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More than good deeds Disaster risk management and Australian, Japanese and US Defence forces



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Executive summary

Asia–Pacific states should improve their efforts to mitigate the economic and human costs of large-scale disasters. They need to allocate greater resources to risk reduction activities and increase the speed and effectiveness of relief efforts. The Asia–Pacific region is more prone to natural disasters than other parts of the world: population growth, urbanisation and climate change are key factors driving an increase in the frequency and scale of disasters.

The need for improvement is a major imperative for governments across the region. Disaster risk management is now an important issue for a number of key regional bodies. Australia, Japan and the US are active in promoting disaster risk management as a key component of their Asia–Pacific relations and regional military engagement strategies.

The three nations' defence forces have also been involved in disaster risk reduction activities (disaster relief exercises, preparedness activities and capacity building), as well as disaster reconstruction activities.

Each of the forces now plays an important role in its nation's overall foreign disaster relief framework. While the militaries don't lead relief efforts, they provide major assets and capabilities vital to the work of other government (and at times non-government) actors. But limited

attention's been given to the operational and strategic arguments for improving military contributions to foreign disaster relief efforts.

This report examines the role that the three states' militaries play across the disaster risk management spectrum. It identifies the key disaster-related capabilities they possess and the policy guidance used to justify the use of those capabilities in disaster assistance.

The primary justification for dispatching defence forces to help another country experiencing a disaster is usually humanitarian: saving lives, alleviating suffering and maintaining human dignity.

Government guidance states that defence forces will be deployed as a 'last resort', once civilian capabilities have been overwhelmed and where a defence force's unique capabilities can make a valuable contribution.

But for Australia, Japan and the US, there are several other drivers behind their defence forces' role in relief efforts: reinforcing alliances and partnerships, advancing foreign policy agendas and providing knowledge of operational military capabilities.

Those drivers are rarely openly acknowledged. There's been a fear that to do so would risk military disaster assistance being viewed as purely self-serving. But not acknowledging them means that defence forces, political elites and the

general public of the assisting state risk failing to see the range of benefits that providing disaster assistance can deliver.

Defence personnel run the risk of viewing disaster assistance as merely a supplementary task—one that doesn't require attention in terms of capability development or preparedness.

The use of defence forces for disaster assistance should be viewed as a part of a 'smart power' approach to foreign policy. Deploying military forces for disaster assistance is an effective confidence and security building measure: there are security benefits in 'disaster diplomacy'.

Given the continued deployments of Australian, US and Japanese defence forces to international disaster risk management, they should recognise it as a core mission to advance both humanitarian objectives and broader national interests. Governments expect that defence forces will do this work effectively. The forces will need to continue to ensure that their capabilities in this area meet those expectations.

This doesn't mean purchasing dedicated disaster response platforms or developing specialised units. But it does require a more realistic assessment of what's expected by their governments and how existing inputs to defence capability can enhance disaster-specific capabilities.

To better match the three nations' defence forces' disaster assistance capabilities with government expectations, this report recommends as follows:

1. *Governments should publicly identify the benefits of being involved in disaster risk management activities, not only to achieve humanitarian outcomes, but also to gain broader regional security benefits. They should outline the reasons for using their defence forces in these activities.*
2. *All three militaries forces should integrate the key drivers for their use in disaster risk management activities into strategic guidance, doctrine, force structure and capability development.*
3. *Defence forces and other stakeholders should seek to moderate government and public expectations about the use of the military in disaster risk management activities by identifying the costs and benefits of that involvement.*
4. *Defence forces should produce a list of options for government that covers both disaster relief and disaster risk reduction activities that they could undertake, noting the costs and benefits.*
5. *The defence forces of the three countries should establish a regular trilateral dialogue to share lessons learned in disaster risk management and improve trilateral and multilateral military cooperation during and after disasters.*

1. Introduction

This report examines the use of Australian, US and Japanese defence forces in providing assistance across the disaster risk management (DRM) spectrum to states in the Asia–Pacific region. The three countries were chosen as case studies because of their individual and collective contributions to DRM in the region. The strong US–Australia relationship is reflected in the ANZUS Treaty, the US–Japan relationship in the US–Japan Mutual Security Treaty, and the Australia–Japan relationship in the Australia–Japan Joint Declaration on Security Cooperation.

Because the defence forces of the three nations have contributed to dozens of international disaster relief (DR) missions between them over the past two decades, as well as having contributed (albeit to a lesser degree) to disaster risk reduction (DRR) activities, an examination of their experiences should inform other Asia–Pacific states on the role that their militaries can play in DRM.¹

This report also outlines the factors that will influence the use of defence forces in DRM in the future. It assesses how militaries in the Asia–Pacific region should adapt to an environment in which more frequent and larger disasters are expected. It lays out a series of broad recommendations to improve the contributions of the three defence forces studied to regional DRM.

2. Disaster risk in the Asia–Pacific region

The Asia–Pacific is the most natural disaster prone region of the world. Between 1980 and 2009, 45% of all disasters worldwide occurred in the region, and between 2000 and 2008, 83% of global deaths from disasters occurred there, yet the region accounts for only 61% of the world’s population. The Asia–Pacific suffered 42% of the world’s economic losses from disasters, but it generates only 25% of the world’s gross domestic product.²

While the region is afflicted by many natural hazards, its residents are also highly vulnerable to the impacts of disasters. A large number of highly populated centres in the region are close to the coast, on floodplains or near volcanoes. In many countries, poor decisions have been made about land use, safety regulations and the built environment’s quality and quantity. Individual and societal resilience are inadequate.

As population and urbanisation have increased in the Asia–Pacific, degradation of the environment has increased. The frequency of disasters affecting the region has risen at the same time. The most frequent disasters are caused by flooding, followed by storms, earthquakes and ‘mass’ movements (subsidence, rockfalls, avalanches and landslides).³

Despite the massive efforts invested in the region to address disasters, the combination of population growth, urbanisation and

climate change is likely to see a continuing growth in disasters. The different geographical sectors in the region will face different risks in the future.

UN organisations assess the risks as follows:

- *Pacific region*—Risks will increase for deaths caused by geophysical, hydrological and climatological disasters.⁴ The number of people per million likely to be affected per month by multi-hazard and hydrological disasters has increased.
- *Southeast Asia*—The risk of deaths and the numbers of people affected by meteorological disasters have increased, as has the risk of deaths from climatological disasters.
- *South and Southwest Asia*—The risk of loss caused by climatological disasters has declined, while the risk of deaths from meteorological disasters has increased.
- *East and Northeast Asia*—The risks have decreased or remained constant for almost all types of disasters and types of impact, with the exception of the risk of deaths from climatological disasters.
- *North and Central Asia*—The risks have decreased for multi-hazard and climatological disasters but increased for hydrological and meteorological disasters.⁵

The disaster risk management spectrum

Most DR-related government actions have centred on improving emergency responses in the immediate aftermath of a disaster. This typically involves improving disaster response coordination arrangements, urban search and rescue capabilities, emergency services reliability, DR distribution chains and rapid damage assessment. But improvements in

disaster response often do little to reduce the initial impact of a natural hazard or make affected communities and individuals more resilient to such impacts.

Consequently, over the past two decades an integrated approach to addressing disasters has become the norm. Known as the *disaster risk management cycle*, this approach divides a disaster into various stages. It's based on the notion that the most effective and efficient way to reduce disaster impacts is through mitigation rather than response. The term 'disaster risk management' is now used to cover actions across all stages. It replaces the 'disaster management', which implies a focus on just the post-disaster stages.

The three stages of the DRM cycle are DRR, DR and disaster recovery. At times, the stages overlap. While DRR is mostly focused on the pre-disaster period, its actions extend into the post-disaster period to mitigate the adverse impacts wrought by the disaster. DR is mostly focused on the immediate period following the disaster, but elements of DR can occur in the pre-disaster period as response organisations and the public prepare for an expected and impending hazard. Disaster recovery is mostly focused on the post-response period. However, many recovery actions can help affected communities better prepare and limit the effects of the next hazard.

Figure 1 outlines the relationship between the stages and describes the activities that typically occur in each stage. It shows how a disaster affects development in a stricken community: a positive growth trajectory collapses after the disaster. Over time, as recovery activities progress, positive growth resumes. The magnitude of the fall in growth and the speed of return to pre-disaster growth levels are significantly dependent on the level of pre-disaster DRR activities, as well as the quality of the DR and recovery efforts.

While the advantages of DRR are recognised by governments, inadequate progress has been made in implementing DRR activities in the Asia-Pacific.⁶ When budgets are tight, money is spent on recovery activities. This often results in immediate benefits—such as, say, an additional urban search and rescue unit—but it contrasts with DRR activities, such as a public disaster awareness education campaign, which take many years to deliver results. And it's often difficult to find a direct link between the prevention of an impact and the DRR activity.

For DRR activities to be successful, they need to be supported by a range of complementary political, economic, social and environmental policies. When governments provide land tenure, for example, landowners are more likely to invest in specific DRR actions, such as building flood levees or designing earthquake-resistant buildings. Supporting policies and structures allow for more effective implementation of DRR activities.⁷

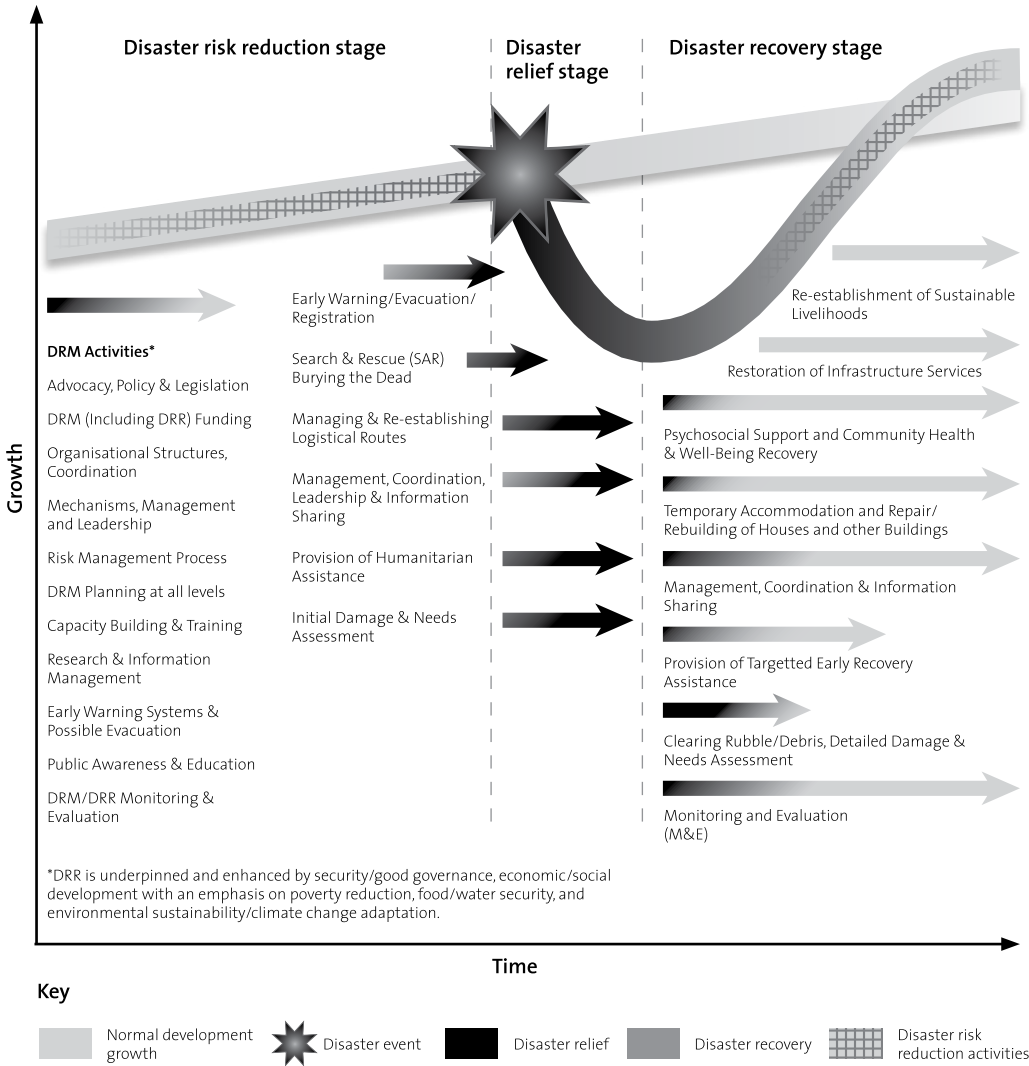
A country that's at war, unstable or being threatened will find it difficult to make substantial gains in reducing disaster risks. That link is part of the security-based rationale for defence force involvement in DRR activities.

Disaster risk management actors

A variety of actors are involved in DRM: governments in states affected by disasters, intergovernmental organisations, international organisations, non-government organisations (NGOs) and assisting states.

The government of the disaster-affected state (in this report, the 'affected state') has a responsibility for the welfare of its citizens. It has primary responsibility for initiating, coordinating and monitoring disaster-related activities. It determines whether outside help is required and, if so, what kind. In most Asia-Pacific states, the DR and disaster

Figure 1: The disaster risk management cycle



Source: Adapted from Chris Piper 2011, TorqAid diagrammatic framework for disaster risk management, available from <http://www.torqaid.com/images/stories/TorqAidDiagrammaticFrameworkforDRM.pdf>.

Disaster risk reduction activities

- Development of natural hazards and risk maps for hazards such as earthquakes, volcanic eruptions, floods and landslides
- Production of educational and awareness-raising materials to promote DRR among the general public
- Development of training materials designed to build the capacity of national and subnational governments to manage disaster risks
- Development of innovation programs with community groups to promote responsibility and a stronger culture of DRR

recovery function is managed by the state's **national disaster management organisation**, such as Emergency Management Australia (EMA) in Australia and the National Agency for Disaster Management (BNPB) in Indonesia.

Most countries in the region have national disaster management arrangements that integrate military capabilities into disaster response and recovery. In many countries, the national disaster management organisation's functions were originally undertaken by the defence forces, or the defence forces have a first response mandate.

Intergovernmental organisations include United Nations agencies, regional organisations and development banks. UN agencies involved in DRM vary depending on the disaster stage. At the level of mobilising and coordinating humanitarian action in the DR stage, the UN Office for the Coordination of Humanitarian Affairs is responsible in partnership with national and international actors. UN organisations that provide direct, indirect and infrastructure support during DR include the World Food Programme, the UN Children's Fund and World Health Organization. UN organisations that support DRR activities include the United Nations Development Programme.

Others involved in both DRR and DR activities are the:

- South Asian Association for Regional Cooperation
- Pacific Islands Applied Geoscience Commission
- Pacific Islands Forum
- Association of Southeast Asian Nations (ASEAN)
- Asia–Pacific Economic Cooperation (APEC)
- ASEAN Regional Forum (ARF)
- East Asia Summit.

International organisations include the International Committee of the Red Cross.

Development banks provide finance for international development, including for DRR and DR activities. Development banks performing this function in the Asia–Pacific include the Asian Development Bank, the World Bank and the Japan Bank for International Cooperation.

Non-government organisations include national and international NGOs such as World Vision, Care International and Oxfam. Some organisations work across the entire DRM spectrum; others undertake only specific activities, such as community development, or provide basic health and social services, aid delivery and environmental management.

Some other countries (in this report, '**assisting states**') provide assistance to the affected state both following a disaster and before it occurs, typically as part of development assistance. In the vast majority of cases in the Asia–Pacific, the support provided by assisting states is delivered by civilian or public sector responders rather than by militaries. In those cases involving militaries, civilian and public sector workers usually outnumber military personnel rendering assistance. The US response to the 11 March 2011 earthquake and tsunami in Japan (known locally as the Great East Japanese Earthquake), however, was dominated by the US military (see box in Appendix 2).

For DRR activities, the assistance provided to the affected state is invariably through a foreign aid agency. The aid agencies of the three countries considered in this report are:

- the US Agency for International Development (USAID)
- the Australian Agency for International Development (AusAID)
- the Japan International Cooperation Agency (JICA).

There are also a number of regional organisations dedicated to DRR. One example is the Australia–Indonesia Facility for Disaster Reduction, which supports Indonesia’s goals to strengthen national and local capacity in DRM and to promote a more disaster resilient region.

Other regional intergovernmental organisations have a growing DRR agenda. The most recent is the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre). AHA was launched on 17 November 2011 as a mechanism to facilitate cooperation among ASEAN members and relevant international agencies to promote regional collaboration.

The number of actors involved in DRM continues to grow, as shown by the increasing number of NGOs involved in DR operations. After the December 2004 Indian Ocean tsunami, an estimated 300 international NGOs responded to the disaster in Indonesia alone.⁸

Global and regional disaster risk management

The importance of DRM has increased over two decades, reflecting regional states’ growing recognition that disasters are extremely costly in economic, social, political and environmental terms. Addressing disasters thus requires an integrated approach to prevent, prepare for, respond to and recover from them.

The first main international initiative to focus on DRM was the UN General Assembly’s declaration that 1990–1999 would become the International Decade for Natural Disaster Reduction. In 1994, the first World Conference on Natural Disaster Reduction was held in Yokohama. This led to the Yokohama Strategy and Plan of Action for a Safer World, which stressed that every country has the sovereign and primary responsibility to protect its

people, infrastructure and national, social and economic assets from the impact of disasters. The Yokohama Strategy led many countries and international regional groups to develop disaster management agendas.

In 2000, the United Nations International Strategy for Disaster Reduction (UNISDR) was endorsed by the UN General Assembly. The UNISDR focused international attention on the implementation of DRR. In 2005, the second World Conference on Disaster Reduction was held in Kobe, Hyogo, Japan. This led to the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters. The first of the Hyogo Framework’s five priorities is to make DRR a priority.

The focus on improving DRM and DRR is reflected in regional initiatives. In the Pacific region, the Hyogo Framework was adopted and a regional DRM policy document—the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005–2015 (the Pacific Regional Framework)—was produced.⁹ The framework provides a single, overarching 10-year regional DRM plan.

In the Asia–Pacific, there’s a plethora of regional DRM strategies, documents and initiatives, rather than a single agreement or plan.¹⁰ The key intergovernmental organisations that have undertaken DRM activities include ASEAN, APEC, the South Asian Association for Regional Cooperation, ARF and the East Asia Summit.

Key declarations by intergovernmental organisations on disaster risk identification and monitoring, prevention, mitigation, disaster preparedness and joint response include the:

- ASEAN Agreement on Disaster Management and Emergency Response 2005

- Beijing Action for Disaster Risk Reduction in Asia 2005
- Kuala Lumpur Declaration on the East Asia Summit 2005
- ARF Statement on Disaster Management and Emergency Response 2006
- Delhi Declaration on Disaster Risk Reduction in Asia 2007.

Appendix 5 contains an extensive list of disaster-related intergovernmental organisations and their disaster-related activities. Those with significant defence force implications are:

- the ASEAN Standard Operational Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations
- the ASEAN Regional Disaster Emergency Response Simulation Exercise

- the ASEAN Disaster Response Exercise
- the ASEAN Defence Ministers' Meeting on Disaster Management
- the ASEAN plus 3 Forum on Military and International Disaster Rescue Research
- East Asia Summit regional disaster response plan (see box).

ARF's military-to-military and civil and military cooperation activities for disaster management involve desktop and live exercises that develop and test the ARF Standard Operating Procedures for Humanitarian Assistance and Disaster Relief.

3. Defence forces and disaster risk management

The number of Asia–Pacific defence forces providing foreign assistance following large-scale disasters has grown. This reflects their governments' rising expeditionary

East Asia Summit Disaster Response Plan

At the East Asia Summit in Bali in November 2011 Australia and Indonesia successfully proposed a disaster rapid response plan for better disaster management in the 18 EAS states.

It would involve countries sharing satellite images, damage and casualty reports after a natural disaster.

The plan calls for a relaxing of national border controls which might impede the timely delivery of support.

This could include waiving visa restrictions on foreign emergency workers, along with quarantine and customs barriers, and possibly the deployment of military forces in response to an emergency.

The plan has a three-year timeline to simplify and improve disaster response, starting with an online network for governments to immediately share information.

A register of relief stores and the location of specialised emergency tools would be created to better deliver aid in the crucial hours following a disaster.

The plan calls for countries to overcome bottlenecks that can block outside help, including the question of legal immunities for foreign emergency workers.

Such changes could occur through voluntary arrangements. But the East Asia Summit could provide direction and more cohesive regional disaster management.

The plan calls for simulated emergencies by 2014 to test the preparations of authorities in case disaster strikes.

Source: Daniel Flitton 'Gillard to unveil ambitious Asia disaster response plan', Sydney Morning Herald, 19 November 2011.

and disaster response capabilities and an increased recognition that such activities have diplomatic benefits.

The Australian, American and Japanese defence forces don't respond to all regional disasters; in fact, the response from most assisting states to natural disasters in the Asia-Pacific doesn't include a military component.

When the three defence forces participate in regional DR, they're never in the lead. Japan's and Australia's defence force contribution to disaster responses is normally a small fraction of their governments' total response. The US has a large and forward-based military, so its defence force response can dominate the US Government's overall physical disaster response.

The three countries' defence forces are also involved in recovery and DRR, but those activities are often undertaken as part of other military roles, such as military-to-military security confidence building, or in support of alliance commitments.

The Australian, US and Japanese defence forces generally claim that they don't have disaster-specific capabilities. But if a broader understanding of 'capability' is used, it can be argued that disaster-specific capabilities exist in each of the defence forces (see 'Disaster-specific capabilities' below).

While the US and Australia have had a long history of involvement in responding to disasters in the region, Japan's military started to become engaged only from the mid-1990s. Over the past five years, the militaries of China, Korea and Singapore have also assisted in several DR and disaster recovery operations.

The number of assisting states' defence forces providing assistance to affected states remains small in absolute terms. While the most assistance is for the DR stage, examples can be found of assistance across the entire DRM spectrum. Details of the involvement of Australia, the US and Japan in DRM are provided in appendixes 1, 2 and 3, respectively.

Disaster relief and recovery

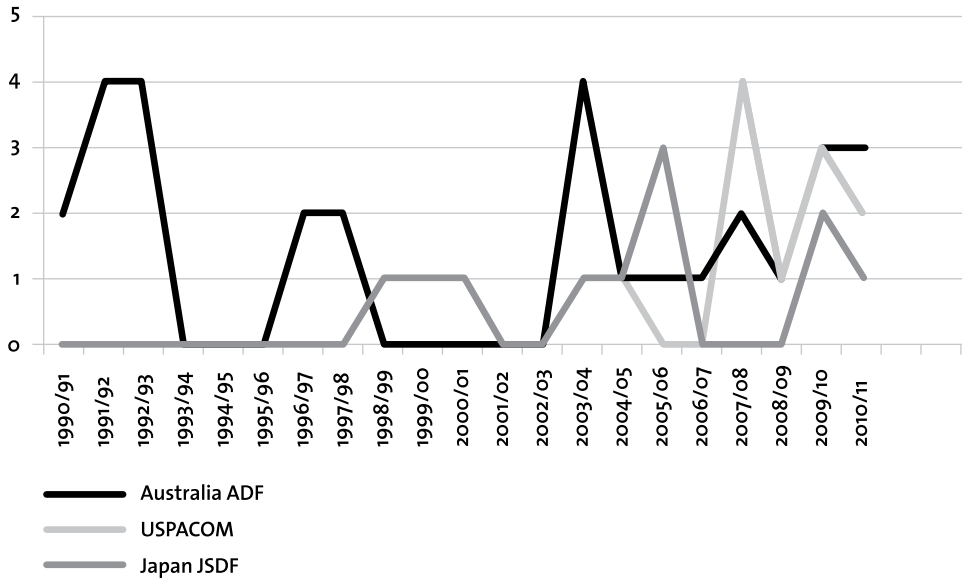
Over the past few years, the number of Asia-Pacific states that have sent their militaries to assist with DR has increased. This has occurred as countries have improved their deployable military capabilities and increased the range of assets that can be used in DR. In the past two years, eight defence forces in the region have provided assistance to affected states (Table 1).

Figure 2 shows the numbers of DR missions by Australian, US and Japanese defence forces. In many years, the defence forces undertook no DR operations.

Table 1: Defence forces providing disaster assistance to affected states, 2009 to 2011

Date	Natural disaster	Assisting states: defence force participation
October 2009	American Samoa earthquake and tsunامي	US
October 2009	West Sumatra - Padang Earthquake, Indonesia	Australia, Japan, US
January 2010	Haiti earthquake	Australia, China, Korea, US
July 2010	Pakistan floods	Indonesia, Australia, China, Japan, US
February 2011	New Zealand earthquake	Singapore, Australia, US
2011	Great East Japanese earthquake	US, Australia, China, Indonesia, Israel, Korea, Thailand

Figure 2: Disaster relief missions by Australian, US and Japanese defence forces, 1990–91 to 2010–11



Note: Information for US Pacific Command starts from 2004–05.

DR assistance provided by defence forces typically falls into one or more of the following categories:

- **logistic support**, such as helicopter lift and regional air mobility
- **medical care**, such as ‘casevac’ and trauma care
- **general manpower**, such as sandbagging, evacuation, search and rescue, assisting in cleaning up, and recovering and moving corpses
- **damage assessment**, such as inspections of bridges and culverts
- **skilled engineering work**, such as clearing underwater debris
- **providing DR supplies**, such as water, emergency shelter, rations and generators
- **communications**
- **critical engineering**, such as expeditionary bridging, road clearing and temporary shelter construction

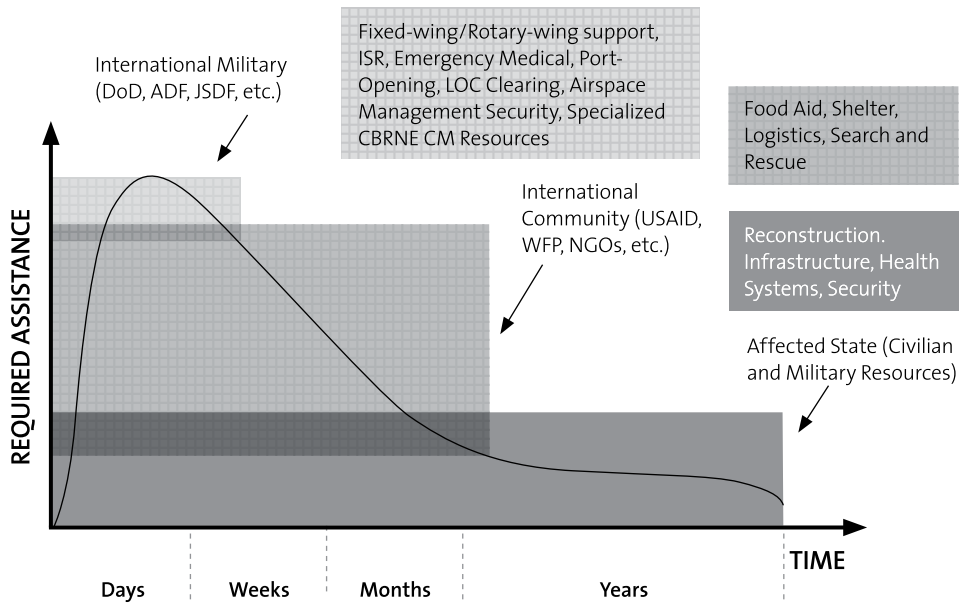
- **imagery.**

Defence forces generally subscribe to a model of DR assistance that has three principles:

- They provide life-sustaining assistance quickly, in the hours and days immediately after the disaster. This is usually followed by a rapid disengagement, after which other organisations take responsibility (the affected state’s government organisations and civilian actors, or the international humanitarian community).
- They provide assistance that is unique in capability and availability and that can’t be provided from other sources.
- They provide assistance only after civil responders’ resources have been exceeded: they’re a provider of last resort.

Figure 3 sets out this model.

In practice, the model doesn’t always reflect the behaviour of defence forces. It’s predicated on the understanding that military

Figure 3: The use of defence forces in disaster relief

Source: Adapted from USPACOM foreign humanitarian assistance process.

forces can be deployed rapidly, but for some militaries a rapid response isn't possible. For example, in 2010 the Japan Self-Defense Forces (JSDF) arrived many days after the Pakistan floods and Haiti earthquake.

The model also assumes that the defence forces will only be sent to provide assistance that is unique in capability and availability. In addition to humanitarian purposes, forces can be sent to reinforce alliances or advance the assisting state's security agenda; for example, sending warships demonstrates that the assisting state values its relationship with the affected state.

Only for the JSDF are recovery missions defined and planned missions. For the Australian and US defence forces, disaster recovery missions are undertaken, albeit rarely. Following the 2010 Pakistan floods, for example, Joint Task Force 636 of the Australian Defence Force (ADF), with components from all three services of the ADF, provided primary health care, logistics, communication and field engineering capabilities.¹¹

All three states have supported the development of regional guidelines that establish the basic framework for the effective use of foreign militaries in international DR operations: the *Asia-Pacific regional guidelines for the use of foreign military assets in natural disaster response operations*, produced by the Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations (APC-MADRO).¹² The guidelines provide a reference for states to plan and execute military support for international DR (see box).

The APC-MADRO guidelines don't yet have authority as a regional document. They're similar in some ways to the *Guidelines on the use of foreign military and civil defence assets (MCDA) in international disaster relief* (the Oslo Guidelines)¹³, which aim to establish the basic framework for formalising and improving the effective use of military teams and expertise in DR. Both guidelines have as the underlying principle that military assets should be deployed as a last resort.

APC-MADRO guiding principles on the deployment of defence forces from an assisting state

The assisting state should:

- deploy only with the consent of the affected state
- respect the sovereignty, territorial integrity, culture and sensitivities of the affected state
- provide international DR according to the core humanitarian principles of humanity, neutrality and impartiality
- abide by the principle of ‘Do no harm’
- coordinate its disaster response operations with affected state authorities in accordance with the national disaster plan
- abide by the domestic laws of the affected state and applicable international law, or as agreed in a status of forces agreement
- provide DR without seeking to:
 - ◇ gain financial reimbursement
 - ◇ further a political or religious viewpoint
 - ◇ intervene in the internal affairs of the affected state
 - ◇ gain a commercial advantage
 - ◇ gather sensitive political, economic or military information irrelevant to the disaster assistance.

Military exercises

While they rarely acknowledge it, the US, Australian and Japanese defence forces undertake a small number of DRR missions, and not just DR activities. The DRR activities are seldom undertaken for the sole purpose of reducing disaster risk in a host country, and the DRR benefit is often characterised as being incidental. The activities can either be international, military-focused exercises to improve disaster response or national capacity building.

International military-focused exercises to improve DR are of three types:

- military-led exercises in which the stated aim is to improve DR, such as
 - ◇ Exercise Pacific Partnership (see box in Appendix 2)
 - ◇ Exercise Croix Du Sud, a French-led two-yearly multilateral exercise series held in New Caledonia as part of the French regional engagement in the South Pacific, with DR as a key focus.
- civilian-led exercises in which the stated aim is to improve DR, such as
 - ◇ Exercise Tendon Valiant, a medical readiness training exercise sponsored by the US Army and involving multinational military teams, the purpose of which is to improve readiness and medical interoperability between the various nations involved
 - ◇ a DR exercise by ARF members, co-chaired by Indonesia and Japan, to strengthen cooperation and coordination among civilian and military agencies (including a tabletop exercise, a field training exercise and humanitarian civic actions)
- military-led, combat-focused exercises that have DR elements, such as
 - ◇ Exercise Rimpac, a multilateral combined and joint exercise

conducted every two years by US Pacific Command (USPACOM)

- ◇ Exercise Bersama Shield, an annual Five Power Defence Arrangement exercise involving Australia, Malaysia, New Zealand, Singapore and the United Kingdom.

As well as benefiting the affected state, such exercises provide advantages to the assisting states' defence forces. For example, Exercise Longreach (which involves Australia and Papua New Guinea) promotes closer ties between the participating organisations in addition to DRR outcomes.¹⁴

Defence and disaster assistance

Assisting states use their defence forces to provide disaster assistance that is unique in capability and availability. Their aims are to achieve humanitarian objectives; to reinforce alliances and partnerships; to advance their own security agendas; and to provide valuable knowledge for their defence force about their own and others' operational military capabilities. The humanitarian objective is the most prominent in official statements, but the other drivers may be more important.

Providing unique and available capabilities

One of the deployment principles underpinning the use of all three defence forces in DR is that they should only be used to provide assistance where they can make a unique contribution in terms of capability and availability.¹⁵ This is known as the 'last resort' principle, and, as noted above, it's embodied in international guidelines on the use of military assets in response to a disaster:

Military assets should be requested only where there is no comparable civilian alternative and only the use of military assets can meet a critical humanitarian

need. The military asset must therefore be unique in capability and availability. (Oslo Guidelines)

Foreign military and civil defence assets will normally be used when there is no comparable civilian alternative assistance available at the time and location needed and only the use of military or civil defence assets can meet a critical humanitarian need. (APC-MADRO)

The principle is reflected in defence forces' strategic policy documents. For example, the 2009 Australian Defence White Paper states that 'The Government's policy is that Defence will continue to provide a range of specialised capabilities on a scale and of a kind available from no other Australian agency.'¹⁶

This principle appears to have been the prime reason for the use of defence forces in most DR missions, but there are instances where it doesn't completely explain the use of military capabilities. The ADF's provision of strategic airlift to Japan and New Zealand following their 2011 disasters, for example, could have been undertaken by commercial carriers at a lower cost or more quickly.¹⁷

The deployment of JSDF capabilities to the 2010 Pakistan floods (helicopter assets) and to Haiti following its 2010 earthquake (heavy engineering capability) could have been undertaken by other agencies. By the time the JSDF capability arrived, there was extensive capacity already in-country.

In a DRR context, examples can be found where defence forces were used when equivalent civil capabilities were most likely available. In Exercise Pacific Partnership, the DRR activities (such as capacity building and risk identification) could have been undertaken by the international humanitarian community.

Reinforcing alliances and partnerships

Assisting states use their defence forces to provide DR assistance in order to reinforce alliances and partnerships. When an assisting state uses its military power to aid an ally, that sends a message to the public and political elites in both states about the importance of the relationship.

Another audience for this strategic message is non-partner states, particularly states that are potentially hostile to alliance partners. Providing military support to an ally conveys the message that each party will come to the aid of the other if external threats emerge. For example, Australian and US support through military deployments to assist with DR following the 2011 Japanese earthquake and tsunami was a clear demonstration by both states of their strategic commitment to Japan.

Sending defence forces to aid an ally in operations in a third country also reinforces alliances. The JSDF is limited mostly to providing support to humanitarian assistance and disaster relief (HA/DR), peacekeeping and non-traditional security missions because of constitutional impediments preventing large-scale military deployments. But the JSDF supported Japan's alliance with US by contributing a battalion-sized, largely humanitarian military contingent to Iraq (January 2004 to July 2006) and sending a JSDF engineering unit to the Haiti earthquake recovery.

Advancing national security interests

Assisting states use their defence forces to provide DR assistance because it may mitigate the impacts of disasters in areas of significance to the assisting state.

DR assistance enables the affected state or region to more rapidly return to pre-disaster levels of prosperity. The quicker the return to prosperity, the less likely the affected state

or region will pose a risk to local stability and security.

The link between disasters and security is recognised by Australian, US and Japanese national leaders. For example, in 2011 the Australian Foreign Minister stated that 'The sooner a country that is affected by natural disaster or war recovers its infrastructure, markets, livelihoods and services, the better it is for its population, and in turn global security and prosperity.'¹⁸

The 2009 Australian Defence White Paper noted that:

weak governance, crime and social challenges will continue to jeopardise economic development and community resilience, against a background of climate change (to which many of these states are vulnerable) and more frequent natural disasters ... [and] ... on occasion, these factors will cause security problems of the kind to which Australia may need to respond directly with appropriate forms of humanitarian and security assistance, including by way of ADF deployments.¹⁹

Defence forces assist in advancing their state's international security agenda by building confidence between regional militaries through HA/DR activities. DRM activities have a high political profile: they are addressed at the leaders' level in the region. This provides opportunities for states to demonstrate their contribution to regional security through greater transparency and cooperation.

Japan and Australia, for example, recently committed to strengthen coordination in the civil and military areas on disaster preparedness and response, and to work cooperatively to advance DR coordination in the Trilateral Strategic Dialogue, the ARF and the East Asia Summit.

States' cooperative work on DR paves the way for further cooperation on both security

and non-security issues. The term ‘disaster diplomacy’ is sometimes used to describe this development.

Gaining knowledge of military operational capabilities

Involvement in DRM can provide direct benefits to the assisting state’s defence force. The benefits vary, depending which defence force is providing assistance.

Some states’ defence forces have limited opportunities to engage in international operations, so participating in DR missions gives them experience under operational conditions. For example, the JSDF’s deployment in response to the 2010 Pakistan floods resulted in the JSDF carrying foreign military on its aircraft for the first time (its helicopters transported Australian civilian and ADF medical personnel). These kinds of deployments allow defence forces to test operating procedures and equipment and compare their capabilities against other deployed forces, augmenting experience gained through other bilateral and multilateral military exercises.

For both the US and Australian defence forces, the current high operational tempo means that DR activities provide little experience relevant for use in their other military operations. But, of course, they gain useful experience in undertaking DR missions.

All assisting defence forces gain a deeper understanding of the affected state’s potential disaster needs and DRM arrangements. This enables assisting states to deliver more efficient and effective DR to the affected state if that’s required in the future.

Decision-making and military assistance

Governments make the decision to use the military in DR based on such factors as the need to protect their citizens,

their geopolitical and economic interests and their willingness to commit to good international citizenship.

There’s a lack of public guidance on how regional governments make decisions about the size and composition of DR deployments. This contrasts with the public availability of descriptions of the decision-making processes for the machinery of disaster response arrangements.

Governments consider more specific military factors when deciding what defence force capabilities will be deployed, including the following:

- The opportunity cost to the military
 - ◇ Deployments to assist with DR may prevent deployments for other missions, delay collective training and postpone upgrades to equipment used during DR operations. The opportunity cost varies with circumstances, such as operational tempo and the DR capabilities required.
- The uniqueness of the capabilities provided by the defence forces as part of the whole-of-government effort
- The affected country’s sensitivity to having foreign defence personnel involved
 - ◇ Some affected countries may recognise that assistance is generally self-sustaining (it does not consume local resources), and the quality of the service is known. Others may be less receptive to assistance. The presence of a foreign military may fuel the perception that the affected nation can’t provide for its own people and may undermine the host government’s legitimacy in the eyes of its citizens.

- Bilateral and multilateral symbolism
 - ◇ Defence assistance provides a strong symbol of the level of the assisting government's commitment to the affected country and to the region. The depth of the response may symbolise the strength of the bilateral relationship between the host and the assisting state or create bilateral or multilateral goodwill. Military deployments are more symbolic than those from aid agencies or police; they send powerful messages to others about who a state's friends are.
- The domestic political impact of a defence deployment
 - ◇ The deployment of defence resources will generate significant media coverage. The public is likely to see a military deployment as a practical sign of the assisting country's generosity and willingness to help others in times of need.

Disaster-specific capabilities

The Australian, US and Japanese defence forces believe that they don't possess disaster-specific capabilities, but only because they assume that 'capability' means dedicated platforms or force structures.

The Australian *Defence capability development manual* (2006)²⁰, however, defines 'capability' as the capacity or ability of the defence force to achieve a particular operational effect: it exists through the combination of multiple inputs.

The manual identifies eight classes of input that are called 'fundamental inputs to capability' (FIC): personnel, organisation, collective training, major systems, supplies, facilities, support and command/management. DRM-specific FIC within the three defence forces studied are discussed in

this section. Country-specific details on each of the FIC are given in appendixes 1 to 3.

Personnel FIC: all Defence military and civilian staff, including their recruitment, individual training and conditions. All three countries have personnel inputs, particularly individual training and education programs, that are relevant for DRM.

Organisation FIC: the existence of flexible functional groups with appropriate balances of competency, structure and command and control to accomplish their tasks. The US and Australian militaries' organisational structures can accommodate DR-specific mission requirements through the formation of joint task forces that have within them liaison officers who facilitate a high level of coordination between the two allied forces. The JSDF has the Central Readiness Force, which is structured specifically for expeditionary DR operations.

Collective training FIC: a defined training regime that's validated against the preparedness requirements for operations. All three countries have DR-specific collective training inputs, such as single service, joint services, civil-military and multinational exercises.

Major systems FIC: systems that have a unit cost of \$1 million or more, or have significant defence policy or joint service implications, and are designed to enhance the defence force's ability to engage military power. No military has major systems that are purely DRM-specific. However, DRM contributions have been highlighted as a justification in several systems. For example, that justification has been used in relation to the procurement of C-17 Globemaster aircraft in Australia, the procurement of XC-2 strategic airlift aircraft in Japan, and the retention of two hospital ships, USNS *Mercy* and USNS *Comfort*, in the US. The need to use assets for DRM activities appears to have been a

consideration in the design and configuration of some platforms. For example, discussions were held between AusAID and the ADF about capability requirements for Australia's *Canberra* class landing helicopter dock vessels (LHDs).

Supplies FIC: supplies needed by the defence force to operate, provisioning lead times, serviceability and configuration status.

While the US and Japanese militaries have some specific DR stores (such as tents and potable water containers) that they use for DR operations, all three militaries depend on access to some civilian DR stores for major operations, or bring their own (such as disposable medical equipment).

Facilities FIC: buildings, structures, property, plant, equipment, training areas, civil engineering works, through-life maintenance and utilities necessary to support capabilities, both at the home base and at a deployed location. Both the US and Japan have a small number of DRM-specific facilities, such as urban search and rescue training facilities, but civilian DR facilities are usually accessed if required. However, it can be argued that overseas facilities are provided in operations through acquisition and cross-servicing agreements between the US, Japan and Australia. The agreements enable the three defence forces to cooperate more quickly and easily with one another.

Support FIC: infrastructure and services from the wider national support base that are integral to the maintenance of the defence force effort. DRM-specific support inputs can be identified for the US, but not Australia.

Command/management FIC: the written guidance, including regulations, instructions and doctrine, required to support defence force decision-making, administration and operations. All three countries have DRM-specific command/management inputs, such as doctrine, standard operating procedures and defence instructions.

4. The future use of defence forces

There's a view that defence forces are likely to be increasingly called upon to provide DR because more frequent and severe disasters are likely to affect the Asia–Pacific region. For example, the Australian Defence White Paper points out that:

More frequent and severe natural disasters and extreme weather events will also increase demands on the ADF and other government agencies to provide humanitarian assistance and disaster relief assistance in the future.²¹

But there are other factors that will influence a decision about when, why and how defence forces are used across the DRM spectrum.

Improved disaster capabilities in affected states

Over the past two decades, affected and assisting states have improved their disaster management capabilities. The international humanitarian community and private sector organisations are now better equipped to offer DR. Large amounts of civil assistance now arrive more rapidly after disasters, possibly reducing the need for defence force involvement. Those improvements are likely to continue in the future.

Many assisting countries' early surge capabilities are improving. In late 2011, severe flooding killed several hundred people and affected another 2.5 million in Thailand. As the situation deteriorated, the Government of Thailand requested international assistance, including US military assistance, in case the developing disaster exceeded its capabilities and those of the international humanitarian community. USAID provided \$600,000 to humanitarian partners working in Thailand to meet the government's immediate requests. The US military positioned the

George Washington Carrier Strike Group in the Gulf of Thailand and deployed a 10-person humanitarian assistance survey team to Thailand. As the flood waters crested, the Thai Government was able to mitigate the effects of the flooding and prevent further loss of life. As it became clear that Thailand's own efforts had been successful, the US military forces departed.

However, the increasing demand for DR capabilities may still outstrip states' growing capacity to manage disasters. The number of people who will be affected by disasters in the future is rising. Asia-Pacific populations are also increasingly concentrated in vulnerable locations. Despite the significant improvement in disaster capabilities over the past decade, a repeat of the 2004 Indian Ocean tsunami or any other large multi-country disaster will overwhelm local resources.

The ongoing involvement of the Japanese, Australian and American defence forces in DR will be required because of their forward presence (in the case of US), their specialist capabilities, their self-sustaining nature, and the military connections between the three countries. Their defence forces will continue to undertake disaster-related activities that can't be done purely by civil organisations.

Holistic disaster management

Assisting states have focused on the preparedness, response and recovery elements of the DRM spectrum, but they are increasingly concerned with the spectrum as a whole. This has increased their focus on disaster risk reduction (DRR) activities. They're seeking to accelerate the implementation of practical DRR measures. This is likely to lead assisting states to offer more frequent DRR assistance.

The type and magnitude of an assisting state's defence force's contributions to DRR depend on factors such as the force's operational tempo, whether the government in power is inclined to be more or less involved in international issues, and the uniqueness of the state's military capabilities.

In a post-Afghanistan environment, DRR resources from Australia and the US militaries may be more available, particularly specialist ones such as geospatial hazard mapping and capacity-building activities such as civil-military HA/DR education, training and exercising.

Reinforcing alliances

Australia, the US and Japan have all increased their DRM activities to reinforce their alliances. Their defence engagement activities have underpinned their broader commitment to Asia-Pacific security.

For example, the 2007 US-Australia Enhanced Defence Cooperation Initiative commits both sides to exploring ways to develop a combined HA/DR capability to build up joint responses to catastrophic regional events. DR cooperation may be enhanced following the completion of both the Australian and US force posture reviews, which are likely to lead to both countries increasing their presence in the Indian Ocean region.

Greater regional DR cooperation was identified by US and Australian officials as one of the consequences of the increased US Marine Corps and US Air Force deployments in Australia announced by President Obama in November 2011.

As noted above, Japan and Australia have recently confirmed the need to further strengthen coordination on disaster preparedness and response in the civil and military areas.²² That cooperation has been

a major focus of the 2+2 Australia–Japan meetings of foreign and defence ministers over the past few years. In 2008, Australia and Singapore signed a memorandum of understanding to strengthen bilateral defence ties through expanding cooperation and sharing resources to develop military expertise; the memorandum specifically noted cooperation on DR.²³

Providing military support for disaster-related activities, such as after the Haiti earthquake, is a practical way that Japan can reduce tensions with the US over cost-sharing arrangements for US defence support and military base relocations.

In the aftermath of the March 2011 disaster in Japan a recent US–Japan Task Force found several issues relating to US–Japan military cooperation requiring examination; providing adequate resources to US Forces Japan, to make it an operationally viable headquarters; reviewing the Bilateral Coordination Mechanism and bilateral coordination cells to include HA/DR scenarios; incorporating consequence management capabilities into contingency planning through the broad spectrum of HA/DR requirements that arose from experiences with responding to Japan’s 2011 earthquake and tsunami; and assessing lessons learned about joint operations capabilities from March 2011 contingency for joint operational capabilities in more complex security contingencies.

The Task Force suggested the Self-Defense Forces should share its comprehensive expertise in HA/DR with other Asia–Pacific nations to build regional capability and enhance confidence building.²⁴

For the defence forces of Australia, the US and Japan, reinforcing their alliance commitments through military collaboration on DRM will remain important.

Confidence and security building measures and disaster diplomacy

For all three states, engagement on DRM provides a stepping stone to military confidence and security building measures and other potential political dividends. Australia’s engagement on DR is evident in its recent proposal with Indonesia on better coordinated regional disaster response endorsed at the November 2011 East Asia Summit, (see box) and its financial support for the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre).²⁵

In 2011, Japan and Australia reconfirmed that they would continue to cooperate on DR in international forums such as the Trilateral Strategic Dialogue, the Security and Defence Cooperation Forum, the ARF and the East Asia Summit.²⁶

Diplomatic support for collaboration on DRM will continue to improve DRM outcomes. Over the longer term, this should enhance the prospects for cooperation on harder security issues, such as sea-lane security and the South China Sea disputes. While the outcomes from disaster diplomacy won’t be clear for some time, defence force involvement in HA/DR activities will continue to play a key role in regional engagement.

The politics of defence and disasters

There’s strong public support in Australia, the US and Japan for using defence forces to provide foreign assistance to states affected by disasters. Media coverage of disasters ensures that the work of the defence forces is known to political elites and the public in the assisting state. Public and government support for that work could diminish if the response of the assisting defence force is perceived to be inadequate or inappropriate, or if it underperforms.

For the three countries examined in this study, the most likely cause of poor outcomes is a failure to understand the complexity of the operating environment or the consequences of certain actions. For example, some DRM operations designed to build capacity, such as DRM-focused multinational naval exercises, may be perceived as containment exercises against third parties. Hazard vulnerability mapping projects to prepare for disaster response and recovery might be perceived as collecting militarily sensitive information. And some DR tasks might be seen as undermining employment opportunities for locals who would otherwise be involved in recovery work.

Defence and aid budgets

Defence budget cuts, particularly in the US, could translate into less expenditure on DRM activities. On the other hand, President Barack Obama stated in November 2011 that reductions in US defence spending will not come at the expense of the Asia–Pacific. It's usually cheaper to use civil assets rather than defence assets in DR, so defence forces maybe be pressured to do less DRM, even though military expenditure on DRM is a small percentage of the three countries' defence budgets.

A significant global economic downturn could drive a decline in foreign development aid expenditure, and hence support for DRR and DR activities. Domestic support for aid depends significantly on public understanding of the scale of expenditure and the link between aid and the assisting state's national security, and on the weight that the public places on foreign assistance as evidence of its national values.

On the other hand, the Asia–Pacific region may be insulated against such cuts. For the US, which has identified Asia as a priority, development aid may decline in other areas but not in the Asia–Pacific region. For Japan,

given its recognition of the link between regional development and Japanese security, development assistance in its neighbourhood is unlikely to decrease. Australia's aid is set to double over the next four years, and the Asia–Pacific will be a major beneficiary.

Military support for disaster risk management

Within the US military, there's a strong awareness of the link between disasters and security. DR missions are viewed as offering opportunities for congressional support for additional defence resources. The Japanese military recognises the benefit of gaining operational experience through participating in DRM, and using that participation to demonstrate support for the US–Japan alliance.

In Australia, the Australian Defence organisation recognises the strategic and humanitarian importance of DRR and makes provisions in their preparedness and activity planning to meet these requirements.

The complexity of DRR projects also often requires skills that are difficult to obtain from the military. The military organisation that may become involved in DRR activities sometimes sits outside the mainstream military command. The US's Hawaii-based Center for Excellence in Disaster Management and Humanitarian Assistance and Australia's Asia Pacific Civil-Military Centre of Excellence are two examples. That separation can result in a divergence in the perceived value of HA/DR between such organisations and military command structures.

New capabilities and disaster relief demand

The capabilities of both the Australian and Japanese defence forces are being developed for war fighting, but they'll also provide additional DRM options for Canberra and Tokyo.

For example, with the purchase of new naval amphibious capabilities and additional RAAF Globemaster strategic lift capabilities, the ADF will have increased capability and capacity for DR operations. The new naval amphibious capability—the LHDs from 2014 and new heavy landing craft for intra-theatre lift—will allow more rapid and large-scale DR involvement.

The LHDs will have considerable medical, storage and heavy lift capability. Six new heavy landing craft will replace the Navy's ageing *Balikpapan* class Landing Craft Heavy vessels.

The LHDs will provide the opportunity for a radical redesign of Australia's whole-of-nation response to disasters. It will be possible to have combined ADF and other government, private sector and NGO personnel operating from the vessels during operations.

China and disaster risk management

Japan is concerned about the Chinese military's entry into international disaster-related activities. Like US hospital ships, China's hospital ships have been commissioned to support expeditionary military operations rather than HA/DR activities, but they could be used in a similar fashion to the American ships as the lead vessels for exercises similar to Exercise Pacific Partnership.

China is to begin HA/DR missions, deploying its new hospital ship beyond East Asian waters. Hospital ships have demonstrated a capacity to produce a range of positive effects. If China's entry into disaster diplomacy is seen by others as serving wider strategic purposes, that may lead to other countries increasing their own military involvement in HA/DR.²⁷

5. Five recommendations to improve defence force contributions to disaster risk management

This report makes five recommendations to boost the contribution of the Australian, Japanese and US defence forces to disaster risk management:

- Clarify the rationale for using military assets.
- Develop better integration of DRM by the defence forces.
- Moderate government and public expectations.
- Identify defence options.
- Build on the Trilateral Strategic Dialogue.

Clarify the rationale for using military assets

There's a lack of clarity about the rationale for the use of defence forces in DRM activities. Assisting states are reluctant to identify national interest benefits from their involvement in DRM for fear of appearing insensitive in the face of humanitarian disasters. However, long-term domestic support for DRM activities may be undermined if it's suggested that such activities are undertaken purely for humanitarian purposes.

The failure to identify all the drivers for DRM involvement has led, in varying degrees, to defence forces considering DRM activities less worthy than other military tasks. If governments identify the national interest benefits from providing disaster assistance, their defence forces will be more likely to develop strategic guidance that reflects the true value of DRM activity.

Governments should publicly identify the benefits of being involved in DRM activities,

not only in terms of humanitarian outcomes, but also in terms of broader regional security benefits.

Develop better integration of disaster risk management by the defence forces

In most defence forces, there's limited treatment of DRM in strategic guidance, doctrine, force structure and capability development. If DRR activities were treated as a type of confidence and security building measure to advance national security, defence forces would be more accepting of DRR as a principal task.

The defence forces of the three countries in this study reject the idea that they do or should have DRM-specific capabilities. However, DRM capabilities are derived from synergies arising from a small number of fundamental inputs to capability mostly relating to education, individual and collective training, and organisation (such as the integration of defence and non-defence personnel to coordinate intergovernmental responses). By implementing minor changes to those and other capability inputs, significant advances can be made in DRM-specific defence force capabilities.

The three defence forces should integrate the key drivers for their use in DRM activities into strategic guidance, doctrine, force structure and capability development.

Moderate government and public expectations

Given the high profile of defence forces' involvement in a number of regional disasters, the military 'can-do' attitude, and the powerful symbolism of deployments to states affected by disasters, the governments of assisting states often have a preference for using their defence forces in DR. However, the opportunity costs of using defence forces

that have other current missions can be high. Cheaper, quicker and better outcomes may be achieved by using civil capabilities.

Defence forces and other stakeholders should seek to moderate government and public expectations about the use of the military in DRM activities by identifying the costs and benefits of that involvement.

Identify defence options

Defence forces can deliver valuable confidence and security building measures, which can lead to better collaboration on security arrangements and the delivery of non-security diplomatic dividends. Such measures include both DR and DRR activities.

To provide leaders with options, defence forces should identify areas where they could provide DRR activities to affected states. The identified options should be those uniquely deliverable by the defence force, and delivered as part of the force's program of regional engagement.

The options presented to government should include assessments of their costs and benefits and whether civil agencies could perform those roles or provide that assistance.

Build on the Trilateral Strategic Dialogue

The trilateral dialogue between Australia, Japan and the US began at the level of senior officials in 2002. It was elevated to the level of foreign ministers in 2005 to promote peace and stability in the Asia-Pacific region. Given the three countries' common interest in improving regional DRM, disaster issues have become an additional subject addressed by the dialogue partners.

Because each country's defence force plays a significant role in DR, a regular trilateral military-to-military dialogue should be established to share lessons learned in DR

and DRR activities and to improve the three nations' trilateral military cooperation in those activities.

6. Concluding remarks

Disaster relief operations in the Asia–Pacific region will become more important for the defence forces of the US, Japan and Australia. This will require the refining of existing plans for DRM operations and the integration of lessons learned from recent international DR deployments.

It will also require the education of defence personnel to work with a range of foreign militaries and with NGOs to deliver improved humanitarian outcomes in DRM, as well as to achieve the three states' broader national security objectives.

DRM missions don't just save lives. They're an important way for states to advance their strategic interests. Involvement in DRM operations and, importantly, planning for them can strengthen diplomatic relationships. Australia, Japan and the US working together on DRM operations provides valuable opportunities to improve defence coordination and interoperability.

DR operations by Japan, Australia and the US shouldn't be understood as their militaries merely being good Samaritans. Rather, such operations are a useful way for them to build regional transparency, trust and confidence.

In the wider Asia–Pacific, there's a need for states to develop a better appreciation of the strategic significance of 'disaster diplomacy'.

Military participation in international DR operations in this region is here to stay. Enhanced planning and participation in DRM by the US, Japanese and Australian armed forces won't only help save lives and build stronger communities, but also advance a more peaceful and resilient Asia–Pacific.

Appendix 1: The Australian Defence Force

The Australian Defence Force undertakes DR missions in the Asia–Pacific region, and to a lesser extent in the Indian Ocean region. The ADF primarily provides indirect assistance, particularly air and sea logistical support, in DR operations, but also provides direct assistance, including medical aid. It participates in a very limited number of DRR activities, such as preparedness exercises designed to build the confidence and capacity of foreign militaries and states to respond to disasters.

The role of the ADF in DR is always in support of Australian civilian agencies—normally the Department of Foreign Affairs and Trade (DFAT) or AusAID.

The 2009 Defence White Paper identified the second priority task of the ADF as to contribute to stability and security in the South Pacific and East Timor, but the policy basis for ADF involvement in DR isn't well defined.

At the operational level, there seems to be a common belief that the ADF undertakes such activities purely for humanitarian purposes. This leads to a view among some elements within Defence (the Department of Defence and the ADF) that undertaking DRM tasks results in resources being diverted from the ADF's main war-fighting mission.

At higher levels within Defence, there's greater awareness that DRM tasks are undertaken to build confidence with other countries, and that helping a country to return to a pre-disaster development trajectory reduces the likelihood that it will become a weak state.

The ADF doesn't structure its forces, procure platforms or organise specifically for DRM tasks, but DRM-specific elements can be

identified in many fundamental capability inputs, which, when combined, can be deemed to create DRM-specific capabilities.

Disaster relief missions

Over the past 21 years, the ADF has been involved in 30 offshore DR missions (see Figure 4 and Table 2), or an average of 1.5 missions per year. The number of missions each year varied considerably: in six of those years, the ADF did not undertake any DR mission.

Most DR missions involved only a few ADF members or assets for short periods. For example, Operation Haiti Assist in 2010 involved the deployment of five RAAF air traffic control officers for several weeks. The largest DR response, involving more than 1,000 ADF members, followed the 2004 Indian Ocean tsunami.

Between July 2005 and June 2011, AusAID provided contributions 43 times in response to natural disasters in the Asia–Pacific region. Its total contribution over the period was \$288.6 million.²⁸

Over the same period, the ADF contributed to 11 regional disaster missions; the ADF has been involved in only 26% of DR responses managed by AusAID.

The military component of DR missions is small compared to the total Australian Government contribution. The ADF's annual expenditure on DR missions isn't publicly available, but appears to be on average under or around \$1 million per mission.

While the vast majority of the ADF's DR activities are concerned with providing immediate health and safety assistance, a small number of missions have included recovery operations, such as the school reconstruction work by the 2nd Combat Engineer Regiment following the 2010 Pakistan floods. Such recovery activities are dependent on unused deployed resources.

In all of the DR missions involving the ADF, it's never been the lead agency. It acts as part of a whole-of-government effort managed through an interagency coordination mechanism that's normally chaired by DFAT.

The Department of Defence, along with the ADF and some other response agencies, has an allocation in its yearly budget for official development assistance (ODA). If the money isn't spent in the year to which it's allocated, Defence does not return the unspent amount to consolidated revenue.

The agencies report their ODA expenditure yearly to AusAID, which reports publicly

Figure 4: Disaster relief missions undertaken by the ADF, June 1990 to June 2011, by financial year

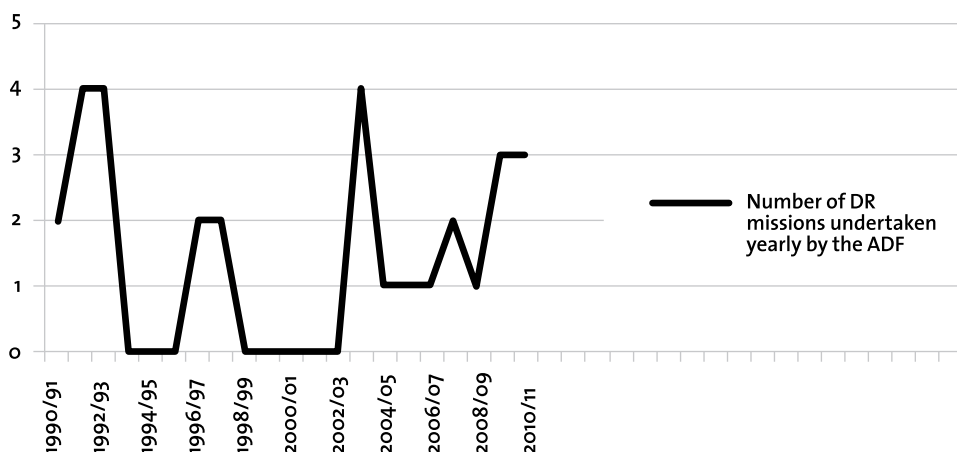


Table 2: Details of the disaster response missions undertaken by the ADF, June 1990 to June 2011

Date	Operation name or description	ADF's DR actions
1990, June	Drought assistance, Tuvalu	A C-130 aircraft delivered desalination equipment funded by the Australian International Development Assistance Bureau.
1990, July	Earthquake response, Philippines	Shelter materials transported to Manila.
1991, September	Flood response, Cambodia	A C-130 delivered food, tents, blankets and aluminium boats and afterwards flew shuttles between Bangkok and Phnom Penh carrying over 227 tonnes of vital supplies. An Army bailey bridging was transported to Cambodia.
1991–92	Wild fires response, Indonesia	NSW bushfire teams transported.
1991, December	Tropical Cyclone Val response, Western Samoa	Two C-130s flew relief supplies, an Army Iroquois helicopter and personnel to Apia via Norfolk Island.
1992, January	Tropical Cyclone Betsy response, Vanuatu	C-130s flew relief supplies to Port Vila. AP-3C was provided as a reconnaissance aircraft. An Army UH-1H helicopter provided medivac and emergency food resupply.
1992, December	Flores earthquake response, Indonesia	A C-130 flew to Maumere via Darwin with tarpaulins, medical supplies and water containers.
1993, January	Tropical Cyclone Nina response, Solomon Islands	A C-130 flew shelter materials and tents, chainsaws, NGO clothing and electrical power reticulation cables and fittings to Honiara. It made a secondary flight to Santa Cruz Island in Temotu Province.
1993, January	Tropical Cyclone Kina response, Fiji	Two relief flights occurred carrying water bladders, water purifying tablets and tarpaulins; also flew vital supplies of sugar cane from Nadi to Suva. Sorties by an Iroquois helicopter provided supplies to isolated communities.
1992–93	Tropical Cyclone Prema response, Vanuatu	One C-130 sortie carried shelter material, collapsible water containers, water tanks and chain/bush saws.
1997 September–May 1998	Operation PlesDrai, drought response, PNG	A combined ADF/Papua New Guinea Defence Force operation supported drought relief operations in PNG. Gross cost: \$12.9 million.
1998, May–July	Operation Ausindo, drought response, Irian Jaya	Deployed 99 personnel and logistics assets. Delivered 440 tonnes of food, seeds and medical supplies. Gross cost: \$1.9 million.
1998, July	Operation Shaddock, tidal wave disaster response, PNG	Medical personnel also took part in DR. Gross cost: \$1.9 million.
1999, January–March	Operation Ausindo Jaya, drought relief in Irian Jaya	ADF provided drought relief. Gross cost: \$1.8 million.
2003, December–January 2004	Operation Iran Assist, earthquake response, Iran	RAAF provided one C-130 to transport humanitarian aid.
2004, January	Operation Niue Assist, cyclone response, Niue	A C-130 transported a 17-member medical team to Niue in the aftermath of Cyclone Heta.
2004, February–March	Operation Vanuatu Assist	Two C-130s supported Emergency Management Australia and AAID (AusAID's precursor) by transporting humanitarian stores and a liaison officer to Vanuatu in the aftermath of Cyclone Ivy.

Date	Operation name or description	ADF's DR actions
2004 December–April 2005	Operation Sumatra Assist, tsunami response, Indonesia	Combined joint task force provided water purification, medical assistance, engineering support and aviation support. Approximately 1,050 ADF personnel deployed. By cessation of operations, task force had delivered nearly 3 million pounds of humanitarian assistance stores, relocated 2,500 people, provided medical treatment to 3,700 people, medically evacuated 70 people, provided 4.6 megalitres of purified water, cleared 9,230 cubic metres of debris and salvaged 12 boats. During Phase II, HMAS <i>Kanimbla</i> medical personnel treated 11 surgical cases, attended to 980 patients at clinics, delivered 123 tonnes of rice and 5,000 litres of water. 80 tonnes of debris were cleared to allow a kindergarten to open.
2004 December–March 2005	Operation Thai Assist, tsunami response, Thailand	Provided linguist support to Australian Federal Police operating in Thailand in the wake of the tsunami.
2005 November–April 2006	Operation Pakistan Assist, earthquake response, Pakistan	ADF medical team (36 Defence personnel) deployed to the remote Dhanni area, where it performed over 9,500 medical treatments, provided over 4,000 immunisations and delivered 5 babies. Army Black Hawk helicopter detachment performed 74 lifesaving aeromedical evacuations and distributed humanitarian supplies to villages and communities cut off by earthquake damage. Medical task force included 36 ADF and 28 civilian health specialists. Engineering capabilities were supplied to support the delivery of clean water to the task force and construction of accommodation and other buildings. Six C-17 flights delivered aid, personnel and equipment into Pakistan.
2007, April	Operation Solomon Assist, tsunami response, Solomon Islands	Provided two medical teams and C-130 airlift support.
2007, November–December	Operation PNG Assist, flooding response, PNG	Following severe flooding in Oro Province caused by Cyclone Guba, the ADF provided: <ul style="list-style-type: none"> • 1 Kingair aircraft to assist with aerial inspections of the disaster zone • 2 C-130s to carry AusAID humanitarian stores and people • 3 Caribou transport aircraft and 3 Black Hawk helicopters to provide access to remote and isolated regions • 1 C-17 for strategic airlift • 1 heavy landing craft to transport about 150 tonnes of rice, oil and food stores • clearance divers to conduct an assessment of the harbour and wharf • a health assessment team • an engineering team to assess the damage to local infrastructure • a small support and command element to coordinate the deployment in close consultation with the PNG Government.

Date	Operation name or description	ADF's DR actions
2008, May - June	Operation Nargis Assist, cyclone response, Burma	<p>The ADF:</p> <ul style="list-style-type: none"> • provided Defence humanitarian assistance pack (water, general shelter items and medical supplies) • delivered AusAID HA/DR stores (ropes, tarpaulins, bed nets, blankets, water purification tablets, water containers) • transported Defence and AusAID humanitarian assistance stores by C-17 aircraft • provided C-17 transport of two Puma helicopters from Johannesburg to Bangkok for use by the UN World Food Programme.
2008, December	Operation PNG Assist II, flood response, PNG	One C-130 deployed to provide relief materials and air transport to northern PNG, New Ireland and Manus after flooding and tidal surges.
2009, October - November	Operation Padang Assist, earthquake response, Indonesia	<p>Following the Padang earthquake, the ADF provided:</p> <ul style="list-style-type: none"> • Joint Task Force 629 HQ component • HMAS <i>Kanimbla</i> • engineering support team, including reconstruction and water purification elements • combat support services team • primary health care team • air logistics support, including C-130 and C-17 aircraft • Defence supplementation staff for the Jakarta Embassy • liaison officers for the Indonesian military.
2009, September - November	Operation Samoa Assist, tsunami response, Samoa	Provided air logistics support, including C-130 and C-17 aircraft, aeromedical evacuations, and HMAS <i>Tobruk</i> to transport HA/DR stores and equipment.
2010, February - March	Operation Haiti Assist, earthquake response, Haiti	Provided five RAAF air traffic control officers embedded into the USAF at Port-au-Prince airfield to provide ground and tower air traffic control services and mentoring for Haitian ATC personnel.
2010, October	Operation Pakistan Assist II, flood response, Pakistan	Provided task force comprising a medical task force (including 36 Defence and 28 civilian health specialists) and specialist engineering capabilities to support the delivery of clean water to the task force and construction of accommodation and other buildings. Six RAAF C-17 Globemaster flights delivered aid, personnel and equipment into Pakistan.
2011, March	Operation Pacific Assist, earthquake and tsunami response, Japan	Supplied three C-17A Globemasters, which over 12 days undertook 23 sorties providing intracountry airlift of stores and equipment. Moved 450 tonnes of cargo, including 41 vehicles, as well as 135 passengers, mostly from the Japan Self-Defense Forces. Australian civilian contribution included 76-person taskforce (fire and rescue specialists, structural engineers, paramedics, retrieval doctors, police specialist, search dog teams, Emergency Management Australia liaison officer).

Date	Operation name or description	ADF's DR actions
2011, February–March	Operation Christchurch Assist, earthquake response, New Zealand	C-17 and C-130 sorties moved nearly 500 passengers and 132 tonnes of cargo, transported police and rescue personnel, repatriated Australians caught in the disaster, delivered a field hospital and disaster victim identification trailer, and transported a desalination unit.

Sources: Australian Defence annual reports and Office of Air Force History.

on the Australian Government's total ODA expenditure. The information provided by Defence to AusAID does not generally include a detailed breakdown of expenditure. Defence has to carry the cost of DR expenditure in non-ODA countries or obtain budget supplementation, but in some circumstances it's paid by the host country. For example, the Japanese Government paid some of the ADF's response costs after the 2011 Japanese earthquake.

Disaster risk reduction activities

The ADF undertakes a number of DRR activities, but they are few and small compared with the work of other agencies involved in DRR. They're mostly in the area of preparation, such as building the capacity of other militaries (which may have a DR benefit).

International exercises to improve DR with a military focus are of three types:

- **Military-led exercises to improve DR.** Exercise Longreach is an example. It's conducted every two years jointly by the Papua New Guinea (PNG) Defence Force and the ADF, and trains military, government and non-government organisations in contingency planning for DR and humanitarian assistance missions. The 2007 exercise involved AusAID, the PNG Red Cross, PNG Fire Services, the National Weather Office, the Salvation Army, Caritas PNG, the World Health Organization and the UN High Commissioner for Refugees.

- **Civil-led exercises to improve DR.** For example, the ARF has recently initiated a series of multilateral HA/DR exercises to build regional DR capabilities. The ADF is normally one of the Australian agencies that contributes. The ADF participated in the first Voluntary Demonstration of Response field exercise conducted in the Philippines in 2009, which involved disaster response demonstrations. The ADF contingent consisted of medical and engineering personnel as well as a command and control element. The contingent worked with civilians and military personnel from a number of countries to provide medical care and improve infrastructure and water supply in Sapang Bato in the Philippines as a way of demonstrating their capabilities. The ADF participated in the Disaster Relief Exercise held in Manado in March 2011.
- **Military-led, combat-focused exercises.** Some of these, including Exercise Rimpac and Exercise Bersama Shield, have DR elements.

Upcoming exercises with disaster-related elements include:

- **Exercise Suman Warrior**—a Five Power Defence Arrangement land-based exercise with an HA/DR focus. Australia will host the 2013 exercise to develop cooperation between the five countries involved.
- **Pacific Airlift Rally**—which is designed to enhance regional engagement and

airlift capability through a military airlift symposium and command post exercise, and to exchange humanitarian airlift, air–land and airdrop delivery techniques for specific regional aircraft.

- **Exercise Cooperation Spirit**—a new Australia–China bilateral HA/DR activity was conducted in China between 27 November–1 December 2011.

Defence is also involved in DRM capacity-building with regional countries. Examples include the following:

- The Defence Imagery and Geospatial Organisation’s contribution to the **ARF Disaster Relief Mapping Service**. The aim is to promote a collaborative environment in which ARF participants can contribute data on a voluntary basis. In conjunction with crisis support agencies, it will provide a facility for DR planning, training and expedited responses to regional disasters. It will allow for quick and consistent data delivery and support better policies for information sharing.²⁹ The project was sponsored by Australia and Singapore. The Defence Imagery and Geospatial Organisation is the main Australian Government agency contributing to the program, and has been tasked to develop the software and provide Sydney-based server hardware.
- Joint Warfare Doctrine and Training Centre assistance in **developing the ARF’s HA/DR doctrine**. The doctrine has evolved into the ARF *Guide to humanitarian assistance and disaster relief*.

DRR activities that are led or strongly influenced by Defence include the following:

- Work by the **Asia Pacific Civil-Military Centre of Excellence (APCMCoE)**, which was established in 2009 by the Australian Government. APCMCoE’s mandate is to

help bridge gaps between military and civilian agencies involved in international deployments, including DR operations. It supports research, the promulgation of lessons learned and best practice, and doctrine development in DR and other areas, and runs a training program on civil–military engagement.

- **Contingency Planning Assistance Team visits to Australian diplomatic missions**. DFAT and the ADF provide specialist staff who work with Australia’s missions to help them develop their consular contingency plans for a range of risk scenarios, including large-scale natural disasters. The plans include arrangements for repatriating Australians and facilitating Australia’s DR assistance.

Disaster-specific military capabilities

Using the fundamental inputs to capability (FIC) framework from Australia’s *Defence capability development manual* (2006), this section outlines DRM-specific FIC within the ADF.

Personnel FIC: Examples of DRM-specific personnel inputs include the individual training and education programs run by APCMCoE. Its programs include the sponsorship of the UN Civil–Military Coordination course, which is offered to military personnel trained in international civil–military coordination; the Civil–Military Interaction Workshop, which familiarises participants with each other’s perspectives, operating procedures, methods, limitations and advantages; and the Regional Senior Leaders’ Seminar, which educates senior military and civilian personnel from Australia and the Asia–Pacific region.

Organisation FIC: No HA/DR-specific organisational elements exist within the ADF. However, the existing structures under both

the Head Military Strategic Commitments and Chief of Joint Operations can accommodate DR-specific mission requirements. For example, joint task forces can be formed to command large DR responses. Australian Federal Police, AusAID and Emergency Management Australia (EMA) liaison officers within Defence and Defence liaison officers deployed to other Australian Government agencies during a crisis can ensure a high level of coordination between Defence and other Australian Government agencies.

Collective training FIC: The exercises outlined in this report are examples of DR-specific collective training inputs.

Major systems FIC: The ADF has no major systems that are purely DRM-specific, but a DRM contribution has been highlighted as a major element in the justification for some systems. Planned additional C-17 aircraft, for example, will significantly enhance the RAAF's ability to provide DR and humanitarian assistance.³⁰ The DR importance of the RAN's two new amphibious LHDs is noted in the 2009 Defence White Paper, which stated that the ships will:

be able to carry a substantial quantity of equipment, stores and personnel ... in terms of humanitarian assistance and DR operations, they will most likely be the best means available to provide assistance in our region without becoming a burden on damaged and fragile land infrastructure.

Supplies FIC: Defence currently has very few DR stores of its own; they are supplied by AusAID or other parties.

Facilities FIC: While no DRM-specific ADF facilities can be identified, overseas facilities provided under the Australia–Japan Acquisition and Cross Servicing Agreement are focused on enhancing DR responses. The 2010 agreement enables the ADF and the Japan Self-Defence Forces to cooperate

more quickly and easily, such as by providing transport, supplies or support while on disaster-recovery or stabilisation operations.³¹

Support FIC: No DRM-specific support inputs can be identified.

Command/management FIC: There's no Australian military doctrine publication titled 'Disaster management', but there's a very substantial body of doctrine in ADDP 3.11, *Civil–military operations*, which covers how the ADF supports and integrates with whole-of-government initiatives, including disaster management. The ADF approach isn't focused on producing specific doctrine for specific disasters, but on documenting general principles of cooperation.

Policy guidance

The 2009 Defence White Paper identified four principal tasks for the ADF. In priority order, they are:

1. to deter and defeat armed attacks on Australia by conducting independent military operations without relying on the combat or combat support forces of other countries
2. to contribute to stability and security in the South Pacific and East Timor
3. to contribute to military contingencies in the Asia–Pacific region, including in relation to assisting our Southeast Asian partners to meet external challenges, and to meeting our alliance obligations to the US as determined by the Australian Government at the time
4. to contribute to military contingencies in the rest of the world, in support of efforts by the international community to uphold global security and a rules-based international order, where our interests align and where we have the capacity to do so.

While DR operations are explicitly referenced as a method of achieving Principal Task 1, there's very limited discussion in the White Paper on DR. The White Paper notes that demand for ADF resources for DR missions will increase with the frequency and severity of natural disasters and extreme weather events.³² It notes that Australia will continue to have particular responsibilities to assist regional neighbours following disasters. Due to Australia's resources, it will be expected to take a leadership role within the South Pacific if those states are overwhelmed by a natural or human-caused crisis.

In responding to disasters in this region, the ADF will take the lead:

where there might be a need to demonstrate a willingness and capacity to employ military force, or where its substantial level of capacity is required in circumstances that are beyond that of other agencies. In other cases, the ADF will take a more secondary role, supporting other agencies.³³

Finally, the White Paper states that ADF's DR tasks don't require the maintenance of an 'extensive range of specialised capabilities within the ADF'. That's because:

the characteristics and structural features of the force we need to undertake the tasks outlined in this White Paper will generate a wide range of capabilities which can be deployed for such tasks with very little warning (for example, amphibious ships, sea and airlift, aero-medical evacuation assets, and logistics and medical support).³⁴

As well as providing only limited discussion of DR, the White Paper doesn't expand on the link expressed in Principal Task 2: that DR contributes to regional stability and security. It doesn't highlight that effective response can lead to rapid disaster recovery.

There's little mention of DR in other defence documents. *Future Joint Operating*

Concept 2030 (2011) provides development guidance for the ADF in the timeframe outlined in the White Paper, but it doesn't mention DR. The tasks that contribute to stability and security are identified as peace enforcement, peacekeeping or stabilisation operations, counterinsurgency and counterterrorism operations, and evacuations of Australian citizens. It's unclear whether there are any HA/DR-specific scenarios within Defence documents that drive capability development and operational preparedness objectives.

The limited links in Defence strategic documents between DRM activities and security can create a perception within Defence that DRM is a supplementary task that detracts from the ADF's core fighting mission.

Decision-making process

The decision-making process to use the ADF for DR can be divided into three levels: national strategic, military strategic and operational. The national strategic level encompasses the whole-of-government level and involves the executive arm of the Australian Government. The administration processes at the national strategic level have recently changed. Knowledge about the new arrangements isn't widespread in Australia's disaster management community.

Australian Government

There's no publicly available document at the strategic level that sets out the administrative arrangements to be followed, or how the objectives of Australian DR missions are to be determined and managed. The Australian Government Overseas Disaster Assistance Plan (the AUSASSIST Plan) describes coordination arrangements for the ADF and civilian agencies, but doesn't provide accurate guidance on responses in all circumstances; nor does it reflect the

Australian Government's Crisis Management Framework developed in 2010.³⁵

These arrangements establish three strategic coordination bodies to manage crises.

- **Inter-Departmental Emergency Task Force (IDETF).** The IDETF comprises only Australian Government agencies' representatives. It's chaired by DFAT, and members include the Australian Federal Police, Defence, EMA, the intelligence agencies and the departments of Health and Ageing, Prime Minister and Cabinet, and Families, Housing, Community Services and Indigenous Affairs. The taskforce is formed to provide strategic leadership for overseas disasters that require significant consular response, have significant domestic political or logistics implications, or occur in non-ODA-eligible countries.
- **Australian Government Crisis Committee (AGCC).** The AGCC comprises senior officials from relevant Australian Government agencies. It's chaired by the Deputy National Security Advisor and co-chaired by the primary Australian Government agency involved in the overseas response. Representation at AGCC meetings varies depending on the nature of the crisis and the expertise required. The AGCC operates for disasters that have significant domestic implications for the Australian Government.
- **National Crisis Committee (NCC).** The NCC is formed to assist with the national coordination of the response to and recovery from a significant international crisis that requires an integrated response across multiple Australian states and territories. Specifically, the Australian Government may convene the NCC to coordinate Commonwealth,

state and territory contributions to the national response. The NCC is chaired by the National Security Advisor or their delegate and comprises representatives from the Department of the Prime Minister and Cabinet and the Attorney-General's Department and senior representatives from states and territories. The NCC may include members of other Commonwealth, state and territory agencies appropriate to the event. Relevant subject matter experts and observers may be co-opted as required. Jurisdictions unaffected by the crisis may elect not to participate in the committee's meetings.

Typically, for an overseas disaster that involves a significant consular response, the IDETF forms and provides the strategic coordination and management of the Australian Government's international response. However, if no significant consular response is required and the disaster occurs in ODA countries, strategic coordination and management are normally transferred to AusAID.

If no significant consular response is required and the disaster occurs in a non-ODA-eligible country, the IDETF retains the strategic coordination and management. If the disaster has large domestic implications, the AGCC provides significant input into strategic coordination and management decisions.

For an AusAID-led response that requires physical/technical support from other Australian Government agencies, AusAID forms and chairs an interdepartmental committee to facilitate the coordination. For example, because the 2009 Pakistan flood response didn't require a significant consular response, the lead agency was AusAID and it chaired the interdepartmental committee. For the 2011 Christchurch and Japanese disasters, the IDETF led the response.

The division of responsibility for response management is based on the ODA eligibility of the country involved because of Australian Government administrative arrangements. AusAID has authority to operate only in ODA-eligible countries. The ODA countries are developing countries defined by the Development Assistance Committee of the Organisation for Economic Co-operation and Development.³⁶

In the early phase of a disaster, a key responsibility of the IDETF/AusAID is to present response options and recommendations to government. The information is compiled after consideration of the needs of the country, available capabilities from the Australian, state and territory governments, and other contributions from foreign countries, intergovernmental organisations and NGOs.

The Australian Government response is normally determined by Cabinet, as it has financial implications. But there's no formal guidance on how the government decides on the scale and type of response that Australia will provide.

If the government's approved DR response is in an ODA-eligible country and some physical resources are required from the Australian, state or territory governments, the Attorney-General will normally activate the AUSASSIST Plan. This means that expenses incurred by government agencies can be recovered, as AusAID has the ability to reimburse costs that meet ODA eligibility requirements.

Australian Defence Force

A request from the Australian Government to the ADF for DR assistance produces both military strategic and operational responses. At the military strategic level, the Chief of the Defence Force (CDF) articulates the intent

and general level of ADF commitment, which the Head Military Strategic Commitments (MSC) on behalf of the VCDF translates into written guidance. The guidance is supplied to the Chief of Joint Operations, who is the CDF's principal adviser on operational matters and is delegated responsibility for the command of all operations.

Staff of Headquarters Joint Operations Command (HQJOC) develop the military options and plans, which are passed up through MSC for CDF and government decision. After refinement and approval of the ADF response, HQJOC plans, monitors and controls the actual ADF operation. The CDF assigns force elements from the individual services to HQJOC for the DR mission. If a significant ADF contribution is required, a joint task force may be formed within HQJOC to deliver the support.

To facilitate coordination with other Australian Government agencies in organising HA/DR responses, HQJOC/MSC representatives actively participate in the IDETF or other coordinating mechanisms.

At an operational level, interagency planning for operations and their execution is improved by both AusAID and the Australian Federal Police having liaison officers posted to HQJOC. During a large crisis, HQJOC may provide a liaison officer to EMA.

Appendix 2: The US Armed Forces

In the Asia–Pacific region, and to a lesser extent the Indian Ocean region, the US military currently undertakes a wide range of DRM activities, ranging from high-profile DR and foreign humanitarian assistance³⁷ missions to alleviate immediate suffering, to low-profile DRR activities that build the capacity of states to better respond to disasters.

Specifically for DR, the US military is predicted to continue to be the organisation with the largest rapidly deployable resources in the region. Its forward-deployed forces, coupled with its expeditionary and niche capabilities, enable it to arrive rapidly in the affected area and deploy a large number of troops and assets, to be self-sufficient (it doesn't require local infrastructure support to maintain its operations), and to provide capabilities that can't be supplied locally or rapidly from other sources.

The US military focuses on providing assistance during the initial hours and days

following a disaster, as the international humanitarian community mobilises. Then it rapidly transitions its assistance back to the affected state or international humanitarian agencies.

Organisations such as the World Food Programme have significant logistical capacity (available through contracted local and regional private and public partners), but they usually take some time to get into position.

The US military is likely to increase its involvement in DRR in concert with a rise in contributions to DRR activities from US civilian agencies. The US will expand its military engagement in the region, and military DRR activities provide a way to do that.

Disaster relief missions

US Pacific Command (USPACOM) is responsible for US operations in the Pacific and eastern Indian Ocean regions. Central Command is responsible for the northern Indian Ocean region, and Africa Command for the west Indian Ocean region. USPACOM has the most experience in DRM activities

US Pacific Command

PACOM's area of responsibility encompasses about half the Earth's surface, from the waters off the west coast of the US to the western border of India, and from Antarctica to the North Pole. It covers 36 nations, including Australia. PACOM headquarters in Hawaii commands 325,000 US military and civilian personnel through four functional service components (US Pacific Fleet, US Pacific Air Forces, US Army Pacific and US Marine Forces, Pacific) and four subordinate unified commands (US Forces Korea, US Forces Japan, Alaskan Command and Special Operations Command, Pacific). US Pacific Fleet includes five

aircraft carrier strike groups, approximately 180 ships, 1,500 aircraft and 100,000 personnel. Marine Corps Forces, Pacific possesses about two-thirds of US Marine Corps combat strength, and includes two Marine Expeditionary Forces and about 85,000 assigned personnel. US Pacific Air Forces comprises around 40,000 personnel and more than 300 aircraft, plus about 100 additional aircraft deployed to Guam. US Army Pacific has more than 60,000 assigned personnel, including two infantry and two Stryker brigades. It has about 66,000 personnel on forward bases in Japan and South Korea.

because of the frequency of disasters in its area of responsibility.

Since 2004, USPACOM has contributed military forces to the following DR missions³⁸:

- Indian Ocean, tsunami 2004
- Bangladesh, Cyclone Sidr 2007
- Burma, Cyclone Nargis 2008
- China, extreme storms and earthquake 2008
- Philippines, Typhoon Fengshen 2008
- Indonesia, Padang earthquake 2009
- Philippines, Tropical Storm Ketsana 2009
- Taiwan, Typhoon Morakot 2009
- Pakistan, floods 2010
- Japan, earthquake, tsunami and nuclear disaster 2011 (see box on the next page).

These missions invariably included one or more of the following categories of DR activity:

- logistic support (helicopter lift, port opening and regional air mobility coordination)
- emergency medical care
- DR supplies (water, emergency shelter, rations, generators) and communications
- critical engineering (expeditionary bridging, road clearing, temporary shelter, port opening of harbours and airports)
- security (government asset security and distribution security)
- imagery.

Port opening is often the most critical assistance that the US military can provide. Without an operational airport or harbour, the international humanitarian organisations

can't access disaster-affected areas and mobilise their capabilities.

Over the past 25 years, the US has provided assistance to dozens of countries following natural disasters, but less than a quarter of those operations involved direct assistance by the US military. In most cases, the assistance consisted of limited aviation support.

Disaster risk reduction

USPACOM has been involved in a number of DRR activities, mainly through the Center for Excellence in Disaster Management and Humanitarian Assistance (COE-DMHA). COE-DMHA's mandate is to improve international disaster preparedness and management, build capacity, and ensure that support is provided for all US combatant commands, not just USPACOM. It does this primarily by delivering training courses for both US military and non-US personnel, supporting US military groups in developing and running exercises, and providing DRM subject matter experts and operational response support.

COE-DMHA produces research on HA/DR, distributes reports to support USPACOM in the aftermath of major disasters and produces 'country disaster response handbooks' that describe in-country DRM plans and structures relevant to military disaster-responders.³⁹

PACOM-facilitated DRR activities range from programs that build capacity within countries to enable them to better respond to disasters, to programs that build both development and disaster capability. Those activities are invariably undertaken in conjunction with other US military commands, US civil agencies, foreign militaries, intergovernmental organisations and NGOs.

PACOM-facilitated activities can be divided into two categories:

Operation Tomodachi

The US military's response to the 11 March 2011 Japanese earthquake, tsunami and nuclear disaster was considerable. In the initial response period to the end of April 2011, Department of Defense expenditure constituted 93% of all US Government expenditure on the disaster at that time, which totalled about \$95 million. The US military's DR dwarfed the combined responses of all other foreign nations.

Some 38,000 US military personnel are permanently stationed ashore in Japan, and another 11,000 are stationed afloat, as US Forces Japan. In addition, there are 5,000 Department of Defense civilian employees stationed in Japan. Within 24 hours of the disaster, US troops and assets were deployed to the affected areas. At the height of its involvement, the US military had some 24,000 personnel, 189 aircraft, and 24 Navy vessels employed. All four branches of the US military were involved.

The US military response was designated Operation Tomodachi (*tomodachi* is the Japanese word for 'friendship'). To ensure that the assistance met Japan's need and reinforced the legitimacy of the Japanese Government, the US emphasised that the Japanese were in the lead. The US military effort also focused on supporting Japanese military and civilian DR activities, rather than providing services or aid directly to the affected Japanese population.

The main US military DR activities during Operation Tomodachi included transporting relief supplies, JSDF personnel and equipment, searching for stranded victims, and restoring damaged airfields and port facilities to support relief operations. Notable niche capabilities provided by the US military during the operation included the aircraft carrier USS *Ronald Reagan*, which operated as a refuelling base for JSDF and Coast Guard helicopters, and the Okinawa-based 353rd Special Operations

Group. The 353rd specialises in establishing forward supply bases in war-torn areas, and supported the rapid return to service of Sendai airport so that it could become a major relief hub. Importantly, the US also helped to clear a number of harbours to permit commercial and military sealift to provide additional support.

A number of unique factors contributed to the significant US military effort in Japan, including, most obviously, the presence of a large number of US military personnel and assets in or near Japan. This enabled the rapid deployment of people and capabilities to support Japanese efforts in transportation, underwater clearance, debris removal and surveillance. It also allowed the US to rapidly establish large-scale forward operating bases, including at the US air base at Misawa in Aomori Prefecture in northeastern Japan.

The presence of US personnel and bases in and around Japan before the earthquake also enabled the US forces to be deployed with their own support, often offshore, which meant that minimal local infrastructure was required to support their deployment. Finally, the history of joint US–Japanese training exercises, interoperable assets and personal interactions between the two countries facilitated effective communications and coordination, which were essential to this integrated alliance effort.

To help cool the damaged nuclear reactors at the Fukushima Dai-ichi facility, the US Navy provided two water barges that delivered 1.89 million litres of fresh water. The US military also deployed the Marines' Chemical and Biological Incident Response Force to provide training to the JSDF forces operating in the area of the reactors. In addition, the US monitored radiation and provided surveillance planes, including the Global Hawk drone, to collect data and imagery for the Japanese Government.⁴⁰

- **Capacity building.** One example of DRM capacity-building is Exercise Gobi Wolf in Mongolia, an annual activity first held in 2009 that aims to improve Mongolia's national emergency response capabilities. The exercise involves exercises and training organised by COE-DMHA, the US embassy in Mongolia, and the National Emergency Management Agency of Mongolia. It typically centres on delivering a response to a disaster scenario.⁴¹
- **Exercises to build international collaboration to improve response.** Exercises to build international collaboration to improve response include Exercise Tendon Valiant and Exercise Pacific Partnership (see box on the next page).

Disaster-specific capabilities

At first glance, it may appear that the US military has few DRM-specific capabilities. However, the US has capabilities to deliver both DR and DRR responses. DR-specific capability inputs include unit-level DR training, officer education for DR, and DR planning billets. The US military's DRR-specific capability inputs include the Center for Excellence in Disaster Management and Humanitarian Assistance, the J9 Pacific Outreach Directorate within USPACOM (described below), and two USPACOM units (the Pacific Disaster Center and the Asia–Pacific Center for Security Studies).⁴² These capability inputs are essential in allowing US military forces to adapt rapidly and operate effectively on DRM missions.

Using the fundamental inputs to capability (FIC) framework from Australia's *Defence capability development manual* (2006), the following paragraphs describe the DRM-specific FIC within the US military.

Personnel FIC. Specific examples include two training courses: COE-DMHA's UN Civil–Military Coordination course, which is offered to military personnel trained in international civil–military coordination, and the Humanitarian Assistance Response Training course, which provides military planning and response staff with practical information and tools for use in supporting civilian-led humanitarian assistance operations, including DR operations.

Organisation FIC. Examples of DRM-specific organisation inputs include DRM-specific billets (the J3 Operations Directorate), interagency input points into military planning areas (through the J9 Pacific Outreach Directorate), and an organisational structure that allows the formation of joint task forces headquarters to manage specific disasters.

Collective training FIC. DR-specific collective training inputs include training activities involving joint forces, US civil agency representatives and foreign military forces. For instance, in 2010 a humanitarian assistance and disaster response exercise was undertaken by the 31st Marine Expeditionary Unit in Japan. The exercise was staged in Okinawa and involved marines from the Special Operations Training Group, Department of State employees from six countries, representatives from USAID and the training education command group, and Japanese representatives.

The exercise involved a simulated typhoon hitting Japan, causing major technological and environmental damage. The purpose of the exercise was to ensure that the Marine Expeditionary Unit was trained and certified in core competencies. One of the key outcomes arising from this training exercise was the mapping of operating procedures used by different US Government

Exercise Pacific Partnership

Exercise Pacific Partnership is an annual training and readiness exercise in humanitarian assistance and theatre security missions sponsored by the US Pacific Fleet. The ADF has been involved in Exercise Pacific Partnership for six years.

The multi-month exercises began in 2005 in the wake of the December 2004 Indian Ocean tsunami, with the aim of reinforcing relationships formed through the tsunami response and laying groundwork to improve future preparedness in the Asia–Pacific. Exercise Pacific Partnership has evolved to become a multinational effort, although it is still led by the US defence forces.

The 2011 exercise involved about 600 medical professionals and engineers from all four US military services, representatives from the State Department, USAID and the US Coast Guard, and more than a dozen NGOs. Foreign militaries also participated. Australia's military contribution consisted of the Landing Craft Heavy ships HMAS *Betano* and HMAS *Balikpapan*. The vessels were used to transport medical, dental and veterinary personnel to more remote areas.

Japan provided a Maritime Self-Defence Force vessel, and New Zealand the amphibious sealift ship HMNZS *Canterbury*. Military equipment and personnel were also supplied

by France, Malaysia, Canada, Singapore and Spain. The exercise involved visits to Tonga, Vanuatu, Papua New Guinea, Timor-Leste and the Federated States of Micronesia.

Exercise Pacific Partnership 2011 provided a range of medical, dental, veterinary and engineering services. Some of the engineering work, such as repairing and renovating schools and building medical clinics, could be defined as development work, but also had DRR elements.

Through Exercise Pacific Partnership, the US and other donor countries have sought to determine how they can best contribute to a country's disaster mitigation and response, so the exercise is designed with DRR objectives. Knowledge is obtained through projects in host countries, as this provides insight into who the key players are, how best to communicate with them during a disaster, what capabilities countries have, and what capabilities are likely to be needed in a disaster.

Exercise Pacific Partnership also benefits participating military forces by allowing them to practise multi-country humanitarian assistance work with various military and non-government personnel, and to assess their own level of preparedness for DR missions.

stakeholders and NGOs with military procedures to produce coordinated activities.⁴³

HA/DR elements are commonly included in larger war-fighting exercises. For example, the 2009 Joint Forcible Entry Exercise involved training to enable large-scale Army and Marine operations to provide food, water and medical supplies to populations affected by natural disasters.⁴⁴

Major systems FIC. The US hospital ships (USNS *Mercy* and USNS *Comfort*) undertake DRM activities. While the ships were originally designed to provide combat support, by the beginning of the 2000s it was apparent that that capability was probably not needed and the ships were likely to be decommissioned or mothballed. However, following *Mercy's* high-profile contribution to the Indian Ocean

tsunami disaster response and *Comfort's* use during the Hurricane Katrina disaster, the DRM value of the vessels was recognised. They now form the backbone of Exercise Pacific Partnership. Other significant major systems that have been retained on the basis of their contribution to DRM are landing dock ships and strategic airlift aircraft.

Supplies FIC. The US pre-positions DR stockpiles at Yokosuka and Okinawa in Japan, Busan in South Korea, and Guam, Pearl Harbour and San Joaquin in the US. DR packages are routinely loaded onto military vessels when they exercise in certain Asia–Pacific regions.

Facilities FIC. Examples of DRM-specific facilities inputs include training areas and villages that are used for DR response training, and elements of warehouses holding DR stocks.

Support FIC. The work of the military's Expeditionary Contracting Command is an example of a DRM-specific support input. The command provides organic, battlefield-focused contract planning and management teams across the full spectrum of military operations for Army service component commanders and Joint Warfighter Commanders. It also provides effective and responsive contracting support to the Army and other federal agencies at installations outside the continental United States. The command's 413th Contracting Support Brigade, Hawaii, maintains a cell that provides a Pacific-wide contracting capability designed to be used following disasters.

The 413th Brigade's first DR-specific exercise was conducted in 2011 in Hawaii and was based on the 2004 Indian Ocean tsunami disaster. The exercise focused on providing emergency contracting to a joint task force supporting a DR effort. The exercise objectives were to practise deploying and establishing operational contract support, to

operate in austere environments, and to test communication equipment and processes. An important outcome of the exercise was that it increased the brigade's familiarity with the *Office of Foreign Disaster Assistance field guide*, which is used to support USAID activities. This facilitated better coordination between the military and USAID. Staff from the 413th Brigade and other US services' contracting units managed the humanitarian relief and disaster recovery contracting requirements during Operation Tomodachi.

Command/management FIC. DRM-specific command/management inputs include the joint publication, 3-29 *Foreign humanitarian assistance* (2009), which provides joint doctrine for planning, executing and assessing foreign humanitarian assistance operations.

Foreign policy guidance

Following the election of President Obama, a revised National Security Strategy was released in 2010. It defines US strategic interests as:

- the security of the US, its citizens, and US allies and partners
- a strong, innovative and growing US economy in an open international economic system that promotes opportunity and prosperity
- respect for universal values at home and around the world
- an international order advanced by US leadership that promotes peace, security and opportunity through stronger cooperation to meet global challenges.

Those priorities were reflected in the 2010 Department of Defense's *Quadrennial defense review* and the State Department's *Quadrennial diplomacy and development review*. The latter elevated development as a core pillar of US foreign policy, alongside defence and diplomacy.

The priorities for development identified in the *Quadrennial diplomacy and development review* are sustainable economic growth, food security, global health, climate change, democracy and governance, and humanitarian assistance. In the last area—humanitarian assistance—key types of missions are DR and DRR.

In the Asia–Pacific, given the forward basing of US military assets and the comparatively small number of US civil assets, it’s likely that the US military will increasingly play a role in DR and DRR activities as part of the US Government’s development agenda.

The US intends to introduce the International Operational Response Framework—a whole-of-government crisis coordination and response to international activities, including DRM missions. This will result in the formation of a single task force with clear leadership, a unified US Government plan, and an integrated operational response for each crisis. The creation of this framework will involve not only the State Department and USAID, but also national security staff and interagency partners. One of the direct benefits from the initiative will be improved civil–military collaboration, including for DRM missions.

As part of this reform agenda, the State Department will increasingly make ambassador-ranked personnel available to geographic combatant commanders to be employed as civilian deputies. They will supplement the commanders’ existing foreign policy advisers, supplied by the State Department. Where appropriate, additional mid- to senior-level State Department and USAID personnel will be made available to geographic combatant commands to improve working-level cooperation between the commands and USAID. Together, these changes will provide a greater focus on advancing whole-of-government interests in DRM and other missions.

Capacity within USAID is being developed to further the comprehensive approach to reform DRM missions; this will specifically provide a bridge between recovery and stabilisation activities and long-term development. While a DRM response focusing on lifesaving assistance is usually done well, the transition to recovery and subsequent development can often be inadequate.

Challenges in the transition for the affected state include land disputes and wealth distribution inequities, and the need to provide protection and employment opportunities for vulnerable groups. A comprehensive approach should result in more efficient and effective use of US military forces in DRM, and more positive outcomes and greater strategic relevance in DRM activities.

Decision-making process

USAID leads the US Government’s response to foreign humanitarian crises arising from large-scale natural or industrial disasters, famines, disease outbreaks or other causes. The State Department leads during other types of international crises, including foreign political and security crises. When humanitarian disasters occur in acute political and security situations, USAID drives the humanitarian response under the State Department’s overall lead.⁴⁵

USAID’s Office of Foreign Disaster Assistance (OFDA) is the group tasked with facilitating and coordinating US Government emergency assistance overseas.⁴⁶

The decision-making process is summarised below and presented graphically in Figure 5.

Following a significant disaster in a foreign country, the US Government’s formal DR process invariably starts with the local US Chief of Mission sending the State Department a ‘disaster declaration

cable’ identifying the extent of damage. It may include likely assistance needs and recommendations for assistance. The President, Secretary of State and Secretary of Defense determine whether a US Government response is required and appropriate. A decision to provide DR requires the following conditions to be met:

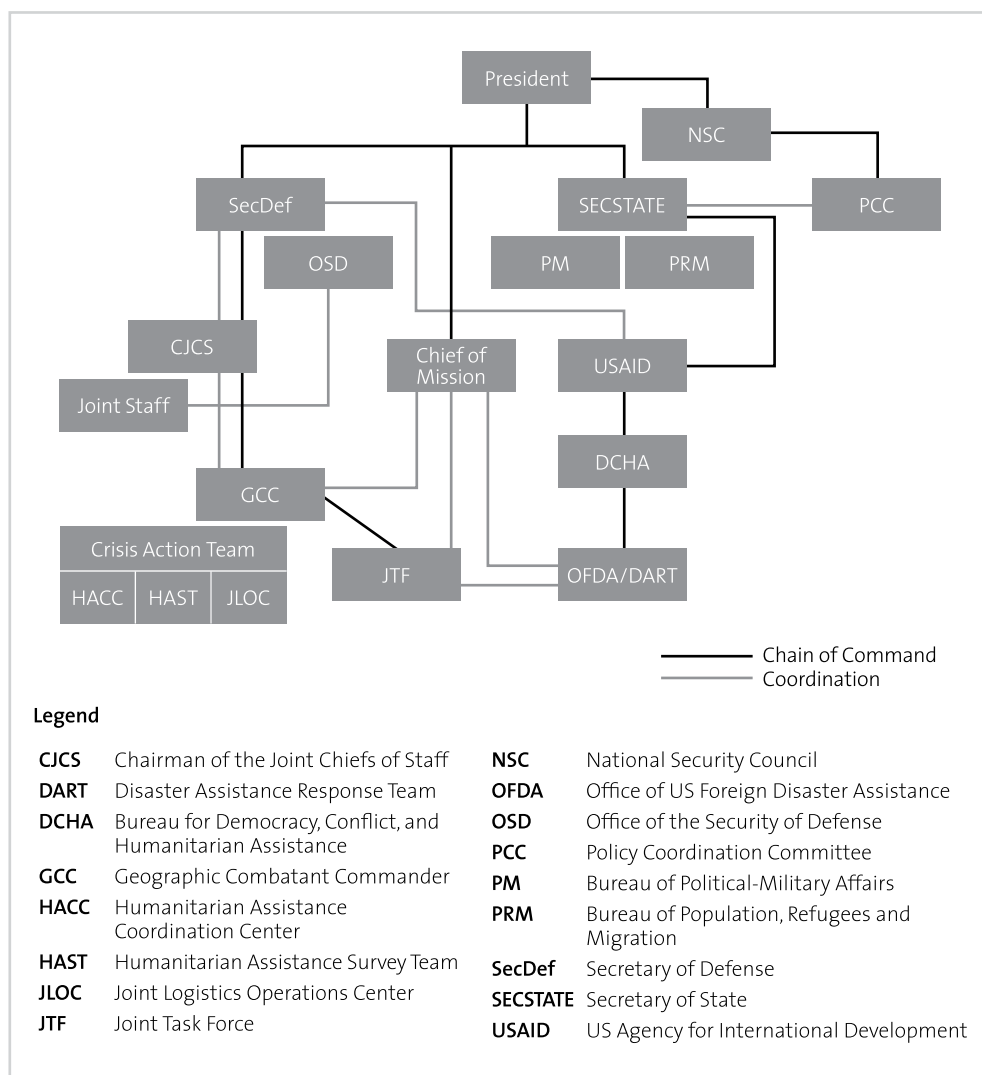
- the disaster must be beyond the ability of the host nation to handle on its own
- the host nation must formally request US assistance or be willing to receive US assistance

- such assistance must be in the strategic interests of the US.⁴⁷

While determining whether the first two conditions are met is relatively straightforward, evaluating the third condition requires value judgements. There’s no identified publicly available guidance on how the President, Secretary of State and Secretary of Defense assess whether and to what degree the assistance would be in the strategic interests of the US.

In some instances, such as where the disaster occurs in a country that’s a partner or ally,

Figure 5: Interagency coordination for disaster response



such as Australia, Japan and New Zealand, offering assistance will be in US interests. That mightn't be the case for countries that aren't allies, or that are hostile to the US. In those cases, offering large-scale assistance may be perceived as an attempt to undermine the affected country's government or improperly influence its citizens.⁴⁸

Once a decision is made to provide DR, the National Security Council normally directs the Special Coordinator for International Disaster Assistance to convene an International Development and Humanitarian Assistance National Security Council Policy Coordination Committee. The committee includes representatives from the State Department, the Department of Defense, USAID and other relevant agencies.

To obtain assistance from the military, the Policy Coordination Committee asks the Secretary of Defense⁴⁹, who considers recommendations from the Chairman of the Joint Chiefs of Staff on operational parameters and the military capabilities that can be provided. The Secretary of Defense considers whether there are competing requirements for the recommended DR military capabilities, the duration of the expected involvement, and the capacity of other organisations to provide the required capabilities.

Following a decision on the military capabilities to be used and the operational parameters, the Joint Chiefs of Staff coordinate detailed staff planning. A geographic combatant command will normally be tasked with carrying out the operations. The operational coordination is normally provided by a military joint task force that coordinates its planning with the US Chief of Mission, USAID/OFDA and other key groups.

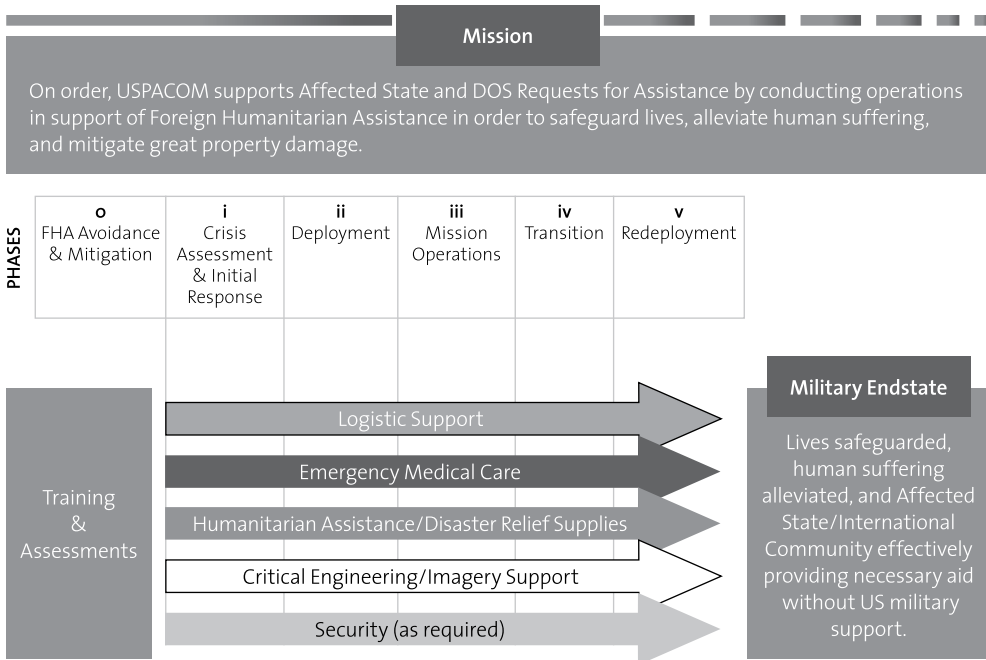
PACOM has developed an operational framework for managing its involvement in providing DR (shown in Figure 6).

PACOM's DR operational framework aligns with the standard for US military missions, which theoretically requires that any mission needs to have a set of 'national strategic objectives', a 'national strategic end state' and a 'military end state' before it can proceed. Once those have been identified, a mission statement can be developed; the mission statement leads to the operational design. However, due to the crisis nature of DRM responses, objectives and end states are not normally identified before operational planning begins. That isn't usually a problem, as the military end state and the mission statement for DRM operations do not usually vary. Consequently, USPACOM uses a generic default military end state and mission statement for all DRM operations.

PACOM's operational framework is based on three key principles.

- The military only provides unique capabilities. This principle reflects broadly the 2006 Oslo Guidelines (*Guidelines on the use of military and civil defence assets in disaster relief*), which state that military assets should only be provided when there's no comparable civilian alternative and only when the use of military assets can meet a critical humanitarian need (that is, the 'last resort' principle). However, the US military doctrine on providing humanitarian relief (JP 3-29) notes that, while the US Government participated in the development of the Oslo Guidelines and endorsed their use, the guidelines are not binding on the Department of Defense.
- Each military capability will eventually be transitioned out, and planning for that transition should occur before operations. Transitioning out involves either transferring responsibility for the capability to the affected country, an intergovernmental organisation, an NGO or USAID/OFDA, or ceasing to provide

Figure 6: USPACOM’s disaster relief operational framework



the capability’s function because it’s no longer required.

- Planning recognises that to assume additional missions without proper authorisation may undermine USAID/OFDA and the legitimacy of the government of the affected state.

The last two principles are critical in building an effective bridge between DR and long-term recovery, which is a priority area for US policy.⁵⁰

PACOM coordinates its response with other US agencies and other aid donors through a range of mechanisms, including the recently created Pacific Outreach Directorate (J9). DRM-relevant subgroups within the directorate are J91 Joint Interagency Coordination Group (which establishes collaborative relationships with other US Government agencies and departments to facilitate support for USPACOM actions and strategy) and J92 Public–Private Partnership group (which promotes and develops partnerships with the public and private sectors).

Another USPACOM coordination mechanism is the Multinational Planning Augmentation Team (MPAT), which promotes partnerships with 31 nations and the international humanitarian community to improve multinational interoperability and readiness to facilitate the rapid and effective execution of multinational operations. The J7 Directorate is responsible for building multinational collaboration on establishing planning and operational standard operating procedures for multinational operations. Much of its work focuses on HA/DR planning, since most nations can agree to coordinate that type of operation. MPAT runs a number of Tempest Express exercises each year. Australia is a regular participant.

USPACOM recently instigated a significant shift in focus, enabling it to spend more effort coordinating the work of other US Government agencies and other actors involved in DRM operations. In the past, USPACOM had spent considerable effort in developing operational planning, but more recently it’s shifted to producing theatre

strategic plans with supporting operational level plans that are given to subordinate headquarters. Those headquarters then use the guidance to prepare operational plans. They're better placed to plan operations because of their knowledge of capability requirements and availability, plus their local knowledge.

For DRM operations, the focus on strategic-level activities allows USPACOM to spend more effort on managing interactions and coordination with foreign nations, other US Government agencies, NGOs, other geographic combatant commands and subordinate commands. This reduces the need for the subordinate commands to manage diplomatic and interagency strategic contributions.

USPACOM's shift in focus from operational planning to strategic planning makes it a key player in ensuring coherence between the US Government's strategic objectives and military missions in the Asia-Pacific region.

This description of the US planning response may give the impression that planning uses a top-down approach. However, planning and even deployment of DR by the US military often occur before the US Government makes a decision about the need for a response. Most USPACOM responses are initiated before a formal request from the Secretary of State, due to the need for immediate lifesaving assistance and the proximity of US forces to the scene of the disaster.

That response occurs because either the affected country's military commander makes a decision that emergency relief operations are required immediately, or because it's expected that the US Government will make a positive response in the near future. Typically, it takes 48–72 hours from a request for assistance to the Secretary of Defense's approval for the assistance.

Appendix 3: The Japan Self-Defense Forces

The Japan Self-Defense Forces (JSDF) have occupied an uncomfortable position in Japanese society for more than 60 years. The discomfort is caused by a strong domestic antimilitarist culture and constitutional restrictions on the use of military power. In its search for an acceptable role in Japanese society, the JSDF has focused on performing tasks with clear public value. In this respect, its involvement in domestic and foreign DR operations has given it social legitimacy.

Domestically, the JSDF has become a major component of disaster response operations. Under the Self-Defense Forces Law of 1954, prefectural governments can call on it to provide humanitarian relief in the event of a natural disaster. Between 2004 and 2009, the military averaged more than 800 domestic DR operations annually, assisting local responders with flood control, emergency patient transportation, search and rescue, and firefighting.⁵¹

Internationally, the JSDF has been involved in DR operations only since the early 1990s. Its involvement is managed within the Japan Disaster Relief Team (JDRT) framework, which is in turn managed by the Japan International Cooperation Agency (JICA) pursuant to the 1987 Japan Disaster Relief Team Law.

JSDF involvement in international DR has coincided with Japan's search for a greater role in international security and its desire to contribute more to its alliance with the US. In the early years, the JSDF's DR participation was modest, but since the end of Japan's humanitarian and reconstruction assistance in Iraq DR has become one of its main practical measures to advance international peace and cooperation. Since then, there's been a nearly continuous debate in the Diet (Japan's national parliament) about how the

JSDF can be used for humanitarian activities while upholding Japan's pacifist constitution.

Disaster relief missions

The JSDF has contributed to only eleven international DR operations since the 1990s (listed in Table 3). Its main contributions have been:

- medical services, such as first-aid and epidemic prevention
- transporting goods, patients and DR personnel by helicopter in the affected country
- securing water supplies using water purification technology.

The JSDF's DR response is constrained by its lack of strategic airlift capability and its limited numbers of deployable personnel. The Japan Air Self-Defense Force's (JASDF's) largest aircraft for transporting equipment and troops are C-130 Hercules and Kawasaki C-1s. Both are tactical transport aircraft, so the Japanese Government needs to hire strategic airlift services to move JSDF assets to disaster sites a long distance from Japan. In response to the 2010 Haiti earthquake, for example, the Japanese Ground Self-Defense Force (JGSDF) chartered flights using Antonov An-124 and An-225 aircraft to move construction machinery and equipment from Japan to the Dominican Republic, and then on to Haiti.⁵²

JSDF personnel deployed in an overseas disaster come from the Central Readiness Force (CRF). The CRF was established in 2007 to improve the country's ability to carry out international peacekeeping operations, disaster and humanitarian relief missions, counterterrorism and special operations.

The CRF consists of around 4,200 personnel drawn from a variety of JGSDF units, mainly the 1st Airborne Brigade, the Central Readiness Regiment, the Special Operation Group, the

1st Helicopter Brigade, the Central Nuclear, Biological and Chemical Protection Unit, the Anti-NBC Medical Unit, and the International Peace Cooperation Activities Training and Education Unit. The last-named unit is responsible for educating and training CRF personnel for HA/DR activities. For HA/DR operations, the main unit to respond is likely to be the Central Readiness Regiment. The CRF is expected to have a deployable strength of 1,100.

The JSDF is also involved in improving developing countries' disaster response capability and the development of response personnel. This work is mainly in niche technical areas, such as military medicine and the disposal of landmines and unexploded shells.

However, to date, the JSDF's DR response can be characterised as operating in isolation from other military forces. For example, Japan's response to the 2010 Pakistan floods was the first time that JSDF assets supported another country's military: JSDF helicopters provided transport for an Australian military medical team.

Disaster-specific capabilities

Domestically, the JSDF has significant DR-specific military capabilities. Its homeland disaster role is explicitly recognised in the 2010 *National defense policy guidelines*, which state that:

the JSDF will respond to large-scale [natural disasters] and chemical, biological, radiological and nuclear disasters by conducting disaster relief operations anywhere in Japan through cooperation with local governments and other organisations.

In 2008–09, the JSDF was involved in 559 domestic relief operations, which involved some 33,700 personnel, 3,900 vehicles, 890 aircraft and 130 vessels. Of the

Table 3: International disaster relief operations by the JSDF, 1998 to 2010

Duration	Focus of DR operations	Region
November–December 1998	Response to a hurricane in Honduras	Latin America
September–November 1999	Transportation of resources in northwestern Turkey after an earthquake	Middle East
February 2001	Response to a major earthquake in India	South Asia
December 2003–January 2004	Transportation of resources in southeastern Iran after an earthquake	Middle East
December 2004–March 2005	Response to Indian Ocean tsunami	Southeast Asia
August 2005	Response to Russian mini-submarine accident off Kamchatka Peninsula	North Pacific
October–December 2005	Response to earthquake affecting Pakistan and other countries	South Asia
June 2006	Response to earthquake in central Java	Southeast Asia
October 2009	Response to earthquake off the coast of Padang, West Sumatra	Southeast Asia
January–February 2010	Response to Haiti earthquake	Latin America
August–October 2010	Response to flooding in Pakistan	South Asia

Source: *Minister of Defense, Defense of Japan 2010.*

operations, 11 were responses to storms, floods and earthquakes, 353 were emergency patient transport, 48 were search and rescue, and 86 were assistance with firefighting.⁵³

The JSDF maintains high-level readiness for homeland disaster responses. At 157 JGSDf bases throughout the country, equipment and personnel are postured so that they can deploy within an hour after a major event. In the Japan Maritime Self-Defense Force (JMSDF), a single first-response vessel is designated in each regional command, and patrol and rescue aircraft are kept on standby at each air station. In the JASDF, rescue aircraft are kept on standby at each base for air rescues and transport aircraft are kept on standby for emergency airlifts.⁵⁴ The JSDF is integrated into planned national civil disaster responses: the contingency plan for Tokyo following a large earthquake states that the JGSDf will send up to 110,000 personnel, the JMSDF up to 60 ships and aircraft, and the JASDF 70 aircraft.⁵⁵

A major element of training for the ground forces involves domestic disaster

response, including urban search and rescue, flood control, medical treatment, epidemic prevention, water supply, and the transportation of personnel and supplies. The JGSDf bases also have a large number of earthquake response tools.

The largest homeland DR action by the JSDF occurred after the earthquake and tsunami of March 2011 (see box).

While the JGSDf's DR-specific military capabilities are considerable, they can't be deployed overseas; only the Central Readiness Force can be. Because the CRF's mission definition includes international peacekeeping operations, HA/DR missions, counterterrorism and special operations, the number of JGSDf personnel specifically trained for DR will be a small percentage of the CRF's total posted strength.

The JMSDF and JASDF claim that they don't have DR-specific military capabilities, but both services have partly justified the purchase of new equipment on the basis that it will assist with DR. For example, the new

The Great East Japanese Earthquake

The devastating 9.0 magnitude earthquake and subsequent tsunami of 11 March 2011 plunged Japan into chaos. The earthquake (the largest in Japanese history and the fourth largest globally) was 160 times more powerful than the one that devastated Christchurch, New Zealand, a month earlier. Massive waves of water triggered by the earthquake, some as high as 10 metres, surged more than 5 kilometres inland, destroying thousands of lives and billions of dollars of property. Nuclear reactors at the Fukushima Dai-ichi Nuclear Power Station sustained critical damage, creating the largest nuclear emergency since Chernobyl. By the end of April, a total of 14,358 people had been confirmed dead, while 11,889 were still missing; at least 95,107 buildings had been destroyed; and 3,405 roads and 71 bridges were damaged. One estimate put the cost of reconstruction as high as US\$300 billion.

The day after the earthquake, the JSDF mobilised all of its available resources for rescue operations. More than 100,000 JSDF troops were deployed to lead the relief effort. The military also mobilised 10,000 reservists, in the first such mobilisation since World War II. JSDF personnel were deployed to the most heavily affected areas to conduct search and rescue operations along the devastated coast of Tohoku. Troops searched for victims among the debris, worked with local firefighting and police units to repair roads and reopen critical infrastructure, and supported efforts to supply evacuation centres with water, food and blankets. By the end of March, 176 helicopters and 319 fixed-wing aircraft had been deployed in affected areas.

The disaster contained important lessons for the international community about how states offer and receive HA/DR. In the days

and weeks following the earthquake, the Japanese Government was overwhelmed with international offers of assistance. Within a month of the disaster, Japan had received offers of assistance from at least 134 countries and 33 international organisations. At last count, 61 countries had provided relief supplies, while 89 countries had donated in total more than 17.5 billion yen.

The Japanese Government was necessarily selective in accepting or declining the types of aid it received from foreign governments, but on the whole the assistance was of great value to relief efforts. The crisis also highlighted the fact that developed countries appear to be better at delivering disaster-related assistance than receiving it.

As relief operations got underway, reports of delays and confusion in the delivery of aid emerged. Government-imposed fuel restrictions made it difficult for some foreign militaries to transport their own supplies to affected areas. International medical teams were heavily circumscribed in the types of services they could provide to affected communities because of local medical licensing requirements. At times, highly centralised bureaucratic systems and blurred lines of communication made it difficult for foreign militaries to communicate with their counterparts conducting DR operations in Japan.

It's always difficult to fully absorb the lessons from a major crisis immediately afterwards, but, with time and the proper due attention, Japan's experience can point to improvements in the way countries deliver and receive HA/DR—particularly about how militaries can improve cooperation and coordination in response to international disasters.

Kawasaki XC-2, which will replace the JASDF's ageing Kawasaki C-1 and C-130 Hercules, can fly 6,500 kilometres without refuelling. It will be used for airlift in DR operations, as well as in other contingencies.⁵⁶

Policy guidance

The original rationale for the JSDF's participation in international DR operations was based on two main arguments: its force sustainability made it an ideal candidate for international operations, and its participation would greatly enhance Japanese transport and lift capabilities in relief operations.

The publicly stated rationale underpinning JSDF participation in international HA/DR operations is that it supports humanitarian goals, but the government acknowledges that a number of other, often equally important, benefits can be generated by overseas deployments. They include opportunities to gain international experience, to adjust training regimes in line with international best practice, to contrast Japanese capabilities with those of foreign militaries, to improve interoperability with key allies and security partners, and to pursue diplomatic objectives.

Strategic guidance for military participation in DR operations is outlined in the *National defense policy guidelines* (NDPGs) and the Mid-Term Defense Program.

The NDPGs identify three roles that the JSDF should fulfil: deter and respond to contingencies, further stabilise the security environment of the Asia–Pacific region, and improve the global security environment.

The military's domestic role in HA/DR is categorised under the first of those roles (deterrence and response). The NDPGs state that between 2011 and 2015 the JSDF aims to enhance measures for DR, such as conducting exercises and formulating countermeasure plans, in order to respond promptly and appropriately to various large-scale or special disasters.

The military's international role in HA/DR is categorised under the second role (stabilising security in the Asia–Pacific region). The involvement of the JSDF and Japan more broadly in stabilisation in the region reflects the perceived close link between the region's peace and security and that of Japan.

For overseas DR operations, Japan's humanitarian aid budget, administered through JICA rather than the Ministry of Defense, is used to pay for the marginal costs of military participation in DR operations.⁵⁷ For costs to be reimbursed, the decision to deploy military assets must be authorised by the Ministry of Foreign Affairs. For example, the costs of deploying military assets in recovery efforts after the 2004 Indian Ocean tsunami totalled US\$12.15 million. Of that, the Ministry of Defense paid 80% (about US\$9.87 million); JICA funded the remaining 20%.⁵⁸ In the 1990s, as Japan sought to expand its role in international affairs, it took a blanket approach to HA/DR operations, deploying teams in a range of different theatres. Illustrative of that strategy, JICA established supply warehouses for HA/DR operations in Johannesburg, Frankfurt, Miami and Singapore. Ministry of Foreign Affairs/JICA – Ministry of Defense coordination on decisions to deploy military forces in support of HA/DR operations was often limited. Ministers sometimes agreed to provide countries with military assistance, but the JSDF provided little or no guidance about the nature of that involvement, what resources would be needed, or the involvement's geographical scope and overall purpose.

Current decision-making on deployments is more closely aligned with operational considerations and constraints. The cultural and bureaucratic barriers that once prevented the ministries of Foreign Affairs and Defense from cooperating effectively on HA/DR are slowly being removed. However, the two agencies operate in isolation from one another most of the time.

The government has also become more selective in its HA/DR priorities to better reflect Japan's strategic interests and priorities. As a result, the location and scale of Japan's future military involvement in HA/DR will probably be subject to an analysis of where the nation's main foreign policy and strategic interests can be advanced.

Tokyo is well aware of the soft power dividends that can be generated by 'disaster diplomacy'. In a region where resentment about 20th century Japanese aggression lingers, the government knows that HA/DR operations can help to heal old wounds.⁵⁹ One example of cooperation was between the Japanese and South Korean militaries in the aftermath of the January 2010 earthquake in Haiti. The JGSDF and an engineering unit from South Korea took charge of projects in the same area; troops from both countries worked together to demolish wrecked buildings. The national flags of Japan and South Korea were painted on the side of JGSDF trucks, emphasising the symbolism of bilateral cooperation.⁶⁰

Japan's response to the 2008 Sichuan earthquake in China, which killed almost

90,000 people, could also be considered an example of disaster diplomacy.⁶¹ Two civil JDRT contingents chartered flights to the affected area soon after the disaster; the first arrived within six hours of Tokyo authorising the mission. The JDRT conducted operations in three places in Sichuan Province, recovering the bodies of 16 earthquake victims.

Community gratitude and positive media coverage generated by the JDRT's efforts in Sichuan were diplomatic gains. JICA found that:

reporting of the team's work and the reactions of local communities through the media and Internet added further momentum to the rising level of friendship between Japan and China.⁶²

The US has encouraged Japan to play a more active role in international security, including through HA/DR operations. And the Japanese Government has responded to those expectations, albeit in a limited fashion, by providing more than financial contributions to international security: it now delivers 'boots on the ground' support to US operations.

Foreign militaries' response to the 2011 Great East Japanese Earthquake

The US and Australian defence forces provided in-country support in Japan after the 2011 earthquake and tsunami. The ADF supplied three C-17A Globemasters, which over 12 days of airlift operations made 23 flights within Japan to transport vital stores and equipment to assist in the humanitarian effort. The ADF moved 450 tonnes of cargo, including 41 vehicles, and 135 passengers, mostly from the 15th Brigade of the JGSDF.

Other countries, including China, Indonesia and Israel, provided military personnel as part of their civil-led search and rescue,

disaster response and medical teams. Several countries also used military assets to transport relief supplies to Japan, but didn't operate in-country. The Republic of Korea used C-130 aircraft to transport 102 rescue unit personnel to Japan. The Royal Thai Armed Forces used C-130s to fly in relief supplies. The French Ministry of Defence contribution was a donation of 1,000 suits of radiation protective clothing to the Japanese Ministry of Defense to assist the JSDF in its response to the nuclear power station accident at Fukushima.

Japan benefits from participating in HA/DR operations alongside the US in a number of ways: its participation maintains the relevance of the alliance, demonstrates shared resolve (which can act as a deterrent), and improves interoperability (which can benefit other types of mission).

Japanese participation in HA/DR operations can also be used to soothe tension in the alliance; for example, Japan's relief efforts after the 2010 Haiti earthquake provided an opportunity to smooth over relations with the US after discord over the relocation of the US base at Futenma.

Operation Tomodachi, the most recent example of US–Japan HA/DR cooperation, may also soften the Japanese public's negative attitude towards the ongoing presence of US bases in the country.

Decision-making process

Japan's framework for HA/DR combines military and civilian elements. The civilian component (Japan Disaster Relief Teams—

JDRTs) has been operational since the Japan Disaster Relief Team Law of 1987. The law was amended in 1992 with the introduction of the Law Concerning Cooperation for United Nations Peacekeeping Operations. Among other things, the amendment allowed the deployment of the JSDF to provide assistance in civil and humanitarian emergencies abroad. It was only in 1996 that HA/DR was earmarked as one of the JSDF's three primary roles.

The JSDF can't be dispatched for overseas DR operations without a request to the Minister of Defense by the Minister of Foreign Affairs. In part, this requirement relates to Japan's legal restrictions on JSDF funding and overseas operations; it also underscores the traditional dominance of diplomacy and foreign policy in Tokyo's geostrategic thinking. A chronology of the military's involvement in relief efforts after the Haiti earthquake is outlined in Table 4.

When word of a disaster comes in from a Japanese embassy, and the affected state

Table 4: Japanese assistance after the Haiti earthquake, January 2010

Timeframe	Contents
14 January	Ministry of Foreign Affairs, ICA personnel, and two personnel from Ministry of Defense dispatched to Haiti to serve as Disaster Relief Investigation Team.
15 January	Ministry of Foreign Affairs consults with Ministry of Defense about implementing international transportation for disaster relief personnel. Minister of Defense issues mission planning order. C-130H transport aircraft (sent to the US on 2 December 2009 for an unrelated training mission) redirected to the USAF Base in Florida and put on alert.
16 January	Investigation Team arrives in Haiti, conducts assessment of the Port-au-Prince airfield, and begins coordination efforts with local authorities.
17 January	Team completes investigation and determines that C-130H transport plane can land at the international airfield. Based on that judgement, Minister of Defense issues transportation order.
18 January	Minister of Foreign Affairs requests transportation for earthquake-affected people via C-130H transport aircraft in support of international assistance efforts. Minister of Defense receives transportation request and issues mission support order.
20 January	Minister of Defense issues operational deployment order to JSDF Medical Assistance Detachment.
21 January	JSDF Disaster Relief Medical Assistance Team (approximately 100 personnel) departs Japan on chartered aircraft.
23 January	Part of the Disaster Relief Medical Assistance Team (34 personnel including two doctors) arrives at Port-au-Prince International Airport via C-130H aircraft and commences DR operations. Remainder of the team subsequently arrives in Haiti.

Source: JSDF DR Operations: Republic of Haiti, January 2010 Earthquake, Ministry of Defense, Japan, 2010.

asks for Japanese assistance, the Ministry of Foreign Affairs must negotiate the nature of the JSDF's involvement (if any) before the military can deploy. To assist with decision-making, the ministry usually establishes a joint task force comprising staff from relevant divisions and ministries, including the Ministry of Defense.

JICA is a significant player in any decision to deploy the military, given its responsibility for training the civilian DR teams that are dispatched for overseas HA/DR.

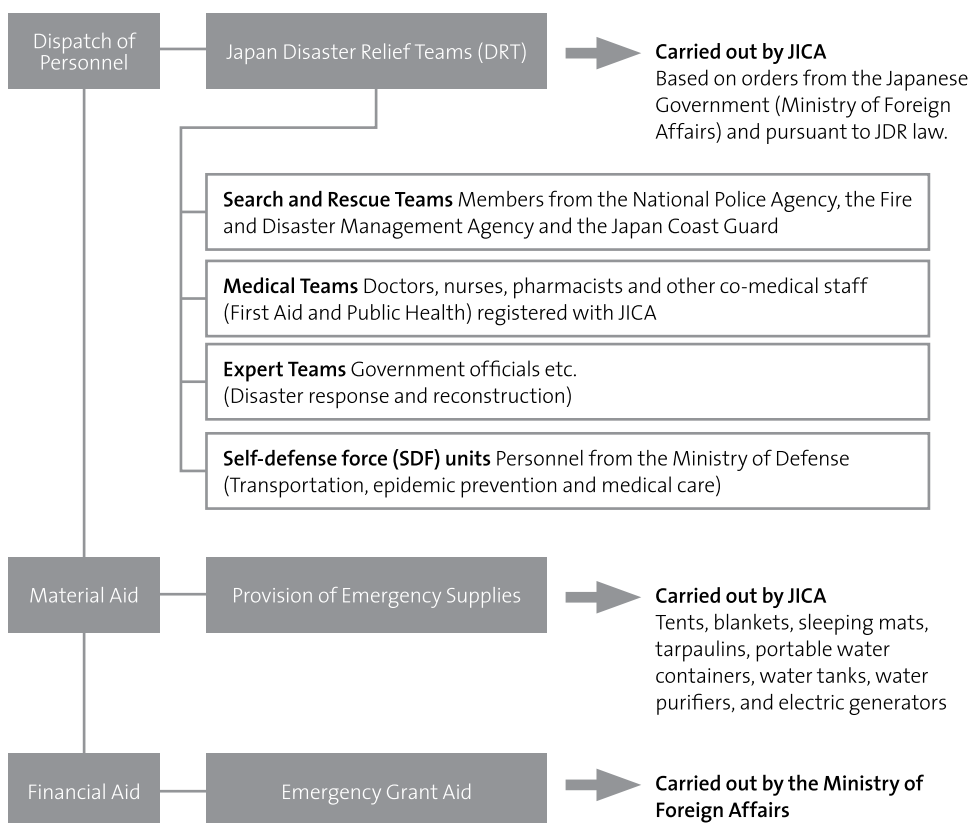
Japan adheres to the basic principle that militaries should only be used in HA/DR as a last resort. It places a greater emphasis on the deployment of civilian JDRTs rather than the JSDF. The civilian teams consist of pre-registered volunteer civilian medical and search-and-rescue professionals who are prepared to be dispatched anywhere in the world within 48 hours.

The teams are trained and managed by JICA and dispatched by the Overseas Disaster Assistance Division of the Ministry of Foreign Affairs. There are four types of team: rescue teams to search for missing people, rescue victims and provide first aid; medical teams; expert teams, often including engineers or other specialists who can assist with stopgap measures to help protect the population and speed recovery; and the JSDF (see Figure 7).

The teams form part of a broader network comprising various UN civilian agencies, international humanitarian organisations and counterpart DR teams from other countries, such as the US and Australia.

There are differences between the JSDF disaster relief teams (JDRTs) and civil DRTs in their size, the time at which they are deployed and the duration of their deployment. For example, the civil medical teams have around 23 members per team, are designed to be

Figure 7: Japan's international disaster relief assistance framework



deployed within 48 hours after the official request for assistance has been issued, and have an in-country operational duration of up to two weeks. The JSDF medical teams, on the other hand, have around 110 members per team and typically take around a week to deploy, but can be sustained in country for many weeks due to JSDF logistics support.

Under Japan's international DR framework, the JSDF is only called upon as a last resort if greater assistance than the JDRTs can muster is required. The JSDF is normally only used when heavy-duty logistical and engineering assistance is required or to help with widespread disease control. Between 1987 and 2010, DRTs were dispatched 107 times; 47% of the dispatched DRTs were medical teams, 30% were expert teams, 13% were search and rescue teams and 10% were JSDF teams. Over that period, DR supplies were dispatched 404 times.

JSDF actions are heavily circumscribed by standard operating procedures and civilian control requirements. And the Japanese Government and its counterpart must negotiate rules of engagement and other restrictions on on-ground mobility. Depending on whether the JSDF has an established relationship with the host state, getting the 'green light' can be a difficult process.

Conversely, JDRTs are small, highly mobile, ad hoc arrangements. Drawing upon their international networks—including with UN agencies such as the Office for the Coordination of Humanitarian Affairs, the International Search and Rescue Advisory Group and the World Health Organization—personnel can house, feed and find transportation for themselves in disaster areas. JDRTs are usually composed of individuals with experience in foreign operations, whereas JSDF members generally have little to no international experience.

Appendix 4: Key terms

Disaster relief (DR). DR includes the actions taken before, during and immediately after a disaster to ensure that its effects are minimised, and that those people affected are given immediate relief and support. DR activities include public warnings about the likely impact of an impending disaster and the mobilisation of hospital resources in preparation for anticipated casualties. DR goods and services may be delivered before, during or after a disaster to meet the needs of disaster-affected communities and to alleviate suffering. They typically include humanitarian services and transportation; food, clothing, medicine, beds and bedding; temporary shelter and housing; medical materiel and medical and technical personnel; and repairs to essential services. While some DR activities occur before a disaster, for the purposes of this report those activities aren't deemed to be disaster preparation activities, which are defined as being non-event-specific preparations.

The term more commonly used in Australia is 'disaster response'. For this study, 'disaster response' and 'disaster relief' are synonymous.

DR activities are divided into three broad categories:

- *direct assistance*—face-to-face distribution of goods and services
- *indirect assistance*—assistance that is at least one step removed from the population, including activities such as the transport of relief goods or relief personnel
- *infrastructure support*—assistance that involves providing services, such as road repair, airspace management and power generation, that facilitate relief but are not necessarily visible to or solely for the benefit of the affected population (emergency rehabilitation, restoration or reconstruction of infrastructure, such as road clearing, temporary bridge

construction, stabilising damaged bridges, cleaning drains, construction of drainage channels to remove accumulated seawater, port clearance, debris removal from harbours and runways, and producing potable water).

Disaster recovery. Disaster recovery follows the DR phase and involves supporting disaster-affected communities in the longer term in the reconstruction of their physical infrastructure as well as the restoration of their emotional, social, economic and physical wellbeing.

Development aid. Development aid assists developing countries to reduce poverty and achieve sustainable development by addressing underlying socioeconomic factors that cause disadvantage. HA/DR usually doesn't deal with underlying factors, and so is not usually considered to be a form of development aid.

Disaster. A disaster is an event that seriously disrupts a community or a society, often involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope with using its own resources. The impact of a disaster is determined by the nature of the event, exposure to the hazard, the vulnerability of the victims before the disaster, and the capacity or measures in place to reduce or cope with the potential negative consequences. Disasters are not synonymous with natural hazards; for example, pandemics are also disasters. This study refers only to disasters that arise from an acute natural hazard, such as an earthquake, tropical cyclone or tsunami.

Disaster risk management (DRM). DRM is the body of policy, administrative decisions and operational activities required to prepare for, mitigate, respond to and repair the effects of natural or human-caused disasters. DRM activities can be divided into the three general categories of disaster risk reduction, disaster relief and disaster recovery.

Disaster risk reduction (DRR). DRR activities aim to mitigate the impacts of natural hazards. They include measures that reduce a community's or an individual's exposure to hazards and reduce the vulnerability of property to hazards. DRR activities include disaster prevention and mitigation, as well as preparedness activities. The activities often involve building capacity in the disaster-affected country's emergency, health and disaster organisations, and building relationships with them (these forms of capacity building are the most common DRR activities undertaken by defence forces). DRR activities can be divided into the following categories:

- risk identification, risk reduction and risk transfer activities
- initiatives to improve governance arrangements, such as legislation, policies, planning and legal frameworks
- initiatives to build information and information-sharing mechanisms among different stakeholders.

This definition of DRR conforms with the Hyogo Framework's definition and specifically includes preparedness activities such as exercises and drills, as well as capacity building.

Humanitarian assistance (HA). HA consists of activities conducted to relieve or reduce human suffering, disease, hunger or privation created by conditions that might present a serious threat to life or that can result in property damage or loss. HA is defined terminologically to be in response to human-caused disasters (such as those caused by conflicts) and chronic natural disasters (such as droughts and famine).

Humanitarian assistance/disaster relief (HA/DR). HA/DR covers both foreign humanitarian assistance and foreign DR, which include a wide range of activities. The US considers capacity building to be an element of HA/DR, but Australia's aid community generally does not.

Appendix 5: Intergovernmental bodies involved in disaster risk management

Organisation or group	Key coordination mechanisms, groups, meetings	Key documents, programs, exercises or tools
Association of South East Asian Nations (ASEAN)	ASEAN Committee on Disaster Management	ASEAN Agreement on Disaster Management and Emergency Response ASEAN Regional Program on Disaster Management 2004–2010 ASEAN Regional Disaster Emergency Response Exercise Emergency Rapid Assessment Teams Humanitarian Task Force Disaster Management and Emergency Relief Fund Standard Operational Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations Disaster Information Sharing and Communication Network
	ASEAN Coordinating Centre for Humanitarian Assistance	
	ASEAN Defence Ministers Meeting ASEAN Defence Ministers Meeting Plus ASEAN Defence Establishments and Civil Society Organisations Cooperation on Non-traditional Security–workshops	<i>ASEAN Defence Establishments and Civil Society Organisations Cooperation on Non-Traditional Security</i> –Concept Paper <i>The Use of ASEAN Military Assets and Capacities in Humanitarian Assistance and Disaster Relief</i> –Concept Paper
ASEAN Regional Forum (ARF)	ARF Senior Officials Meeting ARF Inter-Sessional Meeting on Disaster Relief	General Guidelines for Disaster Relief Cooperation Standard Operating Procedures for Humanitarian Assistance and Disaster Relief ARF Disaster Response Exercise Voluntary Model Arrangement for the Use of Foreign Military and Civil Defence Assets in Disaster Relief
ASEAN Plus Three	ASEAN Committee on Disaster Management + 3 Senior Officials Meeting ASEAN Plus Three International Conference on Disaster Management	ASEAN Plus Three Cooperation Work Plan 2007–2017 ASEAN Plus Three Cooperation Fund
ASEAN Partnership Group		
ASEAN Specialised Meteorological Centre		
ASEAN–China		Chairman’s Statement of the 13th ASEAN–China Summit
ASEAN–European Union		Joint Declaration of the ASEAN–EU Commemorative Summit
ASEAN–Japan		Japan–ASEAN Integration Fund

Organisation or group	Key coordination mechanisms, groups, meetings	Key documents, programs, exercises or tools
ASEAN–Russian Federation		Comprehensive Programme of Action to Promote Cooperation between the Association of Southeast Asian Nations and the Russian Federation 2005–2015
ASEAN–United Nations		Co-Chairs' Statement of the Third ASEAN–UN Summit Joint Declaration on ASEAN–UN Collaboration in Disaster Management
ASEAN–US		ASEAN Development Vision to Advance National Cooperation and Economic Integration
Asia-Pacific Economic Cooperation (APEC)	APEC Emergency Management CEO Forum APEC Emergency Preparedness Working Group / Task Force for Emergency Preparedness	APEC Strategy on Response to and Preparedness for Natural Disasters and Emergencies
APEC Climate Center		
Asian Development Bank		Disaster and Emergency Assistance Policy Asia Pacific Disaster Response Fund
Asian Disaster Preparedness Centre	Regional Consultative Committee on Disaster Management	Disaster Management Systems ASEAN+3 Exercise Management Program Community Based Disaster Risk Management Program Urban Disaster Risk Management Program
Asian Disaster Reduction Center	Asian Conference on Disaster Reduction	Global Identifier Number Sentinel Asia
Asian Disaster Reduction and Response Network		
Australia Korea Action Plan for Enhanced Global and Security Cooperation		Australia Korea Action Plan for Enhanced Global and Security Cooperation
Australia–Indonesia Facility for Disaster Reduction		
China, Japan, Korea Trilateral Cooperation Secretariat		Joint Summit Declaration of the 4th Trilateral Summit
East Asia Summit	East Asia Summit	Australia's East Asia Summit Disaster Response Initiative Cha-am HuaHin Statement on EAS Disaster Management
European Commission Humanitarian Aid and Civil Protection Regional Support Offices		Disaster Preparedness ECHO EU–China Agreement on Disaster Risk Management
Japan, Korea, US Trilateral Statement		Trilateral Statement Japan, Korea and US
Secretariat of the Pacific Community Applied Geoscience and Technology Division		Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005-2015

Organisation or group	Key coordination mechanisms, groups, meetings	Key documents, programs, exercises or tools
South Asia Association for Regional Cooperation (SAARC)		SAARC Disaster Management Framework SAARC Disaster Response Agreement
SAARC Disaster Management Centre		South Asian Disaster Knowledge Network South Asia Digital Vulnerability Atlas
SAARC Meteorological Research Centre		Sphere Project Sphere Minimum Standards in Disaster Response
United Nations	UN Inter-Agency Standing Committee	Emergency Relief Coordinator Clusters Common Humanitarian Action Plan Consolidated Appeal Process Central Emergency Response Fund Common Humanitarian Fund United Nations Disaster Assessment and Coordination <i>UNDAC Handbook</i> International Search and Rescue Advisory Group On-Site Operations Coordination Centre Financial Tracking Service UN Surge Capacity Humanitarian Response Depot Joint Logistics Centre / Logistics Cluster Humanitarian Information Centre Needs Assessment (as one of Coordination Tools) Global Disaster and Alert Coordination System ReliefWeb Nations Platform for Space-based Information for Disaster Management and Emergency Response <i>Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance</i> <i>Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief (Oslo Guidelines)</i> <i>Guidelines on the Use of Military and Civil Defence Assets to Support United Nations Humanitarian Activities in Complex Emergencies (MCDA Guidelines)</i> <i>United Nations Humanitarian Civil–Military Coordination—Concept Paper</i> <i>UN Civil-Military Coordination Officer Field Handbook</i> Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations

Organisation or group	Key coordination mechanisms, groups, meetings	Key documents, programs, exercises or tools
UN Centre for Regional Development		
UN Children's Fund East Asia and Pacific Regional Office		
UN Development Programme Regional Centre		
UN Economic and Social Commission for Asia and the Pacific		
UN Economic and Social Commission for Asia and the Pacific (UNESCAP)	World Meteorological Organisation / UNESCAP Panel on Tropical Cyclones	
UNESCAP Information and Communications Technology and Disaster Risk Reduction Division	Committee on Disaster Risk Reduction	UNESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness
UN High Commissioner for Refugees Regional Representation		<i>Catalogue of Emergency Response Resources</i> <i>Handbook for Emergencies (Third Edition)</i> <i>UNHCR and the Military – A Field Guide</i>
UNHCR eCentre		
UN International Strategy for Disaster Reduction (UNISDR) Regional Unit for Asia and the Pacific	World Conference on Disaster Reduction Global Platform for Disaster Risk Reduction Asian Ministerial Conference on Disaster Risk Reduction ISDR Asian Partnership on Disaster Reduction	Hyogo Framework for Action 2005–2015
UNISDR Training Centre for Urban Risk Reduction		
UN Office for the Coordination of Humanitarian Affairs Regional Office for Asia and the Pacific	Asia-Pacific Conference on Military Assistance to Disaster Relief Operations (APC-MADRO) Office for the Coordination of Humanitarian Affairs Civil–Military Coordination Course	<i>Asia-Pacific Regional Guidelines For The Use Of Foreign Military Assets In Natural Disaster Response Operations</i> Emergency Response Fund 3W Database
World Bank Global Facility for Disaster Reduction and Recovery		Global Facility for Disaster Reduction and Recovery Post-Disaster Needs Assessment
World Health Organisation Regional Offices		<i>Handbook for Emergency Field Operations</i>

Notes

- 1 An explanation of the key definitions used in this report is in Appendix 4.
- 2 United Nations Economic and Social Commission for Asia and the Pacific and International Strategy for Disaster Reduction (UNESCAP & UNISDR) 2010, *Protecting development gains: reducing disaster vulnerability and building resilience in Asia and the Pacific: the Asia–Pacific Disaster Report, 2010*, p. 2, available from <http://www.unescap.org/idd/pubs/Asia-Pacific-Disaster-Report%20-2010.pdf>.
- 3 UNESCAP & UNISDR, *Protecting development gains*.
- 4 Geophysical hazards consist of earthquakes, volcanic eruptions and ‘mass’ movements (dry). Meteorological hazards consist of tropical storms, extra-tropical cyclones, winter storms and local/convective storms. Hydrological hazards consist of floods and ‘mass’ movements (wet). Climatological hazards consist of extreme temperatures, droughts and wildfires. UNESCAP & UNISDR, *Protecting development gains*.
- 5 The assessments from UNESCAP and UNISDR are of the future risks for common hydrometeorological hazards. They exclude extremely large disasters caused by earthquakes, tsunamis and tropical cyclones. UNESCAP & UNISDR, *Protecting development gains*, p. 17.
- 6 UNESCAP & UNISDR, *Protecting development gains*, p. 42.
- 7 Chris Piper divides such key supporting policies/structures into four areas: security/good governance, economic/social development (with an emphasis on poverty reduction), food/water security, and environmental sustainability/climate change adaptation. C Piper 2011, *TorqAid diagrammatic framework for disaster risk management*, available from <http://www.torqaid.com/images/stories/TorqAidDiagrammaticFrameworkforDRM.pdf>
- 8 Bill Canny, *A review of NGO coordination in Aceh post earthquake/tsunami, 2005*, p. 2, available from <http://reliefweb.int/sites/reliefweb.int/files/resources/FEA7B9C91F77119949257021001CFECo-icva-idn-8apr.pdf>.
- 9 *An investment for sustainable development in the Pacific island countries—disaster risk reduction and disaster management: A framework for action 2005–2015: Building the resilience of nations and communities to disasters*.
- 10 AusAID, *Australia–Indonesia Disaster Reduction Facility feasibility study report*, available from http://www.ausaid.gov.au/hottopics/pdf/AIDRF_Feasibility_Study_Report_annex11-13.pdf.
- 11 For details, see <http://www.futuredirections.org.au/publications/fdi-feature-interviews/233-operation-pakistan-assist-ii-the-most-successful-australian-deployment-of-a-combined-humanitarian-task-force.html>.
- 12 United Nations Office for the Coordination of Humanitarian Affairs, 2010. *Asia-Pacific Regional Guidelines for the use of Foreign Military Assets in Natural Disaster Response Operations*.
- 13 Secretariat of the Oslo Guidelines Process, 2009. *Draft Guidelines on the Use of Military and Civil Defence Assets to Support United Nations Humanitarian Activities in Complex Emergencies*.
- 14 Australian Department of Foreign Affairs and Trade (DFAT), *PNG and Australia plan for disaster relief*, 19 October 2007,

- available from <http://www.png.embassy.gov.au/pmsb/MRo71019.html>.
- 15 Capabilities are not just physical capabilities such as helicopters, medical teams and personnel. They include relationships between the militaries of the assisting state and the affected state. During the 2010 Pakistan floods response, for example, the ADF's relationship with the Pakistan military permitted Australia's joint military and civilian medical team to operate outside of Islamabad (where most civil DR response activity was restricted).
 - 16 Australian Department of Defence, *Defence White Paper 2009: Defending Australia in the Asia Pacific century: Force 2030*.
 - 17 The costs of ADF assets used for these missions are not publicly available, so it's not possible to state categorically that military assets are more expensive than civilian ones.
 - 18 Kevin Rudd, Foreign Minister, 'Australian expertise to assist after natural disasters and conflict', media release, 22 March 2011, available from http://www.foreignminister.gov.au/releases/2011/kr_mr_110322.html.
 - 19 Australian Department of Defence, *Defence White Paper 2009*.
 - 20 Department of Defence, 2006, Defence capability development manual. See <http://www.defence.gov.au/publications/dcdm.pdf>
 - 21 Australian Department of Defence, *Defence White Paper 2009: Defending Australia in the Asia Pacific century: Force 2030*, p. 40.
 - 22 Australian Prime Minister's Office, *Japan–Australia joint communique*, 21 April 2011, available from <http://www.pm.gov.au/press-office/japan-australia-joint-communicue-tokyo>.
 - 23 Daniel Garrun, *Singapore and Australia sign bilateral defence agreement*, *naval-technology.com*, 13 August 2008, available from <http://www.naval-technology.com/news/news40595.html>.
 - 24 See *Partnerships for recovery and a stronger future: Standing with Japan after 3-11*. CSIS Task Force in partnership with Keidanren, Washington, DC, November 2011
 - 25 This is under the ASEAN Agreement on Disaster Management and Emergency Response Work Program 2010–2015; see <http://ahacentre.org/>.
 - 26 Australian Prime Minister's Office, *Japan–Australia joint communique*, 21 April 2011.
 - 27 Leah Averitt 2010, 'China's growing maritime HA/DR capabilities', *China Brief*, vol. 10, June 2010; Leah Averitt 2011, 'Chinese hospital ships and soft power', *Semaphore*, RAN Seapower Centre, April 2011.
 - 28 Information from AusAID.
 - 29 ASEAN Regional Forum Disaster Relief Mapping Service, <http://www.arf-drms.com/geoportal/catalog/main/home.page>.
 - 30 Australian Department of Defence, *Portfolio Additional Estimates Statements 2010–11*, p. 49.
 - 31 Julia Gillard, 'Keynote address to the Japan National Press Club', 22 April 2011, available from <http://www.pm.gov.au/press-office/keynote-address-japan-national-press-club-tokyo>.
 - 32 Australian Department of Defence, *Defence White Paper 2009*, p. 40.
 - 33 Australian Department of Defence, *Defence White Paper 2009*, p. 54.

- 34 Australian Department of Defence, *Defence White Paper 2009*, p. 60.
- 35 The AUSASSIST Plan is the Australian Government's plan for the provision of emergency assistance, using Australian Government physical and technical resources, following a disaster or emergency in another country. Where the Commonwealth does not have the capacity, it may task state or territory agencies and private sector organisations. The plan is designed to manage domestic logistics coordination of Australian Government capabilities used in disaster response and the payment of costs associated with their deployment. It does not address arrangements for setting the disaster response mission or how the mission will be managed.
- 36 Current ODA-eligible countries are as follows (those in italics are low-income countries): *Afghanistan, Bangladesh, Bhutan, Cambodia, China, Cook Islands, Fiji, Democratic People's Republic of Korea (North Korea), India, Indonesia, Kazakhstan, Kiribati, Kyrgyzstan, Laos, Maldives, Marshall Islands, Micronesia, Mongolia, Nauru, Nepal, Niue, Pakistan, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Tajikistan, Timor-Leste, Tonga, Turkmenistan, Tuvalu, Uzbekistan, Vanuatu and Vietnam.*
- 37 The US Joint Staff, combatant commands and individual services use the term 'foreign humanitarian assistance' to include disaster relief activities, but that term isn't used in Australia because that could lead to confusion between DR and HA. The Department of Defense and the rest of the US Government use the term 'foreign disaster relief'. Defense's joint doctrine publication, 3-29 *Foreign humanitarian assistance* (2009), states that the one type of foreign humanitarian assistance mission is relief missions, which include 'prompt aid that can be used to alleviate the suffering of disaster victims. Potential relief roles for US forces include immediate response to prevent loss of life and destruction of property, construction of basic sanitation facilities and shelters, and provision of food and medical care'. Foreign humanitarian assistance conducted by the US military focuses on saving human lives, reducing human suffering and mitigating property damage. It rarely includes construction activities.
- 38 In late 2011, severe flooding killed several hundred people and affected another 2.5 million in Thailand. The US military positioned the George Washington Carrier Strike Group in the Gulf of Thailand and deployed a 10-person humanitarian assistance survey team to Thailand. As it became clear that Thailand's own efforts were successful, the US military forces departed.
- 39 Center for Excellence in Disaster Management and Humanitarian Assistance, <http://coe-dmha.org/Research/Default.aspx>.
- 40 The Foreign Consequence Management portion of Operation Tomodachi (that is, assistance to mitigate the effects of the nuclear disaster) was on par with the foreign humanitarian assistance component. Congressional Research Service, *Japan 2011 earthquake: US Department of Defense (DOD) Response*, report R41690, 22 March 2011.
- 41 The 2011 exercise consisted of three separate parts—a command-post exercise, an interagency conference and a conference held by the Mongolian Ministry of Health. The command-post exercise, which focused on a command's response to a disaster and coordination

- between agencies, included an earthquake drill in Ulaanbaatar. All of the city's government facilities were evacuated and participants moved to designated earthquake shelters, as they would have in a real earthquake. A total of 125 schools also participated in the evacuation drill. The second phase, the interagency conference, brought together all of the top agencies for DR in Mongolia and included a tabletop exercise in which participants from the agencies, as well as rescue and disaster workers, discussed the events and developed action plans to build a way ahead. The final phase was the Ministry of Health Conference, which involved health workers setting up emergency services and field hospitals. Center for Excellence in Disaster Management and Humanitarian Assistance, <http://coe-dmha.org/Research/Default.aspx>.
- 42 The Pacific Disaster Center is an applied research and development organisation promoting a regional DRR agenda. The Asia–Pacific Center for Security Studies is a research and training centre in Honolulu that seeks to build relationships between USPACOM and Asia–Pacific regional states and their armed forces.
- 43 Jovane M Holland, *Marines practice disaster relief operations*, PACOM headlines, 8 October 2010, available from http://www.pacom.mil/web/Site_Pages/Media/News%20201010/20101008-marines%20practice%20disaster%20relief%20ops.shtml.
- 44 Kissta M Feldner, *Falcons conduct humanitarian assistance for October training mission*, www.army.mil, 30 October 2009, available from http://www.army.mil/article/29625/Falcons_conduct_humanitarian_assistance_for_October_training_mission/.
- 45 US State Department, *Quadrennial diplomacy and development review*, p. 133.
- 46 OFDA responds to all types of natural disaster and provides assistance when lives or livelihoods are threatened by catastrophes. It funds mitigation activities to reduce the impact of recurrent natural hazards and provides training to build local capacity for disaster management and response. USAID, *Disaster assistance*, 7 November 2011, available from http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/.
- 47 US Department of Defense 2009, Joint publication: 3-29 *Foreign humanitarian assistance*, p. xii.
- 48 The *Foreign Assistance Act* of 1961 (with amendments) lays out the authorities the US Government has in providing assistance to foreign countries. US legislation governing humanitarian or disaster assistance leaves the decision on the type of assistance required to the President.
- 49 The primary authority to allow the DOD to provide DR is Title 10, Section 2561 (formerly Section 2551). It allows the use of appropriated funds to provide transport for humanitarian relief and other humanitarian purposes worldwide.
- 50 Operationally within USPACOM, the response to a disaster is the responsibility of J33 (Current Operations Division). It has between 30 and 40 staff officers. J33 staff man the Joint Operations Center, which operates 24 hours a day. If it appears that a significant US military response to a foreign disaster will be required, J33 staff call J35 (Future Operations Division) staff and request assistance in the Joint Operations Center. Staff from J352 (Crisis Response Planning Branch) within J35

task one of the three officers who are the designated HA/DR billets.

- 51 James L Schoff, *In times of crisis*, Institute for Foreign Policy Analysis, 2009.
- 52 Handy Shipping Guide, *Antonov giant's [sic] join air freight relief efforts to Haiti: biggest aircraft in the world committed to Japanese program*, 24 February 2010, available from http://handyshippingguide.com/shipping-news/antonov-giants-join-air-freight-relief-efforts-to-haiti_1348.
- 53 Defense of Japan 2010, p. 226
- 54 Defense of Japan 2010, p. 225
- 55 Defense of Japan 2010, p. 224
- 56 Japanese Ministry of Defense, *Japanese Defense Focus*, no. 17, March 2010, available from <http://www.mod.go.jp/e/jdf/no17/topics.html>. The XC-2 won't be able to carry the CH-47 Chinook, so strategic airlift will continue to need to be hired or the helicopters will need to be transported by sea.
- 57 Sharon Wiharta, Hassan Ahmad, Jean-Yves Haine, Josefina Löfgren and Tim Randall, *The effectiveness of foreign military assets in natural disaster response*, Stockholm International Peace Research Institute, Stockholm, 2008, available from <http://books.sipri.org/files/misc/FMA/SIPRIo8FMAprelims.pdf>.
- 58 Wiharta et al., *The effectiveness of foreign military assets in natural disaster response*.
- 59 Japan International Cooperation Agency (JICA), 'Twenty years of humanitarian work,' *Network Magazine*, vol. 36, June 2009, available from http://www.jica.go.jp/english/publications/reports/network/vol36/vol_36_1.html.
- 60 Japanese Ministry of Defense, 'Border road repairs in Haiti completed', *Japan Defense Focus*, no. 19, November 2010, available from <http://www.mod.go.jp/e/jdf/no19/current.html>.
- 61 US Geological Survey, *Earthquakes with 50,000 or more deaths*, available from http://earthquake.usgs.gov/earthquakes/world/most_destructive.php.
- 62 JICA, *Annual report 2009*, JICA, Tokyo, p. 143.

Acronyms and abbreviations

ACC	Australian Civilian Corps
ACDM	ASEAN Committee on Disaster Management
ADF	Australian Defence Force
ADMM	ASEAN Defence Ministers' Meeting
AFP	Australian Federal Police
AGCC	Australian Government Crisis Committee
AIFDR	Australia-Indonesia Facility for Disaster Reduction
APC-MADRO	The Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations
APCMCoE	Asia Pacific Civil-Military Centre of Excellence
APEC	Asia-Pacific Economic Cooperation
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Agency for International Development
AUSASSIST	Australian Government Overseas Disaster Assistance Plan
CDF	Chief of the Defence Force (Australia)

COE-DMHA	Center for Excellence in Disaster Management and Humanitarian Assistance (US)	NCC	National Crisis Committee (Australia)
CRF	Central Readiness Force (Japan)	NDPGs	National Defense Policy Guidelines (Japan)
DFAT	Department of Foreign Affairs and Trade (Australia)	NGO	non-government organisation
DR	disaster relief	ODA	official development assistance
DRM	disaster risk management	OFDA	Office of Foreign Disaster Assistance (US)
DRR	disaster risk reduction	PNG	Papua New Guinea
DRT	disaster relief team (Japan)	SAARC	South Asia Agreement on Regional Cooperation
EMA	Emergency Management Australia	UN	United Nations
FIC	fundamental input to capability	UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
GDP	gross domestic product	UNDAC	United Nations Disaster Assessment and Coordination
HA/DR	humanitarian assistance and disaster relief	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
HMAS	Her Majesty's Australian Ship	UNISDR	United Nations International Strategy for Disaster Reduction
HMNZS	Her Majesty's New Zealand Ship	UNISDR	United Nations Secretariat for International Strategy for Disaster Reduction
HQJOC	Headquarters Joint Operations Command (Australia)	USAID	US Agency for International Development
IDETF	Inter-Departmental Emergency Task Force (Australia)	USAR	urban search and rescue
IMF	International Monetary Fund	USNS	United States Naval Ship (civilian manned, in service)
JASDF	Japan Air Self-Defense Force	USPACOM	US Pacific Command
JDRT	Japan Disaster Relief Team	VCDF	Vice Chief of the Defence Force (Australia)
JGSDF	Japanese Ground Self-Defense Force	WFP	World Food Programme
JICA	Japan International Cooperation Agency		
JMSDF	Japan Maritime Self-Defense Force		
JSDF	Japan Self-Defense Forces		
LHD	landing helicopter dock		
MPAT	Multinational Planning Augmentation Team (US)		
MSC	Head Military Strategic Commitments (Australia)		

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