider establishing a *national resilience council*, with membership from both government and industry, with a mandate for understanding and developing industry's contribution to the national effort to build resilience.

Experience from other countries shows that resilience is best built upwards, from the individual to the community to the nation. The previous chapters refer to the efforts of other jurisdictions to build community and societal resilience at the local level. Notably, in the case studies discussed in Chapter 2, many post-disaster reviews have identified the need for much improved whole-of-society community resilience as a fundamental element of national resilience.

Civil society, and the societal resilience that a strong and engaged civil society can nurture, are also critical to strengthening our democracy. It isn't just trust in the institutions of the state, but the community itself, that builds the resilience that a strong democracy needs. As noted in the previous chapters, many jurisdictions place a focus on societal defence, psychological defence or whole-of-society resilience. Many of the benefits of that focus deliver a more robust polity, a more engaged community able to prepare itself for crises and an inoculation against disinformation and foreign interference. Dr Andrew Leigh notes that:

> [C]onfronting dangers such as nuclear war, bioterrorism, climate change and rogue AI requires mobilising our intellectual powers, strengthening institutions, cooperating internationally and remaining irenic (calm). Yet by definition, populists are anti-intellectual, anti-institutional, anti-international and anti-irenic.
>
> What is to be done? In *On Tyranny*, historian Timothy Snyder sets out twenty lessons from the twentieth century about how to defend democracy. They're all good, but my favourite is his reminder about the value of civil society. Snyder reminds us that a strong democracy isn't just about parliaments and elections, but about community.[263]

Australia has a long history of communities being actively engaged in supporting themselves and each other during times of crisis. Volunteer and civil society organisations have led the way in communities self-organising to prepare for crises, including:

- response and recovery during natural disasters
- essential service provision, including food relief, the delivery of essential goods, and social connection
- supporting the response to public-health crises (for example, assisting at vaccination clinics during the Covid-19 pandemic)
- mental health support
- suicide prevention and crisis intervention
- environment and wildlife protection.[264]

Supporting communities in their efforts to self-organise and ensuring that they have the necessary resources to meet their needs can help to alleviate the burden placed on government at all levels and ensure that the most critical resources can be directed to the points of most need. To achieve that, governments need to commence a dialogue with communities that goes beyond 'Are you prepared?' advertising strategies prior to the natural disaster season. The Australian community should expect that government will provide it with a deeper understanding of the national risk environment and what needs to be done to meet those risks. A publicly released national risk assessment would be a good first start, providing Australians with more comprehensive analysis of the threats they face. The government might also consider *national resilience community-liaison teams* to work with individual communities on resilience issues that matter to them.

Learning 4: National resilience for deterrence and grey-zone defence

Australia's defence has never been solely the responsibility of or wholly dependent on the efforts of the ADF. While Australia's military forces are the tip of the spear, the shaft of the spear is provided by Australia's national support base, and the foot of the spear is provided by Australia's citizens.

The Defence Strategic Review makes the judgement that the most fundamental task for Australia is to determine how to 'manage and seek to avoid the highest level of strategic risk we now face as a nation: the prospect of major conflict in the region that directly threatens our national interest'. It notes that such a task doesn't rely on Defence alone, but that we must harness all elements of national power to deliver the resilience to withstand, endure and recover from disruptions. It further states that the critical requirements for this resilience include:

- an informed public
- national unity and cohesion
- democratic assuredness
- robust cybersecurity, data networks and space capabilities
- supply-chain diversity
- economic security
- environmental security
- fuel and energy security
- enhanced military preparedness
- advanced munitions manufacturing (especially in long-range guided weapons)
- robust national logistics
- a national industrial base with a capacity to scale.[265]

As the previous chapters note, other nations have recognised that the national resilience of the nation is a fundamental element of their defence and security postures. From a deterrence perspective, national resilience creates a nation that's harder to attack, more resistant to the impacts of attacks, and better able to recover should attacks occur. In adopting that posture, those nations complicate the planning of potential adversaries, raising the cost and reducing the benefits of any action.

A more resilient economy is better able to withstand coercive economic actions against trade flows. A more resilient cyber ecosystem is less likely to fail due to cyberattacks against critical infrastructure. A more resilient community is less likely to fall prey to disinformation and threats to social cohesion. And a more resilient nation is better able to adjust to uncertainty and complexity.

As part of the follow-on work of the Defence Strategic Review, the federal government has agreed to adopt a *whole-of-government and whole-of-nation approach to our strategic environment*. The National Defence

Strategy, to be delivered in 2024, could prioritise national resilience, with a focus beyond the traditional defence capability lens, to address the requirements of the nation to prepare for a full range of contingency scenarios that create national risk. The strategy could also identify the challenges and opportunities for mobilising a whole-of-society response to those challenges. In this sense, the National Defence Strategy should be a whole-of-government endeavour.

As noted in previous chapters, other nations employ a national resilience approach to support their defence against grey-zone tactics. The Nordic and Baltic states, Singapore and Ukraine can provide key learnings for Australia on using national resilience to combat such tactics. For example, their focus on psychological defence seeks to inoculate citizens against mis- and disinformation, harness the collective will of citizens to defend the nation's way of life, enable resolve to stand up for the nation against forces that undermine national interests, and bolster the fighting spirit to press on and overcome crises together. Ukraine's collective defence against Russian aggression started with the nation's sense of collective defence and its willingness to pull together during a crisis.

Similarly, considering national resilience as a cornerstone of investing in future infrastructure and business resilience reduces the fragility and vulnerability of the vital functions of society. Should a grey-zone attack against infrastructure occur, more resilient systems are better able to withstand the attack and have the redundancy and robustness to withstand less than catastrophic attacks. Resilient businesses are more able to absorb supply-chain failures or coercive economic attacks. As the Australian Treasury states, in noting that Australia's economic complexity has dropped from 63rd to 91st[266] over the 20 years from 2003 to 2020:

> Over the past few years, the Australian economy has been subject to multiple international shocks which have impacted on our capacity to improve the living standards of Australians. In a global economy, Australia cannot avoid the effects of these shocks, but boosting the diversity and adaptability of our economy improves our resilience. More productive, dynamic, and competitive economies with strong institutions are better able to withstand and adapt to such shocks.[267]

In 1997, Defence established the National Support Division to address *national mobilisation* through the concept of national support following the recognition by the Defence Efficiency Review that Defence had hollowed out its strategic logistics capabilities and industrial preparedness planning. The division worked to build new models of engagement and collaboration with Australian industry not just to support not Defence's needs during crises and conflicts, but also to enhance the nation's resilience and preparedness to meet a range of possible contingencies.[268] A detailed 'concept for national support' was developed, but not released publicly, providing a road map to coordinate national defence efforts.[269] The re-establishment of *national support concepts*—and their extrapolation beyond Defence to the rest of the Australian nation—would meet some of the Defence Strategic Review's aims for national preparedness.

Conclusion

Australia stands at a strategic crossroads. Never before have we found ourselves facing such a range of challenges and risks at the same time. New uncertainties exist at the planetary level, including a climate and biodiversity crisis, an energy and industrial transformation and an explosion of new technologies that will shape societal dynamics for the coming decades. The Indo-Pacific region has become the focus for great-power dynamics, bringing an increasing possibility of major-power conflict. New ideological and populist forces are influencing the polity of Australia, Australia's social cohesion is increasingly threatened, and our democracy is under increasing pressure. Australia can no longer rely on the verities of our past to meet those challenges. We must adapt and transform to the new realities, preserving our core national values and institutions, while creating innovative new ways of addressing emergent challenges and reducing our fragility.

This report has assessed how other nations have used national resilience as a framework for addressing such challenges at the national level. Australia has the necessary tools and capabilities to meet those challenges and create a more resilient nation that's better able to ensure the resilience of its society, its economy and its system of governance. Doing so will require a frank, honest and trusted appraisal of our vulnerabilities and a new culture of being willing to work together to use all the elements of our national power to their best effect.

There have been rising calls from government, from parliament, from royal commissions and from academia and think tanks for Australia to adopt national resilience. This report has identified some key learnings for Australia should it embark on a more formal consideration of national-resilience concepts. The report isn't a blueprint for action; nor does it give specific recommendations on how to implement national resilience systemically in Australia. Rather, the intent has been to stimulate thinking on how national resilience can be applied. Subsequent consideration of specific policy actions to enhance Australia's societal, economic, governance and systemic resilience within a national resilience framework will be required.

Now is the time to commence action to deliver a national resilience framework for Australia. Collective, collaborative action, enabled by governments, built on the capability and capacity of Australian industry and the community and aimed at the goal of a resilient Australia, can ensure that we're well placed to face the future with confidence.

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Acronyms and abbreviations

ACS	analysis of crisis scenario
ADF	Australian Defence Force
EU	European Union
FEMA	Federal Emergency Management Agency (US)
GDP	gross domestic product
NATO	North Atlantic Treaty Organization
NEMA	National Emergency Management Agency
NGO	non-government organisation
NRR	National Risk Register (UK)
OECD	Organisation for Economic Co-operation and Development
RVA	risk and vulnerability analysis
UN	United Nations
UNDRR	UN Office for Disaster Risk Reduction

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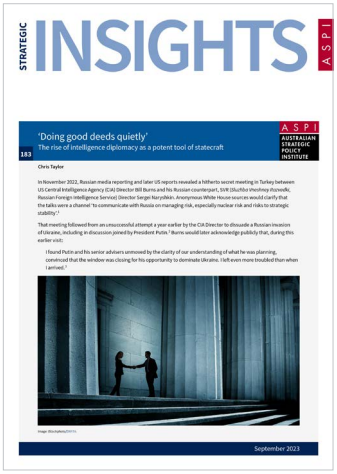

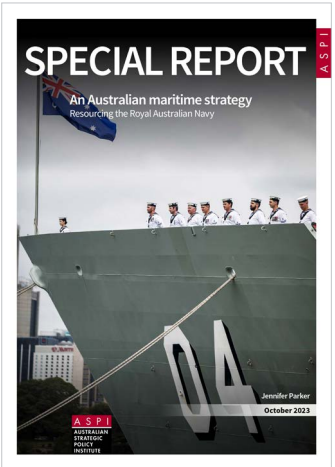

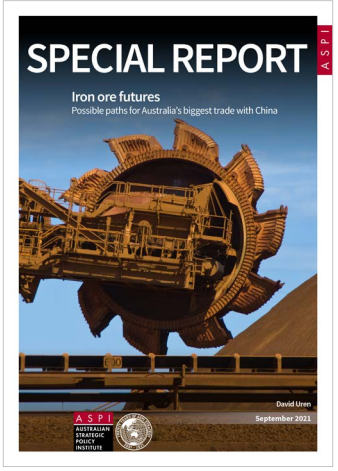

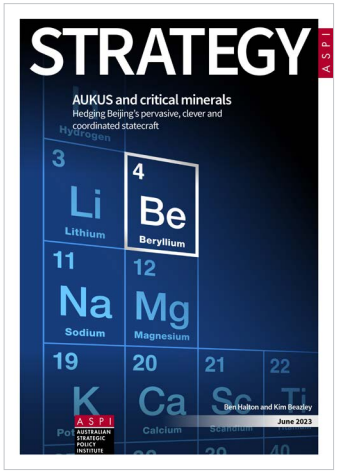

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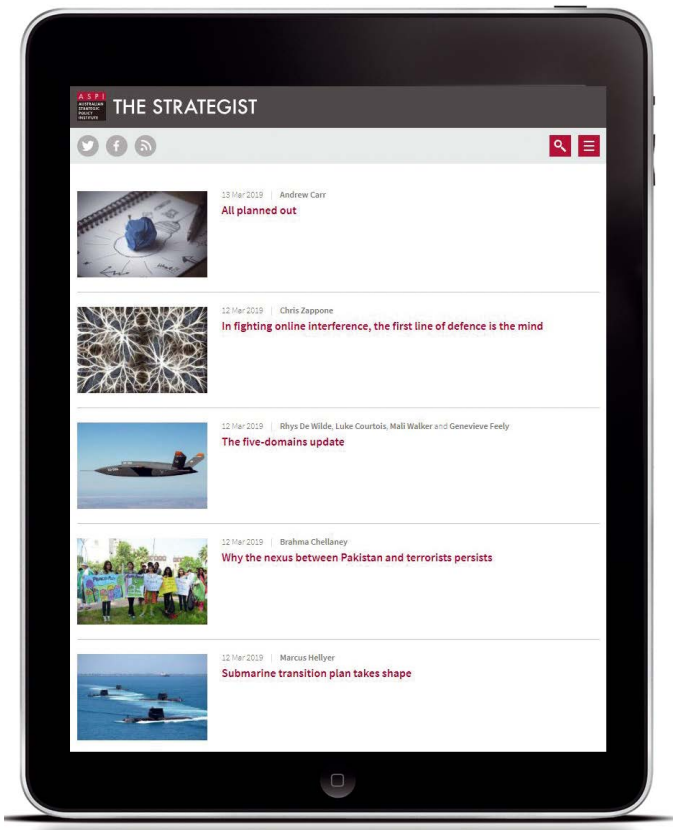

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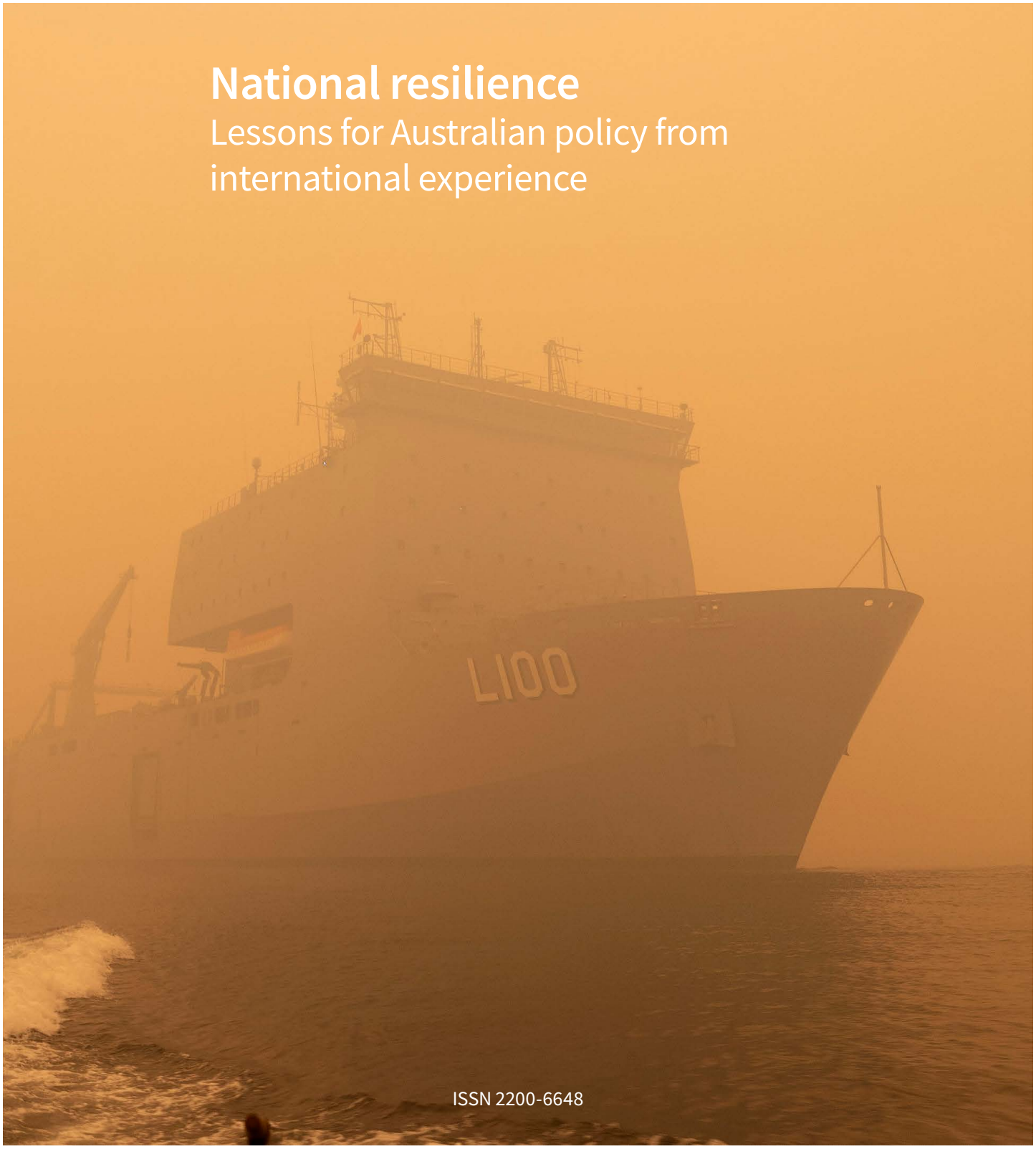

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