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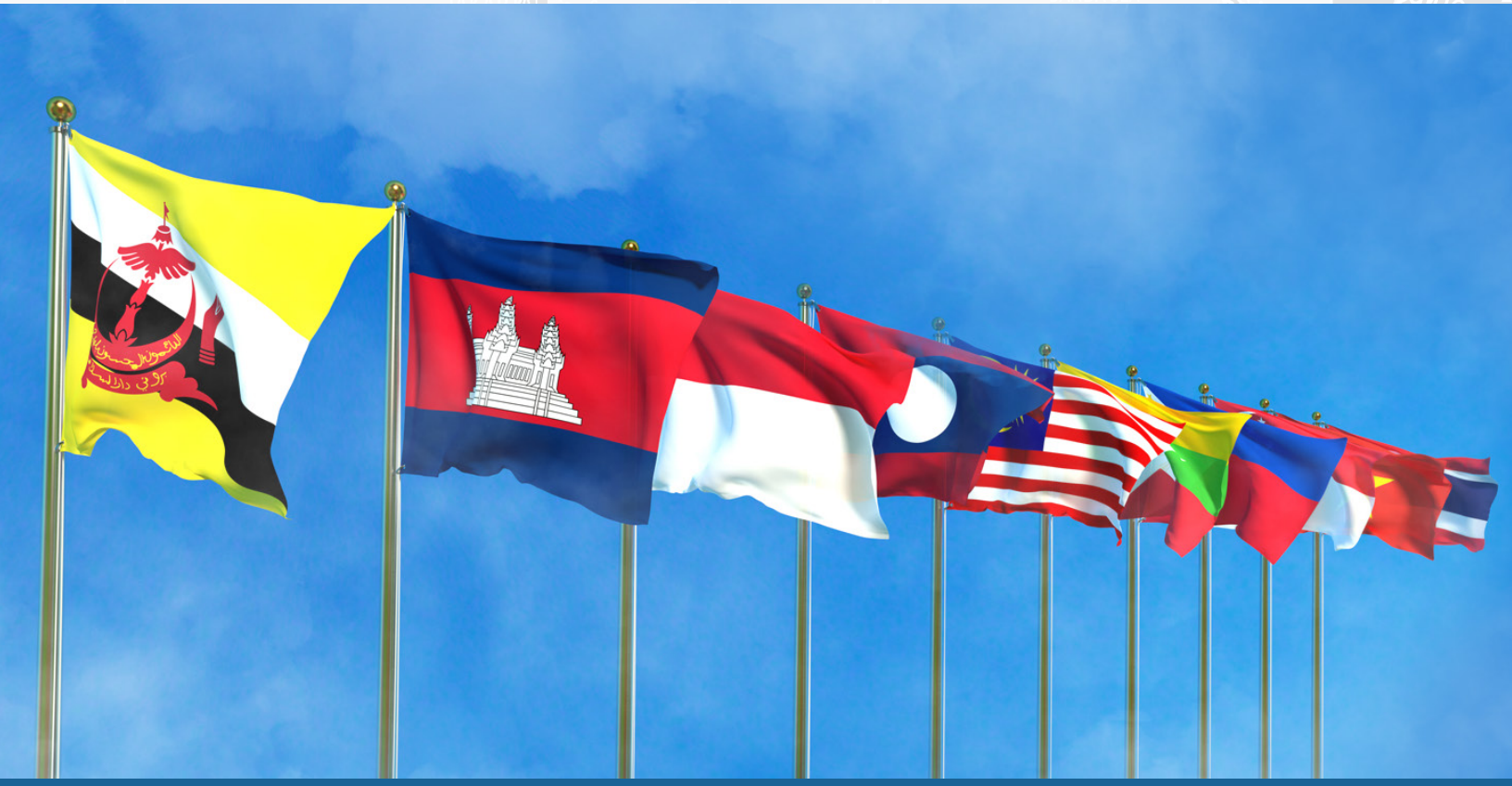

ASEAN

Disaster Management Reference Handbook

June 2022

Disaster Management Reference Handbook Series

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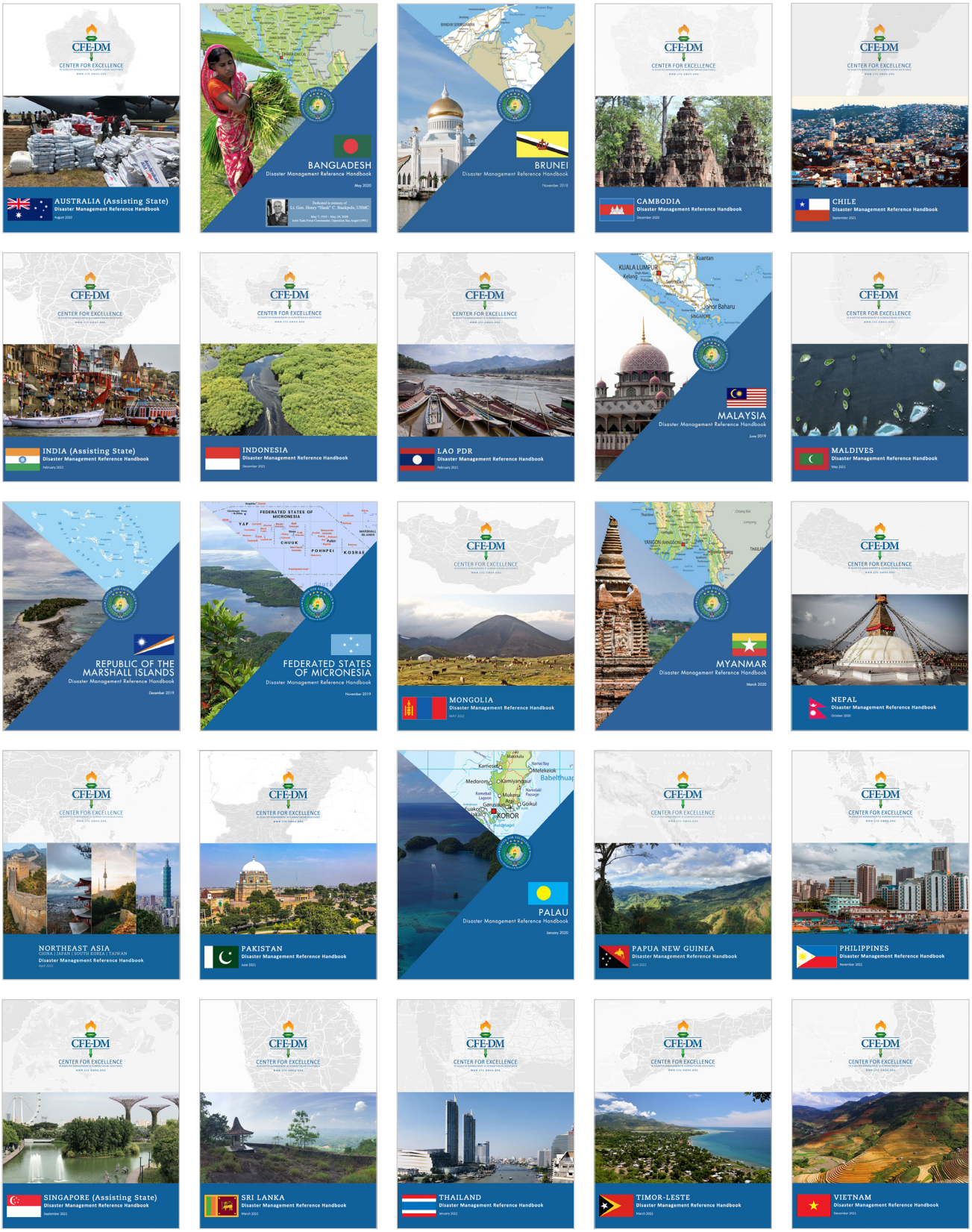

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The Staff of the AHA Centre.

Disclaimer

This handbook has been prepared in good faith based on resources available at the time of publication. Information was gathered from the public domain, from local and government sources, as well as from subject matter experts. Where possible, a link to the original electronic source is provided in the endnote (reference) section at the end of the document. While making every attempt to ensure the information is relevant and accurate, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) does not guarantee or warrant the accuracy, reliability, completeness, or currency of the information in this publication. Each handbook is a working document and will be updated periodically as new and significant information becomes available. We hope that you find these handbooks informative, relevant, reliable, and useful in understanding disaster management and response. We welcome and appreciate your feedback to improve this document and help fill any gaps to enhance its future utility. For feedback, comments, or to request a printed copy please email cfe.dmha.fct@pacom.mil. Please visit our website to download copies of this publication and other products (https://www.cfe-dmha.org). All parts of this publication may be reproduced, stored in retrieval systems, and transmitted by any means without the written permission of the publisher.

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Letter from the Director

The Association of Southeast Asian Nations (ASEAN) matters. The 10-member regional bloc is at the heart of the Asia-Pacific region. By combining their influence and efforts, ASEAN member-states have been able to help shape economic, political, and security interests and discussions. A stable Southeast Asia is in the national interest of the United States (U.S.). One of the most efficient ways to help strengthen the region's governments and communities is to invest in partnerships with ASEAN.

The member-states of ASEAN have committed to coordinated action to better respond to natural and man-made disasters and to mitigate disaster impacts. In the past 20 years, the ASEAN member-states, as a group, have demonstrated the efficacy of dynamic, cooperative initiatives, and the U.S. and other players have recognized the significance of supporting and participating in ASEAN's disaster management programming. Among these initiatives are the ASEAN Defence Ministers' Meeting (ADMM) Plus, which includes the U.S. and others in consultation and confidence-building to boost military readiness, logistics capacity, and medical resources that build regional forces' ability to respond to emergencies. In addition, the U.S. and other stakeholders join ASEAN in the ASEAN Regional Forum (ARF), which has developed work plans on disaster preparedness and management and emphasized civilian and military coordination during disaster relief operations.

Integrated and inclusive approaches are an essential aspect of human security. As ASEAN member-states are located in a region particularly vulnerable to natural disasters, their collective ability to leverage their own resources and their international partnerships will be critical to creating resilient communities. Beyond the high-level defense and diplomatic relationships embodied by the ADMM-Plus and ARF, ASEAN has developed multiple international partnerships specifically focused on disaster management. In addition to its relationship with the U.S., ASEAN has partnerships with regional players including Australia, China, and Japan as well as with extra-regional stakeholders such as the European Union, Pakistan, and Turkey, and finally with international and regional organizations.

Disaster events and hazards have never ceased, and, as climate change drives an increase in their intensity, frequency, and unpredictability, ASEAN is increasingly pursuing mitigation and adaptation. This handbook serves as an initial source of information for those individuals preparing for disaster risk reduction activities or immediate deployment to one of the ASEAN member-states. It discusses how the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) continues to make inroads in disaster response, and it sheds light on the deployment of the ASEAN-Emergency Response Assessment Team (ERAT) in large scale disaster response. As a whole, the handbook provides decision makers, planners, researchers, and responders greater insight into ASEAN frameworks, tools, and mechanisms, thereby enhancing regional civil-military response.

Sincerely,

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

The Joint Force, allies, and partners are fully prepared to conduct and support foreign humanitarian assistance.

Mission

CFE-DM builds crisis response capacity in U.S. and partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises.

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EXECUTIVE SUMMARY

The Association of Southeast Asian Nations (ASEAN) is made up of 10 member-states: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (PDR), Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. While ASEAN's purposes and goals touch on various sectors, such as economics, culture, academic research, and industry, its member-states have also declared that, as a regional grouping, they will promote regional peace, stability, mutual assistance, and collaboration.[1] All of these underpin the ASEAN efforts to better respond to natural and man-made disasters and to mitigate disaster impacts through coordinated action.

The Indian Ocean ("Boxing Day") Tsunami of December 2004 caused significant loss and damage to Southeast Asia. Although countries outside the region also suffered, the devastation in places like Indonesia and Thailand propelled these countries and their fellow ASEAN member-states into a process to formalize and institutionalize their individual and collective approaches to disaster management (DM). Of key importance was the swift completion of negotiations to formulate the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), the legal basis for ASEAN regional DM. AADMER was signed in 2005 and came into force after ratification in 2009.

In the past 15 years, ASEAN has prioritized building capacity to address natural hazards such as floods, drought, and typhoons. Figure 1 displays a 10-year summary of disasters that have struck the ASEAN region.[2] The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) classifies an event as a disaster if more than 100 persons in more than one sub-district were affected. Data from the AHA Centre's ASEAN Disaster Information Network (ADINet) shows that 85% of disasters in the ASEAN region are caused by hydrometeorological hazards. Floods, storms, and wind account for large proportions of displacement compared to other disasters. Floods are the most frequent type of disaster whereas wind-related disasters constitute the biggest losses in terms of economic damage, displacement, and number of affected people.[3]

ASEAN has succeeded in developing institutions not only for addressing the threat posed by natural hazards but also for building resilience into communities at risk. ASEAN capacity is not simply static – formal agreements or summits – but, rather, it takes the form of ASEAN DM work programs and plans, regular emergency simulation exercises, and the establishment of the AHA Centre and Disaster Emergency Logistics System for ASEAN (DELSA). Although these developments have enabled ASEAN to be a central actor for addressing natural hazards, each member-state retains its own local and national processes and agencies, and it is in the coordination of these national processes that ASEAN plays a key role.

Despite progress on building common frameworks, policies, and plans for disaster risk reduction (DRR), mitigation, and response, as a whole ASEAN continues to address gaps. For example, during the response to the Coronavirus Disease – 2019 (COVID-19) pandemic, many regional initiatives started out as ad hoc projects as there was no single regional entity tasked with responding to public health emergencies. Nonetheless, as the pandemic wore on, evidence of coordinated efforts emerged. In February 2020, once it became clear that COVID-19 was going to become a significant problem, Vietnam (as ASEAN Chair) issued the Chairman's Statement on ASEAN's Collective Response to the Outbreak of Coronavirus Disease 2019. Shortly afterward, a Special ASEAN Coordinating Council (ACC) on COVID-19 was convened and established the ACC Working Group on Public Health Emergencies. During the Special ASEAN Summit on Coronavirus Disease 2019 in April 2020, there was a renewed push for increasing the mandate of the AHA Centre to cover public health emergencies, and the AHA Centre opened DELSA warehouses for utilization

of relief stockpiles such as mobile storage units, hygiene kits, and prefabricated offices. In the end, while ASEAN solidarity was a critical component in the pandemic response, it was insufficient to overcome the deep material and technical shortfalls, and most assistance was bilateral with China, Singapore, the United States (U.S.), and Vietnam providing aid to ASEAN member-states directly.[4]

Given the successes and shortcomings observed in ASEAN's collective DM actions in recent years, ASEAN member-states continue to invest in ASEAN capacity. Continuing efforts are focused on enhancing AHA Centre capacity, building training and certification programs for DM practitioners and professionals, and incorporating extra-regional and international partners in ASEAN planning and rehearsal processes to ensure ASEAN and its member-states are integrated into the global humanitarian assistance and disaster relief (HADR) community of practice.

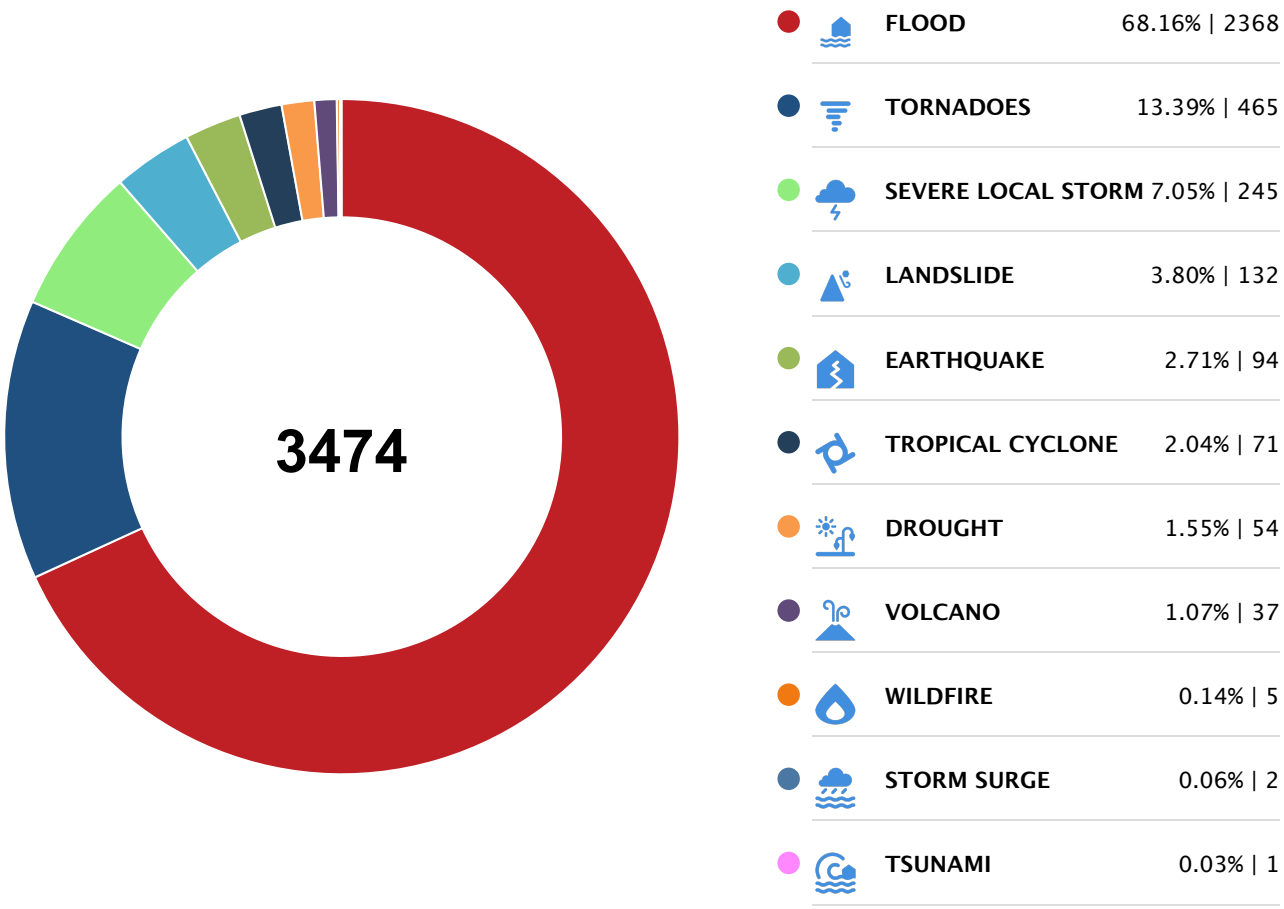


Figure 1: Disasters in the ASEAN Region (2012-2022)

ASEAN GOVERNING BODIES

The ASEAN Summit is the highest policy-making body and is comprised of the ASEAN member-states' heads of state or government. The ASEAN Summit may convene whenever necessary in addition to its standard two regular meetings annually. For example, two special Summits were held in April 2020, i.e., the Special ASEAN Summit and Special ASEAN Plus Three Summit on Coronavirus Disease 2019. The ASEAN Charter stipulates that the ASEAN Summit deliberates, provides policy guidance, and takes decisions on key issues; moreover, it may address emergency situations affecting ASEAN by taking appropriate actions. The ASEAN Summit appoints the Secretary-General.[5]

Since the 2008 entry into force of the ASEAN Charter, ASEAN's work has been overseen by the ASEAN Coordinating Council (ACC), made up of the Foreign Ministers of the 10 member-states. The ACC is responsible for overseeing the development and implementation of documents as assigned by the ASEAN Summit via a process of seeking input and concurrence from the three ASEAN Community Councils – i.e., Political and Security, Economic, and Socio-Cultural – prior to submission for endorsement at the ASEAN Summit. Various bodies specializing in key questions report to the ACC.[6]

Under "ASEAN 2025: Forging Ahead Together," the 10 member-states are committed to empowering the ASEAN Socio-Cultural Community (ASCC) to build a community that is inclusive, sustainable, resilient, and dynamic. This includes the development of resilient communities with enhanced capacity and capability to adapt and respond to social and economic vulnerabilities, disasters, climate change, and other emerging threats and challenges.[7]

ASEAN Secretariat

The ASEAN Secretariat oversees the day-to-day work of ASEAN and monitors and facilitates coordination among ASEAN councils and bodies. Under the Secretary-General, there is a functional structure with two Deputy Secretaries-General, one for "corporate" affairs such as administration, finance, human resources, public information, and information technology, and the other for operational and policy matters.

Among the key work areas for the Secretariat is the implementation of the Master Plan on ASEAN Connectivity 2025 (MPAC 2025), which seeks to professionalize and institutionalize ASEAN processes to ensure the organization serves the people and governments of member-states. The ASEAN Connectivity Coordinating Committee is the primary oversight body, tasked with monitoring, evaluating, and reporting on progress and challenges in MPAC 2025 implementation. The Secretariat directly supports the Coordinating Committee and engages with external parties on issues involved in MPAC 2025 progress. One of the areas where MPAC 2025 underpins ASEAN's efforts to reduce disaster risk, mitigate risk, and respond to disasters is within the Blueprints where it targets expansion of productive and sustainable infrastructure that particularly impact the resilience of urban populations.[8]

The ASCC Blueprint 2025, found within ASEAN 2025, is the mechanism to guide the development of a sustainable and resilient community. The ASCC Council is responsible for overseeing the implementation of the Blueprint and, with the support of the Senior Officials Committee for the ASCC, is responsible for coordinating cross-sectoral and cross-pillar collaboration. The ASEAN Secretariat convenes and enhances the Senior Officials Coordinating Conference on the ASEAN Socio-Cultural Community to provide a platform for broad engagement within ASCC and from other pillars (through their chairpersons/vice-chairs), the Committee of Permanent Representatives to ASEAN, entities associated with ASEAN, and other relevant stakeholders, including sub-regional organizations.[9] Other bodies

under the ASCC are the ASEAN Earthquakes Information Centre and the ASEAN Specialised Meteorological Centre.[10]

DMHA Division of the Secretariat

In times of disaster, the Secretary-General may serve as the ASEAN Humanitarian Assistance Coordinator (SG-AHAC) and will be tasked with ensuring strategic-level coordination during response and recovery in the region. At all times, the Secretary-General is the focal point for ASEAN to engage the global community – i.e., the United Nations (UN) system, donor countries, international financial institutions, and non-governmental organizations (NGO) – on DM, climate change adaptation, and economic resilience.[11] Based on the One ASEAN One Response Declaration, SG-AHAC can be activated when there is a request from a disaster-affected member-state or with the consent (or absence of an objection) of the affected member-state when an offer of assistance is made by the Secretary-General. When these conditions are met, SG-AHAC will:

- Communicate with the Head of State of the affected member-state to offer assistance
- Report to the ASEAN Chair at the level of Head of State on the disaster situation and status of overall ASEAN response
- Call for support from ASEAN Leaders to mobilize resources to support the affected member-state
- Seek guidance from the ASEAN Chair on resource mobilization, which may include convening a special high-level meeting
- Coordinate and mobilize resources from ASEAN sectors and mechanisms, including the ASEAN Development Fund
- Coordinate and mobilize resources from ASEAN Dialogue Partners, international organizations, and other partners
- Raise public awareness on ASEAN's overall response to the disaster; and
- Coordinate the monitoring and evaluation of ASEAN's overall response to the disaster.[12]

Under the Secretariat's ASCC Department, the Sustainable Development Directorate oversees the work of the Disaster Management and Humanitarian Assistance (DMHA) Division. Figure 2 shows the organizational structure of the ASEAN Secretariat.[13]

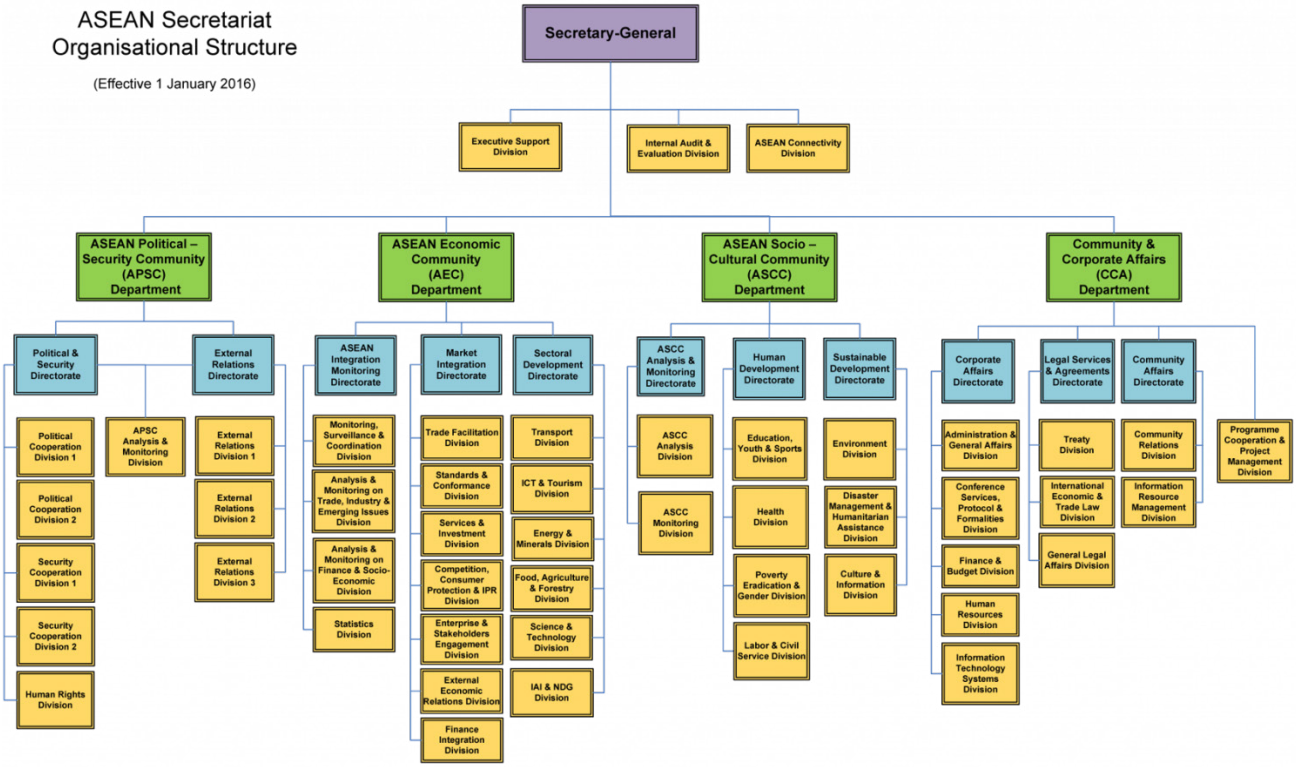


Figure 2: The ASEAN Secretariat's Organizational Structure

The DMHA Division is responsible for managing ASEAN's cooperation in DM, supporting and facilitating the work of the ASEAN Committee on Disaster Management (ACDM), and monitoring implementation and operationalization of ASEAN's agreements on DM including the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) and its Work Programmes as well as the ASEAN Declaration on "One ASEAN, One Response: Responding to Disasters Within and Outside the Region." The DMHA Division also supports the role of the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) as the regional hub for information and knowledge for DM and as the driver of coordination to ensure ASEAN's fast and collective response to disasters within the ASEAN region. The Division works closely with other ASEAN bodies, Dialogue Partners, the UN system agencies, civil society, the Red Cross/ Red Crescent Movement, the private sector, academia, and other regional organizations.[14]

ASEAN Committee on Disaster Management

The ASEAN Committee on Disaster Management (ACDM) is a subsidiary body of the ASEAN Ministerial Meeting on Disaster Management (AMMDM) under the ASCC.[15] It serves as the main body that oversees implementation of the AADMER. The ACDM is headed by a Chair, supported by a Vice-Chair, and has a membership comprising the National Disaster Management Organization (NDMO) from each ASEAN member-state. The ASEAN Secretariat provides support to the ACDM on policy, program development, advocacy, resource mobilization, and monitoring and evaluation. The ACDM also serves as the governing board for the AHA Centre.[16] ACDM's place within the ASEAN institutional structure for disaster management is shown in Figure 3.[17]

Established in 2003, the ACDM meets at least once every year. Its main roles include:

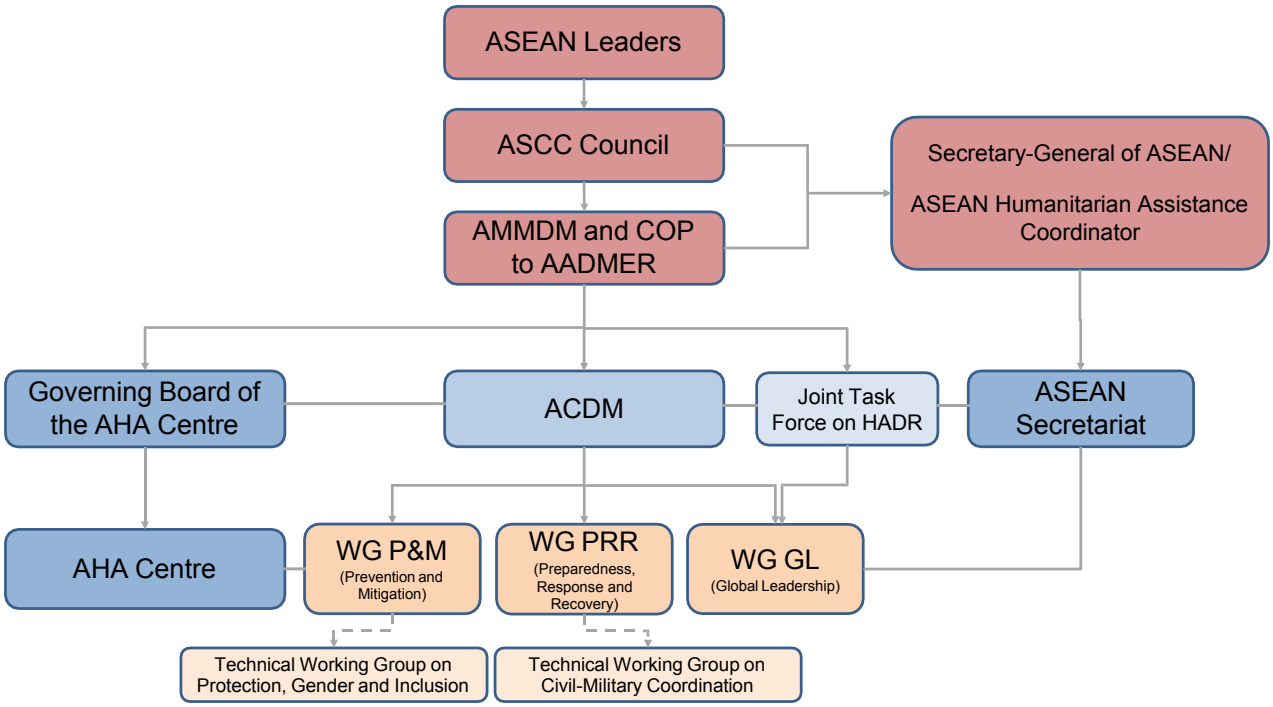


Figure 3: ASEAN's Disaster Management Institutional Structure

- To provide leadership and guidance towards fulfilling the goals and objectives of AADMER, according to the vision of disaster-resilient nations and safer communities within ASEAN by 2015
- To initiate, direct, and oversee the development, monitoring, and implementation of the AADMER Work Programme and other initiatives implemented by the respective working groups
- To strengthen coordination with relevant ASEAN bodies; and
- To collaborate with ASEAN Dialogue Partners, multilateral agencies, NGOs, and the private sector.

As the ASEAN lead for HADR, the ACDM also coordinates its work with other relevant ASEAN bodies through the Joint Task Force (JTF) on HADR, which consists of the Chairs from the ASEAN Senior Officials Meeting, the ASEAN Defence Senior Officials Meeting, the Senior Officials Meeting on Social Welfare and Development, and Senior Officials Meeting on Health Development. The ACDM also engages various partners and stakeholders to ensure that the implementation of the AADMER is inclusive and comprehensive. The ACDM's work is guided by the AADMER and its subsequent Work Programmes, ASCC Blueprints, ASEAN Vision 2025 on Disaster Management, and the ASEAN Declaration on One ASEAN One Response.[18]

ACDM Working Groups

The ACDM is supported by Working Groups (WG) that provide strategic direction in implementing the AADMER Work Programme, the most recent of which is dated 2021-2025. Based on the 2020 revisions to the ACDM terms of reference, WG key responsibilities include initiating, leading, and implementing outputs and activities that fall under their respective strategic components and priority programs. Moreover, they maintain awareness of related initiatives within the region and globally to identify possible opportunities for collaboration. Finally, the WGs conduct regular monitoring, review, and evaluation of the implementation of their respective priority programs, outputs, and activities based upon an agreed set of indicators; this monitoring involves input from the ASEAN Secretariat as well as other technical experts.

ACDM WGs are composed of national focal points from ASEAN member-states' relevant ministries or agencies and the ASEAN Secretariat. They may invite dialogue partners, regional and international agencies, international financial institutions, community-based organizations, NGOs, academic institutions, the private sector, think tanks, and individuals to attend open sessions as relevant. The Chairs and Co-Chairs of each WG are assigned for the five-year span of the Work Programme.

The three WGs for 2021-2025 are: Prevention and Mitigation; Preparedness, Response, and Recovery; and Global Leadership. There is some flexibility within the Work Programme to allow the WGs to work across pillars and programs and to use various mechanisms best suited to achieving outputs.

- WG on Prevention and Mitigation (Chairs: Laos, Philippines, and Thailand) – Priority Program 1 on Risk Assessment and Monitoring, and Priority Program 2 on Prevention and Mitigation
- WG on Preparedness, Response, and Recovery (Chairs: Malaysia, Myanmar, and Singapore) – Priority Program 3 on Preparedness and Response, and Priority Program 4 on Resilient Recovery
- WG on Global Leadership (Chairs: Indonesia, Singapore, and Vietnam) – Priority Program 5 on Global Leadership

The five priority programs and their sub-priorities are:

- Priority Programme 1: Risk Assessment and Monitoring
  - 1.1 Risk Assessment
  - 1.2 Early Warning
  - 1.3 Risk Communication
- Priority Programme 2: Prevention and Mitigation

- 2.1. Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA)
- 2.2. Resilient Cities and Human Settlements
- 2.3. Resilient Economy
- 2.4. Resilient Infrastructure
- 2.5. Vulnerable Groups and Community-Based Disaster Risk Management (CBDRM)
- 2.6. Disaster Risk Governance

- Priority Programme 3: Preparedness and Response
  - 3.1. Advance Planning and Diversification of Instruments for Regional Preparedness
  - 3.2. Strengthen Coordination and Capacity Building for Effectiveness of Regional Response
- Priority Programme 4: Resilient Recovery
  - 4.1. Pre-Disaster Programmes on Resilient Recovery
  - 4.2. Preparedness for Regional Recovery Assistance for Large-Scale Disasters
- Priority Programme 5: Global Leadership
  - 5.1. Knowledge Management for Regional Resilience Building
  - 5.2. Sharing of regional knowledge and experiences to demonstrate global leadership in disaster management

Table 1 displays some of the expected outputs of each sub-priority.[19]

1.1 Risk Assessment	
1.1.1 Risk assessment and scenarios developed and utilized	1.1.1.1. Risk and vulnerability assessments and disaster scenarios, including potential transboundary disasters, developed in coordination with relevant ASEAN Sectoral Bodies
	1.1.1.2. National and subnational risk profiles and capacities for each ASEAN Member State compiled, updated, and monitored
	1.1.1.3. A partners' platform for NDMOs, regional actors and stakeholders, including relevant ASEAN Sectoral bodies, the academic community, think tanks, risk experts, technology companies, and other reputable institutions, is established to gather/ adopt and co-develop studies and other knowledge products on risk assessment
	1.1.1.4. Online platform (innovation hub) for relevant risk assessment reports, disaster scenarios, technical studies, best practices, and other relevant knowledge products developed
	1.1.1.5. A study on the disaster risks faced by the regional economy, private sectors as well as strategic industrial/ economic zones in ASEAN conducted
1.1.2 Innovative tools in risk assessment and monitoring developed/ adapted and utilized	1.1.2.1. Functionalities and application of applicable and existing ASEAN tools/ platforms on risk assessment expanded
	1.1.2.2. A wider range of data analysis methods utilized and institutionalized
	1.1.2.3. Disaster risk data sharing agreements with relevant regional and national actors and stakeholders established
	1.1.2.4. Disaggregated data on disaster management across ASEAN Member States collected and utilized for risk assessment
	1.1.2.5. Training modules/a User Manual for Guidelines covering gender and social inclusion aspects developed
1.1.3 Climate modelling and forecasting capacity strengthened	1.1.3.1. Forecasting and monitoring capacity for climate-related hazards, especially slow-onset disasters such as drought, strengthened
	1.1.3.2. Risk modelling capacity for sudden onset climate hazards such as floods and landslides developed and improved
	1.1.3.3. Cooperation with relevant ASEAN Sectoral bodies/ actors/ institutions strengthened towards providing reliable information and systems to detect, predict, monitor, and utilize relevant climate trends

Table 1: Outcomes and Outputs for Priority Programs 1-5

1.2 Early Warning	
1.2.1. Regional multi-hazard monitoring and early warning system adapted and strengthened end-to-end	1.2.1.1. Functionalities, utilization rate, and interoperability of the ASEAN Disaster Monitoring and Response System (DMRS) enhanced
	1.2.1.2. Regional capacity on tsunami early warning strengthened in partnership with relevant institutions
	1.2.1.3. Early warning platforms from relevant ASEAN Sectoral Bodies and other relevant institutions are identified and utilized towards building a network of early warning platforms in the ASEAN
	1.2.1.4. Early warning technologies, including real-time data stream and monitoring tools complemented by automated and interactive information dissemination platforms, developed/ strengthened, and utilized
	1.2.1.5. A regional capacity building program to enhance knowledge and capabilities of disaster management professionals in the region to use multiple EWS tools is available/conducted
1.3 Risk Communication	
1.3.1. Risk communication and public dissemination platforms improved	1.3.1.1. Comprehensive Disaster Risk Communication Master Plan developed pursuant to the provisions of the ASEAN Vision 2025 on Disaster Management
	1.3.1.2. Regional awareness platform leveraging on multi-hazard risk assessment is organized/ established/ promoted
	1.3.1.3. Digital platforms (e.g., ADINet and mobile applications) for disseminating risk information to the general public established or enhanced
	1.3.1.4. Information materials on disaster risk translated to national languages of ASEAN Member States and widely disseminated
	1.3.1.5. Relevant ASEAN risk assessment platforms and products compiled and shared to aid economic planning in the ASEAN
2.1 Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA)	
2.1.1. Regional programs on DRR-CCA are scaled-up through capacity building and increased cooperation with the climate and environment-related sectors and actors in the region	2.1.1.1. The Work Plan for Strengthening Institutional and Policy Framework on DRR and CCA Integration between disaster management and environment sector continued, and wider collaboration with think tanks, academic institutions, technical agencies, and other actors dealing with DRR-CCA in the region is implemented, where appropriate
	2.1.1.2. Capacity building initiatives for planning and implementing CCA and disaster mitigation measures and strategies for both slow- and sudden-onset hazards are enhanced
	2.1.1.3. Platform to share knowledge, policies, data, and skills on climate change impacts, implementation of river basin management, and countermeasures for climate change impacts, including policies, developed
	2.1.1.4. Existing laws and regulations and best practices on DRR and CCA integration are continuously shared, collected, and published online
	2.1.1.5. A framework for monitoring and evaluating DRR-CCA program, policies, and projects developed
2.2 Resilient Cities and Human Settlements	
2.2.1 Engagement with regional and national actors on cities and human settlements is strengthened	2.2.1.1. The ASEAN Smart Cities Network as well as other relevant networks engaged to promote resilient cities in the region
	2.2.1.2 Sister cities program established among strategic cities of the ASEAN member-states with similar risks and characteristics to identify champions, strengthen collaboration, and improve the sharing of best practices on DRR

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

2.2.2. Capacity building and knowledge sharing initiatives on cities and human settlements are expanded	2.2.2.1. Impact assessment report of past and ongoing programs on resilient cities implemented by the ACDM developed
	2.2.2.2. Strategic knowledge products and/or capacity building program developed (e.g., resilience of urban- rural continuum), especially to address identified gaps based on the results of the impact assessment
	2.2.2.3. An online platform (innovation hub) for: 1) sharing of best practices and innovation on resilient cities and human settlements exposed to climate and disaster resilience; and 2) sharing of training tools and courses in disaster risk management for urban planning practitioners developed
2.3 Resilient Economy	
2.3.1 Increased multi-hazard resilience of the private sector, industrial zones, and the supply chain of vital industries	2.3.1.1. Regional capacity building program(s) on business continuity planning/ management for ASEAN corporations and medium-, small-, and micro-enterprises (MSME) developed/ adopted
	2.3.1.2. Strengthening of private sector networks working on disaster management to promote MSME and supply chain resilience, business continuity, and integration of disaster risk management in business practices supported
2.3.2. Expanded reach of the ASEAN Disaster Risk Financing and Insurance (DRFI) Programme in the region	2.3.2.1. Risk assessment component of the DRFI program continuously supported, and communication of relevant risk assessments to the ASEAN Finance Sector and Regulator enhanced
	2.3.2.2. Development of regional mechanisms on climate financing and DRR supported, and participation in the development/ implementation of regional risk-based insurance schemes / programs maintained
2.4 Resilient Infrastructure	
2.4.1. Continued improvement of school safety in the region	2.4.1.1. Stronger school safety programming through 1) enhanced safe school coordination at the regional, national, and cross sectoral levels; and 2) enhanced capacity building program
	2.4.1.2. Comprehensive school safety program strengthened for a resilient education sector that aligns with the Global School Safety initiative
	2.4.1.3. Safe school advocacy through global and regional engagements sustained
2.4.2. Enhanced knowledge and capacity on resilience of key infrastructure	2.4.2.1. Capacity building program(s) and strategic knowledge products for resilient infrastructure exposed to climate and disaster risks developed/ adopted
	2.4.2.2. An online platform (innovation hub) for: 1) sharing of best practices and innovations on resilient infrastructure exposed to climate and disaster risks; 2) sharing of training tools and courses in disaster risk management for relevant actors on resilient infrastructure developed; and 3) promotion of disaster resilient indigenous community shelters are developed/adopted
	2.4.2.3. A regional study on safe hospitals and health facilities in ASEAN in the context of natural hazards covering: 1) the baseline disaster risk profile of the hospital sector; 2) documentation of good practices and common approaches; and 3) developing case studies for high-risk hospitals
2.5 Vulnerable Groups and Community-Based Disaster Risk Management (CBDRM)	
2.5.1. Strengthened social protection mechanism within the region	2.5.1.1. Action plan and relevant capacity building programs are developed to implement the building blocks of the ASEAN Guidelines on Disaster Responsive Social Protection to Increase Resilience, highlighting the use of innovative approaches such as forecast- based financing
	2.5.1.2. A study and/or assessment on vulnerability of women and other vulnerable groups developed to support the implementation of the ASEAN Guidelines on Disaster Responsive Social Protection to Increase Resilience

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

2.6 Risk Governance	
2.6.1 Strengthened disaster risk governance to manage disaster risk	2.6.1.1. Dialogue and knowledge exchanges between policy makers, government actors, and other key actors on risk governance organized
	2.6.1.2. Baseline study on institutionalization of risk governance across member-states developed
	2.6.1.3. Tools for risk-informed and evidence-based policy making and decision-making developed/ promoted
3.1 Advance planning, coordination, and diversification of instruments for regional preparedness	
3.1.1 Enhanced collective response through standby arrangements and partnerships for new disaster scenarios	3.1.1.1 Updated regional response plans for new risk scenarios (country-level, transboundary, and co-occurrence of disasters) and gap analysis of modules (assets and capabilities) are developed to meet the potential immediate needs of affected communities
	3.1.1.2 Response trigger mechanism and pre-disaster anticipatory actions grounded on forecast-based impact analysis developed
	3.1.1.3. A platform for dialogue with reputable and relevant civil society, NGOs, and private sector entities in the region for implementation of One ASEAN One Response is established
	3.1.1.4. Engagement with existing and new partners are strengthened with concrete contributions, including NGOs, civil society, and private sector entities, incorporated to the standby arrangements, to expand the pool of resources required for ASEAN emergency response
3.1.2 Strengthened disaster planning, coordination mechanisms and processes	3.1.2.1 ASEAN disaster management tools and mechanism socialized and engaged relevant ASEAN sectors (e.g., ASEAN health sector and ASEAN militaries) to strengthen their interoperability with the Standard Operating Procedure for Regional Standby Arrangement and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP)
	3.1.2.2. Feasibility study on strengthening the ADMER Fund and other funding mechanism in support of One ASEAN One Response is commissioned
	3.1.2.3 The strategic review of SG-AHAC mechanism in areas under the purview of ACDM supported
	3.1.2.4 An impact study of the overall ASEAN disaster response mechanism is commissioned
3.1.3 Enhanced preparedness for response to large-scale disasters	3.1.3.1 Regular drills and exercises (i.e., ASEAN Regional Disaster Emergency Response Simulation Exercise) conducted to strengthen ASEAN's disaster response mechanisms
	3.1.3.2 Platform for sharing lessons learnt and best practices from exercises and deployments developed and maintained
	3.1.3.3 Feasibility studies for ASEAN to respond beyond the region developed
	3.1.3.4 Key considerations and plans for ASEAN collective response to disasters outside the region developed and endorsed
3.2 Strengthen Capacity Building for Effective Regional Response	
3.2.1 Strengthened regional humanitarian supply chain management	3.2.1.1 Regionally customized capacity building program on national level supply chain management is developed
	3.2.1.2 Audits and studies conducted to improve DELSA operations and anticipate needs from new disaster scenarios, such as pandemics (where feasible), and to identify specific relief items that meet the needs of women and vulnerable groups
	3.2.1.3 Enhanced regional logistics information management system, integrated with real-time monitoring tool covering the designated DELSA warehouses
	3.2.1.4 A logistics roadmap that includes strategic outlook of regional humanitarian logistics supply chain, regulatory harmonization for humanitarian access (including customs, immigration, and quarantine procedures), and business continuity planning for DELSA updated

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

3.2.2 Strengthened capabilities of ASEAN-ERAT to respond to disasters effectively	3.2.2.1. A pool of ASEAN-ERAT trained members with different specialization in each level is maintained and engaged through conduct of specialists / advanced courses (e.g., rapid assessment, information management, civil-military coordination, humanitarian logistic, and early recovery), and team leader course
	3.2.2.2. In-country ASEAN-ERAT network facilitated to strengthen national / sub-national disaster response capacity
	3.2.2.3. Conduct of regular connectivity test and formulation / updating of a standardized deployment mechanism for ASEAN-ERAT to exercises and disaster response operations
	3.2.2.4. Recognition system for member-state contributions and identification of ASEAN-ERAT deployment towards stronger regional disaster preparedness and response established
	3.2.2.5 Competency standards (i.e., qualification checklist) for ASEAN- ERAT developed
3.2.3 Reliable Emergency Telecommunications Network for supporting ASEAN response	3.2.3.1 Information and communications technology (ICT) equipment and capabilities supporting ASEAN-ERAT and AHA Centre preparedness and response operations maintained and updated, if needed
	3.2.3.2 Partnership framework with telecommunication service providers developed
3.2.4 Enhanced assessment capabilities for robust information management system and interoperable Emergency Operations Centers (EOC) network	3.2.4.1 Disaster information product needs of ASEAN stakeholders are well defined at various coordination levels (strategic, operational, and tactical)
	3.2.4.2 Innovative methods/ instruments for rapid damage and needs assessment during emergency response developed/ adapted
	3.2.4.3 Interoperability of EOCs systems and standardized personnel qualification among EOCs in ASEAN (10 NDMOs and the AHA Centre), ASEAN Secretariat, and other region-based centers enhanced
	3.2.4.4 ICT readiness for dependable inter-connectivity among EOCs (NDMOs and the AHA Centre) and ASEAN Secretariat sustained
	3.2.4.5 Data driven decision-making during response supported through expanded collaboration with diverse partners to explore and adopt machine learning and artificial intelligence for a holistic information management
4.1 Pre-Disaster Programs on Resilient Recovery	
4.1.1 Increased capacity on disaster recovery	4.1.1.1. Capacity building program on pre-disaster recovery planning and post disaster needs assessment developed with consideration of the urban landscapes, livelihood recovery, and the needs and participation of women and vulnerable groups during recovery
	4.1.1.2. Platform(s) for sharing of information and best practices between NDMOs, relevant national agencies, local governments, partners, and stakeholders working on recovery established and implemented
	4.1.1.3. Competency guidelines and relevant training programs developed for disaster recovery practitioners in ASEAN
	4.1.1.4. Capacity building program on quick recovery of services for critical infrastructure (e.g., airports) developed/ adopted
	4.1.1.5 Knowledge sharing on risk financing, including in insurance and other sources of financing for resilient recovery organized regularly

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

4.1.2 Ensured availability of data and tools on recovery	4.1.2.1 New technologies and innovative tools for post-disaster needs assessment and recovery planning developed/ adopted/utilized
	4.1.2.2. Data sharing mechanism for post-disaster recovery-related data established, including the use of existing disaster-related database as well as data from relevant ASEAN Sectoral Bodies
	4.1.2.3. Review and socialize the ASEAN Recovery Toolbox to enhance its contents and functionalities, and develop an online platform for its target users
5.1 Knowledge Management for Regional Resilience Building	
5.1.1 Improved regional disaster and climate-related knowledge management	5.1.1.1. A scoping study on the ASEAN stakeholders' disaster and climate-related knowledge management needs (including its user Interface/user experience) is completed
	5.1.1.2. E-learning strategy and program for ASEAN established, including utilizing the open or closed training courses developed under previous and current work plans
	5.1.1.3. E-learning platform to host and continuously implement capacity building programs in ASEAN is available in line with the ICT Roadmap on disaster management
	5.1.1.4. Web-based knowledge management system encompassing all priority programs developed / enhanced to bridge relevant science, research, best practices to support evidence-based policy/ programs and mutual learning among member-states and beyond
	5.1.1.5. Platforms to crowdsource innovative disaster risk mitigation solutions through engagement with ASEAN actors, citizens, and regional partners
	5.1.1.6. ACDM's periodic publications on disaster management knowledge and research to document ASEAN's future outlook and key lessons learnt from responding to disasters is consistently produced (e.g., ARMOR, ASEAN Disaster Resilience Outlook, and other thematic publications)
	5.1.1.7. A regional community of practice on disaster management is established composing of practitioners, academics, scholars, journalists, policy makers, and other relevant actors encompassing various sectors
	5.1.1.8. Platforms to generate awareness and understanding on the importance of inculcating a whole-of-society approach in disaster management, especially those that are most affected during disasters
5.1.2 Enhanced capacity of disaster management of ASEAN	5.1.2.1. Capacity building programs targeting disaster management leaders and practitioners in ASEAN are provided
	5.1.2.2. The ASEAN Senior Executive Programme on Disaster Management conducted annually on the frontiers of disaster management and to strengthen networking among key senior executives from NDMOs
	5.1.2.3. Specialized training and capacity building programs aligned with the ASEAN Standards and Certification for Experts in Disaster Management (ASCEND) Framework
	5.1.2.4. A pool of disaster management assessors and professionals certified under the ASCEND framework
	5.1.2.5. Impact study on ASEAN's disaster capacity building programs, including a sub-component on women's leadership, among others
	5.1.2.6 A roadmap to chart the potential roles and areas of collaborations from relevant ASEAN Sectoral Bodies
	5.1.2.7. The structure, conduct, and work plans of the JTF on HADR are developed to enable sharing of views and ideas for cross-sectoral cooperation

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

5.2 Sharing of Regional Knowledge and Experiences to Demonstrate Global Leadership in Disaster Management	
5.2.1 Expanded and consistent global thought leadership and engagement of ASEAN	5.2.1.1. Knowledge exchange and information sharing on innovative disaster-related technologies and ASEAN's programs with ASEAN Dialogue Partners, regional inter-governmental organizations, private sector, and other international organizations conducted
	5.2.1.2. Capacity building programs targeting disaster management leaders outside of the ASEAN region are provided
	5.2.1.3. Platform for knowledge exchange and inter-sectoral dialogue with relevant ASEAN Sectoral Bodies is established to discuss and develop joint initiatives on disaster risk mitigation and disseminate the results from all priority programs
	5.2.1.4. The ASEAN Strategic Policy Dialogue on Disaster Management convened annually with its key dialogue output strategically disseminated at international DRR and humanitarian forums
	5.2.1.5. Global outreach events during the annual ASEAN Day for Disaster Management and related observances
	5.2.1.6 Web-based monitoring and evaluation platform for AADMER Work Programme 2021-2025, including interface with relevant ASEAN strategic documents (e.g., ICT Roadmap), established and achievements are regularly reported
	5.2.1.7. Strategic documentation of member-states' and ASEAN bodies' contributions to Sendai Framework and Sustainable Development Goals is produced (e.g., report or web-based platform)

Table 1: Outcomes and Outputs for Priority Programs 1-5 (cont.)

AHA Centre

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) is the venue wherein AADMER is made operational. Launched in 2011, the AHA Centre is constructed as an intergovernmental organization, established by the ASEAN member-states and working with member-states' respective NDMOs. The AHA Centre reports to the ACDM whose membership consists of the heads of the member-states' NDMOs who are also the Governing Board of the AHA Centre.[20] Figure 4 shows the organizational structure of the AHA Centre and where it falls in ASEAN's overall DM structure.[21]

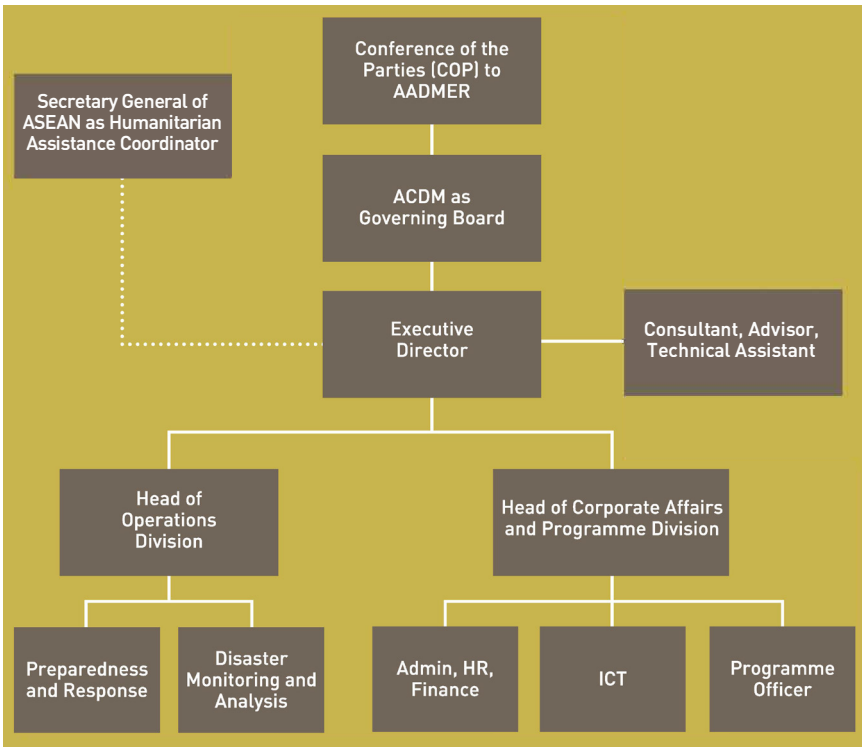


Figure 4: Organizational Structure of the AHA Centre

The role of the AHA Centre as the primary ASEAN regional coordinating agency on DM and emergency response is confirmed in two documents: the ASEAN Declaration on One ASEAN One Response: Responding to Disasters as One in the Region and Outside the Region, and ASEAN Vision 2025 on Disaster Management. In the event of large-scale disasters, such as 2013's Typhoon Haiyan in the Philippines,

the AHA Centre works closely with the ASEAN Secretary-General in that person's capacity as SG-AHAC, and together they mobilize resources and coordinate within ASEAN and globally.

Beyond member-states' NDMOs, the AHA Centre partners with international organizations, the private sector, and civil society, including the AADMER Partnership Group, and it has established multi-lateral cooperation structures with ASEAN partners, including Australia, China, the European Union (EU), Germany, Japan, New Zealand, Switzerland, and the U.S.[22] Of note, because the AHA Centre coordinates humanitarian assistance to be turned over to the national government for distribution, many parties have expressed concern that the Myanmar military regime will seek to exploit this assistance and prevent its distribution to anti-regime populations. The U.S. government has chosen not to direct aid to Myanmar through the AHA Centre after the February 2021 coup for these reasons.[23]

The functions of the AHA Centre can be found in several places: 1) as an Annex to the AADMER; 2) in Article 4 of the Agreement on the Establishment of the AHA Centre; and 3) in the Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP). More recently, ASEAN Vision 2025 on Disaster Management identifies as a key strategy that the AHA Centre should play a stronger role in facilitating capacity building to bring ASEAN member-states to a regionally and globally recognized standard, and that the AHA Centre will serve as a platform for exchange and repository of information sharing of lessons learned and best practices.[24]

Figure 5 illustrates the steps taken and processes used by the AHA Centre to mobilize and coordinate large-scale humanitarian assistance in the wake of a disaster.[25]

Laid out in successive AADMER Work Programmes and AHA Centre Work Plans, AHA Centre activities fall under four main rubrics:

- Coordination - Supporting affected ASEAN member-state's disaster response operations. Facilitating and coordinating arrangements for disaster relief assistance from member-states, ASEAN partners, and humanitarian actors. Strengthening scaling-up of resources and capabilities to support affected countries to enhance and complement national leadership.
- Disaster Information Management - Monitoring hazards, and collecting, analyzing, and disseminating key relevant information to support DM and to contribute

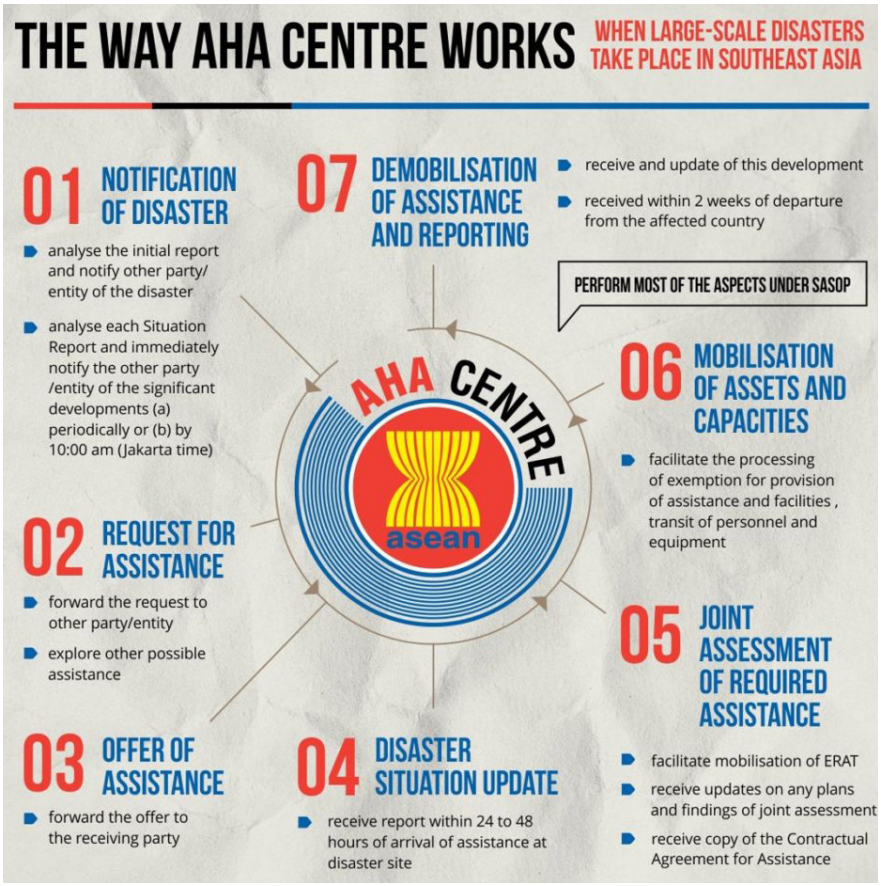


Figure 5: How the AHA Centre Works

to early, anticipatory action. Ensuring inter-connectivity of disaster monitoring platforms in the region with the AHA Centre's platform. Exploring new innovations in hazard monitoring to ensure better accuracy and faster response.

- Knowledge and Outreach - Facilitating and promoting the exchange of expertise and knowledge, capability strengthening, and influencing and disseminating ASEAN best practices and lessons learned to bolster regional capacity and national leadership and contribute to global leadership on DM.
- Resource Management - As part of the Standby Arrangements, ensure the efficient and effective management and timely mobilization of required assets and capacities within the region to support affected member-states. The resources referred to herein are those beyond the resources currently managed by the AHA Centre, i.e., ASEAN Emergency Response and Assessment Team (ERAT) and Disaster Emergency Logistics System for ASEAN (DELSA). This management shall primarily include mobilization and deployment of identified assets and capacities under the ASEAN Joint Disaster Response Plan (AJDRP) modules, with the ASEAN-ERAT and DELSA as auxiliary support to affected states, and it includes engagement through SASOP and financing mechanisms.[26]

In preparation for or in the immediate wake of a disaster, the AHA Centre can deploy an In-Country Liaison Team (ICLT) to coordinate with the affected state at the central government level. The ICLT coordination can, then, form the basis for follow-on assessment teams, particularly ASEAN-ERAT. ICLT gathers information from the affected state government and other humanitarian actors in the affected space and then provides information to the AHA Centre EOC.[27] The EOC serves as the central location wherein the AHA Centre monitors disasters and coordinates ASEAN's collective response. In addition, in the wake of a disaster, the AHA Centre can activate a WebEOC. The WebEOC provides an on-line platform to facilitate coordination and exchange of information among member-states who can, thus, monitor situations on the ground as informed by the NDMO of the affected country and AHA Centre field teams, including ASEAN-ERAT. WebEOC allows member-states to offer assistance to the affected country and for the affected country to post requests for assistance.[28]

AHA Centre Work Plan 2025

The period leading up to 2025 is expected to be one of transformation for the AHA Centre as it adapts to the changing humanitarian landscape in the region that is characterized by a strong desire for nationally led responses amidst the threats of potentially more devastating consequences of disasters exacerbated by unmitigated risk factors like climate change and socio-economic inequities. As guided by the AHA Centre Governing Board's Strategic Direction for 2021-2025, the AHA Centre aims to establish itself as the enabler for ASEAN to become a global leader in disaster management, coordinating assistance through collective ASEAN response. The AHA Centre will be a center of information, learning, and excellence. The Annex of the Work Plan includes detailed activity plans for the period 2021-2025 that map tasks and outcomes for the AHA Centre to meet the AADMER Work Programme (2021-2025) priorities.[29]

AHA Centre Response within ASEAN

In its first nine years of work (2012-March 2021), the AHA Centre enacted emergency response mechanisms to address 36 disasters in seven countries; seven of these instances were preparedness and assessment missions. The ASEAN-ERAT deployed to 28 missions in seven ASEAN member-states by mobilizing 75 of 322 members from the ASEAN-ERAT pool.[30] The most active years for ASEAN-ERAT were 2013 and 2018. In 2013, 27 ASEAN-ERAT members deployed in the wake of six disasters, while

in 2018, 45 members deployed in the wake of five disasters, many of them simultaneous and catastrophic. Figure 6 is an infographic detailing the ASEAN-ERAT response throughout the region during the first 12 years of the group's operation; this includes the four years of ERAT before the AHA Centre was founded.[31] Also since the AHA Centre's founding in 2012, its DELSA, with its main warehouse in Subang, Malaysia, has facilitated swift provision of relief items. In 2019, two satellite warehouses were established in the Philippines and Thailand to ensure faster mobilization of relief items.[32]

COVID-19 – 2020-2022

A Special Meeting of the Governing Board of the AHA Centre on 15 May 2020 worked through the AHA Centre's options for pandemic response and support. The result was a decision to make Mobile Storage Units (MSU), hygiene kits, and prefabricated offices from the DELSA available to ASEAN member-states during the pandemic. NDMOs would need to request these items to plug operational gaps in their national responses.

During the second half of 2020, AHA Centre DELSA stockpiles were used to assist pandemic responses in the Philippines, Malaysia, and Cambodia. In collaboration with the Philippines' Office of Civil Defense, the AHA Centre supported local efforts via the DELSA Satellite Warehouse at Camp General Aguinaldo, Quezon City. There were 5,000 personal hygiene kits distributed to different local government quarantine sites across regions. In addition, the AHA Centre supported Malaysia's National Disaster Management Agency to mobilize an MSU and a prefabricated office from the DELSA Regional Stockpile in Subang, Malaysia. Finally, the AHA Centre worked with the Department of Disaster Prevention and Mitigation (DDPM) of Thailand to mobilize 2,900 hygiene kits and an MSU from the DELSA Satellite Warehouse in Chainat, Thailand, to be used by Cambodia in their national pandemic response.

Towards the end of 2020, the Government of Thailand also approached the AHA Centre for pandemic response support amidst a COVID-19 outbreak in Samut Sakhon Province where over 4,000 immigrant fisheries workers arriving from neighboring ASEAN member-states were in quarantine. Relief items delivered included 500 family tents, 2,000 mosquito nets, and 1,500 personal hygiene kits from the DELSA Satellite Warehouse in Chainat in December 2020 and January 2021.[33] Later in January 2021, facilitated by Thailand's DDPM, the AHA Centre mobilized ASEAN relief items, comprised of 500 personal hygiene kits from the DELSA Satellite Warehouse in Chainat for delivery to Nonthaburi Province

Figure 6: ASEAN-ERAT Missions, the First 12 Years

in response to an outbreak there. Supported by the Japan-ASEAN Integration Fund (JAIF), the relief items were mobilized to support operations of field hospitals set up to take care of more than 4,000 people.[34]

In September 2021, US$1.1 million worth of medical supplies and equipment were handed over to the Myanmar Red Cross Society in support of that nation's COVID-19 response. Contributing to the implementation of the "Five Point Consensus" on Myanmar agreed at the ASEAN Leaders' Meeting in April that year, ASEAN humanitarian assistance to Myanmar aims to address the most pressing humanitarian needs. The AHA Centre facilitated the delivery while Myanmar Red Cross Society, as a local partner, supported by facilitating the request for tax-exemption and customs-clearance with local authorities and providing temporary storage and last-mile distribution.[35]

Philippines Typhoon – 2021

On 16 December, Typhoon Rai (Odette) brought torrential rains, violent winds, landslides, and storm surges to the Philippines where it impacted the province of Surigao del Norte and the Dinagat Islands in Mindanao, five provinces of Visayas, and the island of Palawan in Luzon. The estimated total affected population in Southern Leyte and Caraga stood at about 1,947,000 people with approximately 40,300 in long-term displacement.[36] Supported by JAIF and Direct Relief, the AHA Centre mobilized relief items stockpiled at the DELSA Satellite Warehouse in Camp Aguinaldo, Quezon City, to augment the government's response efforts. The ASEAN relief items comprised 541 shelter repair kits, 275 family tents, 5,000 family kits, 1,000 rolls of tarpaulin, 5,000 personal hygiene kits, and 1,000 kitchen sets and were transported into the affected region via facilitation of the Office of the Civil Defense. The AHA Centre had monitored the typhoon's potential threat to the Philippines and activated the EOC ahead of its impacts in order to remain in close contact with the Philippines National Disaster Risk Reduction and Management Council (NDRRMC) as well as ASEAN countries and partners. An ICLT deployed to ensure coordinated action with the government.[37] Photo 1 shows emergency response personnel setting up one of the tents donated by the AHA Centre.[38]

Philippines Storms – 2020

During three weeks in late October and early November, communities across the Philippines were battered by six tropical storms and typhoons, i.e., Tropical Storm Saudel, Typhoon Molave, Tropical Storm Atsani, Tropical Storm Etau, Typhoon Vamco, and the largest of all, Super Typhoon Goni (Rolly). The Super Typhoon made landfall on 1 November and impacted over 2 million people, displacing over 85,000 of them. Nearly 200,000 homes were damaged along with agricultural land and infrastructure as communities experienced winds, storm surges, flooding, landslides, mudflows, and rockslides. The Government, its NDRRMC, and the AHA Centre had monitored and prepared for the onset

Photo 1: Responders Set up Tent Donated by AHA Centre after Typhoon Rai Hit the Philippines

of the storms for weeks leading up to Typhoon Goni. The AHA Centre facilitated briefings with the Office of Civil Defense to support efforts by the Government to provide relief to affected communities. In addition, DELSA items were released from warehouses. The first batch of items were shipped on 15 November with a second transport on 30 November. Overall, ASEAN relief items delivered included 2,946 rolls of tarpaulins, 100 shelter repair kits, 1,000 kitchen sets, 5,000 mosquito nets, 5,700 family kits, 5,010 jerry cans, 74 outdoor family tents, and 1,000 indoor family tents.[39]

Vietnam Tropical Storms – 2020

On 11 October, Tropical Storm Linfa made landfall in Vietnam. It was followed by Tropical Storm Nangka, which made landfall on 14 October. Although the storms brought heavy rains and widespread flooding to Cambodia and Lao PDR, Vietnam was the hardest hit with 800,000 people affected and 66,000 evacuated after more than 160,000 homes were damaged. The floods also had a significant impact on infrastructure and agriculture in central provinces, including the loss of over 460,000 head of livestock.

In the lead-up to the disaster, the AHA Centre and the Vietnam Disaster Management Authority (VDMA) had worked closely together to monitor the storms from early October. On 15 October, the AHA Centre gave a briefing to the Secretary-General of ASEAN, ASEAN member-states, diplomatic missions, and humanitarian partners to provide information and a common operating overview of the impacts resulting from the tropical storms. The AHA Centre – alongside VDMA – then airlifted relief items from the DELSA Regional Stockpile in Subang, Malaysia, to Danang International Airport. Relief items delivered on 20 October included 1,300 kitchen sets and 1,000 shelter repair kits, distributed by teams from VDMA and partners on the ground.[40]

Indonesia Flooding – 2020

Early on 1 January, Jakarta suffered widespread flooding after heavy rains. The Government of Indonesia sought AHA Centre support in the form of four in-country ASEAN-ERAT members who assisted the development and management of an evacuation center in a warehouse owned by the Indonesian National Disaster Management Authority (BNPB). With the AHA Centre office based in BNPB's Jakarta offices, the team also worked alongside their BNPB counterparts providing data and ICT support to monitor the flooding into mid-January. As the floodwaters subsided, BNPB reported that over 500,000 people had been affected, 19,000 displaced, and 60 killed.[41]

Lao PDR Flooding – 2019

From late August into September, three weather systems – Tropical Storm Podul, a large low-pressure area, and, finally, Tropical Depression Kajiki – brought heavy rainfall to Lao PDR. Flooding struck six provinces: Champasak, Saravan, Sekong, Savannakhet, Attapeu, and Khammouan. In all, the flooding caused extensive damage to public infrastructure and services. Some 274,000 hectares of farmland were inundated, and 500,000 head of livestock were killed. More than 660,000 people were affected with 40,000 displaced; 18 people were killed. In response to a Government of Laos request, the AHA Centre mobilized an ICLT to oversee the regional response effort, including coordinating information management, rapid needs assessments, and the deployment of ASEAN relief items from the DELSA warehouse. Relief items included 330 family kits, 2,500 personal hygiene kits, 1,144 kitchen sets, 1,400 mosquito nets, and 1,400 jerry cans. Delivery of relief items was undertaken by the Royal Malaysian Air Force, who delivered the items directly to Laos from the DELSA regional stockpile in Subang, Malaysia. Information management was handled via the AHA Centre's Disaster Monitoring and Analysis capacity with data visualization. An Information Management Specialist supported representatives from government agencies and civil society, while the AHA Centre collaborated with local ASEAN-ERAT members to develop

tools and methods for needs assessment efforts and to translate them for use by local staff in affected regions.[42]

Myanmar Displacement – 2019

After nearly 18 months, the AHA Centre engagement on delivering humanitarian assistance to persons displaced within or from Myanmar's Rakhine state matured in 2019.[43] During the second half of October 2017, a small team from the AHA Centre and one local ASEAN-ERAT member had met with parties to the on-going conflict in Myanmar's Rakhine state, and this meeting would facilitate the delivery of relief items to persons displaced by fighting. The delivery of relief items targeted people displaced from 99 villages and included tents, hygiene kits, boats, and generators.[44] Then, in January 2018, the AHA Centre augmented its assistance. For two weeks, ASEAN-ERAT personnel deployed alongside personnel from Myanmar's Disaster Management Department to monitor distribution of relief items and support government information efforts regarding relief distribution.[45] Finally, in March 2019, the AHA Centre worked alongside the Government on a Preliminary Needs Assessment and used the assessment findings to inform repatriation work. At the request of the Government, the AHA Centre deployed a team to support repatriation efforts. An ASEAN-ERAT team – comprising 10 members from Indonesia, Malaysia, Myanmar, Singapore, Thailand, the AHA Centre, and the ASEAN Secretariat – worked with the Myanmar Disaster Management Department to deliver an extensive assessment the results of which identified options for strengthening reception and transit centers and recommendations on information dissemination and basic service provision.[46]

Indonesia Earthquake and Tsunami – 2018

On 28 September, a 7.7 magnitude earthquake struck Central Sulawesi, Indonesia. It triggered a tsunami and caused ground liquefaction. Thousands were killed, and infrastructure suffered massive damage. The worst affected areas were Palu City, Donggala, Sigi, and Parigi Moutong. During the early stages of the response, the Indonesian government opened its doors to the global humanitarian community, and the AHA Centre supported coordination across agencies. Along with BNPB, the AHA Centre EOC in Jakarta facilitated briefings for humanitarian partners. In addition, AHA Centre and BNPB established a Joint Operation and Coordination Centre of ASEAN (JOCCA) in Palu, and ASEAN-ERAT registered and tracked in-coming international relief items at the Balikpapan, East Borneo, reception center. In addition to releasing DELSA stockpiles, the AHA Centre coordinated the large quantities of relief items that were entering the impacted area.[47]

As the initial response transitioned, at the Indonesian government's request, the AHA Centre coordinated ASEAN member-state support into the recovery phase. This support took the form of the ASEAN Village to be developed in the Tondo area of Palu City. From early August 2019, the Village began to take shape, with the AHA Centre coordinating support through the local Housing and Settlement Department. Elements of the support came from Brunei Darussalam, the Philippines, Australia, and Direct Relief, a U.S.-based medical aid non-profit organization. Funds from the Brunei Darussalam Government were a result of crowdfunding sourced directly from the people of Brunei Darussalam, the first time ASEAN member-state citizens have directly provided funding to an AHA Centre project.[48] In April 2020, the ASEAN Village was officially handed over to the government of Palu City; the AHA Centre, the Mayor and other local government officials, numerous ASEAN dignitaries, and other key program representatives participated in the handover of 75 new homes for community members.[49] Construction continued into early 2021 with an additional 25 permanent houses, a mosque, and an auxiliary health center, all of which were handed over to the administration of Palu City in April 2021.[50]

Philippines Typhoon – 2018

Typhoon Mangkhut made landfall in the Philippines' Cagayan Province on 15 September.

Due to early warning and preparedness by the government and partners, NDRRMC evacuated communities in the storm's path. An ASEAN-ERAT team provided information management and assessment reports throughout the disaster. An ICLT arrived within hours of the storm's landfall and began direct communications with NDRRMC in Manila and affected areas. In addition, the AHA Centre mobilized 30 tons of rice, four generators, and 2,000 rolls of tarpaulins to affected communities. In the end, Mangkhut affected 2.6 million people, damaged 200,000 homes, and killed 52 people.[51]

Indonesia Earthquake – 2018

On 29 July, a 6.4 magnitude earthquake shook Indonesia's Lombok Island and caused significant damage and loss of life. A series of aftershocks, including a 7.0 magnitude quake and 6.9 magnitude quake on 5 and 19 August respectively hampered recovery efforts. Indonesia's BNPB reported 515 deaths, 8,000 injured people, and over 430,000 people displaced by the weeks of quakes. More than 3.5 million people were affected in some way as 100,000 homes were damaged. The AHA Centre's engagement lasted about one month as they supported BNPB by deploying five ASEAN-ERAT members, facilitating relief item delivery from DELSA, and supporting information management on the ground and from headquarters. The relief items delivered included family tents, hygiene kits, and an MSU. ASEAN-ERAT also undertook on-going assessments, and AHA Centre disseminated the resulting information across ASEAN.[52]

Lao PDR and Myanmar Flooding – 2018

Tropical Storm 11 (also known as Son Tinh) brought gale force winds and torrential rain to Laos and Myanmar in late July. On 23 July, the rains caused the failure of the Xe Pien-Xe Nam Noy dam in Laos, and the resulting floods destroyed communities downstream. At least 1.5 million people were affected in 13 of Laos' 17 provinces as villages were wiped off the map and farmlands inundated. The AHA Centre activated the EOC in Jakarta and deployed an ICLT to Vientiane, Lao PDR. Eventually, the AHA Centre would provide four key elements to Laos' response: logistical management and coordination, information management and mapping, advisory support for operational planning, and mobilization of relief items, including boats, tents, hygiene kits, an MSU, and mosquito nets. Meanwhile, the tropical storm's rains had reached Myanmar and caused widespread flooding. AHA Centre assistance was focused on delivering 12,000 portable solar-powered lanterns to communities facing power outages. An additional ICLT supported Myanmar's NDMO to strengthen information, communications, and overall disaster management.[53]

Myanmar Landfill Fire – 2018

On 21 April, fires broke out at landfills in Western Yangon. The difficulty of extinguishing the fire meant that it burned for days and sent smoke and haze into nearby areas, thereby leading to severe respiratory problems and disrupted livelihoods. Myanmar's government sought AHA Centre assistance on 27 April, and ASEAN-ERAT deployed to Yangon to provide technical support to authorities and deliver assistance to 800,000 affected people. The specific duties of ASEAN-ERAT were to assess the situation, provide recommendations on fire control, and address potential environmental and public health issues. Alongside national and local authorities, ASEAN-ERAT conducted a rapid assessment with specialist team members from the Singapore Civil Defence Force (SCDF) offering expert technical firefighting support.[54]

Vietnam Typhoon – 2017

Typhoon Damray struck southern Vietnam on 7 November. It affected more than 4 million people across 14 provinces. At least 110 people were killed, 3,455 houses were destroyed, and 136,000 more houses were damaged. Infrastructure across the impacted areas was also badly damaged. The AHA Centre coordinated the delivery of relief items, mostly family hygiene kits, shelter repair kits, and a boat to

help access people stranded by the flood waters. This response marked only the second time the AHA Centre responded to a disaster in Vietnam. The first time had been just months earlier, in August, when heavy rains brought flooding and landslides to northern Vietnam. These rains caused severe damage to homes and infrastructure in Lai Chau, Yen Bai, and Son La. At least 30 people died, and wide swaths of farmland were inundated. On 3 August, the flooding overwhelmed local and national capabilities, and the Government of Vietnam sought AHA Centre assistance. Between 3 and 11 August, the AHA Centre had deployed an ICLT and activated DELSA with family kits, shelter repair kits, and tools to develop and run shelters for the displaced. The AHA Centre provided an MSU and operational support to VDMA.[55]

Philippines Marawi Siege – 2017

On 10 July, the Government of the Philippines sent a request for humanitarian assistance to the AHA Centre for support for nearly 300,000 people displaced by fighting between government security forces and Islamic State-aligned militants in Marawi on the island of Mindanao. AHA Centre assistance included family tents, hygiene kits, kitchen sets, and water filtration units, all delivered from DELSA stocks to meet direct requests from the Philippines authorities. Malaysia provided use of an A-400M aircraft to deliver the goods.[56]

Indonesia Earthquake – 2016

A 6.5 magnitude earthquake shook Sigli City, Aceh Province, Indonesia, on 7 December. In the districts of Pidie and Pidie Jaya, the undersea earthquake sent more than 425,000 people rushing out of their houses and seeking higher ground as many in the district had survived the 2004 Indian Ocean tsunami and feared that this earthquake would also trigger a tsunami. It did not. However, there were 74 aftershocks in the days that followed. The BNBP reported that 104 people were killed, mainly in Pidie Jaya District. In addition, the earthquake damaged 18,752 houses and displaced 85,256 people. The AHA Centre conducted an emergency briefing on 7 December and continuously monitored the situation. The AHA Centre EOC had been on "Yellow Alert" from the first day, and this alert level put several protocols and procedures in motion, including increasing the monitoring efforts. The AHA Centre sent four ASEAN-ERAT personnel to provide rapid assessment and determine the needs of the people affected. Another three AHA Centre staff members were deployed to the affected area to join one staff member and ASEAN-ERAT members two days after the quake. During the response, the AHA Centre established close coordination with BNPB, national and local authorities, police, and military officers as well as international organizations. Altogether, some 4,000 personnel responded. The monitoring activities were followed up by a decision to deploy relief items from the DELSA warehouse in Malaysia.[57]

Philippines Typhoon – 2016

Typhoon Haima was a Category 4 storm when it made landfall on 19 October although it had weakened by the time it exited the Philippines late on 20 October. The typhoon caused eight deaths, mostly due to landslides in Cordillera Administrative Region. It damaged 13,966 houses and brought flooding to 119 barangays (small administrative divisions). The Philippines' NDRRMC had anticipated the possible effects of the Typhoon and conducted pre-emptive evacuations of more than 380,000 people. NDRRMC also activated its Disaster Response Cluster and deployed advance teams to Cagayan Province to provide support to preparedness and emergency response measures. The AHA Centre had tracked the Typhoon from 14 October and deployed two staff members and one national ASEAN-ERAT member to Manila to liaise and coordinate directly with NDRRMC. At the same time, the AHA Centre was on standby for DELSA and ASEAN-ERAT to deploy additional resources to the Philippines if called upon to provide support.

During the entirety of the response, the AHA Centre deployed an In-Country Coordination

Team (ICCT), consisting of two AHA Centre staff members on 19 October and two ASEAN-ERAT members from the Philippines on 18 and 21 October; one AHA Centre staffer and two national ASEAN-ERAT members joined the NDRRMC Composite Rapid Damage and Needs Assessment Teams in assessing St. Ana and Gonzaga Municipalities of Cagayan, followed by visits to Tabuk City, Kalinga, and Baguio City, and Benguet in Cordillera to participate in coordination and assessment of needs; one AHA Centre staffer remained stationed at the NDRRMC Headquarters until 26 October to gather information from Cluster meetings and coordinate with the AHA Centre headquarters in Jakarta. Besides staff deployments, the AHA Centre provided eight generators.[58]

Philippines Typhoons – 2015

Typhoons Kappu and Melor struck the Philippines in October and December respectively. Typhoon Koppu (Lando) made landfall in Casiguran, Aurora Province, on 16 October with wind speeds of 175 kilometers per hour [kph; 108 miles per hour (mph)] and gusts of up to 210 kph (130 mph). Koppu brought floods to Pangasinan, Ilocos Norte, Isabela, Nueva Vizcaya, Tarlac, Bulacan, Pampanga, Zambales, Vagayan, and Benguet. The NDRRMC reported four landslides and 479 flooding incidents with some villages submerged in waters up to 3 meters (9.8 feet) high. According to the NDRRMC, the Typhoon claimed 48 lives and injured 83 people. To support the Philippines' national efforts, the AHA Centre deployed three staff to Manila to liaise and coordinate with the NDRRMC. The team, along with in-country ASEAN-ERAT members carried out a rapid damage and need assessment and re-established communications. One ASEAN-ERAT member was sent to Casiguran, Aurora, to be part of the emergency telecommunication cluster. In addition, the AHA Centre, through DELSA and supported by the Government of Japan, handed over 1,000 rolls of tarpaulins to the NDRRMC.

Then, Typhoon Melor (Nona) arrived on 12 December as a Tropical Storm. The following day, it intensified to a Typhoon and made first landfall on 14 December followed by four subsequent landfalls before finally weakening and dissipating on 19 December. NDRRMC reported that the Typhoon had caused 42 deaths and injured 24 people as well as damaging or destroying 279,487 houses. The worst-hit areas were in Oriental Mindoro, Sorsogon, and Northern Samar Provinces. The government had made preparedness efforts to minimize the potential impact. A series of Pre-Disaster Risk Assessment meetings were conducted to coordinate. Prior to landfall, at least 742,991 people were pre-emptively evacuated to safer areas. Relief items and personnel were prepositioned. Finally, as part of ASEAN solidarity, the AHA Centre deployed two of its members to liaise and coordinate with the NDRRMC. Concurrently, daily situational briefing was done at the AHA Centre EOC in Indonesia.[59]

Myanmar Flooding – 2015

From the end of June into July, Myanmar experienced torrential rains linked to Cyclone Komen. These triggered floods that affected 13 states and regions: Rakhine, Sagaing, Magway, Chin, Ayeyarwady, Bago, Mandalay, Kayin, Kachin, Shan, Mon, Yangon, and Tanintharyi. On 31 July, the President designated Chin, Magway, Rakhine, and Sagaing as natural disaster affected areas. On 10 August, the Government formed the Recovery Coordination Centre to implement the recovery strategy and plan, and on 14 August, the Vice-President revealed the national recovery coordination structure, coordination mechanisms, and guiding principles for reconstruction. On 15 August, the Myanmar National Disaster Management Council reported that the floods had claimed 110 lives, affected 1,615,335 people, and displaced 333,178 people in addition to damaging farmland, houses, and infrastructures, which hampered delivery of some assistance.

Through the AHA Centre, ASEAN member-states deployed an ICCT consisting of two AHA Centre staff members and seven ASEAN-ERAT

members from Brunei Darussalam, Indonesia, the AHA Centre, Plan International (part of AADMER Partnership Group), the Indonesian Red Cross, and the ASEAN Secretariat; they were on the ground 5-19 August. The AHA Centre staff assignment was to support Myanmar's Relief and Resettlement Department's data collection, analysis, and reporting, while ASEAN-ERAT supported the Government's logistical arrangements and disaster assessment. Relief goods were mobilized from DELSA; the Australian Defence Force made one C-17 delivery of the DELSA items from Malaysia to Yangon on 11 August. Finally, at the request of the Government of Myanmar, ASEAN-ERAT conducted a flood impact assessment in Ingapu and Maubin Districts of the Ayeryawaddy Region and established two MSUs at the Relief and Resettlement Department in Yangon and Mandalay as well as facilitating incoming relief items. The AHA Centre Mission Team Leader was stationed in Napyitaw to facilitate coordination with the National Government and other international organizations. Remotely, the AHA Centre provided situational analysis and resource-tracking capabilities to the National EOC.[60]

Malaysia Flooding – 2015

Floods occurred in Johor, Kelantan, Perak, Pahang, and Terengganu after continuous heavy rainfall linked to the Northeast Monsoon from late December into the first week of January. On 30 December 2014, the number of displaced people peaked at 247,104. However, Tropical Depression Jangmi would bring heavy rains late in January and extend the flooding into Sabah, and as of 9 January, the National Security Council of Malaysia (MKN) reported in the Portal Bencana (disaster portal) that 17 people had died and 19,494 people remained displaced. The floods damaged 3,840 houses and blocked most roads in affected areas. Malaysia's Army operated four Flood Aid Collection Centres, while the Government deployed 100 Special Malaysia Disaster Assistance and Rescue Team personnel to respond. MKN, the Malaysian Armed Forces, and other governmental stakeholders provided a swift emergency assessment in addition to evacuation and relief support. The AHA Centre deployed three ASEAN-ERAT members and mobilized DELSA with support from the Government of Japan. The AHA Centre provided 538 family tents, 538 family kits, 498 shelter toolkits, 1,000 rolls of tarpaulins, and 1,500 kitchen sets, all of which were transported to Kelantan and handed over to MKN. Neighboring ASEAN member-states also took part in the response. In addition to monetary assistance dedicated to the Malaysian Red Crescent Society, the Government of Singapore mobilized seven water purification units along with the SCDF and Singapore Armed Forces personnel to operate the units. In addition, the Government of Thailand provided 500 tons of rice delivered in the border area between Thailand and Malaysia.[61]

Philippines Typhoon Hagupit – 2014

From its origins on 29 November, Hagupit rapidly intensified into a typhoon. The Philippines braced for major impacts after the 3 December elevation by Japan Meteorological Agency and the Joint Typhoon Warning Center of the storm to Category 5. Following Hagupit's upgrade, emergency preparedness measures were taken very seriously with major evacuations. However, a day before landfall, Hagupit weakened to a Category 3. Nevertheless, it remained a typhoon and was predicted to hit some areas that were still recovering from Typhoon Haiyan, which struck the year before (2013). On 6 December, Typhoon Hagupit made landfall in Dolores, Eastern Samar, with maximum sustained wind of 160 kph (99 mph). It brought storm surges and heavy rainfall that caused flooding in several areas. It also made landfall in Masbate, Sibuyan Island, Romblon, Tablas Island, and Oriental Mindoro. The reduced speed of the Typhoon extended the exposure of heavy rainfall. By 19 December, NDRRMC reported that Hagupit had left 18

people dead and 916 injured as it also affected 4,149,484 people. More than 100,000 people were displaced.

The AHA Centre Disaster Monitoring and Analysis team monitored the development of the storm from the EOC in Jakarta from 3 December onward. Once the alert level was increased, on 4 December, the EOC staff started to work around the clock to share situation updates to ASEAN member-states and to manage the deployment of assistance. Anticipating Hagupit's impacts, on 7 December, the AHA Centre deployed six ASEAN-ERAT members from the Philippines, Thailand, Singapore, and from the AHA Centre. The team was positioned in Manila, Legazpi, and Cebu to work under the guidance of NDRRMC and Regional Disaster Risk Reduction and Management Councils, supporting coordination, emergency communication, and post-disaster rapid assessment. Several international NGO members of the AADMER Partnership Group also prepositioned their resources to provide immediate assistance; they included ChildFund, HelpAge, Mercy Malaysia, Oxfam, Plan International, Save the Children, and World Vision.[62]

Philippines Typhoon Rammasun – 2014

Typhoon Rammasun made landfall in Bicol before sweeping through Camarines Norte, Camarines Sur, Albay, Sorsogon, Catanduanes, and Masbate on 15 July. It packed winds of up to 150 kph (80 mph). The Government of the Philippines had conducted a series of coordination meetings and disaster preparedness efforts to brace for Rammasun's impacts. Evacuations ensued and emergency relief items were in place prior to the storm's arrival. Nevertheless, by 24 July, the NDRRMC reported that 4,000,987 people were affected. The Typhoon left 98 people dead and 630 people injured while 27,380 people were displaced to 115 evacuation centers after 497,276 houses were damaged.

The AHA Centre monitored Rammasun's development from the EOC in Jakarta from 10 July onward. An ASEAN-ERAT team deployed to assist the Government in rapid assessment and to provide logistical support, as well as to facilitate the information-sharing among ASEAN member-states. The assessment indicated that Rammasun brought widespread power outages in Legazpi City and Laguna, and these outages were seen as potential hinderances to emergency response operations. To power up the emergency response operations at the Office of Civil Defense Region V Office, the AHA Centre provided a generator set. Meanwhile, to support operations in Region IV-A, the AHA Centre provided another generator set. The AHA Centre also sent 500 rolls of tarpaulins that provided temporary shelter for more than 3,000 families.[63]

Vietnam Typhoon Rammasun – 2014

In Vietnam, Typhoon Rammasun affected several provinces in the northern region (Dien Bien, Lang Son, Tuyen Quang, Lai Chau, Son La, Yen Bai, Cao Bang, Bac Kan, Ha Giang, Lao Cai, Quang Ninh, and Bac Giang). The Central Committee for Flood and Storm Control reported 24 deaths, 1,300 damaged houses, and 6,000 inundated houses. The AHA Centre sent an ASEAN-ERAT team to conduct field assessment work alongside national authorities in Mong Cai city, Quang Ninh province, prior to and after the arrival of Rammasun. Based on the assessment, the Government of Vietnam decided to manage the impacts of the disaster domestically.[64]

Philippines Typhoon Haiyan – 2013

From its 2 November origin near the Federated States of Micronesia, Haiyan rapidly intensified beyond the Category 5-equivalent Super Typhoon level. It would track westwards and eventually attain wind speeds of around 250 kph (155 mph) with gusts up to 315 kph (195 mph), making it one of the strongest tropical cyclones recorded in history. The eye of the cyclone made first landfall in the Philippines at Guiuan, Eastern Samar, on 8 November, and then made five additional landfalls in the country before eventually emerging in the South China Sea. The Philippines was faced with an

unprecedented humanitarian crisis. As of 23 December, the NDRRMC indicated that the storm caused 6,109 deaths; upwards of 4 million people were displaced, 1,779 went missing, and 27,665 were injured. In Tacloban city alone, 90% of structures were either destroyed or damaged; other cities, such as Ormoc, reported similar damage.

The AHA Centre monitored the development of the storm from 4 November onward. It put two officers on the ground on 7 November, one day prior to landfall. In the following days, additional responders from the AHA Centre and ASEAN member-states, including the ASEAN-ERAT, delivered assistance and support. Personnel, relief goods, and financial support all arrived from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, and Vietnam, via bilateral channels and through the AHA Centre mechanism. The AHA Centre itself contributed situation monitoring and dissemination of Situation Reports to member-states, facilitated and coordinated the assistance from member-states, and released 2.5 tons of rice, 2,000 bottles of drinking water, one set of prefabricated offices, 10 family tents, 2,200 personal hygiene kits, 2,500 tarpaulins, one MSU, 250 shelter kits, and 200 sets of temporary living equipment from the DELSA warehouse in Malaysia.[65]

Philippines Earthquake – 2013

On 15 October, a 7.2 magnitude earthquake struck the Visayas Islands. Particularly impacted were Cebu and the city of Bohol. The NDRRMC reported that 3,221,248 people were affected; 222 people were reported dead, and 976 people were injured. Over 73,000 structures were damaged, of which more than 14,500 were destroyed. Even as Bohol recovered, other areas of the Philippines that were hosting 40,000 people displaced from Bohol were struck by Super Typhoon Haiyan. This population flooded back into evacuation centers and disrupted local relief and reconstruction efforts.

In its emergency response, the AHA Centre deployed two ASEAN-ERAT members and two AHA Centre officers and provided 250 family tents and 250 family kits. The Government of Malaysia, through MKN and the Royal Malaysia Air Force, facilitated the provision of two C-130 aircraft to deliver the relief items from the DELSA stockpile in Subang, Malaysia, to Mactan Air Force Base in Cebu, Philippines. Further, the Philippines Air Force and the Philippines Navy transported the relief items to affected areas.[66]

Lao PDR Flooding – 2013

Continuous heavy rains from June to August, enhanced by Tropical Storms "Jebi" and "Mongkut," triggered flooding in the northern and central parts of Laos. Laos' NDMO reported that, as of 27 August, 112,586 people in seven provinces were affected; 20 people had died in floods and landslides. The AHA Centre deployed a team to assist and offered 200 ASEAN Family Kits containing water purifying tablets, cooking utensils, blankets, sarongs, mosquito nets, sanitary items, and simple clothing.[67]

Philippines Flooding – 2013

On 19 August, heavy monsoon rains amplified by Tropical Storm Trami (Maring) triggered flooding that affected the National Capital Region, Cordillera Administrative Region, and four other regions of the Philippines. The NDRRMC reported that, as of 23 August, the flooding had caused 10 deaths and 41 injuries and had affected nearly 2 million people as houses were damaged and roads became impassable. The AHA Centre monitored the situation, disseminated information to NDMO Focal Points, deployed a team for coordination, and offered nine fiberglass rescue boats to the NDRRMC.[68]

Indonesia Earthquake – 2013

On 2 July, a 6.2 magnitude earthquake struck Aceh Province. Two districts, Aceh Tengah and Bener Meriah, were severely affected. At least 40 people were killed and 2,532 injured. Upwards of 50,000 people were displaced as 18,902 houses sustained damage. The AHA Centre regularly disseminated Situation Updates to ASEAN

member-states' NDMOs and, in coordination with BNPB, deployed a response team to deliver 500 shelter toolkits to clear up debris and help repair damaged houses; in addition, AHA Centre sent 250 family tents and facilitated the deployment of relief items from the Government of Malaysia to the Government of Indonesia.[69]

Indonesia Flooding – 2013

Due to heavy rains in and around Jakarta from 15 through 21 January, several of the city's main rivers flooded. The flooding affected 35 of 40 sub-districts with the worst flooding reaching up to 5 meters (16.5 feet). The Governor of Jakarta declared an Emergency Situation. At least 20 people were killed, and 245,119 people were affected. The AHA Centre disseminated Situation Updates to NDMO Focal Points and deployed a response mission to support the BNPB. The AHA Centre also developed maps of Ciliwung River pumping station and water retention basins for the Disaster Management Agency of Jakarta. After conducting a rapid assessment, the AHA Centre deployed ten portable toilets to serve 3,000 evacuees in Rawa Buaya and Borobudur University Evacuation Centres. It also delivered drinking water, trash bags, and sanitary wipes to help maintain hygiene in the evacuation centers.[70]

Philippines Super Typhoon Bopha – 2012

Super Typhoon Bopha (Pablo) made landfall on Mindanao on 3 December. The Philippines Atmospheric, Geophysical, and Astronomical Services Administration reported that the storm brought sustained winds of 175 kph (108 mph), with gusts of up to 210 kph (130 mph). By 25 December, the Typhoon had affected more than 6 million people in 40 provinces. More than 1,000 people were killed, 2,666 were injured, and more than 200,000 houses were damaged. Throughout the emergency response phase, the AHA Centre regularly disseminated Situation Updates to NDMO Focal Points; it deployed a rapid response team with ERAT officers. In addition, the AHA Centre provided three generators, three MSUs, 600 ASEAN family kits, 500 rolls of tarpaulins, US$100,000 worth of rice, five 10-wheel trucks to transport relief items, and support for 200 volunteers serving in the Inter-Agency Relief Operations Hub in Davao City.[71]

Myanmar Earthquake – 2012

A 6.8 magnitude earthquake struck Myanmar on 11 November. Based on a report by the Relief and Resettlement Department of Myanmar's Ministry of Social Welfare, damage was expected in Mandalay and Sagaing regions. Nearly 7,000 people in 24 townships were affected with 17 people killed and 114 people injured. Nearly 2,000 houses were damaged along with 192 schools, seven hospitals, 22 clinics, and one bridge. The AHA Centre team was able to coordinate with the Relief and Resettlement Department to conduct a mission. The main objective was to understand the impact of the earthquake and to assess if the AHA Centre could provide support. The team was led by the AHA Centre Executive Director, joined by AHA Centre's Senior Emergency Preparedness and Response Officer and Senior Programme Officer of the JAIF Management Team. The team was accompanied by an ASEAN-ERAT Team member from Myanmar and was able to visit several impacted areas. The mission identified an urgent need for 250 multi-purpose tents and 70 rolls of tarpaulins; the first batch of multi-purpose tents was dispatched on 23 November from the warehouse in Subang, Malaysia, and the delivery of 250 multi-purpose tents was completed on 26 November while the 70 rolls of tarpaulin were purchased locally.[72]

Thailand Flooding – 2011

The AHA Centre deployed ASEAN-ERAT members after flooding in Thailand. The mission ran 15-24 October and was tasked with assisting the DDPM in assessing the situation in the affected provinces; assessing the basic and immediate needs of the affected populations; studying the effectiveness and adequacy of the Government's response to mitigate the situation; and exercising the linkage between ERAT and, via the AHA Centre, the ASEAN disaster response mechanism.[73]

ASEAN COMMON FRAMEWORKS

The idea of a coordinated ASEAN response to major disasters gained traction after the 2004 Indian Ocean tsunami brought devastation to portions of the region. In large part, this event was the impetus for the finalization of the AADMER. While 2015's ASCC Blueprint 2025, found within ASEAN 2025, is the overarching guide for development of a sustainable and resilient community, the AADMER and two key documents have been the foundation of ASEAN's shared commitment to disaster management in more recent years. They include the ASEAN Vision 2025 on Disaster Management, published in 2016, and the 2016 ASEAN Declaration on One ASEAN One Response. Beyond these foundational documents, the AADMER Work Programme 2021-2025 seeks to nurture and develop stronger multi-stakeholder partnership mechanisms,[74] and the AHA Centre's own work plan (as discussed in this document's AHA Centre section) lays out the tasks that will transform the Centre into an enabler for ASEAN to become a global leader within the context of the evolving humanitarian landscape. Finally, additional frameworks flesh out a regional approach to specific issues that fall under disaster management, e.g., the ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021-2025.

ASEAN Socio-Cultural Community Blueprint 2025

The ASEAN Socio-Cultural Community (ASCC) Blueprint 2025 was adopted in 2015. The Blueprint is the mechanism to guide the development of a sustainable and resilient community. It engages with the post-2015 development agenda, particularly the Sendai Framework for Disaster Risk Reduction (2015-2030).[75] Furthermore, it commits the ASCC to working toward:

- A committed, participative, and socially responsible community for the benefit of ASEAN people
- An inclusive community that promotes high quality of life and equitable access to opportunities for all and promotes and protects human rights
- A sustainable community that promotes social development and environmental protection
- A resilient community with enhanced capacity and capability to adapt and respond to social and economic vulnerabilities, disasters, climate change, and other new challenges; and
- A dynamic and harmonious community that is aware and proud of its identity, culture, and heritage.

DMHA falls under this rubric although it is a cross-sectoral issue in which the Political Security and Economic Communities also have equities.[76] Under the Blueprint's pillar for Sustainability, the ASCC will promote strategies to protect, restore, and promote sustainable use of terrestrial and maritime ecosystems to combat biodiversity loss, transboundary pollution, and illegal exploitation in the understanding that conservation and restoration of natural spaces can help build resilience to natural and man-made hazards. Along with these sustainability strategies, the ASCC seeks to help member-states and their people to integrate policies, build capacity and institutions, and strengthen stakeholder partnerships in DRR, humanitarian assistance, and community empowerment. This means building shared mechanisms and principals in addition to developing local and national health and educational systems that cultivate these principals.[77]

ASEAN Agreement on Disaster Management and Emergency Response (AADMER)

Since its ratification in 2009, the AADMER has been the legally binding regional agreement that details ASEAN's commitment to reducing disaster losses, responding collectively to disasters, and supporting resilience-building. In addition to regional strategies, it explicitly supports ASEAN member-states' initiatives and complements member-states' national technical and institutional capacities for DM. The process of implementing AADMER involves setting five-year work programs that incrementally improve ASEAN capacity for early warning and monitoring, preparedness, response, and DRR. The strategic components of AADMER are:

- Risk Assessment, Early Warning, and Monitoring – AADMER lays down guidelines and protocols for identifying risk, collecting, analyzing, and storing data on risks, and disseminating regional risk information and assessments.
- Prevention and Mitigation – AADMER promotes the development and strengthening of DRR via plans, education, and advocacy, particularly by involving communities in DRR planning and sufficiently funding DRR and climate change adaptation.
- Preparedness and Response – By laying down the foundations for the AHA Centre, SASOP, and other tools, AADMER targets collective, fast, and reliable ASEAN response in line with humanitarian standards and integrated into the international humanitarian architecture.
- Recovery and Rehabilitation – The AADMER Recovery Strategy addresses issues related to longer-term and sustainable reconstruction.
- Training and Knowledge Management Systems – AADMER lays out ways for ASEAN to help build the skills and networks of national DM agencies, expand the pool of experts available in the region, develop a means of certifying practitioners, and institutionalizing training down to the community level.
- Partnership – AADMER seeks to create platforms for partnership among local, national, regional, and international practitioners both within governments and among civil society.
- Resource Mobilization – ASEAN member-states identify and build up human, financial, and physical assets, and plan for their mobilization.[78]

In line with international best practice, AADMER institutionalizes the leadership of affected or requesting states during emergency responses within their territories. Affected states may request assistance either directly from a fellow ASEAN member-state or via the AHA Centre, and assisting states will submit their acceptance of the overall direction, control, coordination, and supervision of the affected state during the response within legal bounds. AADMER does recognize the role of regional military forces in disaster management, and parties to ASEAN agree that military personnel involved in a response may wear their uniforms while conducting official duties.[79]

The AADMER Work Programme was first developed in 2010 to translate the spirit of AADMER into more practical actions and chart the priorities of the ACDM in 5-year cycles. The Work Programme generally will outline the key initiatives of ASEAN in strengthening the regional mechanisms for joint response and DRR.[80] The AADMER Work Programme 2021-2025 was agreed to in November 2020. Its stated mission is to "enhance and support ASEAN's disaster risk reduction and disaster management capabilities through inter-sectoral cooperation, capacity building, scalable innovation, resource mobilization, new partnerships, and stronger coordination among ASEAN Member States." The five-year program will see the AADMER carried out through five priorities:

1. Risk Assessment and Monitoring
2. Prevention and Mitigation

3. Preparedness and Response
4. Resilient Recovery
5. Global Leadership

As discussed in the ACDM section of this book, three ACDM Working Groups (WG) have responsibility for implementing the program priorities: 1) the ACDM WG on Prevention and Mitigation; 2) the ACDM WG on Preparedness, Response, and Recovery; and 3) the ACDM WG on Global Leadership. The work program has broken down the priorities into concrete deliverables that are arranged as 15 sub-priorities, 30 outcomes, and 117 outputs. Based on the need to build gender and social inclusion, the Work Programme 2021-2025 has a dedicated outcome on empowerment of vulnerable groups with specific outputs that integrate gender and social inclusion. Finally, the Work Programme adopts a web-based Monitoring and Evaluation system to facilitate the generation and collection of reliable data that will, it is hoped, allow the ACDM to intervene and conduct more informed decision-making and planning.[81]

ASEAN Vision 2025 on Disaster Management

The ACDM published ASEAN Vision 2025 on Disaster Management to chart a longer-term vision for ASEAN cooperation in disaster management beyond 2015. Adopted during the 3rd ASEAN Ministerial Meeting on Disaster Management (AMMDM) and 4th AADMER Conference of the Parties (COP), the Vision sees ASEAN becoming a world leader in DM via the five-year AADMER Work Programmes[82] by addressing three strategic elements:

1. Institutionalization and communications
2. Finance and resource mobilization; and
3. Partnerships and innovation.

First and foremost, the Vision recognizes the need for ASEAN's three strategic communities – Socio-Cultural, Economic, and Political Security – to integrate their policies and projects that touch upon DM in order to professionalize and institutionalize best practice not only at the global and regional level but also at the sub-national and local levels. Second, the Vision foresees ASEAN mobilizing significantly more diverse resources – financial, material, and human – to build a disaster-resilient Southeast Asia. Finally, the Vision tasks bodies responsible for implementing AADMER with rethinking their partnerships to take advantage of public and private, local, regional, and national expertise to build a network of experts, practitioners, and funders to optimize emergency response.

In terms of institutionalization and communication, the overarching goal is to ensure that ASEAN can better assess and meet needs and provide protection to communities in need during humanitarian emergencies. The Vision seeks a networked approach at local, national, and regional levels that relies on task forces that reach across government departments for policy input and connect NGOs with government practitioners in a more systematic way. This, of course, requires the improvement of communication as it underpins all other strategic efforts to build community and stakeholder trust. Thus, the Vision calls upon the ASEAN Secretariat and AHA Centre to jointly develop a comprehensive disaster communications master plan that incorporates the information assets and needs of all stakeholders, and it seeks the tasking of a dedicated communications team that ensures that the general public knows what ASEAN can do for disaster-impacted communications and, during emergencies, what ASEAN is doing.

On the financial resources front, the AHA Centre's activities have largely been response driven, and the Vision seeks to ensure a more sustainable and flexible financial underpinning via creation of an endowment fund and more sustainable national contributions that can fund work on sustainable development and climate change adaptation rather than just emergency response. A complementary objective to financing actual disaster response is that ASEAN will play a role in encouraging the regional

business community to embrace continuity planning and business recovery planning. By smoothing out the local and national economic impacts of a disaster, such planning can reduce the demand for centralized financing of recovery. Moreover, by building networks via this continuity planning, ASEAN as a regional body can build a community to mobilize non-financial resources during an emergency.

The embrace of partnerships and innovation will not only ensure that humanitarian assistance reaches affected communities but also that communities build resilience. The AADMER Partnership Group (APG) is the flagship achievement on this front; this consortium of seven international organizations has been a contributor to institutionalizing AADMER, to expanding ASEAN-ERAT membership, and to building capacity. An expansion of APG membership is a clear goal of Vision 2025; however, building non-traditional partnerships will also promote innovation. Thus far, ASEAN has built ties with the Asia-Pacific Economic Cooperation (APEC) Business Advisory Council, NTS-Asia Consortium, Council for Security and Cooperation in Asia and the Pacific, the Network of East Asian Think-Tanks, and the Digital Humanitarian Network, while also building the ASEAN University Network and Network of ASEAN Defense and Security Institutes. As in other elements of the Vision, the AHA Centre is viewed as the most likely locus for consolidating all partnership network information and management.[83]

One ASEAN One Response

ASEAN Leaders signed the Declaration on "One ASEAN One Response: ASEAN Responding to Disasters as One in the Region and Outside the Region" at the 28th ASEAN Summit in Lao PDR in September 2016. The "One ASEAN One Response" (OAOR) Declaration laid out strategic and political commitments to achieve faster response, mobilize greater resources, and establish stronger coordination during collective response to disasters by 2020.[84] Moreover, the Declaration affirmed the AHA Centre as the primary regional coordinating agency on DM and emergency response, and the Leaders tasked the AHA Centre with operationalizing OAOR to develop necessary protocols, measures, procedures, and standards, and to strengthen engagements with relevant sectors and stakeholders in ASEAN.

At the strategic level, OAOR described the roles of the ASEAN Secretary-General, ASEAN sectoral bodies, ASEAN ministerial bodies, and the ASEAN Leaders. The ASEAN Coordinating Council (ACC) was tasked with ensuring successful implementation of OAOR with the support of the Secretary-General. AMMDM and the AADMER COP were to provide strategic guidance to the AHA Centre on operationalizing OAOR and to initiate a forum to promote dialogue among relevant ASEAN ministerial bodies in realizing the Declaration. Not only did OAOR task the Secretary-General with supporting the ACC to ensure implementation of the Declaration, but it also enshrined the Secretary-General's role as SG-AHAC in times of disaster.

In the end, OAOR's goal was for ASEAN to respond to disasters within and beyond the region as one. That is to say that, by 2020, ASEAN would have as many relevant stakeholders involved as necessary to achieve speed, scale, and solidarity during disaster response. The OAOR was intended to be an open and inclusive platform using ASEAN's mechanisms at its core to help increase the effectiveness of humanitarian response, reduce the burdens of affected countries, and alleviate the suffering of the affected population. The underlying objectives were:

- To swiftly provide all required support and resources to a disaster-affected country upon receiving the request for assistance or acceptance of the offer of assistance from the NDMO of the affected country
- To respond in a scale appropriate to the needs of the affected population and support requested by the NDMO by mobilizing assets and capacities within the AHA Centre, ASEAN member-states, and partners; and

- To make ASEAN's presence and compassion felt and seen by the affected population and where all assisting partners converge to a common objective to respond to the needs of the affected country.

The success of OAOR would be measured by ASEAN's ability to mobilize the required assets and capacities to collectively respond to disasters with increased speed, scale, and solidarity, coordinated by the AHA Centre as the primary ASEAN regional coordinating agency and the SG-AHAC. The seven principal achievements are:

- One Policy Framework (AADMER)
- One Standard Operating Procedure (SASOP)
- One Response Plan (AJDRP)
- One Policy Body (ACDM)
- One Point of Contact (the NDMOs)
- One Regional Coordinating Agency (AHA Centre); and
- One Field Coordination Centre (JOCCA).[85]

ASEAN Declaration on Strengthening of Adaptation to Drought

Among all disasters, droughts inflict the greatest economic loss in the ASEAN region. ASEAN adopted the Declaration on Strengthening of Adaptation to Drought in 2020, and it collaborated with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) on developing the regional plan of action 2021-2025 to implement the declaration.[86]

Climate change, extreme weather events, the socio-economic impacts of successive droughts, and the impacts of the COVID-19 pandemic are exacerbating the vulnerabilities of key sub-groups within the populations of ASEAN member-states. These vulnerable groups include smallholder farmers, households dependent on agricultural livelihoods, workers in the informal economy, and micro-, small-, and medium-sized enterprises. As ASEAN's population is projected to increase from 661.5 million in 2020 to about 700 million people by 2030, there will be a corresponding increase in water consumption for agricultural, industrial, and domestic purposes. Thus, the potential impact of drought is a concern for ASEAN member-states and their leaders as it cuts across economic, political, and security concerns.

The ASEAN Declaration on the Strengthening of Adaptation to Drought supported greater collaboration among the ACDM, relevant sectoral bodies, and stakeholders with the objectives of:

- Developing an ASEAN Regional Plan of Action for Adaptation to Drought
- Establishing networks and a community of practice for adaptive learning and continuous improvement of drought risk management in different parts of the region, building on the traditional knowledge and local solutions of communities, and
- Mainstreaming drought risks and disasters into the AADMER Work Programme and other relevant guidelines.

The ASEAN Regional Plan of Action for Adaptation to Drought (ARPA-AD) aims to enhance coordination at the regional, national, and international levels for achieving sustainable management of drought by considering the impact of drought on the livelihoods of people, natural resources and ecosystems, agriculture, energy, and sustainable socio-economic development. ARPA-AD consists of nine groups of action covering partnerships, and coordination as well as the entire drought management cycle – i.e., 1) reduce and prevent, 2) prepare and respond, and 3) restore and recover. The actions are complemented by 26 sub-actions and an implementation plan covering 2021-2025.[87]

ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management (2021-2025)

Under the AADMER Work Programme 2021-2025 Priority Programme 2, there is a sub-priority program on vulnerable groups and community-based disaster risk management with key outputs that mainstream protection, gender, and social inclusion.[88] The ASEAN Regional Framework on Protection, Gender, and Inclusion (ARF-PGI) in Disaster Management 2021-2025 aims to articulate a common vision for promoting PGI in DM in the ASEAN region. At the regional level, the Framework serves as the main PGI strategy for all ACDM WGs in the implementation of the AADMER Work Programme 2021-2025, as well as ASEAN sectoral bodies in cross-sectoral collaborations to address these issues in the context of DM. It will form the basis of annual progress reports on PGI for ASEAN platforms. The Framework aims to support the implementation of other regional declarations and plans by:

- Consolidating regional commitments across sectors on target actions for achieving inclusive DM
- Identifying entry points for collaboration between NDMOs and other organizations working on gender and social inclusion issues; and
- Supporting ASEAN member-states in setting priorities, indicators, and targets for measuring progress in PGI at the national level, while establishing indicators and a baseline for measuring progress at the regional level.

Built upon the foundation of core commitments under the ASEAN Community Blueprints in the areas of DM, gender mainstreaming, the prevention of and response to gender-based violence, child protection, and disability inclusion, the Framework outlines a set of target actions under the three pillars of Protection, Gender, and Inclusion. The principles of leadership and meaningful engagement of those most affected by disasters, including women, children, youth, elderly, the poor, and people with disabilities, cuts across all three pillars of the Framework.

The primary target audience of the ARF-PGI 2021-2025 includes both ASEAN sectoral bodies and NDMOs as well as organizations working on gender and social inclusion issues at the national level. The Framework may also serve as a reference for development and humanitarian partners including the UN and civil society partners. Given that each ASEAN member-state has a unique demography and landscape, the Framework serves as a reference for each to consider actions that could be taken, where applicable and appropriate, in accordance with the context and stage of development of each state. Table 2 displays the framework of target actions to be taken under the three ARF-PGI pillars.[89]

Type of Intervention	Protection	Gender	Inclusion
Cross-cutting	Institutionalize the leadership of women, youth, elderly, the poor, and people with disabilities in disaster preparedness, response, and recovery, and promote full and equal participation in decision-making		
Development of studies and assessments	Undertake safe and ethical research, data collection, and analysis on protection risks in disasters and crises, including gender-based violence and violence against children to support the formulation and effective implementation of laws, policies, and programs	Collect, analyze, and use gender, age, and disability disaggregated data to inform DRR and response strategies, development, and implementation of DM programs, and ensure that unique needs are met Conduct gender analysis, including its intersections with age and disability in relation to protection risks, unpaid care work, livelihood activities, and health risks to inform all DM policies and programs	Support an effective coordination mechanism among ASEAN sectoral bodies, national statistics ministries and institutions, and local communities that will focus on gathering and disseminating reliable, coherent, and comprehensive statistics on persons who are often greatly affected in disaster situations such as children, women, the elderly, and persons with disabilities to ensure that informed decisions on effective allocation of disaster preparation resources is made
Development of strategies, guidelines, and policies	Incorporate the prevention of and response to all forms of gender-based violence and violence against children into the planning and delivery of DRR programs and protocols as well as in all humanitarian response Develop strategies and undertake actions to protect children and ensure their safety, health, and well-being in disasters Develop and implement strategies and Codes of Conduct to prevent all forms of gender-based violence, sexual exploitation, abuse, and harassment	Mainstream a gender perspective, including targeted actions and investments, in the formulation and implementation of all policies, plans, and programs on DM and emergency response	Ensure alignment of national and local DM laws, policies, plans, and programs with international and regional DRR and resilience frameworks to foster a more disability inclusive and disaster resilient environment that anticipate, respond, cope, and adapt to disasters Develop disability inclusive disaster resilience plans such as risk assessments, emergency response plans, and recovery and rehabilitation plans, allocate resources, and ensure active involvement of persons with disabilities, particularly children, women, youth, and the elderly
Capacity building	Build the capacity of disaster responders to be able to prevent and respond to gender-based violence in all aspects of DRR	Develop and strengthen gender-responsive training programs on disasters and emergencies (including health emergencies), crisis preparedness, response, recovery, and rehabilitation Document and exchange good practices on gender-responsive disaster risk management, especially on the role and leadership of women and other vulnerable groups	Promote the sharing of good practices and lessons learned on DRR to build on those and other innovative measures in creating disability inclusive DM plans, programs, and procedures Conduct trainings and capacity building activities for local, national, and community emergency response managers and first responders

Table 2: Framework of Target Actions for Protection, Gender, and Inclusion

Type of Intervention	Protection	Gender	Inclusion
Partnership development / strengthening	Establish and maintain coordination between DM and protection mechanisms that results in timely, concrete action to mitigate risks and to prevent and respond to gender-based violence and violence against children Establish and strengthen partnerships at international, regional, national, local, and community levels, including with women's organizations, civil society, community-based organizations, individuals, academia, and private entities to address protection risks, including gender-based violence and violence against children in disasters	Leverage existing mechanisms to strengthen partnerships with women's groups and organizations in joint efforts to promote gender-responsive DM	Establish a network of disability and human rights professionals among emergency response managers and responders, and consult networks of organizations of persons with disabilities in the planning, implementation, and evaluation of policies and programs on disaster and emergency preparedness
National service provision	Ensure comprehensive survivor-centered support services for gender-based violence are available and accessible, including health, psychosocial, legal, and safety services, and support before, during, and after disasters Ensure the accountability of duty-bearers on violence against women incidents that occur during or after situations of conflict, disasters, and situations of unrest through legal and judicial process and transitional justice mechanisms and with the full and effective participation of women in such processes as well as ensuring that victims / survivors can access redress, reparations, and other remedies Identify and assess child protection risks in disasters, develop strategies, and undertake actions to address all forms of violence, abuse, exploitation, and harm Identify risks and undertake actions to prevent trafficking and to support the safety and dignity of victims of trafficking to ensure that they are treated humanely and with dignity and have access to humanitarian assistance before, during, and after disasters	Strengthen the design and implementation of inclusive policies and social safety net mechanisms, including through community involvement, integrated with livelihood enhancement programs, and access to basic health services, including maternal, newborn and child health, and sexual and reproductive health Provide opportunities for women's engagement in post-disaster recovery efforts and implement targeted recovery measures and long-term rebuilding efforts at enhancing gender equality and women's empowerment (e.g., credit facilities or special loan agreement for women for rebuilding their livelihoods)	Ensure that persons with disabilities have access to disability inclusive national, local, and community level public offices, facilities, equipment, and relevant resources used in emergency situations Promote rights-based, needs-based, and life-cycle approaches and eliminate all forms of maltreatment on the basis of old age and gender through equitable access to public services, income generation, health care services, and essential information, as well as preventive measures, legal protection, and effective support systems in disasters

Table 2: Framework of Target Actions for Protection, Gender, and Inclusion (cont.)

ASEAN TOOLS AND MECHANISMS RELATED TO HADR

The adoption and implementation of AADMER has led to enhanced regional preparedness and response mechanisms. The ASEAN Secretariat, ACDM, and other ASEAN bodies have responded to increasing incidence and seriousness of disasters by setting up new mechanisms and developing new tools to continuously improve regional arrangements for DM. Figure 7 illustrates how these tools and mechanisms are nested.[90]

Tools

ASEAN bodies wield various training, information, planning, and ready-response tools in the pre-disaster, emergency response, and recovery phases. These allow a more predictable and coordinated response.

Figure 7: ASEAN's HADR Mechanisms and Tools

AHA Centre Executive (ACE) Programme

The AHA Centre Executive (ACE) Programme prepares future ASEAN DM leaders via an intensive training program, developed in cooperation with the Government of Japan, via the JAIF. ACE participants are drawn from their respective countries' NDMOs to ensure that rising leaders share trans-boundary ideas, networks, and lessons on HADR to improve both domestic and regional collective response. In its first seven years (2014-2021), the ACE Programme had trained more than 100 regional mid-level DM practitioners from all ASEAN member-states. The program has three goals:

- To produce ASEAN's future leaders with a mastery of DM tools and regional coordination mechanisms
- To strengthen solidarity and connectivity among ASEAN's DM professionals
- To provide a safe and engaging learning environment to foster a shared sense of regionalism and cooperation

During a course of 4-6 months, usually in Jakarta but with travel to specific sites for hands-on learning, participants learn from their peers who bring their own countries' expertise and from experts and practitioners representing 30 international organizations, including UN agencies and representatives of the International Red Cross and Red Crescent Movement. During the course, participants travel to Subang, Malaysia, where they see the humanitarian logistics operations of World Food Programme (WFP) and the UN Humanitarian Response Depot (UNHRD), whose warehouse hosts ASEAN's main DELSA site. On visits like this within the region, ACE participants also receive practical training and knowledge from ASEAN-ERAT members who can walk participants through an historic response. Indeed, a portion of the ACE Programme is dedicated to the ASEAN-ERAT induction course that involves simulation exercises.

Experts from outside the region also conduct modules of the program. While in Jakarta, participants receive instruction on the Incident Command System of the U.S. Forest Service from that Service's trainers and on strategic thinking from lecturers and experts from the U.S. INDOPACOM Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI-APCSS). For non-Anglophone participants, the Middlebury Institute of International Studies at Monterey (California) provides an English Course for Disaster Management. As a major funder of the program, Japan also shares the expertise of its own DM officials and practitioners via visits by ACE participants to Japan for orientation to Japan's early warning system, and preparedness, relief, and recovery strategies. In addition, a partnership with New Zealand's government supports a "Critical Incident Leadership" component of the program.

Oversight of the ACE Programme is located within the ACE Programme Steering Committee, whose members include the ACDM Global Leadership WG, the AHA Centre, ASEAN Secretariat, and Government of Japan. The Committee approves changes and monitors implementation of the course.[91]

ASEAN Centre for Military Medicine (ACMM)

The ASEAN Centre for Military Medicine (ACMM) was founded after the ASEAN Defence Ministers' Meeting (ADMM) sought a means to build practical and sustainable cooperation among ASEAN member-states' military medical services and those of the ADMM-Plus countries. Building cooperation and collaboration among ASEAN and ADMM-Plus countries' military medical services was viewed as a means for regional and partner militaries to meet the demands of AADMER and to support the AHA Centre. In 2014, Thailand offered to host the full-time coordination center, and ADMM agreed to site the ACMM in Bangkok.

From 2015 onward, the ACMM has conducted various exercises and simulations to work out a Standard Operating Procedure (SOP) for ASEAN and partner militaries during HADR missions. The emphasis has been on ACMM's

ability to facilitate military medical services that overcome various barriers between affected and assisting states during a disaster response. The SOP lays out the processes for information sharing, standardizing training, and building plans during non-emergency periods. Thus, in a crisis, the ACMM can shift to full alert and coordinate activities among regional and partner military medical teams both on site in Bangkok and via liaisons sent to the AHA Centre. As needed, ACMM can send a medical assessment team to an affected country to supplement the AHA Centre's own assessments and can advise the AHA Centre on resources to meet needs. In 2015, ACMM coordinated the military medical responses to the Nepal earthquake and flooding in Myanmar.[92] Then, during the COVID-19 pandemic, the ACMM established assessment processes and guidelines for surveillance, disease control, field hospitals, and military training under pandemic conditions. Moreover, ACMM used workshops and exchanges to develop guidelines for managing COVID-19 in disaster areas. ACMM holds regular technical working groups on civil-military coordination and training courses for ASEAN Military Medical Assessment Teams.[93]

ASEAN Disaster Information Network (ADINet)

The ASEAN Disaster Information Network (ADINet) is a repository of information on hazards and disasters that have happened in the region. It combines information submitted by the public with other historic information, all verified, validated, and augmented by the AHA Centre.[94] In addition to its homepage display of information on events and damage caused, ADINet maintains research, reporting, laws, policies, and other documents pertaining to DM in the region, all of which can be searched by country of origin, type of hazards, type of activity (e.g., innovation, preparedness, recovery, risk assessment), and language.

Figure 8 shows the ADINet homepage for a search of earthquakes occurring in the ASEAN region from 1 January through 21 April 2022. It includes a map of recorded events along with a summary of human and material losses as reported through ADINet by members of the

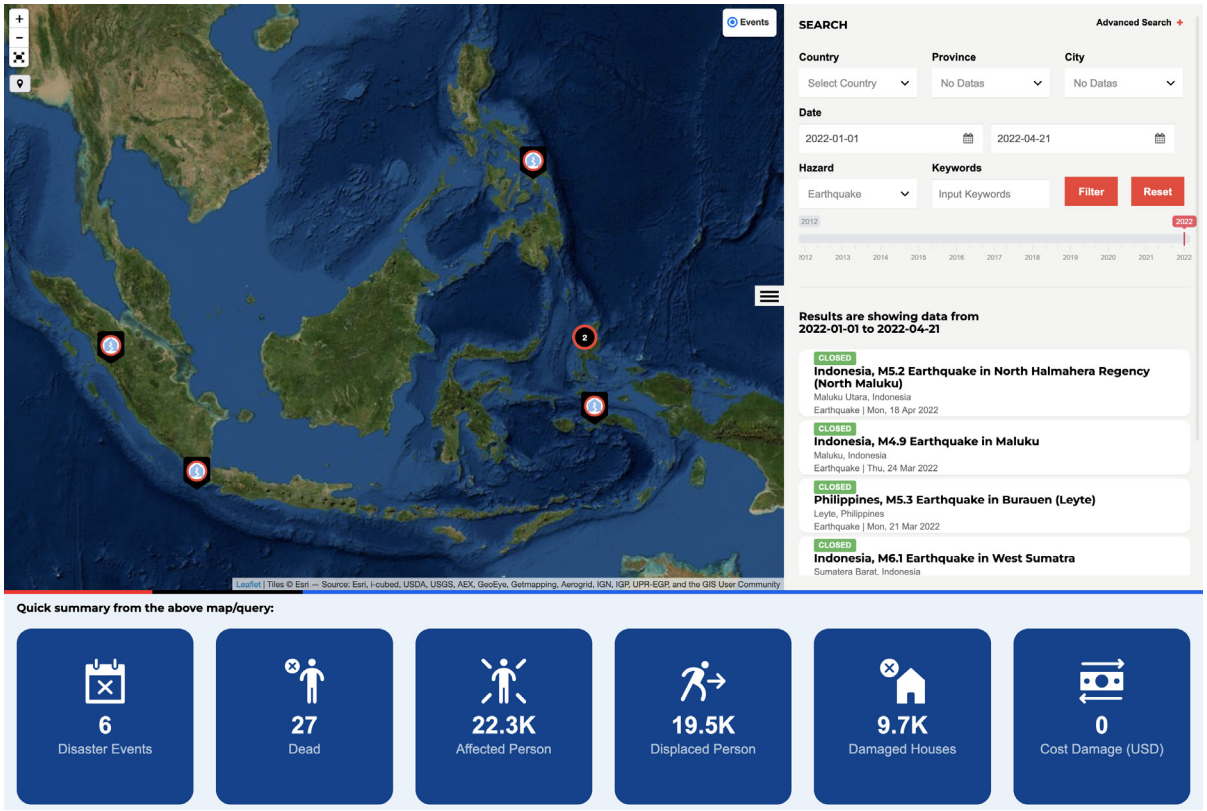


Figure 8: ADINet Search Results for "Earthquakes, 1 January - 21 April 2022"

public, experts, and NDMOs.[95]

By clicking on any event on the map, a user can access the information collected, including casualties, damage, scientific assessments, and humanitarian requirements. Figure 9 shows a detail of a February 2022 earthquake in Indonesia's Sumatra along with the BNPB reports on the event response.[96]

In order to contribute information, the public can create an ADINet account at: h*ttps://adinet.ahacentre.org/*

ASEAN Disaster Management and Emergency Relief (ADMER) Fund

The ASEAN Disaster Management and Emergency Relief (ADMER) Fund was established by AADMER Article 24 and supports implantation of the AADMER Work Programme as well as being available to fund member-states' emergency responses and the operations of the AHA Centre. It is administered by the ASEAN Secretariat. Contributions come from ASEAN members and public and private partners and

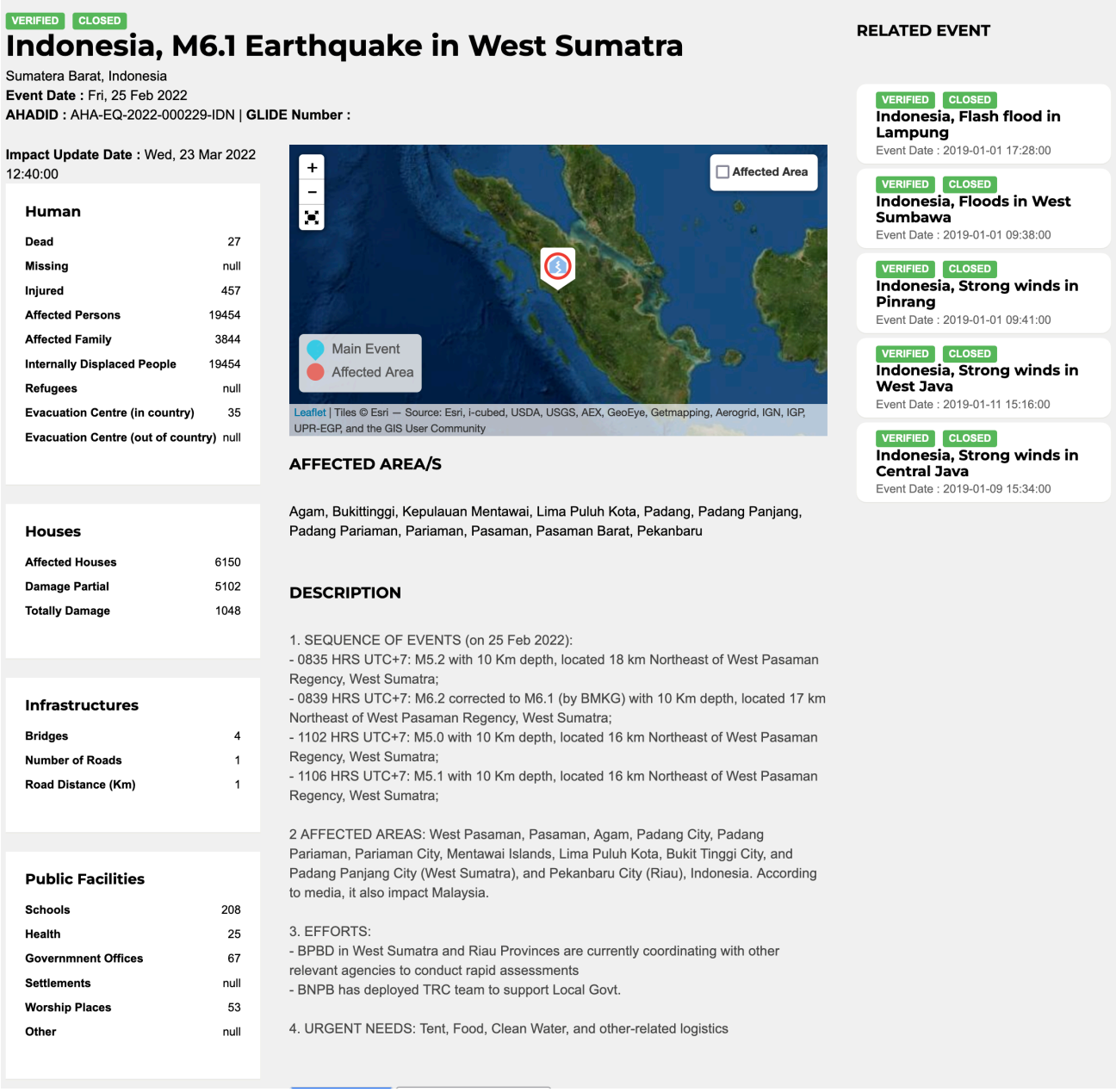


Figure 9: ADINet Event Detail Page

are entirely voluntary. Member-states and the AHA Centre may seek disbursement of monies from the ADMER Fund, and the AHA Centre Executive Director has discretionary power to release up to US$50,000 per emergency event.[97] Although the ADMER Fund was intended to provide funding for emergency work, it accounts for only a very modest share of spending on DM; for example, of the AHA Centre's 2020 monetary flows, only US$36,800 of the total US$4.3 million was from the ADMER Fund.[98]

ASEAN Emergency Response and Assessment Team (ASEAN-ERAT)

The ASEAN-Emergency Response and Assessment Team (ASEAN-ERAT) is a rapidly deployable response team intended to support an affected state during either sudden or slow onset disasters. The members of ASEAN-ERAT come from the 10 ASEAN member-states and are managed by the AHA Centre. The ASEAN-ERAT may deploy at short notice to provide support to the NDMO of the affected country during the first phase of an emergency. Appointed ASEAN-ERAT members can assist for up to 14 days at a time during crisis or for an extendable period – upon the request from the affected country.[99]

ASEAN-ERAT can mobilize within 24 hours of receipt of a request for or approval of ERAT support to an affected state. It has three major competencies: assessment, facilitating incoming relief, and coordination.

- Assessment – assess and estimate the scale, severity, and impact of the disaster, including the needs of the affected population, and deliver this assessment to the NDMO of the affected state and to other ASEAN member-states
- Facilitation – receive incoming relief supplies or assistance for the affected state NDMO, and provide operational support for information management, logistics, and emergency telecoms
- Coordination – coordinate with AHA Centre for delivery of regional assets, relief items, and personnel; facilitate coordination between the affected state NDMO and the international humanitarian community; set up, as necessary, a physical space for the JOCCA[100]

Outside of emergencies, the ASEAN-ERAT can support member-states' NDMOs in contingency planning, simulation exercises, and technical work to integrate the ASEAN-ERAT into a country's own emergency response mechanism.

As of 2022, there are 322 ASEAN-ERAT members representing all 10 member-states; 75 ASEAN-ERAT members have been deployed to ASEAN-ERAT missions or emergency response,[101] and 30% of deployed ASEAN-ERAT members are women.[102] ASEAN-ERAT members come from various government agencies, Red Cross/Red Crescent National Societies, the private sector, civil society, and academia. Members undergo 100 hours of training on ASEAN's various DM structures, tools, and mechanisms as well as best practices for on-site operations and equipment. Moreover, members regularly participate in national, regional, and global simulation exercises to validate their knowledge and expand integration with the international HADR community.

The ERAT maintains a book of guidelines for members and regularly undertakes an after-action review process to gather lessons learned and document them for incorporation into future processes. Moreover, as the ERAT transforms and professionalizes, it is incorporating various competency levels, i.e., basic, specialist, and leader. ERAT leaders will have undertaken courses on leadership and complex operations.

ASEAN-ERAT is designed to be self-sufficient in logistics and ICT during deployments. Equipment that is standard for deploying teams includes computers, printers, cameras, drones, mobile and satellite telephones, broadband network equipment, handheld navigation devices, and power supplies and cords for all devices.[103]

ASEAN Joint Disaster Response Plan (AJDRP)

The AHA Centre developed the ASEAN Joint Disaster Response Plan (AJDRP) at the behest of the ACDM. The AJDRP provides a common framework for delivering a timely, at-scale, multi-lateral response by mobilizing necessary assets and capacities. Moreover, the Plan reemphasizes the AHA Centre's role as the coordination mechanism for ASEAN during disaster response.

The Plan provides a common framework that applies for most types of hazards although for its development, planners used three disaster scenarios as reference points. These scenarios are: 1) a major earthquake in Metro Manila, Philippines; 2) a megathrust earthquake-generated tsunami under Indonesia's Mentawai islands; and 3) a large-scale cyclone event in Myanmar. These scenarios were endorsed by the ACDM WG on Preparedness and Response as having a high probability of occurrence and the possibility to severely impact populations. These three scenarios are used as starting points, and the AHA Centre continuously identifies other possible scenarios to which the Plan can be adapted or adjusted.

A key part of the Plan is the outline of types of human and material resources that may be required during an emergency response. Under the AJDRP, ASEAN member-states are encouraged to earmark and report on the availability and capacity of their assets and to establish standby agreements for the movement and use of these assets in case of emergency. The resources fall under nine "modules."

1. Search and Rescue – Heavy or Medium Urban Search and Rescue (USAR) Teams, Confined Space Rescue, Ground or Aerial Fire Fighting, Flood Rescue Teams, Hazardous Material Detection and Handling (HAZMAT), and Chemical, Biological, Radiological, and Nuclear (CBRN) Detection and Handling
2. Water, Sanitation, and Hygiene (WASH) – high-capacity pumps, water treatment facilities and personnel, water tankers, bladders, and trucks, mobile latrines, mobile bathing facilities, repair equipment
3. Health and Medical Services – Emergency Medical Teams Types 1-3, medical tents, field hospitals, medical aerial evacuation, essential medicines and health kits, disaster victim identification teams, body bags
4. Food Assistance – ready-to-eat food
5. Non-Food Items – immediate shelter items (tarpaulins, plastic sheeting, ventilated tents, mattresses, sheets, and blankets), household kits (rope, kitchen utensils, clothing, cook stoves, and flood lights), shelter repair kits (shovels, picks, saws, nails, wire, and hammers), temporary shelter (iron sheets or prefabricated)
6. Early Recovery – structural and civil engineers, waste and debris management
7. Logistics – generators, tents, mini-/micro-unmanned aerial vehicles, air and sea transport, warehouse managers, transport and fleet managers, ground handling at airports, customs (import and export) experts
8. Emergency Telecommunications – information technology officer or an emergency telecommunications team and equipment
9. Expertise – humanitarian coordination, incident command support teams, information management, civil-military coordination, communications, camp coordination and management

Based on the three scenarios used to develop the AJDRP, each module is further broken down into the types of assets that may be needed in case of earthquake, tsunami, or typhoon. This is illustrated in Figure 10 wherein ASEAN's material assets and human experts may be applicable in case of one of the major types of disaster, i.e., earthquake in urban area, tsunami in highly populated area, and cyclone affecting widespread area.[104]

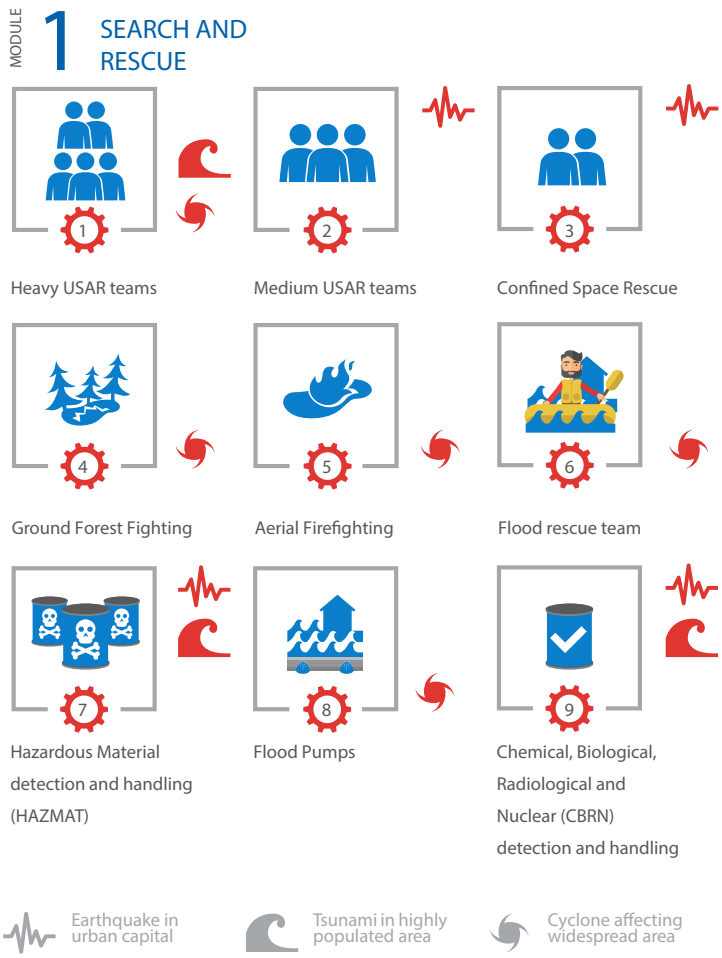


Figure 10: Priority Assets Available during Specific Types of Emergency Responses

The Plan notes that while it is desirable for ASEAN member-states to develop these capacities as government resources where appropriate, they may also be resources owned and developed by civil society, the private sector, the International Red Cross and Red Crescent Movement, ASEAN Dialogue Partners, international organizations, and other ASEAN partners. Indeed, partners like UN agencies or components of the International Red Cross and Red Crescent Movement have standardized assets and capabilities on standby to respond to disasters. For example, the International Federation of Red Cross Red Crescent Societies (IFRC) maintains Emergency Response Units that include standardized equipment and trained personnel available to deploy to provide emergency logistics, medical care, or WASH.

The AJDRP clarifies various arrangements that may be made for on-site coordination among the affected state, ASEAN bodies, and the international humanitarian community. With the AHA Centre as the main ASEAN body responsible for coordination during disaster response, AHA Centre and its subsidiaries – like ASEAN-ERAT – may be tasked with operationalizing coordination with UN agencies, the IFRC, or with independent organizations and may be working in liaison relationships with regional military forces. Such coordination is addressed in detail in the SASOP, but ASEAN's JTF on HADR, and the ASEAN Military Readiness Group are additional resources that ASEAN can bring to the table to improve coordination.

Finally, the Plan illustrates ASEAN Response Procedures as structured in the AHA Centre's Emergency Response Organisation and Planning Guideline, the Operational Procedure of the SG-AHAC, lessons learnt from the Typhoon Haiyan response, and documents from the UN Office for the Coordination of Humanitarian Affairs (OCHA). The procedures are categorized into different phases of emergency with three activation levels: Hazard Monitoring and Risk Analysis (Green), Standby (Yellow), and Active Response (Red). For the AJDRP purposes, the "Yellow" and "Red" phases are used to identify the activities required to be implemented to anticipate disaster risks. The Red Phase is divided into time phases, i.e., 6 hours, 48 hours, and 72+ hours after the event.[105]

ASEAN Militaries Ready Group (AMRG)

ASEAN leaders recognize that domestic military forces are among the first (and best equipped) responders, and the AADMER specifically recognizes this factor by Article 15's requirements and allowances for military identification and action.[106] In 2015, the ASEAN member-states' defense ministers developed

the concept of the ASEAN Military Ready Group (AMRG) on HADR as a means to ensure that multilateral military capacities can be deployed effectively in response to natural disasters in the region, and in 2016, the ministers adopted the AMRG Terms of Reference, which would then lead to the 2017 declaration that would operationalize the AMRG.[107] Finally, the AMRG SOP was adopted by the ASEAN Defence Ministers in December 2020;[108] it outlined concepts of operations, command and control arrangements, and other structures and guidelines intended to ensure that the AMRG on HADR fills the demands of the SASOP, Chapter 6 - Facilitation and Utilisation of Military Assets and Capacities.[109]

The overall aim of the AMRG on HADR is to strengthen coordination among the armed services of the various member-states working under a single ASEAN banner and under the coordination of the AHA Centre. The AMRG is a quick-response team available for immediate deployment either after a crisis or as part of a preventative team.[110] Under normal circumstances, the AMRG on HADR is represented at the AHA Centre by a military officer of the sitting ASEAN Chair state. When needed, that officer will assist the AHA Centre in deploying the AMRG when called upon. The AMRG may only be deployed at the request of the affected state and with the agreement of all 10 member-states regardless of what member-states' military forces are involved. When deployed, the AMRG will not be armed and, while contributing member-states retain command of their forces, the AMRG must operate under the direction and coordination of the affected state. The shape of the AMRG to be deployed depends on the affected state's request and the assisting states' capacities as shown in Table 3.[111]

In general, the scope of assistance will be focused on search and rescue, emergency medical aid, distribution of relief goods, transportation and evacuation, and information exchange and management as these are areas of expertise within most regional military forces.[112] Regardless of the level of deployment, during a disaster response mission, the AMRG may assign liaison officers to be stationed at the AHA Centre's EOC in Jakarta and in the capital of the affected state.[113] Moreover, AMRG personnel may be members of the ASEAN-ERAT as that deployment often works directly with the affected state's NDMO, which, in turn, oversees civil-military coordination.[114]

ASEAN Regional Disaster Emergency Response Simulation Exercise (ARDEX)

In order to implement the AADMER, validate the SASOP, and refine the AJDRP, the ACDM required that stakeholders conduct regular exercises. The first ASEAN Regional Disaster Emergency Response Simulation Exercise (ARDEX) was held in 2005 and was intended to be held every second year[115] with the host country determined by alphabetical order of the ASEAN member-states.[116] The AHA Centre has co-organized the ARDEX with the host country since 2013. To support planning and conduct of the ARDEX, the AHA Centre developed an ARDEX Organizer's Handbook and ARDEX Referees Manual. ASEAN member-states and partners in disaster response, including military forces, UN system bodies, NGOs, international organizations, civil society, and the private sector may participate in the ARDEX.[117]

Level of Need	AMRG Level of Deployment
Urgent	Provide specialists to complement ASEAN-ERAT for needs assessment team
Immediate	Deploy alongside other relevant assets and personnel (e.g., mobile air movement, forklift, fuel, search and rescue, temporary shelter, or field kitchen)
Mid- to Long-Term	Deploy alongside other personnel for damage assessment team, engineers, and heavy machinery

Table 3: AMRG on HADR Levels of Deployment

ARDEX is a simulation exercise that practices, reviews, and evaluates ASEAN's emergency response and DM mechanisms. The type of disaster scenario is decided based on regional priorities and the need to test specific emergency procedures.[118] The exercise scenarios are intended to be centered around coordination among affected and assisting states. Organizers may elect to expand the coordination to include UN bodies and international organizations or even extra-regional state partners. During the exercise, the training audience is expected to use the mechanisms and procedures set out in the SASOP for information updates, requests for assistance, entry/exit point processes, and the use of an on-site coordination center.[119]

ARDEX-18 in Indonesia was the last ARDEX to be held. The scenario of that iteration of the exercise was a response to an earthquake and tsunami complicated by an industrial incident, an addition that meant hazardous materials concerns were woven into the scenario. In addition, the 2018 exercise incorporated many stakeholders – more than 170 individuals.[120] Photo 2 shows part of the ARDEX-18 field training with participants from Singapore, Thailand, and Vietnam retrieving a simulated victim from rubble.[121]

Planning for ARDEX-20, set for Manila, was completed in January 2020, and the referees' training went ahead in March,[122] but in October, it was decided to postpone the exercise due to the COVID-19 pandemic.[123] Based on the AHA Centre Work Plan 2025, ARDEX iterations should be held in 2022 and 2024.[124] However, the Cambodian chairmanship of ASEAN for 2022 does not indicate planning for ARDEX-22 is underway.

ASEAN Regional Forum Disaster Relief Exercise (ARF DiREx)

The ASEAN Regional Forum Disaster Relief Exercise (ARF DiREx) is a large-scale disaster relief exercise that ARF members'

Photo 2: ARDEX-18 Participants from Singapore, Thailand, and Vietnam Conduct Search and Rescue

civilian and military authorities hold every two years (alternating with ARDEX). It promotes exchange of expertise and best practices in DM[125] and increases preparedness of participating countries. The exercise was first held in 2009 and is usually co-hosted by two countries - one ASEAN member-state and one non-ASEAN ARF participating country.[126] The exercise has not been held since 2015 in Malaysia.

ASEAN Standards and Certification for Experts in Disaster Management (ASCEND)

The ASEAN Standards and Certification for Experts in Disaster Management (ASCEND) initiative was endorsed by the ACDM in 2018 to establish a common set of standard skills and competencies for each profession in the DM sector.[127] In Phase 1 (2016-2020), the Government of Indonesia led the process of development with the AHA Centre via the Professional Certification Agency on Disaster Management. Phase 2 (2020-2023) of this project is currently being implemented by the AHA Centre, with support from the Republic of Korea. The current phase involves two activities: 1) institutionalization wherein the AHA Centre communicates with ASEAN member-states' relevant agencies to advocate for involvement as certifying bodies, and 2) technical set-up whereby the AHA Centre helps to finalize standards, prepare assessment toolboxes, develop capacity, and create a registry database system.

The ASCEND program consists of two main components:

- The ASEAN Standards – common competency standards for different professions in the DM sector that are recognized in all ASEAN member-states; and
- The ASEAN Certification – a process of securing official ASEAN recognition that an individual possesses the necessary qualification and competence to perform a specific profession in the DM sector.

The objectives of the ASCEND initiative are both specific and general. On the one hand, the process allows individuals to acquire, demonstrate, and have recognized their skills in one of five categories of DM professions: 1) rapid assessment, 2) humanitarian logistics, 3) information management, 4) WASH, and 5) shelter management. At the same time, on a regional level, the initiative aims to build overall DM human resources capacity to make the region disaster-ready, to allow disaster-affected countries and assisting countries to quickly assess the skills and expertise needed or on offer, and to build member-states' own training and education programs by using a set of common standards.[128]

Disaster Emergency Response Logistic System for ASEAN (DELSA)

Disaster Emergency Logistics System for ASEAN (DELSA) is both ASEAN's regional emergency relief stockpile and its management and use of that stockpile. Since 2012, DELSA has developed relief item stocks and enhanced the logistics operating capacity of the AHA Centre and ASEAN member-states. While the relief stockpiles themselves are the most visible element of DELSA, strong coordination of logistics activities is critical. Thus, DELSA is a major element of the curriculum of the AHA Centre's ACE Programme for building ASEAN human resources for disaster management. Finally, the communication of what DELSA is and how it operates is a major component of the whole of DELSA operations.

ASEAN member-states can immediately access DELSA relief goods as soon as a disaster strikes. As regulated in the AADMER and the SASOP, the AHA Centre coordinates the deployment of relief items to disaster-affected member-states. Relief items are delivered directly to the NDMO, and the subsequent distribution of goods to disaster-affected communities is done under the NDMO's authority. The DELSA Catalogue describes available stockpiles. The technical specifications of the commodities and equipment are based on international standards for humanitarian assistance. Moreover, the AHA

Centre identified different sets of relief items for different hazard types, based on past emergency response experiences. Important decisions on DELSA are made by a Project Steering Committee, comprised of the AHA Centre, the ASEAN Secretariat, Japan Mission to ASEAN, and JAIF Management Team, and led by the co-chairs of the ACDM WG on Preparedness and Response.

There are two phases of deployment of DELSA stockpiles: standby and active.

- During an emergency, when AHA Centre's monitoring status is elevated to "yellow," which indicates an imminent danger, the AHA Centre's logistics team readies relief items for mobilization and places them on standby.
- Within six hours of a crisis' elevation to the active response phase, or "red alert," the AHA Centre offers to mobilize DELSA relief items to the affected member-state. Additionally, the AHA Centre provides information on assets and capacities, available DELSA resources, and recommendations on disaster response plan. Within 48 hours of entering the active response phase, the JOCCA or AHA Centre's field team can start to coordinate the aid delivery after the affected member-state accepts the offer of assistance.

Figures 11, 12, and 13 show the flow of activities and decisions involved in deployment of DELSA stockpiles.[129]

The primary DELSA facility is in Subang, Malaysia, in space overseen by WFP and UNHRD. It can be used to provide relief items to affected member-states during emergencies. The ASEAN stockpile can also provide direct support to the NDMO of a disaster-affected state through the provision of prefabricated offices, generators, and emergency telecommunications. In addition to the regional stockpile in Subang, the AHA Centre has established satellite DELSA warehouses in Chainat, Thailand, and at Camp Aguinaldo, Quezon City, Philippines.[130]

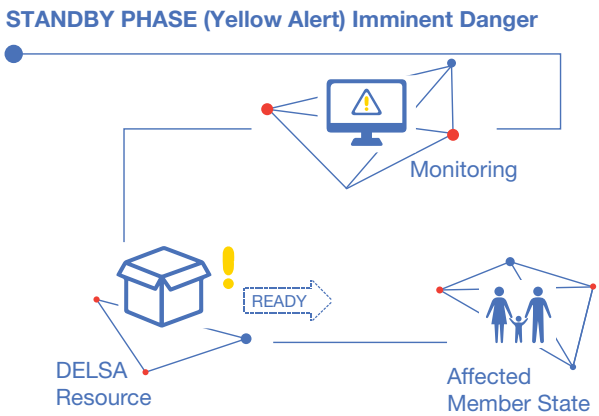


Figure 11: AHA Centre Actions during Standby Phase

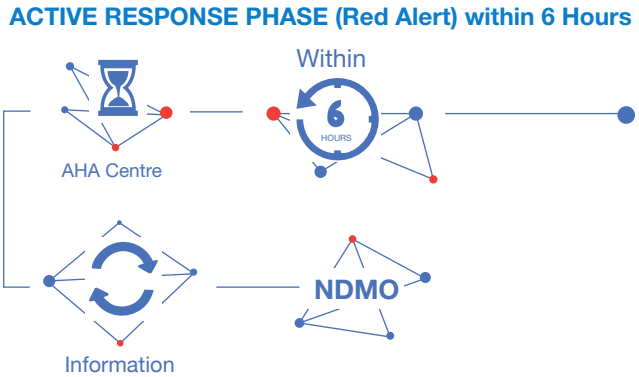


Figure 12: AHA Centre Actions during First 6 Hours of Active Phase

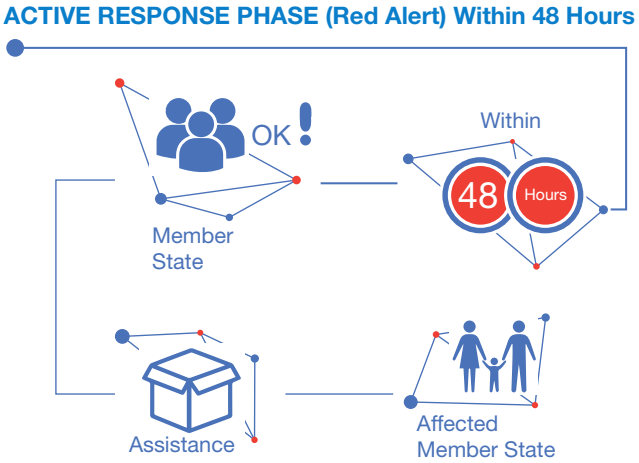


Figure 13: AHA Centre Actions during First 48 Hours of Emergency

Disaster Monitoring and Response System (DMRS)

ASEAN's Disaster Monitoring and Response System (DMRS) is an AHA Centre tool, developed in partnership with the Pacific Disaster Center (PDC) with the support of the U.S. Agency for International Development (USAID). The System is discussed in depth later in this document, under "Risk Monitoring and Early Warning."

Joint Operations and Coordination Centre of ASEAN (JOCCA)

The Joint Operations and Coordination Centre of ASEAN (JOCCA) is an on-site coordination system that will support the affected member-state by enhancing ASEAN collective response during large-scale disasters in the ASEAN region. The JOCCA is under the coordination and leadership of the NDMO of the affected state and, whenever possible, should be co-located with the NDMO who has jurisdiction over the affected area(s). JOCCA has three objectives:

- To support the NDMO of the affected member-state to establish an on-site coordination system for receiving and coordinating incoming relief assistance from ASEAN member-states in a large-scale disaster emergency
- To establish a physical space as a single point of service for response entities from ASEAN member-state governments, civil society, the private sector, and other ASEAN responders involved in the emergency response operations in the affected country; and
- To establish a coordination platform at the field level with relevant UN agencies and other international organizations including civil-military coordination.[131]

An ASEAN-ERAT team establishes a JOCCA.[132] In a situation where an affected state accepts both a JOCCA and a UN OCHA-led On-Site Operations and Coordination Center (OSOCC), an ideal arrangement would be co-location for the JOCCA and OSOCC as the default preference is co-location and full inter-operability. JOCCA will, then, primarily focus on facilitating international assistance from within the ASEAN region while OSOCC will enhance the capacity of JOCCA, including the facilitation of international assistance from outside the region.[133]

Logistics Support Framework

The ASEAN Defence Ministers' Meeting (ADMM) Logistics Support Framework is expected to guide existing and future cooperation in non-traditional security challenges, especially HADR. It specifically addresses multi-national logistics (MNL), which it defines as "any coordinated logistics activity involving two or more nations supporting a multinational response." The impetus for such coordination comes from a philosophy that a national "go-it-alone" approach to logistics where a participating nation, independent of all other participants, would deploy, arrange support from foreign nations, and compete for commercial resources to sustain its national contingents, could lead to logistics chaos and an unbalanced support structure.

The Framework is intended to streamline and institutionalize cooperation among ASEAN defense and military establishments in order to:

- Promote and enhance operational effectiveness and efficiency through smooth logistical processes conducted at the regional level
- Support training and exercises with the view to promote interoperability among ASEAN militaries
- Establish close liaison among the ASEAN member-states to ensure a rapid flow of information for effective and timely response
- Encourage and enhance sharing of relevant information on logistics support that may contribute to a more effective response; and
- Complement existing mechanisms and institutions such as the AADMER and the AHA Centre and engender a multiplier effect on present initiatives.

Among those issues intended to be addressed by the Framework are host nation support and agreements relating to border crossings, customs and duty fees, medical support, civil engineering, contracting, movement control, and provision of certain supplies. It applies to both the physical and informational domains of logistics and has three goals.

- Unity of Effort – Logisticians require a clear understanding of how MNL processes work, know the roles and responsibilities of the providers executing tasks, build agreement around common measures of performance, and provide appropriate members of the ASEAN operation visibility into the processes.
- Combined Logistics Enterprise-Wide Visibility – Multinational visibility requires timely and accurate information regarding the logistics support volunteered by responding states to provide commanders and their staffs the knowledge necessary to make effective recommendations and decisions.
- Rapid and Precise Response – Core military and commercial logistics capabilities meet the constantly changing needs of the response.

The Framework provides guidance to ASEAN member-states' military commanders and staffs for development of ASEAN MNL support plans. This guidance complements national doctrine and other internationally-developed and -endorsed procedures and serves as the basis for planning ASEAN military logistics support. This guidance is predicated on the fact that coordinated planning is required to ensure smooth deployment, sustainment, and redeployment/termination.

On the issue of execution, the Framework underscores that forces participating in multinational operations typically are more inclined toward coordinating than having a shared chain of command. Effective execution is, therefore, contingent on agreements and arrangements as well as understanding the roles and responsibilities of multinational partners. The expectation is that responding militaries will use liaisons and interpreters as a source of information on doctrine, organization, equipment, training, and national law. Finally, even if there is no larger multi-national coordination center, military logisticians can establish multi-national coordination in the form of MNL boards, cells, centers, groups, offices, or teams who facilitate personnel movement, medical support, ground and air evacuation, contracting, infrastructure engineering, and logistics operations.

Finally, the Framework provides checklists, translations and conversions of standardized classes of supply, and notional organizational structures for MNL coordination centers.[134]

Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP)

AADMER required the development of the Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP) to guide the actions taken by ASEAN member-states and the AHA Centre to respond to disasters. The SASOP provides:

- Guidance and templates for member-states to initiate ASEAN Standby Arrangements for Disaster Relief and Emergency Response
- Procedures for joint disaster relief and emergency response operations
- Procedures for the facilitation and utilization of military and civilian assets and capacities; and
- Methodology for periodic conduct of the ARDEX.

Among those demands made by the SASOP is that each ASEAN member-state designate and reaffirm twice annually a National Focal Point (NFP) who is the single point of contact for other member-states and the AHA Centre. The SASOP incorporates templates and forms

for this designation as well as templates and forms for each member-state to earmark and update information on assets and resources available for humanitarian assistance. Such assets might include emergency stockpiles of relief items, expertise, and technological resources, or they may include search and rescue teams, which are entered into the Search and Rescue Directory, or military assets and capacities such as water and sanitation, medical, transportation, communications, utilities, bulk storage, and staging facilities. Finally, the SASOP incorporates forms for each member-state to designate and update information on entry and exit points (airfields, ports, etc.), whose personnel and management are prepared to facilitate movement of humanitarian personnel and items.

ASEAN member-states undertake responsibilities regarding each other and the AHA Centre to share information, and the SASOP lays out the forms and media via which such information can be transmitted by NFPs and by the AHA Centre, which may, then, disseminate this shared information to the global humanitarian community. Such information can touch upon the nature of a reported disaster, any relief items or capabilities needed, or offers of assistance in the wake of a disaster.

Operational considerations touched upon within the SASOP include timelines and certifications needed for an assisting state's USAR teams, paperwork and procedures for customs and immigration, recommendations on addressing grievances, and advice for preparing demobilization of assistance plans and strategies.[135]

Standby Agreements

According to Article 9 of the AADMER, ASEAN member-states shall, on a voluntary basis, earmark assets and capacities, which may be available for disaster relief and emergency response via regional standby arrangements. These assets and capacities may include:

- Emergency response/search and rescue directory
- Military and civilian assets
- Emergency stockpiles of disaster relief items; and
- Disaster management expertise and technologies.

Each member-state communicates the type and status of earmarked assets and capacities and updates the AHA Centre regarding those assets and capacities as necessary. For its part, the AHA Centre is tasked with consolidating, updating, and disseminating the data on such earmarked assets and capacities, and it communicates with member-states regarding utilization of assets within the affected states' networks of predesignated entry points for supplies and expertise from assisting states.[136]

Within the SASOP, Annexes B-F provide member-states the template and guides for detailing the earmarked assets and capacities along with how they may be requested and handled. Annex B details emergency response or search and rescue capacity. Annex C provides a template for detailing military and civilian water and sanitation, medical, transport, communications, utilities, storage, and staging assets and capacities. Annex D allows would-be assisting states to detail the relief item stockpiles they maintain to include equipment and consumables. Annex E is a means to detail the expertise and technological resources available, such as incident command, coordination, public health, and trauma management. Finally, via the template in Annex F, receiving and assisting states can find entry points for supplies or personnel; these "operational focal points" are to be aware of their statuses as entry points and to have rehearsed procedures for handling.[137]

Mechanisms

There are various platforms, partnerships, and mechanisms in effect that have been established to enable the different ASEAN bodies to cooperate internally and with other stakeholders on HADR-related activities.

AADMER Partnership Group

The AADMER Partnership Group (APG) is a consortium of seven international civil society organizations – ChildFund International, HelpAge International, Mercy Malaysia, Oxfam, Plan International, Save the Children International, and World Vision International. It formed to support the implementation of the AADMER in cooperation with the ACDM and its WGs, the AHA Centre, and the ASEAN Secretariat. The stated objectives are to raise awareness of AADMER and facilitate engagement of civil society throughout AADMER discussions and implementation.

The APG can be thought of as a bridge between ASEAN's work in DM and the key stakeholders within civil society whose proximity and reach with local communities is crucial to all DM processes. Through a working partnership with the APG, ASEAN bodies, particularly the AHA Centre, can ensure increased participation and understanding within the communities they serve. ASEAN bodies and the APG have identified areas of partnership including disaster risk assessment and early warning as well as practical actions towards preparedness, prevention, and mitigation that are key elements for implementing AADMER and in which civil society has a particular stake.

The APG often collaborates with the AHA Centre during disaster response, and it provided support during Typhoon Haiyan in 2013, the Myanmar floods in 2015, and the Myanmar COVID-19 response in 2021. Not only are the local connections and knowledge of APG members critical in the early stages of emergencies, but they inform post-disaster monitoring and evaluation. The APG played a role in the AHA Centre's development of a lessons learned document after Typhoon Haiyan as the APG ensured that local insight and feedback were captured in the document. Moreover, the APG works with the AHA Centre throughout a range of programs and processes to ensure that community engagement is emphasized across AHA Centre's efforts. APG members are active in supporting the ASEAN-ERAT program as participants, trainers, and observers during training sessions.[138]

Per ASEAN's Vision 2025 on Disaster Management, the current focus of the APG is on empowering home-grown NGOs within the region, and this focus supports ASEAN's goal of becoming more "people-centric." ASEAN expects to see membership in the APG expand during the 2020s as new actors emerge and gain capacity to respond immediately and efficiently within their own communities.[139]

Currently, the APG operates in seven ASEAN member-states, i.e., Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines, Thailand, and Vietnam.[140]

ASEAN Defence Ministers' Meeting (ADMM) and ADMM Plus

The ASEAN Defence Ministers' Meeting (ADMM) is the highest consultative platform for the military and defense ministries of ASEAN member-states. The ADMM-Plus involves the ASEAN member-states and eight ASEAN Dialogue Partners (Australia, China, India, Japan, New Zealand, the Republic of Korea, the Russian Federation, and the U.S.).[141] The objectives of the ADMM are:

- To promote regional peace and stability through dialogue and cooperation in defense and security
- To give guidance to existing senior defense and military officials' dialogue and cooperation in the field of defense and security within ASEAN and between ASEAN and dialogue partners
- To promote mutual trust and confidence through greater understanding of defense and security challenges as well as enhancement of transparency and openness; and
- To contribute to the establishment of an ASEAN Security Community (ASC) as stipulated in the Bali Concord II and to promote the implementation of the Vientiane Action Programme (VAP), which calls for ASEAN to build a peaceful, secure, and prosperous region and to adopt greater outward-looking external relationship strategies with partners.

The objectives of the ADMM-Plus, are:

- To benefit ASEAN member-states in building capacity to address shared security challenges
- To promote mutual trust and confidence between defense establishments through greater dialogue and transparency
- To enhance regional peace and stability through cooperation in defense and security, in view of the transnational security challenges the region faces
- To contribute to developing the ASC, which embodies ASEAN's aspiration to achieve peace, stability, democracy, and prosperity in the region where ASEAN member-states live at peace with one another and with the world at large; and
- To facilitate the implementation of the VAP.

The ADMM and ADMM-Plus mechanisms have allowed ASEAN to develop some defense sector cooperation via consultation and confidence-building. Of import to regional HADR, the ADMM and ADMM-Plus frameworks helped establish the ASEAN Militaries Ready Group (AMRG), ASEAN Militaries' Logistic Support Framework, and the ASEAN Centre for Military Medicine (ACMM). In addition, the SOP on Multinational Coordination Centre was adopted in 2017.

The ADMM-Plus tries to find venues for practical cooperation among participating countries' defense establishments with a focus on seven areas: maritime security, countering terrorism, HADR, peacekeeping operations, military medicine, humanitarian mine action, and cyber security. Experts Working Groups (EWG) facilitate cooperation. The EWGs are each co-chaired by one ASEAN member-state and one "Plus" country. After the inaugural ADMM-Plus in 2010, EWGs began conducting exercises, including an ADMM-Plus HADR exercise,[142] the first of which was hosted by Brunei in June 2013, the second in Thailand in September 2016,[143] the third and fourth by Malaysia in 2018 and 2019. EWG annual meetings on HADR have continued, including via tele-conference during the pandemic years.[144]

ASEAN Ministerial Meeting on Disaster Management (AMMDM)

The ASEAN Ministerial Meeting on Disaster Management (AMMDM) is the ASEAN ministerial body in charge of promoting ASEAN cooperation in DM. The AMMDM is a ministerial level group that oversees the ACDM within the ASCC, and it facilitates dialogue between ministries that oversee DM programming and other ministerial level bodies.[145]

Although AMMDM had originally convened in early December 2004, it was only re-invigorated as a platform for political collaboration among ASEAN member-states after 2013 when the AADMER COP sought top level oversight over the process. Per the Terms of Reference for the AMMDM, the body is primarily tasked with promoting engagement and cooperation among DM stakeholders. However, its specific mandate and functions are:

- Ensure effective implementation of relevant directives, agreements, and decisions deriving from ASEAN Summits, the relevant strategic objectives of the ASCC Blueprint, and other relevant action lines pertinent to advancement of DM cooperation in ASEAN
- Recommend and adopt policies, measures, and strategies for regional cooperation in DM
- Provide guidance to the ACDM to formulate work programs, strategies, and priorities to strengthen regional cooperation in DM, and monitor and review implementation
- Work with other ASEAN sectoral ministerial bodies and ASEAN-related mechanisms to ensure coordination and synergy of efforts in areas related to DM
- Promote collaboration with external parties, including ASEAN Dialogue Partners, international organizations, and other relevant partners and stakeholders to advance regional cooperation in DM; and
- Adopt ASEAN's common positions on DM issues in preparation for international meetings and conferences and promote ASEAN's leadership and shared vision in in relevant multilateral fora.

The AMMDM meets at least annually with meetings attended by ministerial-level representatives from each ASEAN member-state and invitees from Dialogue Partners and regional or international agencies as would benefit collaboration and partnerships. As a subsidiary to the ASCC and as the oversight body for the ACDM, the AMMDM submits reports for itself and the ACDM to the ASCC Council.[146]

ASEAN Plus Three

The ASEAN Plus Three (ASEAN+3) cooperation process began informally in 1997 and was institutionalized in 1999 when the leaders of ASEAN along with those of China, Japan, and South Korea laid out objectives for East Asia Cooperation in economic, social, and political fields. ASEAN is the driving force bringing ASEAN+3 together, and ASEAN+3 statements and projects tend to reflect ASEAN's frameworks since trilateral cooperation among the "Plus Three" countries can be fraught. The ASEAN+3 Cooperation Work Plan (2018–2022) sought to foster regionalism on transnational crime; trade and investment; finance; tourism; agriculture and forestry; energy; minerals; micro-, small, and medium-sized enterprises; science, technology, and innovation; environment; rural development and poverty alleviation; social welfare; active aging; youth; women; civil service; labor; culture and the arts; information and the media; education; DM; public health; and connectivity. There are now 65 mechanisms coordinating ASEAN+3 cooperation.

On DM and emergency response, the ASEAN+3 explicitly seeks to contribute to implementation of the AADMER Work Programme (2021-2025), and the ASEAN+3 supports the achievement of ASEAN Vision 2025 on Disaster Management, the ASEAN Declaration on One ASEAN, One Response, and the implementation of the AJDRP through support to the AHA Centre. However, DM in and of itself is not covered by a ministerial-level ASEAN+3 meeting. Rather, emergencies are often addressed by ad hoc or disaster-adjacent meetings, as exemplified during the COVID-19 pandemic. In January 2020, the ASEAN+3 health sector cooperative mechanism began to formulate a response. The ASEAN+3 Health Ministers held a Special Video Conference on Enhancing Cooperation on COVID-19 Response in April 2020 and committed to real-time information and data sharing (including combatting misinformation), technical exchanges, bilateral and multi-lateral collaboration on prevention, detection, and response measures, research and development of vaccine and medicines, resourcing medical supplies, and revitalizing health systems.[147]

ASEAN Regional Forum (ARF)

Like the ADMM-Plus, the ASEAN Regional Forum (ARF) brings together ASEAN and non-ASEAN partners within a forum for dialogue and confidence- and capacity-building. While the focal point of ADMM-Plus is the defense ministers' meeting, the ARF focal point is the meeting of the Foreign Ministers of participating states.[148] ARF membership comprises the 10 ASEAN member-states and 17 other participants who include: Australia, Bangladesh, Canada, China, the Democratic People's Republic of Korea (North Korea), the EU, India, Japan, the Republic of Korea (South Korea), Mongolia, New Zealand, Pakistan, Papua New Guinea, Russia, Sri Lanka, Timor-Leste, and the U.S. The ARF is a platform developed to foster dialogue on political and security issues of common interest, including cooperation on DM. All ARF initiatives and activities abide by the principle of co-chairmanship, whereby each initiative or activity is co-chaired by at least one ASEAN member-state and at least one non-ASEAN ARF member.[149]

At the 15th ARF Ministerial Meeting in 2008, the then co-chairs of the ARF Inter-Sessional Meeting on Disaster Relief (ISM-DR) – Indonesia and the EU – were tasked with overseeing members' work drawing up the first ARF Work Plan on Disaster Relief to coordinate regional training for disaster preparedness. Since then, the ARF has drawn up two-year work

plans to move toward more regional cooperation in DM and to strengthen civilian and military coordination during disaster relief missions. Work plans have increasingly been crafted to complement regional agreements like AADMER, and after Typhoon Haiyan hit the Philippines in 2013, the ARF ISM-DR reached a consensus that regional cooperation needed to be more robust and efficient.

Since 2014, civil-military cooperation and coordination have been the focus of DM planning and development with a particular focus on integrating government, military, and non-government stakeholders, particularly via inclusion in the ARF DiREx. However, in the last few years, DRR has become a more important concept as regional players focus on minimizing damage and loss among communities and economies rather than just focusing on reacting to events. This suggests that follow-on work plans will examine incorporating more community-based organizations and local administrations as means to strengthen central governments' abilities to manage an overall emergency. This is all in line with the post-2015 agenda exemplified by the Sendai Framework on DRR.[150]

East Asia Summit (EAS)

The East Asia Summit (EAS) is a process for dialogue and cooperation among participating countries. Its culminating event is the annual meeting of participating countries' heads of state and government; throughout the year, other working meetings involve various ministries – e.g., energy, environment, or education – from each participating state. In 2005, the first EAS brought together representatives of 16 countries – the 10 ASEAN member-states, Australia, China, India, Japan, New Zealand, and South Korea. In 2011, the U.S. and Russia joined. ASEAN leads the forum, and the chair position rotates among ASEAN member-states annually. The EAS Unit at the ASEAN Secretariat was established in 2016 to improve coordination and facilitate cross-sector cooperation. The Unit oversees implementation and monitoring of decisions taken by EAS leaders.

Together, the 2005 Kuala Lumpur Declaration, the 2010 Ha Noi Declaration, the 2011 Declaration on the Principles for Mutually Beneficial Relations, the 2015 Kuala Lumpur Declaration, and the 2020 Ha Noi Declaration set the foundations for dialogue and cooperation among EAS participants on broad strategic, political, and economic issues of common interest and on promoting peace, stability, and economic prosperity in East Asia. The six EAS priority areas of cooperation are: 1) environment and energy, 2) education, 3) finance, 4) global health issues and pandemic diseases, 5) natural disaster management, and 6) ASEAN Connectivity. Each priority area has a plan of action. Other areas of cooperation that could become focal points for EAS in the future are food security, trade and economics, maritime security and cooperation, and non-traditional security issues.[151] An example of the agenda of an annual EAS comes from the 2021 virtual summit hosted by Brunei; it included discussions and workshops on COVID-19, health security, the South China Sea, climate change, cyber security, countering violent extremism, mental health, and the situations in Myanmar, Hong Kong, and the Korean Peninsula.[152] On the issues of global health and pandemic diseases, EAS has planned to enhance regional preparedness and capacity through comprehensive and integrated approaches to prevention, control, care, management, surveillance, and timely responses to emerging and re-emerging infectious diseases.[153]

Under the rubric of natural disaster management, EAS does the following:

- Support the operation of the AHA Centre and encourage all EAS participating countries to provide funding and technical support
- Build links between EAS DM activities and AADMER work and promote information-sharing, rapid response, and coordinated action
- Deepen engagement between ACDM and national DM authorities of non-ASEAN EAS participating countries to guide

cooperation in DM and DRR, especially via the ACDM Session on EAS Cooperation on Disaster Management, the 24x7 Points of Contact Network Meetings, and the Virtual Knowledge Portal
- Conduct disaster response and recovery exercises such as the EAS Earthquake Response and Relief Joint Exercise; and
- Conduct capacity-building and exchange experiences and sound practices in DM including activities on DRR and preparedness reporting in accordance with the Sendai Framework.[154]

Among the major developments from the EAS is the Rapid Disaster Response Toolkit, the first iteration of which came from the 2011 Australia-Indonesia EAS Disaster Management Initiative. The Toolkit was launched in June 2015 as a reference guide for decision-makers when sending or receiving international disaster assistance, and from then on, participants would work to operationalize the Toolkit via regional exercises. In November 2016, Indonesia, in partnership with Australia, conducted the Ambon Disaster Response Exercise to promote awareness and application of the Toolkit. This was followed up by the 2017-2018 EAS International Disaster Assistance Workshop series, based on an Australian disaster scenario, which allowed all EAS participating countries to explore how they would receive requests and make offers of disaster assistance. The AHA Centre participated in order to explore how it would facilitate ASEAN's collective assistance in conjunction with other EAS participating countries.[155] The Toolkit contains three Tools:
- TOOL 1: The NATIONAL FOCAL POINT TABLE provides contact information (telephone numbers and e-mail addresses) for EAS participating country officials that have responsibility for managing offers of and requests for international disaster assistance. Each EAS participating country is encouraged to include in its contact information the way in which requests for or offers of assistance flow within a government.
- TOOL 2: The GUIDANCE FOR RAPID DISASTER RESPONSE is a reference booklet intended for DM decision-makers across the EAS. It outlines key issues to consider ahead of or during disaster response; such issues include but are not limited to legal frameworks, diplomatic concerns, the local ability to absorb external assets or personnel, and the appropriateness (or not) of domestic or foreign military assistance. This Tool contains checklists of issues to consider, easy-to-use references, links to templates, and similar documents.
- TOOL 3: The EAS COUNTRY DISASTER RESPONSE ARRANGEMENTS booklet outlines the rapid disaster response arrangements for each EAS participating country. This information includes a detailed inventory of capabilities available and likely gaps and, in some cases, includes details on acceptable standards for assisting state capabilities (e.g., the International Search and Rescue Advisory Group (INSARAG) Guidelines for USAR Teams).[156]

The Toolkit is available either as a box set of hard-copy posters (Tool 1) and booklets (Tools 2 and 3) or in soft-copy on-line (via the following links).
- Tool 1: National Focal Point Table *https://www.rcrc-resilience-southeastasia.org/wp-content/uploads/2018/01/2015-EAS-Toolkit-1-National-Focal-Point-Table.pdf*
- Tool 2: Guidance for Rapid Disaster Response *https://www.rcrc-resilience-southeastasia.org/wp-content/uploads/2018/01/2015-EAS-Toolkit-2-Guidance-for-Rapid-Disaster-Response.pdf*
- Tool 3: EAS Country Disaster Response Arrangements *https://www.asean.org/wp-content/uploads/images/2015/June/EAS_toolkit/EAS-Toolkit-3.pdf*

Figure 14 shows Malaysia's entry in Tool 3, Country Disaster Response Arrangements.[157]

Malaysia

Receiving Disaster Response		
Publicly available guideline for receiving international assistance		No.
Signatory to the UN Model Customs Agreement?		No.
Does your country use the UN Cluster Approach? If no, does your country intend to use it in the future?		No.
Immigration and customs	Immigration – Rapid entry or transit arrangements	Arrangements will be made to provide priority management for emergency entry.
	Customs – Rapid entry or transit arrangements	For assets intended for emergency response, facilitation may be granted (e.g. exemption from taxation, duties, and other charges).
Food	Food restrictions	There is a need to comply with the country's Ministry of Health food safety standards.
	Food expiry timeframes	Not provided.
Medicine	Medicine restrictions	There is a need to comply with the Ministry of Health's regulation.
	Medicine expiry timeframes	Not provided.
	Medicine labelling requirements	English.
	Medicine approval	Not provided.
Equipment	Requirements around receiving equipment	List of equipment is required for customs and quarantine approval.
	Gifting restrictions	Gifting of equipment can be considered.
Required documents for incoming goods		A manifest is required for incoming goods and personnel. Full passport details, copies of passports and existing visas should be provided to the local Malaysian Mission in your country prior to deployment.
Visas		Entry visa may be required. Processes can be expedited on a case-by-case basis.
Passport expiry		Minimum 6 months validity is required.
Accreditation		USAR teams and FMTs are required to be properly accredited.
Receiving Disaster Response		
Incoming personnel/teams	USAR teams	INSARAG accredited USAR teams will be considered on a case-by-case basis.
	FMT teams	FMT teams will be considered on a case-by-case basis.
	Military	International military are not permitted as first responders. Military capabilities may be approved if providing air-life/logistical support to civilian capabilities.
	Firearms	Firearms are not permitted.
	Virtual OSOCC access?	Yes.
	Search and Rescue/cadaver dogs	Dogs/canines will considered on case-by-case basis.
	UNDAC teams	UNDAC teams may be accepted, and if required, will be managed by the relevant agency.
	Technical response team	Technical response teams will be considered on a case-by-case basis.
Sending Disaster Response		
INSARAG accredited USAR teams		INSARAG Accredited Heavy (by 2016).
Niche capabilities		Medical.
Other assets or capabilities		Not provided.
Known limitations or restrictions		Not provided.

Figure 14: EAS Toolkit, Tool 3 Information on Malaysia

Joint Task Force on Humanitarian Assistance and Disaster Relief (JTF on HADR)

The Joint Task Force on Humanitarian Assistance and Disaster Relief (JTF on HADR) gathers the ACDM and four other sectoral bodies: Senior Officials Meeting, ASEAN Defence Senior Officials Meeting, Senior Officials Meeting on Health Development, and Senior Officials Meeting on Social Welfare and Development. These bodies represent (respectively) ASEAN member-states' ministries of Foreign Affairs, Military/Defense, Health, and Social Welfare. These sectors play essential roles in delivering humanitarian assistance to disaster-affected member-state(s), and the JTF performs the necessary task of ensuring that each of these sectors remains involved in the development and revision of the AJDRP. The JTF is chaired by the ACDM, which leads the JTF's annual meetings.

Under the JTF on HADR, the Technical Working Group on Civil-Military Coordination (TWG-CIMIC) brings together the ACDM WG on Preparedness and Response and the ASEAN Defence Senior Officials Meeting WG. TWG-CIMIC consists of representatives from the ACDM, ASEAN member-states' defense and military establishments, and representatives from the ASEAN Secretariat and AHA Centre. The TWG is primarily responsible for establishing platforms for civil-military coordination within ASEAN and revising Chapter 6 of the SASOP. It meets annually.[158]

ASEAN MEMBER COUNTRIES

ASEAN has ten member-states comprising Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. These countries have a combined goal of advancing the region's interests, which include economic growth, boosting trade, environmental protection, and stability in the region. In addition, ASEAN has become a forum for non-member governments to engage with member-states. Within the context of the current geopolitical competition in Southeast Asia among major powers, particularly between the U.S. and China, ASEAN has become even more relevant. It can offer member-states an important shield to ward off the adverse impacts deriving from power shifts and power contestation.[159]

Natural disasters have historically had significant impacts on the ASEAN region. Therefore, it is important for all ASEAN member-states to participate in disaster management simulation exercises to assess if disaster response mechanisms are effective and if further improvements need to be made. In addition, ASEAN has established specific laws and policy frameworks for DRR and DM, as evidenced by the adoption and implementation of the AADMER, as mentioned previously in this handbook.

Natural disasters can cause economic ripples throughout the region; therefore, disaster mitigation is a common interest among neighboring countries. ASEAN also helps member-states to diversify strategic and economic partners as well as enhance capacity to offset security and economic risks and uncertainties.[160] Figure 15 depicts how often disasters occur per year (2012-2020) for ASEAN member-states.[161]

The next sections discuss in detail the Disaster Risks, National DM Frameworks, and Disaster Laws of the ten member-states.

Brunei Darussalam

Brunei joined ASEAN in 1984.[162] Brunei supports the ASEAN Vision 2025 on Disaster Management and the ASEAN Declaration on "One ASEAN One Response, Responding to Disasters as One in the Region and Outside the Region." Brunei has been involved in regional mobilization operations, facilitating humanitarian assistance and relief bilaterally as well as through the AHA Centre.[163] Brunei participates in the ARF, ASEAN+3, and EAS. The country was the country coordinator for ASEAN-Republic of Korea (ROK) dialogue relations (2018-2021) and is the country coordinator for ASEAN-New Zealand dialogue relations (2021-2024).[164]

Disaster Risk

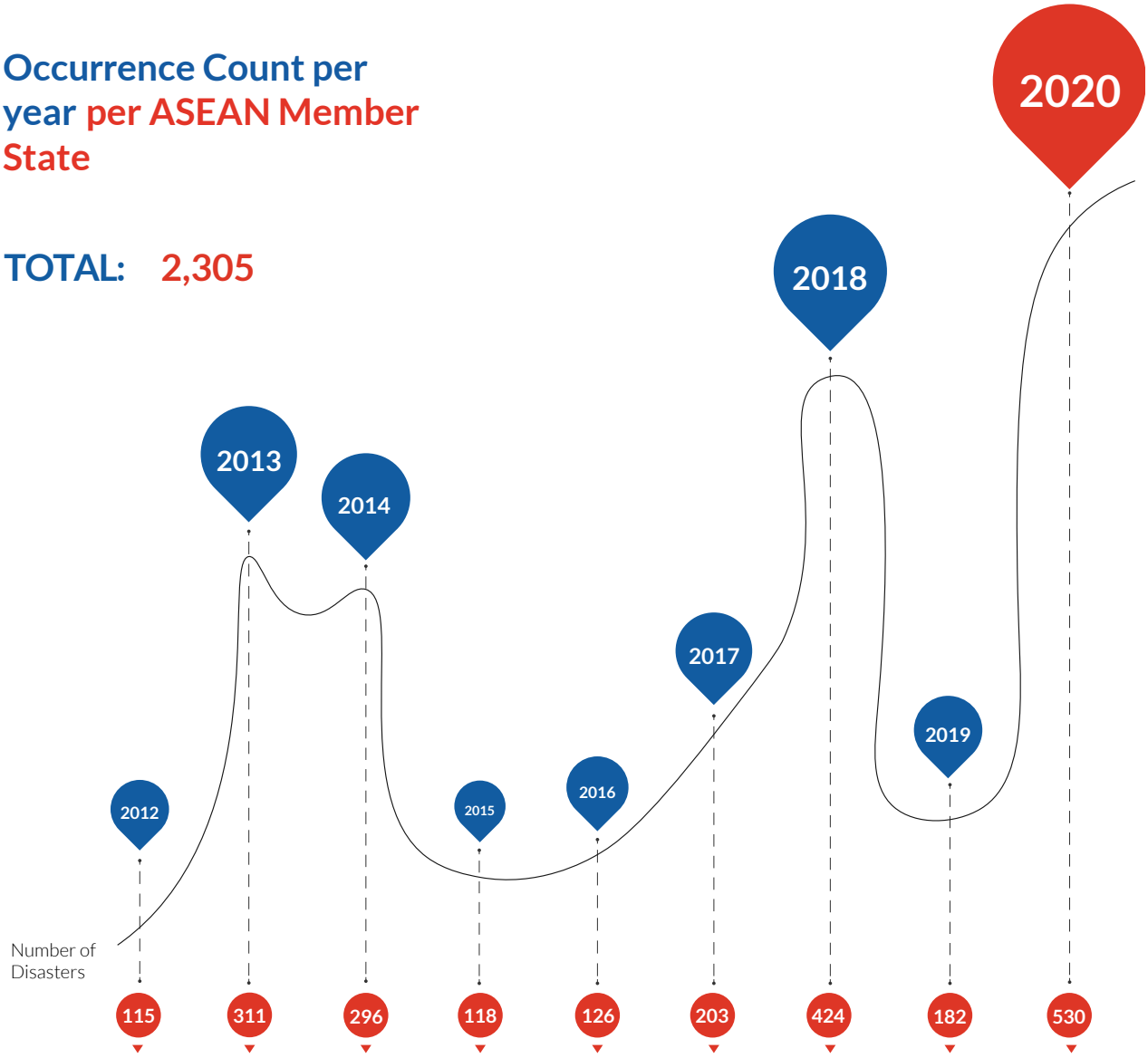
Due to its geographical position, Brunei does not experience extreme impacts of natural hazards such as earthquake, volcanic eruptions, and typhoons.[165] The country does experience thunderstorms, monsoon floods, forest fires, landslides, and strong winds.[166] The country also experiences cross-border pollution and haze.[167]

National DM Framework

The National Disaster Management Centre (NDMC) is the secretariat and implementing body for disaster response in the country. It is also the country's AHA Centre National Focal Point. A Disaster Management Order (DMO) was established in 2006 in which the National Disaster Council (NDC) was set up to be responsible for the implementation of the national DM plan and for high-level policy and planning. The NDC created the NDMC to implement the plan. District Disaster Management Councils in all four districts of the Sultanate were created to support the NDMC. It is the NDMC that provides DM assistance and funding after the NDC identifies resources for the operations. The text of the DMO does

- **Occurrence Count per year per ASEAN Member State**

TOTAL: 2,305



	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei Darussalam	0	0	1	0	0	2	1	0	0
Cambodia	1	1	2	1	1	1	7	1	5
Indonesia	77	236	201	77	64	112	237	72	363
Lao PDR	0	3	2	2	2	3	4	4	4
Malaysia	3	6	10	11	15	22	21	10	16
Myanmar	3	3	4	4	7	5	45	4	8
Philippines	18	27	24	9	14	24	47	52	47
Singapore	0	0	0	0	0	0	4	0	0
Thailand	8	20	30	7	10	12	25	19	57
Viet Nam	5	15	22	7	13	22	33	20	30

Figure 15: ASEAN Member-States Disaster Occurrence (2012-2020)

not refer directly to ASEAN as it predates AADMER's entry into force in 2009.[168]

2006 Disaster Management Order

The DMO was established in 2006; it provides for effective disaster management for Brunei. It tasked the NDC with developing a strategic policy framework for responding to and managing disasters. The supervising authority of this order is the NDMC.[169]

Cambodia

Cambodia joined ASEAN in 1999.[170] Cambodia will chair ASEAN for the third time from November 2022, and the 2022 ASEAN-U.S. Summit will be held in Cambodia.[171] Cambodia supports the following key priorities as the Chair of ASEAN in 2022:[172]

- *Priority 1 - Political and Security Pillar:* Strengthening ASEAN Centrality and ASEAN Unity for promoting regional mechanisms and external partners' cooperation, based on the ASEAN Way and Principles stipulated in the ASEAN Charter, Treaty of Amity and Cooperation in Southeast Asia, and ASEAN Outlook on the Indo-Pacific. ASEAN must be resilient and strong against the pressure and influence stemming from rising geo-political competition, transnational crime, terrorism, climate change, and infectious diseases to ensure our way forward in peace, security, and prosperity.
- *Priority 2 - Economic Pillar:* Promoting effective implementation of all initiatives and measures agreed and leveraging trade agreements to expedite the recovery of economic growth during COVID-19 and to ensure that ASEAN remains an attractive and dynamic hub for trade and investment by enhancing physical and digital connectivity; strengthening the capacity of micro-, small, and medium-sized enterprises; promoting entrepreneurship amongst women and youth and other priorities aimed at narrowing development gaps and advancing regional integration.
- *Priority 3 - Socio-Cultural Pillar:* Strengthening the development of human resources to respond to needs on the ground for community building, to promote the participation of women and youth in building and maintaining peace, and to develop an inclusive social protection system; strengthening people-to-people bonds to enhance "One ASEAN."

Disaster Risk

Cambodia experiences floods, regular drought, damaging storms, and typhoons. Flooding is a major hazard that threatens the country and has caused enormous numbers of deaths and amounts of destruction. Climate change and urban development have caused increases in destructive flooding for the country.[173] In addition, several localized and national hazards are influenced by the Mekong River that enters the country from Laos. Water levels in the Mekong River and Great Tonlé Sap Lake in central Cambodia impact the extent of flooding.[174] When faced with drought, the country tends to experience severe impacts as rural populations rely on subsistence agriculture. Lack of rainfall, excessive upstream damming, and mismanagement of the Mekong River have caused water levels and fishery yields to reach very low levels, resulting in serious effects on the country. A 2020 Mekong River Commission study indicated that ongoing drought along the Mekong River has been linked to Chinese water management policy. Eleven mega-dams are located along the upper Mekong River. China's portion of the Mekong received high to average levels of rain, yet its dams blocked or restricted water to downstream countries.[175] This left many without access to fresh water and affected food security as Cambodian fishing communities alongside the Tonlé Sap Lake, where Cambodians catch up to 70% of their protein intake, reported fish catches that were 80-90% lower than normal. The lack of water in the Mekong system caused 17 provinces across the Mekong Basin to declare emergency drought conditions. As a result, there was also a major drop in rice production in the region.[176]

National DM Framework

Under the 2015 Disaster Management Law, the day-to-day operation of the National Committee for Disaster Management (NCDM) is governed by a Secretariat. There are general focal points in government line ministries, and Sub-National Committees for Disaster Management down to local level. The NCDM is Cambodia's AHA Centre National Focal Point. During a disaster, the NCDM assembles at the National Emergency Coordination Centre to coordinate disaster response activities.[177]

Law on Disaster Management (2015)

In 2015, Cambodia's Law on Disaster Management was passed. This was a significant shift from a system of DM based only on subsidiary legislation, which had been in place since 1995. In contrast, the 2015 DM Law is a broader and more authoritative legislative mandate. The legal framework for DM assigns legally binding roles and responsibilities, establishes institutions, and helps ensure allocation of resources and mechanisms for coordination amongst different institutions.[178]

Indonesia

Indonesia was a founding member-state of ASEAN in 1967.[179] Indonesia is closely involved in disaster planning and management. A Mentawai Megathrust Earthquake and Tsunami that impacts Indonesia is a planning scenario addressed in the ASEAN Joint Disaster Response Plan (AJDRP), which provides a framework that applies for most types of hazards. The disaster scenario provides an overview of a likely large-scale emergency event.[180] During the 2020 Jakarta floods, the AHA Centre provided support through four in-country ASEAN ERAT members who assisted in management of the evacuation center in the Jatiasih warehouse, which is owned by the Indonesian BNPB. The AHA Centre staff also worked alongside BNPB to share data and monitor the disaster.[181]

Disaster Risk

Indonesia faces many natural hazards including earthquakes, tsunamis, volcanic eruptions, flooding, and droughts. In any given year, the country records more than 3,000 natural disasters across the country. On average, 90% or more of these events are hydro-meteorological (e.g., storms, tornadoes, and floods); earthquakes and tsunamis are typically more deadly and more damaging although they occur less frequently.[182]

National DM Framework

Indonesia's BNPB is the country's central governing body for all disaster-related activities. It coordinates all activities from preparedness, prevention, and mitigation to response, and it directs and manages national DRR and disaster risk mitigation (DRM) efforts. Provincial and local DM agencies are mandated to undertake DRM/DRR functions in their respective jurisdictions. The Ministry of National Development Planning (Badan Perencanaan Pembangunan Nasional or BAPPENAS) and the local agency for planning and development, Badan Perencana Pembangunan Daerah (BAPPEDA) also play a role in DRR as they are the authorities responsible for development, including land-use and planning.[183]

Disaster Management Law (No. 24/2007)

The Disaster Management Law 24/2007 laid out Indonesia's principles of DM including national and regional responsibilities, rights, and obligations. The law also laid the foundations for coordination among stakeholders during the phases of a disaster response. It laid the groundwork for creation of BNPB and called for creation of regulations for that agency's operation, disaster funding, local DM capacity building, and coordination of international assistance. Presidential Regulation 8 of 2008, then, provided the authorities for BNPB and the agency's structure.[184]

Lao PDR

Lao PDR joined ASEAN in 1997.[185] Among the key issues upon which Laos has engaged within ASEAN is flooding. Recurring and routine floods affect urban and rural areas in the country and have severe impacts on education as floods damage school buildings and infrastructure, disrupt institutional and organizational structures, and undermine individual and community health and well-being. As a response to this, the ASEAN Safe Schools Initiative (ASSI) was established as a unique partnership that brings together ASEAN member-states' DM and education sectors. Eight member-states are involved including Lao PDR.[186] This initiative builds on existing school safety initiatives and uses ICT for comprehensive school safety. The project, led by Save the Children in Lao PDR, developed a Comprehensive School Safety Assessment Suite that comprises a self-assessment tool and the Visual Inspection for Safety Upgrading Strategy (VISUS) tool. This tool was piloted in 50 schools in 2014.[187]

Disaster Risk

Lao PDR is exposed to a range of hazards including storms, floods, landslides, drought, strong winds, and small earthquakes. In recent years, the frequency and intensity of extreme weather events has increased and has driven an increase in damaging floods in the central and southern parts of the country along the Mekong River. Alongside flooding, the threat of drought is significant in the country.[188]

National DM Framework

The National Disaster Management Committee (NDMC), led by the Deputy Prime Minister, was formed in 1999. The NDMC includes directors from various ministries and is tasked with coordinating early warning, preparedness, emergency response, and recovery activities. Functioning under the Ministry of Labour and Social Welfare, the National Disaster Management Office (NDMO) is the Secretariat to the NDMC, with further focal point structures at provincial and district levels.[189]

The Law on Disaster Management (2019)

This law outlines the principles, regulations, and measures related to DM including regional and international linkages, and national social and economic development towards sustainable development in Lao PDR. According to this Law, the Disaster Management Committee at each administrative level shall create a Disaster Management Plan, including urban planning, land use planning, provision of settlements and livelihoods, construction of infrastructure, and development projects to become more resilient to disasters.[190]

Malaysia

Malaysia was a founding member of ASEAN in 1967;[191] it participates in several ASEAN programs and initiatives including the ASEAN-ERAT and ASSI, and it supports DELSA. MERCY Malaysia has been supporting and contributing to delivering humanitarian aid and expertise to the ASEAN-ERAT since 2013. This support is facilitated through a Regional Alliance for Collective Emergency Response (RACER), which allows non-government emergency response organizations to support "One ASEAN, One Response." MERCY Malaysia provides support on developing mental health and psychosocial support for ASEAN-ERAT members deployed to emergency response situations.[192]

Disaster Risk

Malaysia is susceptible to hazards including flooding, landslides, drought, and forest fire. Malaysia had the highest percentage (67%) of the population exposed to floods among ASEAN member-states as assessed between July 2012 and January 2019 and as reported by the AHA Centre in March 2019.[193]

National DM Framework

Disaster management in Malaysia operates

as a top-down government mechanism with the National Disaster Management Agency (NADMA) as the lead government agency responsible for all types of DM. NADMA also functions as the Secretariat at the federal level and coordinates the mobilization of responding agencies via the Committee System. NADMA is the country's AHA Centre National Focal Point.[194] NADMA, in the Office of the Prime Minister, was created in 2015 as a separate body, having been part of the National Security Division of the Prime Minister's Department for many years.[195]

Directive No. 20: National Policy and Mechanism on Disaster Management Relief

Malaysia's national guidelines on DM are based on Directive No. 20, which acts as a framework for disaster relief management for the country. This directive was issued in 1997 by the National Security Council of the Prime Minister's Department. The objective of Directive No. 20 is to provide a policy guideline on DM and rescue in accordance with the level of the disaster. It also provides a mechanism for managing roles and responsibilities of agencies that are involved in addressing hazards.[196]

Myanmar

Myanmar joined ASEAN in 1997.[197] In 2017, a National Workshop for the Development of the ASEAN Regional Contingency Plan included the scenario of a large-scale cyclone in Myanmar along with two other scenarios, which were endorsed by the ACDM WG on Preparedness and Response to work as exemplars in the AJDRP.[198]

Disaster Risk

Myanmar is one of the world's most disaster-prone countries with its geographical location exposing it to multiple hazards including floods, cyclones, earthquakes, landslides, strong wind, lightening, soil erosion, forest fire, drought, and industrial and technological hazards.[199] There is a high probability of disaster occurrence and severe impact to the population as a result.[200]

National DM Framework

Myanmar enacted the Disaster Management Law in 2013 and the Disaster Rules in 2015. The law was developed to be in line with the Hyogo Framework for Action 2005-2015, and to comply with the AADMER. The DM law enabled the formation of the National Disaster Management Committee (NDMC) as the leading body for DRM in Myanmar.[201]

The NDMC is chaired by the Vice President, and there are 12 work committees and an advisory committee under the NDMC. In 2016, the NDMC was established by Decree No. 30/2016 of the Cabinet of the Republic of the Union of Myanmar. Disaster management bodies are constituted at the regional/state, self-administered zone, district, township, ward, and village tract levels.[202]

The Ministry of Social Welfare, Relief, and Resettlement is the focal Ministry for DM. Under the Ministry, there are three departments:

- Department of Social Welfare
- Department of Disaster Management (DDM)
- Rehabilitation Department

The DDM is responsible for conducting disaster management activities. Under the DDM is an EOC, a Disaster Management Training Center, and regional, state, district, and town offices. DDM is the National Focal Point for the AHA Centre.

The National Disaster Management Work Committee, chaired by the Union Minister for Ministry of Social Welfare, Relief, and Resettlement, supervises the implementation of DRR activities in Myanmar.[203]

Myanmar Action Plan on Disaster Risk Reduction 2017 (MAPDRR)

The Disaster Management Law and Rules of 2013 and 2015 provide the legal basis to set up DM bodies based on various roles and define those roles and responsibilities, and they created funds for DM and implementation. These laws were put into action with the 2012 Disaster

Risk Reduction Plan; a new action plan was developed in 2017. The Myanmar Action Plan on Disaster Risk Reduction 2017 (MAPDRR) is a comprehensive action plan for risk reduction and management with prioritized interventions with overall targets through the year 2030. The previous plan, (MAPDRR, 2012) provided a framework for multi-stakeholder engagement in DRR; however, MAPDRR 2017 aims to better align DRR priorities with medium term development policies.[204]

Philippines

The Philippines was one of the founding members that established ASEAN in 1967.[205] In an effort to operationalize the "One ASEAN One Response" vision, the ACDM endorsed the AJDRP, which includes the scenario of a potential 7.2 magnitude earthquake in the Metro Manila area of the Philippines. A 2016 workshop held in the Philippines identified and workshopped the effects and response to such an earthquake.[206]

Disaster Risk

The country is susceptible to many natural hazards and frequently experiences tropical cyclones or typhoons, earthquakes, volcano eruptions, and other natural disasters. This level of hazard is due to the country's location in the typhoon belt, an area in the western Pacific Ocean where nearly one-third of the world's tropical cyclones form. This area is the most active in the world and has the most intense storms globally.[207] The Philippines is also located on the "Ring of Fire," a path that traces the boundaries between several tectonic plates – the Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates. Due to the movement of these tectonic plates, 75% of earth's volcanoes (more than 450 volcanoes) are located along the Ring of Fire, and 90% of the world's earthquakes occur along it.[208]

National DM Framework

The National Disaster Risk Reduction and Management Council (NDRRMC) is the primary body responsible for coordinating preparedness, response, prevention and mitigation, and rehabilitation and recovery. It is situated under the Department of National Defense.[209]

National Disaster Risk Reduction and Management Act (DRRM Act, 2010)

The National Disaster Risk Reduction and Management Act (Republic Act 10121) provided a legal and institutional basis for disaster risk reduction and management (DRRM). It laid the groundwork for development of plans and policies and for implementation of projects pertaining to DRRM. The DRRM Act outlined provisions for the establishment of NDRRMC and laid out the Implementing Rules and Regulations for National, Regional, and Local DRRMCs and their respective powers and functions.[210]

The National Disaster Risk Reduction and Management Plan (NDRRMP) 2011-2028

The NDRRMP fulfills the requirement of Republic Act 10121. The NDRRMP covers four thematic areas, namely: 1) Disaster Prevention and Mitigation; 2) Disaster Preparedness; 3) Disaster Response; and 4) Disaster Rehabilitation and Recovery; this thematic framework corresponds to the structure of the NDRRMC.[211]

Singapore

Singapore was a founding member of ASEAN in 1967.[212] Singapore sits just outside the Pacific "Ring of Fire," and it has a status as a well-developed state; this location and status mean that Singapore can bring unique expertise in emergency assistance to ASEAN in the key realms of search and rescue and firefighting. Beyond its availability to send teams to help in the aftermath of a disaster, Singapore is highly proficient in DRR and in handling and mitigating disasters in an urban environment, including addressing industrial accidents and other technological disasters. One mechanism that strengthens cooperation in the region is the Third Country Training Program (TCTP). The TCTP is aimed at providing technical assistance

and training to ASEAN member-states and Timor-Leste, and it focuses on connectivity, sustainable development, and regional resilience. Since the establishment of the TCTP program, the U.S. and Singapore have jointly organized 30 workshops and trained over 1,000 ASEAN member-state government officials in the areas of trade, environment, health, urban planning, and DM.[213]

Disaster Risk

Singapore is somewhat insulated from natural hazards. The country is nominally exposed to earthquake, tsunami, and cyclones; however, there is little historic data suggesting large-scale incidents caused by these kinds of hazards. Singapore commonly experiences flooding due to heavy rainfall, high tides, and drainage challenges in low-lying areas.[214]

National DM Framework

The Singapore Civil Defence Force (SCDF) provides the main capacity for ready response to crises at all levels. The Civil Defence Act, updated in 2011, provides the legal framework for declaring a state of emergency and mobilizing and deploying the SCDF. The SCDF has responsibility at all levels of administration. It is Singapore's national focal point for the AHA Centre.[215]

The Civil Defence Act (updated in 2011)

A series of laws underpins DRR in Singapore. The Civil Defence Act (updated in 2011) provides the legal framework for the declaration of a state of emergency and the mobilization and deployment of SCDF. Three other key laws are the Fire Safety Act, the Civil Defence Shelter Act, and the Infectious Disease Act.[216]

Thailand

Thailand was a founding member of ASEAN in 1967.[217] Thailand's contribution to ASEAN includes filling the role of Chair in 2008-2009 and again in 2019. One important document adopted under Thailand's tenure in 2009 is the Roadmap for an ASEAN Community (2009-2015). Thailand has also played an important role in the promotion and protection of human rights in the region, as testified to by the establishment of the ASEAN Intergovernmental Commission on Human Rights, also in 2009. Thailand supported the involvement of relevant stakeholders in the region in the drafting process of the ASEAN Human Rights Declaration, which was adopted by ASEAN Leaders at the 21st ASEAN Summit.[218] Since 2014, Thailand has also hosted the ASEAN Centre for Military Medicine (ACMM), which allows ASEAN member-states to build practical and sustainable cooperation among their military medical services to facilitate coordination and cooperation during a disaster response.[219]

Disaster Risk

Thailand is exposed to recurring hazards such as storms, floods, landslides, and droughts. The country also experiences earthquakes, tsunamis, heat waves, forest fires, and epidemics. Thailand is exposed to technological hazards, including large-scale industrial accidents, especially in areas characterized by widespread industrial activity. In addition, climate change is intensifying the adverse effects of natural hazards. Thailand has undergone observed changes in the seasons, characterized by the delayed onset of rainfall, which has further exacerbated flashfloods and landslides due to additional rainfall accumulation in a shorter time.[220]

National DM Framework

Thailand's DM system is comprised of policy-level and operational-level agencies. At the policy-level, the inter-ministerial National Disaster Prevention and Mitigation Committee (NDPMC), chaired by the Prime Minister or Deputy Prime Minister, is the top policy body for DRM. The Department of Disaster Prevention and Mitigation (DDPM) is the secretariat for the NDPMC.[221]

Disaster Prevention and Mitigation Act 2007

The Disaster Response Management system

is established by the Disaster Prevention and Mitigation Act 2007. It aims to streamline DM systems by clarifying roles and coordination among stakeholders. It includes provisions for DRR.[222] The Defence Organizational Act 2008 is also relevant.[223] Thailand's DM framework also includes the National Disaster Risk Management Plan 2015-2020, provincial and District DRM Plans, and DRM Annual Action Plans.

Vietnam

Vietnam joined ASEAN in 1995,[224] and during the intervening 25 years, Vietnam's membership in ASEAN has undergirded economic advancement. Vietnam, along with Singapore, has the largest number of Free Trade Agreements (FTA) among ASEAN member-states; it is a signatory to 16 FTAs, according to the Emerging Markets Research of Hong Kong Trade Development Council.[225] Vietnam also has FTAs with several countries outside of ASEAN as a means of advancing its economy and production network. These FTAs have helped Vietnam boost exports and trade.[226]

Disaster Risk

Vietnam is one of the most hazard-prone countries in the Asia-Pacific region. Due to its location and long coastline, Vietnam is regularly exposed to hydro-meteorological hazards including severe storms, cyclones, typhoons, floods, landslides, and coastal erosion.[227] Vietnam also faces low to moderate risks of droughts, earthquakes, tsunamis, forest fires, and cold and heat waves.[228]

National DM Framework

Lead responsibility for DM is assigned to central, provincial, district, and local authorities based on a five-level assessment of risk. The Deputy Prime Minister is the national focal point, according to the recent Prime Minister Decision 1527/QD-Ttg, issued on 14 September 2021. At the central level, the National Steering Committee for National Disaster Prevention and Control (NSCNDPC) is the lead body. The NSCNDPC is supported by Commanding Committees for Natural Disaster Prevention and Control, Search and Rescue (CCNDPC/SAR) at the national, provincial, district, and communal/ward-level. The standing office of the NSCNDPC is the Vietnam Disaster Management Authority (VDMA), under the Ministry of Agriculture and Rural Development.[229]

Law on Natural Disaster Prevention and Control (LNDPC) 2013 and Amending Law No. 60/2020/QH14

In terms of legislation and policy, DRM Decrees and regulations issued in the past decade demonstrate a wide instrumental reach and several overlapping mandates. The Law on Natural Disaster Prevention and Control laid down necessary institutional arrangements, functionaries, and mandates covering essential functions of DRM and disaster response.[230]

Decree No. 66/2021/ND-CP supporting the Law on Natural Disaster Prevention and Control (LNDPC)

The LNDPC is supported by a series of decrees (similar in status to regulations) that supplement implementation of the law. The supporting decrees have been amended over time. The most recent decree is Decree No.66/2021/ND-CP, effective from 28 August 2021. This decree provides guidelines for natural disaster prevention and control activities; rights and obligations of agencies, organizations, households, and individuals engaged in disaster prevention; and details the state management of prevention and control including recognizing the importance of adapting to climate change. It requires the creation of a National Strategy on Natural Disaster Prevention and Control every ten years and requires the inclusion of climate change-related risks within the Strategy. District level and provincial natural disaster prevention and control plans are required to identify potential climate change-related impacts on socio-economic activities.[231]

ASEAN DOCUMENTS, PLANS, PROGRAMS, AND PROJECTS

Documents

ASEAN Charter (2008)

The ASEAN Charter entered into force on 15 December 2008. It initiated a new legal framework and established new organs to support ASEAN's community-building process.

The ASEAN Charter has been fully ratified (or accepted in member-states without Parliament or when such ratification can be done through a Cabinet decision) in all 10 ASEAN member-states. Singapore was the first to deposit its instrument of ratification with the Secretary-General of ASEAN on 7 January 2008; Thailand was the last on 15 November 2008.[232]

The Charter spurred the registration of ASEAN with the Secretariat of the UN, pursuant to Article 102, Paragraph 1 of the UN Charter. The ASEAN Charter has become a legally binding agreement among the 10 member-states. It outlined political commitments; established mechanisms, bodies, and frameworks; and consolidated the ASEAN identity with a flag, emblem, motto, holiday, and anthem.[233]

New ASEAN bodies the Charter established included:

- ASEAN Coordinating Council (ACC), consisting of the ASEAN Foreign Ministers
- Three Community Councils
- Committee of Permanent Representatives to ASEAN, and
- An ASEAN human rights body, which was inaugurated in 2009 as the ASEAN Intergovernmental Commission on Human Rights.[234]

The Charter established that two Deputy Secretaries-General (DSG) would be openly recruited, one for the ASEAN Economic Community and one for Community and Corporate Affairs. Each serves a three-year term, which may be renewed for another three years. Two additional DSGs continue to be appointed via national nominations, based on alphabetical rotation of member-states. The posts of these four DSGs and the post of the Secretary-General of ASEAN must be held by ASEAN nationals from five different member-states, in accordance with Article 11 of the Charter.

The Charter also outlined additional high-level ASEAN meetings and expanded the roles of ASEAN Foreign Ministers.[235]

ASEAN Declaration (Bangkok, 1967)

The ASEAN Declaration, also known as the Bangkok Declaration, is the founding document that established ASEAN as an association for regional cooperation among the Southeast Asian countries. It was signed in Bangkok by the five founding members – Indonesia, Malaysia, Philippines, Singapore, and Thailand - on 8 August 1967; 8 August is now celebrated as ASEAN Day. The declaration states that ASEAN's aims and purposes are to:

- Accelerate economic growth, social progress, and cultural development
- Promote regional peace and stability
- Promote collaboration and mutual assistance in economic, social, cultural, technical, scientific, and administrative areas
- Provide mutual assistance in training and research facilities in educational, professional, technical, and administrative training and research areas
- Collaborate effectively for the expansion of agriculture, industries, and trade, including to improve infrastructure and raise living standards
- Promote Southeast Asian studies
- Maintain beneficial cooperation with international organizations with similar aims and explore closer cooperation among themselves.

To achieve these aims, the declaration also established the following machinery:

- Annual Meeting of Foreign Ministers, hosted by rotation and referred to as the ASEAN Ministerial Meeting. Special Meetings of Foreign Ministers convened as required.
- A Standing Committee, under the chairmanship of the Foreign Minister of the host country or his/her representative and having as its members the accredited Ambassadors of the other member-states, to carry on the work of the Association in between Meetings of Foreign Ministers.
- Ad-Hoc Committees and Permanent Committees of specialists and officials on specific subjects.
- A National Secretariat in each member-state to carry out the work of the Association on behalf of that country and to service the Annual or Special Meetings of Foreign Ministers, the Standing Committee, and such other committees as may hereafter be established.[236]

Treaty of Amity and Cooperation in Southeast Asia (Bali, 1976)

The Treaty of Amity and Cooperation in Southeast Asia was the first treaty ASEAN leaders signed at the first ASEAN Summit Meeting in February 1976 in Bali, Indonesia. It entered into force on 21 June 1976.

The treaty declares the promotion of peace, amity, and cooperation, with member-states' relations with one another to be guided by the following principles:

- Mutual respect for the independence, sovereignty, equality, territorial integrity, and national identity of all nations
- The right of every State to lead its national existence free from external interference, subversion, or coercion
- Non-interference in the internal affairs of one another
- Settlement of differences or disputes by peaceful means
- Renunciation of the threat or use of force; and
- Effective cooperation among themselves.[237]

ASEAN's oft-referenced principles of friendship, cooperation, and non-interference are explicitly declared in this treaty.

Plans, Programs, and Projects

ASEAN 2025: Forging Ahead Together

The ASEAN 2025 plan, adopted at the 27th ASEAN Summit in 2015, articulates ASEAN goals and aspirations to realize further integration and cohesiveness as a community across political, economic, social, and cultural areas. ASEAN 2025 is comprised of several component plans and statements:

- Kuala Lumpur Declaration on ASEAN 2025
  - Declaration at the 27th ASEAN Summit in Kuala Lumpur to adopt ASEAN 2025 and all its components.
- ASEAN Community Vision 2025
  - Toward further consolidation of the concept and identity of an ASEAN community, this statement affirms striving toward numerous aspirations for ASEAN as a political-security community, economic community, and socio-cultural community.
- ASEAN Political-Security Community Blueprint 2025
  - States that ASEAN strives to be a community that is rules-based in line with international law, referencing both ASEAN and UN Charters, to have peace and prosperity, human rights, fundamental freedoms, social justice, tolerance, and productive engagement with external partners.
- ASEAN Economic Community Blueprint 2025
  - Envisions an integrated ASEAN economy that supports high economic growth that is sustainable, builds resilience to global volatility, equitably reduces the development gap, increases productivity through innovation, supports

development of green technology, and promotes transparency.

- ASEAN Socio-Cultural Community Blueprint 2025
  - Aims to realize a socially responsible, participatory community through accountable mechanisms, promoting the rights of vulnerable and marginalized groups, sustainability and environmental protections, resilience against disasters and threats, and pride in culture and heritage.[238]

AADMER Work Programme (2021-2025)

The 2021-2025 program is the third AADMER Work Programme to be developed since the AADMER entered into force in 2009. The previous AADMER Work Programmes, for 2010-2015 and 2016-2020, helped establish many initiatives on DM that have contributed significantly to minimizing the consequences of disasters and climate change in recent years in the region. These initiatives included the ASEAN-ERAT, the DELSA, and the SASOP.

For 2021-2025, the mission is to "enhance and support ASEAN's disaster risk reduction and disaster management capabilities through inter-sectoral cooperation, capacity building, scalable innovation, resource mobilization, new partnerships, and stronger coordination among ASEAN Member States."

ASEAN-United Nations Joint Strategic Plan of Action on Disaster Management (JSPADM) IV, 2021-2025

ASEAN and the UN began the ASEAN-UN Joint Strategic Plan of Action on Disaster Management (JSPADM) in 2012 and delivered the JSPADM IV (2021-2025) in October 2021 on the sidelines of the AMMDM. Within this framework, ASEAN has engaged UN OCHA as the convener of UN stakeholders, especially UNESCAP, the UN Development Programme (UNDP), the UN Office for Disaster Risk Reduction (UNDRR), and WFP, to enhance interoperability in times of need.[239]

The ASEAN-UN Joint Strategic Plan of Action on Disaster Management (JSPADM) IV, 2021-2025, outlines the mutual intentions and commitments that ASEAN and the UN take to continue working together, guided by the strategies and priorities in the AADMER Work Programme (2021-2025) as well as other global priorities in humanitarian action. The plan builds on priorities in the JSPADM III, including interoperability between ASEAN and the UN in the areas of DM; increasing risk awareness, resilience, and climate adaptation; and enhancing ASEAN response, recovery, and leadership. The current plan also takes into consideration the changing DM landscape, including the increasing number and more devastating nature of disaster events brought about by the climate crisis and the new risks and operating environment brought about by the COVID-19 pandemic.[240] Special focus areas for the JSPADM IV include gender and social inclusion, anticipatory action and disaster responsive social protection, environmental degradation and the climate crisis, digital transformation, and multi-hazard prevention and mitigation. The plan encompasses five priority programs and their outcomes, which are numbered in alignment with the priorities and outcomes of the AADMER Work Programme (2021-2025):

1. Priority Program 1: Risk Assessment and Monitoring Outcomes:
   (1.1.1) Risk assessment and scenarios developed and utilized
   (1.1.2) Innovative tools in risk assessment and monitoring developed or adapted and utilized
   (1.1.3) Climate modelling and forecasting capacity strengthened
   (1.2.1) Regional multi-hazard monitoring and early warning system adapted and strengthened end-to-end
   (1.3.1) Risk communication and public dissemination platforms improved
2. Priority Program 2: Prevention and Mitigation Outcomes:
   (2.1.1) Regional programs on DRR-CCA are scaled-up through capacity building and increased cooperation with the climate and

environment related sectors and actors in the region
(2.2.1) Engagement with regional and national actors on cities and human settlements is strengthened
(2.3.1) Increased multi-hazard resilience of the private sector, industrial zones, and the supply chain of vital industries
(2.3.2) Expanded reach of the ASEAN Disaster Risk Financing and Insurance (DRFI) Programme in the region
(2.4.1) Continued improvement of school safety in the region
(2.4.2) Enhanced knowledge and capacity on resilience of key infrastructure
(2.5.1) Strengthened social protection mechanism within the region
(2.5.2) Increased community resilience in the region
(2.5.3) Strengthened cross-sectoral collaboration and civil society engagement on social inclusion in DM
(2.6.1) Strengthened disaster risk governance to manage disaster risk

3. Priority Program 3: Preparedness and Response Outcomes:
(3.1.1) Enhanced collective response through standby arrangements and partnerships for new disaster scenarios
(3.1.2) Strengthened disaster planning, coordination mechanisms, and processes
(3.1.3) Enhanced preparedness for response to large-scale disasters
(3.2.1) Strengthened regional humanitarian supply chain management
(3.2.2) Strengthened capabilities of ASEAN-ERAT to respond to disasters effectively
(3.2.3) Reliable emergency telecommunications network for supporting ASEAN response
(3.2.4) Enhanced assessment capabilities for robust information management system and interoperable EOCs network
4. Priority Program 4: Resilient Recovery Outcomes:
(4.1.1) Increased capacity on disaster recovery
(4.1.2) Ensured availability of data and tools on recovery
(4.2.1) Strengthened institutional framework on potential recovery assistance for large-scale disasters
5. Priority Program 5: Global Leadership Outcomes:
(5.1.1) Improved regional disaster and climate-related knowledge management
(5.1.2) Enhanced ASEAN capacity for DM
(5.2.1) Expanded and consistent Global Thought Leadership and Engagement of ASEAN[241]

As part of the process to develop the JSPADM IV, UN agencies were requested to develop project sheets to identify how their activities under the JSPADM IV will strategically contribute to one or more of the five Priority Programmes under the AADMER Work Programme (2021-2025). UN agencies also identified areas of special focus for the JSPADM IV; they include: gender and social inclusion; anticipatory action and disaster responsive social protection; environmental degradation and the climate crisis; digital transformation; and multi-hazard prevention and mitigation. Another way in which the UN intends to boost ASEAN capacity to assess risks and make risk-informed decisions is by providing access to databases, risk assessment tools, guidelines, and expertise such as via the Global Risk Assessment Framework, the Sendai Framework online Monitoring tool, the WFP Platform for Real-time Impact and Situation Monitoring initiative, and the Women's Resilience to Disaster Knowledge Hub. Of course, specific UN agencies can deliver support for multi-hazard early warning. In particular, the World Meteorological Organization has enhanced regional capacities for climate preparedness through the Regional Climate Outlook Forums, which provide collaboratively developed and consensus-based seasonal climate outlooks and related information. UNESCAP has collaborated with ASEAN on the "Ready for the Dry Years" publication series as part of the effort

to mobilize a region-wide action as the drought risk intensifies. WFP has established partnerships with UN OCHA and PDC to develop and share early warning and impact information. The UN can also serve as a broker for access to additional expertise through its networks and collaborations, e.g., providing links to the work of the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia, which offers a wide range of climate and early warning services and tools.

Finally, UN entities can help realize improvements in prevention and mitigation through the UN Issue-Based Coalition on Building Resilience, including workstreams on health-DRR integration, risk analysis, resilient recovery, and disaster displacement. UN members will also harness collective UN regional resources in other Issue-Based Coalitions - e.g., Climate change mitigation, Inclusion and empowerment, Mobility and urbanization, and Human rights and gender equality.[242]

ASEAN-EU Plan of Action (2018-2022)

ASEAN continues developing relationships with partners external to the region. It adopted the ASEAN-EU Plan of Action (2018-2022) at the ASEAN Post Ministerial Conference +1 with the EU in 2017. The ASEAN-EU Plan of Action succeeds the Bandar Seri Begawan Plan of Action to strengthen the ASEAN-EU Enhanced Partnership (2013-2017).[243] ASEAN and the EU will pursue cooperation in the following areas:

- Political and Security Cooperation
  - Enhance strategic dialogue and deepen political and security cooperation
  - Enhance ASEAN-EU cooperation in the ASEAN-led security architecture
  - Combat terrorism and transnational crimes, and address other non-traditional security issues
  - Enhance maritime security cooperation
  - Promote disarmament and non-proliferation
  - Promote peace-oriented values
  - Promote cooperation on human rights and good governance
- Economic Cooperation
  - Expand trade, business, and investment
  - Strengthen the role of the private sector and public-private partnerships
  - Strengthen micro-, small, and medium enterprises
  - Strengthen cooperation in transport, energy, and ICT
  - Enhance cooperation in food, agriculture, fisheries, aquaculture, and forestry sectors
  - Enhance cooperation on research and innovation and on science and technology
- Socio-Cultural Cooperation
  - Enhance cooperation in education and academic and cultural exchanges
  - Enhance cooperation to address health matters, including pandemics
  - Promote gender equality and the well-being, rights, and welfare of women, children, the elderly, persons with disabilities, and migrant workers
  - Enhance cooperation on crisis and disaster management
  - Address regional and global environmental challenges and promote sustainable development
- Connectivity Cooperation
  - Initiative for ASEAN Integration and Narrowing the Development Gap in ASEAN[244]

ASEAN Comprehensive Recovery Framework and its Implementation Plan (2020)

The ASEAN Comprehensive Recovery Framework (ACRF) serves as the consolidated exit strategy for the COVID-19 crisis and is considered ASEAN's collective and long-term socio-economic recovery strategy.[245] Since it was declared a pandemic in March 2020, COVID-19 has disrupted lives and livelihoods in ASEAN as well as globally. The pandemic generated unprecedented uncertainties for ASEAN, with devastating economic and social impacts. ASEAN recognized that addressing the crisis required coordinated actions within the region and cooperation with its partners. The

ACRF articulates ASEAN's response through the different stages of recovery by focusing on key sectors and segments of society that have been most affected by the pandemic, setting broad strategies and identifying measures for recovery in line with sectoral and regional priorities. Since the pandemic is still evolving, the approach to recovery should be proactive and all encompassing (whole-of-community), flexible and agile so the region can easily adopt its strategies to changing conditions. To implement the ACRF, an Implementation Plan has also been developed.[246]

ASEAN Disaster Risk Financing and Insurance (ADRFI)

The ASEAN Disaster Risk Financing and Insurance (ADRFI) program was established as the central platform to coordinate ASEAN-wide efforts in developing and implementing disaster risk financing strategies. ADRFI was established under the ASEAN Cross Sectoral Coordinating Committee on Disaster Risk Financing and Insurance, which strengthens regional coordination of disaster risk management. Phase 1 of ADRFI was completed in 2017; during that phase, a historical loss database for earthquake and typhoon events in Thailand, Malaysia, Myanmar, the Philippines, and Singapore was developed. In addition, initial country studies for the Philippines and Thailand to review national policies and legislative frameworks were conducted, and two workshops on disaster risk financing were held.[247] Phase 2 of ADRFI was launched in 2019 as a plan of action to equip member-states with risk management and risk transfer capabilities that will enable them to overcome financial burdens caused by disasters. The three pillars of Phase 2 are:

1. Developing a risk data and assessment platform where member-states can gain insights on risks from natural disasters, including analytic tools to assess infrastructure requiring protection, identify risks for cities, and develop country-specific risk financing solutions.
2. Setting up a networking advisory group consisting of member-states, international organizations, and industry partners to provide risk advice and assist in the design of innovative risk transfer tools and solutions.
3. The ASEAN Secretariat will manage capacity building activities such as workshops that will host international experts, covering a wide range of topics from potential hazards and disaster financing solutions to insurance schemes and the role of technology. This will help member-states adapt key aspects of disaster risk financing and transfer into their domestic policies.[248]

Southeast Asia Disaster Risk Insurance Facility (SEADRIF)

The Southeast Asia Disaster Risk Insurance Facility (SEADRIF) provides participating ASEAN member-states with insurance and risk management solutions against climate shocks and natural disasters. The SEADRIF Initiative, established with ASEAN+3 endorsement, provides technical and financial solutions to help prepare for such situations. The SEADRIF Insurance Company was created to provide DRFI products to participating countries and oversee the first regional catastrophe risk product. The company is licensed as a general insurance company by the Monetary Authority of Singapore, under the jurisdiction of Singapore, where it is incorporated and domiciled.[249] The company offered the initiative's first regional insurance product for Lao PDR, with ongoing discussions with other countries. The SEADRIF initiative also provides technical solutions, including knowledge and capacity building services, to help governments strengthen financial resilience and reduce the financial protection gap across the region. SEADRIF is supported by the World Bank's technical expertise and has received grant funds from Japan and Singapore to cover initial capitalization, operating expenses, and technical services and risk management support to member countries.[250]

INFORMATION SHARING

Collaboration, information sharing, and networking have been the backbone of successful disaster response and preparation. Disseminating information not only to those in-country and threatened by disaster, but also to those responding to assist in the emergency has been crucial to timely, efficient, and effective disaster response. Recent technology has advanced to aid predicting and alerting of disasters around the world which has resulted in early warning and evacuation measures as well as opportunities to react and prepare for incoming threats to countries. The following are some of the ways in which information regarding disaster risk management and response are shared. There are many resources, stakeholders, and components to consider for the purposes of sharing information before, during, and after a natural disaster. This section will discuss country-specific, humanitarian, regional, government, and DoD information sources.

ASEAN Information Sources

ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre)

The AHA Centre was established by the ten ASEAN member-states on 17 November 2011. The aim of the AHA Centre is to facilitate DM cooperation and coordination among ASEAN member-states. The AHA Centre partners with international organizations such as the UN, IFRC, and international NGOs. The AHA Centre is a good information resource for regional disaster updates.

Situation updates, flash updates, and weekly disaster updates on disasters in the ASEAN member-states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) are available on the AHA Centre website and by subscription. To subscribe, email *info@ahacentre.org* or go to: *https://ahacentre.org/subscribe-to-flash-update/*

- Website: *https://ahacentre.org*
- Twitter: @AHACentre
- Facebook: *https://www.facebook.com/ahacentre*

ASEAN Risk Monitor and Disaster Management Review (ARMOR)

The AHA Centre launched the ASEAN Risk Monitor and Disaster Management Review (ARMOR) as part of its effort to bridge science and decision making. Intended as an annual publication,[251] ARMOR aims to fill a gap by serving as an authoritative publication that regularly provides risk profile information specifically regarding the ASEAN region, including up-to-date risk profiles, data, and trend analyses pertaining to natural disasters and climate risks. ARMOR also provides critical analysis and synthesis to inform policy making and to help disaster managers navigate the ever-growing body of accumulated disaster information in the region. ARMOR will also facilitate lessons learned from past operations and showcase best practices, trends, and innovations in DM in ASEAN.[252] Website: *https://ahacentre.org/publication/armor/*

ASEAN Secretariat Resource Centre

This is the physical library and archives of the ASEAN Secretariat, located in Jakarta. The library has an extensive collection of ASEAN Secretariat publications and other materials relevant to ASEAN, including journals, periodicals, newspapers, and audio-visual materials. The collection covers a range of ASEAN issues, such as social development, economics, science and technology, trade, politics, foreign relations, population, and culture. The archives hold classified ASEAN documents and house meeting reports, treaties, agreements, instruments of ratification, memorandums of understanding (MOU), and other official documents.

The website catalogues the collection but does not provide digital access.[253]
Location: Jakarta, Indonesia
Hours: Monday – Friday, 0900 – 1630
Tel: +62 (21) 7262991 ext. 260 or 192
Email: *ResourceCentre@asean.org*
Website: *http://resourcecentre.asean.org/*

Journal ASEAN

Journal ASEAN is an academic and peer-reviewed publication of multidisciplinary scope focusing on ASEAN. The aim of the Journal ASEAN is to feature narrative, theoretical, and empirically based research articles. The journal publishes manuscripts that describe or synthesize research. Website access requires registration and login.[254]
Website: *http://www.journalasean.com/*

Risk Monitoring, Early Warning, and Information Sharing

The AHA Centre has several risk monitoring and early warning systems. ASEAN member-states are located in a geographic region susceptible to natural hazards and have had to develop and adopt best practices for disaster risk management and DRR. Primarily, the plans for risk management and reduction are warning systems intended to minimize damage to the communities at risk. The challenges of implementation have been varied depending on each country's access to technology. Efforts have generally been successful in implementing services for warning and response across ASEAN. One of the core strengths of the ASEAN spirit is translated into concrete action via its leadership in Risk Identification, Early Warning and Monitoring, Timely Response, and Sharing Information. Through these activities, the AHA Centre aims to reduce loss of life and damage to property from natural disasters by identifying hazards and risks prior to impacts, increasing the warning time for natural disasters, and responding in a timely manner to humanitarian needs. The following are details of some of the ASEAN practices and systems.

Disaster Monitoring and Response System (DMRS)

ASEAN's DMRS is operational at the AHA Centre in Jakarta, Indonesia.[255] The DMRS was designed in partnership with the Hawaii-based Pacific Disaster Center (PDC) with the financial support of USAID. The system enhances advanced disaster monitoring, warning, modeling, evidence-based decision making, and trans-border cooperation capabilities in the region. The DMRS is based on PDC's DisasterAware platform and receives constant information feeds from the PDC system to display real-time hazard information in the region. The AHA Centre shares critical information from DMRS with ASEAN member-states.[256] The DMRS also provides hydrometeorological data such as wind direction and speed, clouds, sea temperature, etc.[257] The basic maps can be overlaid with additional information, including population density, location of airports and seaports, and major roads and infrastructure, to help determine a disaster's potential humanitarian impact and to aid in response planning.

ASEAN formally launched the DMRS on 10 January 2013 in Thailand during the 21st meeting of representatives of the ACDM with its international partners. The DMRS was customized to meet specific ASEAN requirements and was developed in close coordination with the ASEAN Secretariat, AHA Centre Task Force members, and ACDM international dialogue partners from Japan.[258]

In 2019, ASEAN's DMRS was updated by PDC to provide technological advancements and data enhancements to improve regional early warning and decision support capabilities. PDC also delivered training sessions in February 2019 at the AHA Centre in Jakarta to support the upgraded system's operational use, maintenance, and administration at national and regional levels. Training helped participants learn to manage existing system data, add data layers, administer DMRS users, and add their own data to the system. The training supported not only AHA Centre's DMRS but also Indonesia's

InAWARE system, deployed in 2014 with support from USAID.[259]

The AHA Centre personnel and NDMO staff from ASEAN member-states have access and can manage the data within the platform as well as develop new layers and ways to view the data. Users have access in the AHA Centre EOC or in their respective NDMOs' EOCs either via desktop computer or mobile devices.[260] DMRS is account/password limited: *https://dmrs.ahacentre.org/dmrs/*

WebEOC

ASEAN's Web-based Emergency Operation Centre (WebEOC) is an online information coordination and sharing platform hub intended to facilitate a shared understanding of evolving disaster situations between the EOC of the AHA Centre and EOCs of the ten ASEAN member-states. Using the WebEOC, member-states can monitor situations on the ground, based on information provided by the NDMO of the affected country as well as by the AHA Centre field teams. As part of strengthening capacity building for effective regional response, one of the intended outputs of the AHA Centre Work Plan 2025 is for the WebEOC to function as a coordination platform among national EOCs and for its enhanced integration with ASEAN-ERAT manager systems.[261]

The AHA Centre hosted WebEOC workshops in 2013 to provide ASEAN member-states' NDMO representatives an overview of the WebEOC system as a web-enabled crisis information management system that provides a platform for real-time information sharing between organizations, including how WebEOC was used in previous AHA Centre disaster emergency response operations.[262] As part of development of WebEOC to address current and future needs, WebEOC has been updated with some new features and is available in a Google application and accessible by mobile phone.[263]

DAKO

In development under the AHA Centre Work Plan 2025, DAKO is intended to be a data collection, survey, and analysis tool for humanitarian situations and needs; it is enhanced with real-time data analytics and an interactive dashboard.[264] It is based on Open Data Kit, a set of open source tools allowing data collection on mobile devices that is also the source of KoBoToolbox, which is among the most widely used platforms for primary data collection by humanitarian actors.[265] Development of DAKO is intended to enhance ASEAN's information technology capacity and complement existing systems in the AHA Centre, including DMRS, ADINet, and WebEOC.[266] The result of data collection in DAKO will be transferred to survey reports and put into WebEOC as a reference to analyze humanitarian situations and needs and to support decision-making for emergency response.[267]

Humanitarian Information Sources

United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Regional Office for Asia and the Pacific (ROAP)

UN OCHA's ROAP helps coordinate emergency preparedness and response in the Asia-Pacific region in support of the national governments in the region. Among its responsibilities, ROAP has worked with partners in the Asia-Pacific to tailor regional guidance on humanitarian civil-military coordination (UN-CMCoord) to strengthen civil-military cooperation during a response and for response preparedness. OCHA ROAP seeks to optimize the speed, volume, and quality of humanitarian assistance. ROAP covers 41 countries, partnering with them for coordinated and effective international responses to emergency situations.

- Website: *https://www.unocha.org/roap*
- For OCHA situation reports, click on "Subscribe" button on bottom of page.

One of OCHA's publications is "Disaster Response in Asia and the Pacific - A Guide to International Tools and Services, 2nd Edition" (2018). The guide helps disaster managers in national governments gain basic knowledge of how to mobilize and use international and regional tools and services for disaster response and preparedness efforts. It is a reference on the available tools and services that can facilitate the rapid mobilization of humanitarian assistance and response in emergencies. The guide includes some entries relevant to conflict situations but does not include tools that support broader DRR efforts. The regional scope includes all 10 ASEAN member-states. ASEAN countries are also highlighted in several of the six small case studies. One is on the ASEAN-ERAT Transformation Plan. Another focuses on international disaster response law (IDRL)[268] in action in Indonesia and Cambodia. A third looks at interoperability between international and regional organizations, spotlighting coordination between ASEAN and the UN.[269] The guide is available at: *https://www.unocha.org/asia-and-pacific-roap/asia-disaster-guide*

Regional Consultative Group (RCG)

The Regional Consultative Group (RCG) on Humanitarian Civil-Military Coordination for Asia and the Pacific began in 2014. It is a regional forum that aims to bring together humanitarian, civilian, and military actors involved in disaster response and response planning in the Asia-Pacific region. The Co-Secretariats of the forum are UN OCHA ROAP and CFE-DM. Response and preparedness issues are discussed at the RCG, including information sharing issues. Within the RCG, the Information Sharing Working Group (ISWG) seeks to gather regional stakeholders to discuss information sharing issues at length at the working level and will present findings and solutions to the forum.
Website: *https://www.humanitarianresponse.info/en/operations/asia/civilmilitary-coordination-working-group*

ReliefWeb

ReliefWeb is a service of UN OCHA that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.
Website: *https://reliefweb.int/*

PreventionWeb

PreventionWeb is provided by the UN Office for Disaster Risk Reduction (UNDRR) to consolidate DRR information into an online, easy to understand platform.
Website: *https://www.preventionweb.net/english/*

International Federation of Red Cross and Red Crescent Societies (IFRC)

IFRC is the world's largest humanitarian organization, comprised of its 192-member National Societies, a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of the National Societies. IFRC's work focuses on four core areas: promoting humanitarian values, disaster response, disaster preparedness, and health and community care.[270] IFRC GO is a Red Cross Red Crescent platform to connect information on emergency needs with the right response. IFRC GO aims to make all disaster information universally accessible and useful to IFRC responders for better decision making.
Website: *https://media.ifrc.org/ifrc and https://go.ifrc.org/*

IFRC Asia Pacific Regional Office (APRO)

IFRC's APRO, located in Kuala Lumpur, Malaysia, works in support of 38 National Societies, including the 10 Red Cross/Red Crescent societies of the ASEAN member-states. Through Country Cluster Delegations and Country Delegation Offices, it provides coordination, financial and technical support for disaster operations, and longer-term development programs. Via the IFRC "Go Platform," the organization publishes a dashboard regarding regional operations.

"Go Platform": *https://go.ifrc.org/regions/2#operations*
Twitter: @IFRCAsiaPacific

International Committee of the Red Cross (ICRC)

ICRC is an impartial, neutral, and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. It also works to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. ICRC, together with IFRC and the 192 Red Cross Red Crescent Societies, make up the Red Cross Red Crescent Movement.[271]
Website: *https://www.icrc.org/en*

National Red Cross and Red Crescent Societies

Each ASEAN member-state has its own national Red Cross or Red Crescent society, which functions as an auxiliary to public authorities. They provide disaster relief, support health and social programs, and promote international humanitarian law and humanitarian values. National Societies receive technical and other assistance as needed from IFRC, which also provides coordination support when multiple societies are involved in a humanitarian response.

Brunei Red Crescent:
- Web: *https://communityforbrunei.com/brunei-red-crescent-society/*
- Facebook: *https://www.facebook.com/Brunei-Red-Crescent-Society-Official-171227356995061/*
- Instagram: @brunei_redcrescent
- Whatsapp: 6737121989 (BRC Hotline); 6738260380

Cambodia Red Cross:
- Web: *https://redcross.org.kh/en*
- Email: *info@redcross.org.kh*; *crc_adm@online.com.kh*
- Tel: (855-23) 881 511

Indonesia Red Cross Society (Palang Merah Indonesia)
- Web: *https://pmi.or.id/*
- Tel: +6221 7992 325

Lao Red Cross (Croix Rouge Lao)
- Web: *https://laoredcross.org.la/*
- Facebook: *https://www.facebook.com/LaoRedCrossSociety/*
- Twitter/ Instagram: @LaoRedCross

Malaysian Red Crescent
- Web: *https://www.redcrescent.org.my/*
- Email: *secgen@redcrescent.org.my*
- Tel: +603-2143 8122
- Facebook: *https://www.facebook.com/MalaysianRC/*
- Twitter: @MalaysianRC
- Instagram: @malaysianredcrescent

Myanmar Red Cross Society
- Web: *https://www.redcross.org.mm/en_US/*
- Email: *mrcsintern@gmail.com*
- Tel: +95 1 392 028
- Facebook: *https://www.facebook.com/info.mrcs/*

Philippine Red Cross
- Web: *https://redcross.org.ph/*
- Email: *communication@redcross.org.ph*
- Tel: +63 2 790 2300
- Facebook: *https://www.facebook.com/phredcross*
- Twitter/ Instagram: @philredcross

Singapore Red Cross
- Web: *https://www.redcross.sg/*
- Email: *enquiry@redcross.sg*
- Tel: +65 6664 0500
- Facebook: *https://www.facebook.com/sgredcross*
- Twitter/ Instagram: @sgredcross
- Telegram: *https://t.me/sgredcross*

Thailand Red Cross Society

- Web: *https://english.redcross.or.th/* ; *https://www.redcross.or.th/home/*
- Tel: +66 2 256 4000 / +66 2256 4037- 8 / +66 2256 4048, 1664
- Twitter: @ThaiRedCross

Viet Nam Red Cross Society (Hội Chữ thập đỏ Việt Nam)

- Web: *http://redcross.org.vn/*
- Email: *vanphongctd@gmail.com*
- Tel: +84 24 3822 4030
- Facebook: *https://www.facebook.com/redcross.org.vn/*

Humanitarian Response

Humanitarian Response is a platform providing the humanitarian community a means to aid in coordination of operational information and related activities.
Website: *https://www.humanitarianresponse.info*

Global Disaster Alert and Coordination System (GDACS)

GDACS is a cooperation framework between the UN, the European Commission, and disaster managers worldwide to improve alerts, information exchange, and coordination in the first phase after major sudden-onset disasters.
Website: *https://www.gdacs.org/alerts/*

Virtual OSOCC

The Virtual OSOCC is a real-time online coordination tool for disaster response professionals from urban search and rescue (USAR) teams, national authorities, as well as regional and international organizations at a global level.

- Website: *https://vosocc.unocha.org/*
- The latest alerts can be found here: *http://www.gdacs.org/Alerts/default.aspx*
- To subscribe: *http://www.gdacs.org/About/contactus.aspx*

ThinkHazard!

ThinkHazard! is a website that provides detailed information on a country. Information is provided for the ASEAN member-states regarding hazards, country assessments, projects, early warning systems, and other resources.
Website: *http://thinkhazard.org*

Humanitarian Country Teams (HCT)

HCT is a strategic and operational decision making and oversight forum established and led by the Humanitarian Coordinator in each country. It is generally comprised of representatives from UN agencies including the International Organization for Migration (IOM), international NGOs, and the IFRC as well as the respective Red Cross/Crescent National Society in the country. During a disaster response, HCTs often produce a Situation Report (SitRep), usually in conjunction with OCHA.
Most HCT SitReps can be found through ReliefWeb: *https://reliefweb.int/*

Humanitarian Data Exchange (HDX)

HDX is an open platform for sharing data across crises and organizations. It was launched in 2014 with the goal of centralizing humanitarian data for easy access and analysis. HDX is managed by OCHA's Center for Humanitarian Data in The Hague.
Website: *https://data.humdata.org/*

Other Regional Information Sources

Changi Regional HADR Coordination Centre (RHCC)

The Changi Regional HADR Coordinating Center (RHCC) was launched on 12 September 2014 by the Singapore Ministry of Defence. The Changi RHCC seeks to facilitate military-to-military coordination in international disaster responses by supporting the military of an affected state by helping to coordinate assistance from other foreign militaries. It aims to provide open, inclusive, and flexible platforms that allow both regional and extra-regional militaries to work together effectively in a multinational disaster response. It accomplishes this in part with liaison officers, deploying coordination

units to affected areas, disseminating weekly disaster reports, and with its OPERA Computer Information System (CIS). The CIS sharing system is used as a tool to help facilitate decision making. Changi RHCC manages the OPERA CIS web portal to broadcast the updated situation status of multinational military responses to disasters to minimize duplication and gaps in the provision of foreign military assistance. It has been used in various responses, including the response to the Gorkha earthquake in Nepal in April 2015.

- Website: *https://www.changirhcc.org/*
- To subscribe to RHCC Weekly and Spot Reports, email: *Changi_RHCC@defence.gov.sg*

U.S. Government Sources

U.S. Agency for International Development (USAID)

USAID is committed to responding to crises around the world to help people and places most in need. They aim to:

- Promote Global Health
- Support Global Stability
- Provide Humanitarian Assistance
- Catalyze Innovation and Partnership
- Empower Women and Girls

In September 2020, USAID and ASEAN signed the first ever Regional Development Cooperation Agreement between the two entities, with the five-year agreement valued at up to US$50 million. It includes a new joint initiative to mitigate impacts of the COVID-19 pandemic and increase future preparedness through the ASEAN Public Health Emergency Coordination System (APHECS). For more information on the Regional Development Cooperation Agreement, contact USAID Communications Specialist Samara Sanders at *jakartausaidasean@usaid.gov*.[272]

- USAID produces a monthly newsletter called USAID Newsletter which is available digitally at *https://www.usaid.gov/news-information/newsletter*
- More information and updates from USAID are available via their blog, IMPACT, at *https://blog.usaid.gov/* and on Facebook, Instagram, Twitter, and YouTube.
- Website: *https://www.usaid.gov/*

USAID Bureau for Humanitarian Assistance (BHA)

The Bureau for Humanitarian Assistance (BHA) is responsible for leading and coordinating the U.S. Government response to disasters overseas. BHA responds to an average of 75 disasters in 70 countries every year. BHA fulfils its mandate of saving lives, alleviating human suffering, and reducing the social and economic impact of disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. Government agencies. BHA works with the international population to assist countries to prepare for, respond to, and recover from humanitarian crises.[273]

USAID/BHA products include situation reports and maps, which are available via email mailing lists as well as Reliefweb. Info products (HA Updates/Fact Sheets, etc.) are also available on USAID.gov (*https://www.usaid.gov/humanitarian-assistance*)

For BHA updates on a disaster response, ask the BHA representative for the respective DoD Geographic Combatant Command to add you to the email list, if you have a U.S. government email address:

- *BHA.INDOPACOM@usaid.gov*
- *BHA.SOUTHCOM@usaid.gov*
- *BHA.NORTHCOM@usaid.gov*
- *BHA.AFRICOM@usaid.gov*
- *BHA.SOCOM@usaid.gov*
- *BHA.CENTCOM@usaid.gov*
- *BHA.EUCOM@usaid.gov*

Pacific Disaster Center

Pacific Disaster Center (PDC) has trademarked an early warning and decision support system called DisasterAWARE. DisasterAWARE is primarily for DM practitioners and senior decision makers. It supports DRR and best practices throughout all phases of DM from early warning to

multi-hazard monitoring. It has a collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts. A restricted version of DisasterAWARE is the EMOPS (Emergency Operations) system, which is specifically for the DM community, including government agencies and humanitarian assistance organizations serving at local, state, federal, and regional levels.[274]

PDC also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.[275] Disaster Alert also has a free, early-warning app to receive customizable maps-based visual alerts of active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.[276]

- Website: *https://www.pdc.org/ and https://www.pdc.org/apps/disasteraware/*
- Emergency Operations (EMOPS) system (request account): *https://emops.pdc.org/emops/*

All Partners Access Network (APAN)

APAN is the Unclassified Information Sharing Service for the U.S. DoD. APAN provides the DoD and mission partners community space and collaboration tools to leverage information to effectively plan, train, and respond to meet their business requirements and mission objectives. Importantly, APAN's technology team has been supporting HADR operations for over 15 years.[277] APAN has played an integral role in the success of disaster responses, such as the 2015 California Wildfire Response and the 2013 Typhoon Haiyan Response in which they provided organizations and militaries a centralized location to share information, increase situational awareness and decrease response time and duplicated efforts for best practices in HADR services.[278]
Website: *https://www.apan.org/*

Joint Typhoon Warning Center (JTWC)

JTWC provides advanced warning for U.S. Government agencies and organizations in relevant areas.
Website: *https://www.metoc.navy.mil/jtwc/jtwc.html*

Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI-APCSS)

DKI-APCSS is a U.S. DoD institute that addresses regional and global security issues, inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.
Website: *https://apcss.org/*

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)

The CFE-DM is a U.S. DoD organization that was established by the U.S. Congress in 1994 and is a direct reporting unit to U.S. Indo-Pacific Command. CFE-DM provides training and education to help U.S. and foreign military personnel navigate complex issues in disaster management and humanitarian assistance. They produce country focused disaster management reference handbooks, after action reports, best practices, and lessons learned for advancement in response coordination. CFE-DM also works to improve cross-coordination and reduce duplication of efforts and promote U.S. involvement in civilian-military consultations and dialogues with relevant HADR parties such as the AHA Center, UN OCHA, and the Changi RHCC. CFE-DM provides resources and updates at its website, as well as via their Facebook and Twitter accounts (@cfedmha).

- Website: *https://www.cfe-dmha.org/*
- Disaster Management Reference Handbooks are available for download at: *https://www.cfe-dmha.org/DMHA-Resources/Disaster-Management-Reference-Handbooks*
- CFE-DM Disaster Information Reports are available for download at: *https://www.cfe-dmha.org/Publications/Reports*
- Civil-Military Coordination in Foreign Disaster Relief Missions: Best Practices for Information Sharing is available here: *https://www.cfe-dmha.org/Publications*

ASEAN'S CONTINUED VISION

ASEAN's continued vision, as laid out in vision statements and future roadmaps, emphasizes strengthening the principles important to ASEAN's establishment, including working toward a region that is peaceful, prosperous, cooperative, and mutually supportive across political, economic, and social spheres.

"ASEAN 2025: Forging Ahead Together" is an aspirational roadmap endorsed by ASEAN leaders in 2015. It declares that it undertakes to realize an ASEAN community aligned with its principles and in continued pursuit of its goals.[279] These goals include further development of an ASEAN community that is rules-based and fully adheres to ASEAN fundamental principles and international law; where people enjoy human rights and fundamental freedoms; where people thrive in a just, democratic, harmonious, and gender-sensitive environment in accordance with democracy, good governance, and the rule of law; that embraces tolerance and moderation with full respect for the region's different religions, cultures, and languages while addressing the threat of violent extremism; that adopts a comprehensive approach to security including to transnational crimes and transboundary challenges; that resolves disputes by peaceful means; that remains free of nuclear weapons and other weapons of mass destruction; that enhances maritime security and maritime cooperation through ASEAN-led mechanisms and internationally-accepted maritime conventions and principles; that strengthens unity while also remaining the primary driving force in shaping the evolving regional architecture that is built upon ASEAN-led mechanisms; and that deepens cooperation with Dialogue Partners and strengthens engagement with other external parties as well as responding collectively and constructively to global issues of common concern.[280]

ASEAN and the U.S. committed to a continued vision of strengthened partnership and cooperation in the joint vision statement of the ASEAN-U.S. Special Summit 2022. The summit occurred 12-13 May 2022 in commemoration of the 45th anniversary of ASEAN-U.S. Dialogue Relations and was the first such special summit to be held in Washington, D.C.[281] The parties committed to establishing a meaningful, substantive, and mutually beneficial ASEAN-U.S. Comprehensive Strategic Partnership. They declared numerous commitments in the areas of:

- Fighting the COVID-19 pandemic, building better health security, and recovering together
- Strengthening economic ties and connectivity
- Promoting maritime cooperation
- Enhancing people-to-people connectivity
- Supporting sub-regional development
- Leveraging technologies and promoting innovation
- Addressing climate change; and
- Preserving peace, building trust.[282]

Disaster and Climate Resilience

ASEAN is increasingly addressing the risks that climate change will pose to ASEAN member-states and the need for mitigation, adaptation, and supporting global curbs on global warming. In October 2021, ASEAN released "The ASEAN State of Climate Change Report (ASCCR): Current status and outlook of the ASEAN region Toward the ASEAN climate vision 2050." The report provides an outlook of climate change issues in the ASEAN region and includes recommendations on making the transition toward 2030 and onward to 2050 for both adaptation and mitigation, considering ASEAN's development context and the long-term goals of the Paris Agreement. The ASCCR discusses the challenges confronting the ASEAN region and ASEAN's commitment to contribute to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. The report recognizes the dual

challenges of meeting reporting requirements under the Enhanced Transparency Framework and making progress towards the ambition of the Paris Agreement goals of limiting global average temperature increase to well below 2° Celsius (3.6° Fahrenheit), preferably to 1.5°Celsius (2.7° Fahrenheit), compared to pre-industrial levels. It also develops a methodology to assess the current progress of actions and the need to strengthen them in accordance with transparency and transformation.[283]

In conjunction with the launch of the ASCCR, ASEAN also kicked off development of the 6th ASEAN State of Environment Report (SOER), after the last one was published in 2017 as part of the commemoration of the Golden Anniversary of ASEAN. The SOER6 plans to add unique features, including key performance indicators to monitor the implementation and progress of the draft ASEAN Strategic Plan on Environment (ASPEN), the Sustainable Development Goals (SDG), and the Paris Agreement. Expected outputs include an ASEAN environmental data monitoring and evaluation framework. The project of SOER6 commenced in June 2021 and is scheduled to be implemented in one year. The 1st SOER was published in 1997 covering the then-seven member-states. The 2nd SOER was published in 2001 covering all ten member-states, followed by the 3rd SOER in 2006, the 4th SOER in 2009, and the 5th SOER in 2017. The Government of Japan, through the JAIF, supported the development of the 4th and 5th SOER reports. The development of SOER6 will contribute to the ASEAN Socio-Cultural Community Blueprint 2025 and is in line with areas of cooperation outlined in the 23rd ASEAN-Japan Summit on Cooperation on ASEAN Outlook on the Indo-Pacific.[284]

ASEAN's International Partnerships in HADR

ASEAN has developed a number of international partnerships in HADR, as well as in the wider field of DM, beyond the 10 member-states. In terms of external relations in general, ASEAN has established dialogue partnerships with Australia, Canada, China, the EU, India, Japan, the Republic of Korea, New Zealand, the Russian Federation, the U.S., and the United Kingdom. Additionally, it has developed sectoral dialogue partnerships with Norway, Pakistan, Switzerland, and Turkey, as well as development partnerships with Chile, France, Germany, and Italy. ASEAN has also established wider regional cooperation mechanisms, including ASEAN Plus Three (with China, Japan, and the Republic of Korea) and the East Asia Summit (with Australia, China, India, Japan, New Zealand, the Republic of Korea, Russia, and the U.S.). Other international and regional organizations with which ASEAN has established partnerships include the UN, Pacific Alliance, Community of Latin American and Caribbean States (CELAC), Southern Common Market (MERCOSUR), Shanghai Cooperation Organisation (SCO), South Asian Association for Regional Cooperation (SAARC), Economic Cooperation Organisation (ECO), and Gulf Cooperation Council (GCC).[285]

As part of the ASEAN Disaster Resilience Outlook released in 2021, ASEAN is building a resilience coalition with the EU, Pacific Islands Forum, and Pacific Community. It is grounded in complementarity, leverages some interests in shared hazards in the Pacific, and coordinates regional strategies at the global level.[286]

On 19 February 2021, ASEAN and the Russian Federation signed an MOU on cooperation in the field of DM. The MOU aims to enhance cooperation between ASEAN and Russia in areas such as risk assessment, emergency response, and capacity building. The two sides first started engaging on these issues in 2012, and the MOU marks a milestone in ASEAN's longstanding and multifaceted dialogue with Russia, which dates to 1991 and encompasses all three pillars of the ASEAN Community (i.e., ASEAN Political-Security Community, the ASEAN Economic Community, and the ASEAN Socio-Cultural Community).[287]

ASEAN and Japan reaffirmed their commitment to further enhance collaboration on

DM when they convened the 1st Meeting of the ACDM Plus Japan on 10 June 2021. The meeting initiated a new platform for policy dialogue between Japan and ASEAN to strengthen collaboration and reduce disaster losses as reflected in lives as well as in social, economic, and environmental assets in the ASEAN region. The Japanese government's long-standing support was acknowledged in strengthening DM in the region, including through the AHA Centre. Future areas of collaboration include the possibility of cooperation in public-private partnership engagements for DM.[288]

ASEAN and China also reaffirmed their commitment to strengthening cooperation in DM through the 1st Meeting of the ACDM Plus China via videoconference on 10 June 2021. The meeting established a new platform for policy dialogue between ASEAN and China to enhance collaboration in DM and DRR to reduce disaster losses. They addressed ongoing cooperation projects including the development of ASEAN Disaster Resilience Outlook funded by the ASEAN-China Cooperation Fund. They also discussed potential collaboration projects to support the implementation of the AADMER Work Programme (2021-2025). This 1st Meeting of ACDM Plus China was held back-to-back with the 38th Meeting of the ACDM.[289]

The International Red Cross and Red Crescent Movement

ASEAN has active ties and engagements with all three components of the International Red Cross and Red Crescent Movement: 1) ICRC, 2) IFRC, and 3) National Red Cross and Red Crescent Societies. As activities of national societies within ASEAN fall primarily within ASEAN member-states (though supported by IFRC), this section focuses on the ICRC and IFRC.

International Committee of the Red Cross (ICRC)

The ICRC works to strengthen humanitarian protection and assistance for victims of armed conflict and other situations of violence. It promotes respect for international humanitarian law and its implementation in national law. The work of the ICRC is based on the Geneva Conventions of 1949 and their Additional Protocols.

Recent engagements include the 3rd ASEAN-ICRC Platform virtual event in June 2021. The joint platform focused on adaptation to the evolving "riskscape" in ASEAN and beyond. ASEAN and the ICRC emphasized the need for collective adaptability in the face of evolving disaster risk within and beyond the region. Participants included the ACDM, the ASEAN Secretariat, relevant ASEAN sectoral bodies, affiliated institutions, and Dialogue Partners, as well as members of local and international humanitarian organizations. Participants exchanged views and perspectives on the COVID-19 pandemic, natural and human-induced disasters, effective coordinated responses, and sustainable humanitarian financing. The ASEAN-ICRC platform provides an opportunity for policymakers and experts to discuss sustainable DM and humanitarian actions.

The second Joint Platform on sustainable humanitarian action in disasters was held in November 2019 in Bangkok, co-organized by the ICRC, ACDM (in partnership with the ASEAN Secretariat), and the Thai Ministry of the Interior's DDPM. It was also attended by representatives from the ASEAN Secretariat, ASEAN Sectoral Bodies, the IFRC, World Bank, UN OCHA, and European Commission Humanitarian Organization (ECHO).[290]

On 12 April 2019, the ASEAN Secretariat and the ICRC co-organized the first workshop on challenges and humanitarian action in Southeast Asia in Jakarta. The workshop established a platform for sharing experiences and exchanging dialogue on contemporary humanitarian trends and issues in ASEAN member-states. Participants discussed international humanitarian law and principles, regionalization and localization of humanitarian action, and mental health and psychological support in disasters. This first workshop of its

kind marked an acknowledgement of the shifting humanitarian landscape and the needs of ASEAN to adapt humanitarian response strategies. "We need to further advance the ASEAN Way towards a strong coordination mechanism involving key stakeholders," said Dato Lim Jock Hoi, Secretary-General of ASEAN as he stressed that ASEAN must not be complacent but continue to foster relationships with relevant actors in the region, including international organizations like ICRC. The workshop was attended by representatives from the NDMOs of ASEAN member-states, the ASEAN Secretariat, the AHA Centre, the National Red Cross and Red Crescent Societies, the IFRC, think tanks, and academia.[291] Later the same year, ICRC and the AHA Centre co-organized a regional seminar in June on dignified management of the dead in disaster situations. Held in Jakarta, where it was supported by Indonesia's BNPB, the event drew attention to the need to train first responders in proper identification of the victims. More than 80 representatives from agencies involved in emergency and disaster response from all 10 ASEAN member-states plus Timor-Leste participated in the seminar. "Proper and dignified management of the dead can also help minimize the distress caused to families who lose their loved ones by helping provide answers and giving them closure," said the head of ICRC's regional delegation for Indonesia and Timor-Leste, Alexandre Faite. This in turn helps society recover from disasters.[292]

International Federation of Red Cross and Red Crescent Societies (IFRC)

Building on years of engagement with the ASEAN region, in 2017 IFRC released its engagement strategy for cooperation with ASEAN bodies, the ASEAN Secretariat, and the dialogue between ASEAN member-state governments and IFRC. IFRC aims to enhance building resilient communities in Southeast Asia by strengthening existing cooperation on disaster risk management. Critical trends of common concern include climate change and disasters; urban development and slums; health; youth; protection, gender, and inclusion; and people on the move. The strategic objectives are: 1) contribute to the design of effective, responsive, climate-smart, and socially inclusive disaster risk management mechanisms supported by legal frameworks; 2) catalyze youth engagement, youth as agents of behavioral change, and cross-border solidarity; 3) develop protection and social inclusion standards that apply for all vulnerable groups' wellbeing across ASEAN; 4) enable healthy and safe living through prevention and control of non-communicable diseases, promotion of active and healthy ageing, and proactively engaging in epidemic preparedness and control; and 5) enhance capacities to deliver humanitarian services to people on the move with a special attention to promoting their dignity. Figure 16 shows priority areas of engagement for IFRC with ASEAN.[293]

For 2021, the IFRC developed cluster and country plans addressing the situation of several ASEAN member-states, including the Bangkok Country Cluster Plan; Indonesia Plan; Malaysia, Singapore, and Brunei Cluster Plan; Myanmar Plan; and the Philippines Plan.[294]

IFRC also has a longer history in the region of coordinating and working in concert with ASEAN. IFRC supported AADMER by working with ASEAN to contribute to all eight priority programs of the AADMER Work Programme 2016-2020[295] and at least four of the five priority programs thus far of the AADMER Work Programme 2021-2025.[296] IFRC has also contributed to strengthening IDRL in the region. IFRC had conducted desk reviews of national level disaster laws and policies in ASEAN member-states that focused on the implementation of AADMER at the domestic level. IFRC views AADMER as a regional mechanism for implementing key recommendations in the IFRC's Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance (IDRL Guidelines).[297]

ASEAN and the IFRC committed in May 2022 to promoting and developing their engagement in disaster management with the signing of

Priority Areas of Engagement

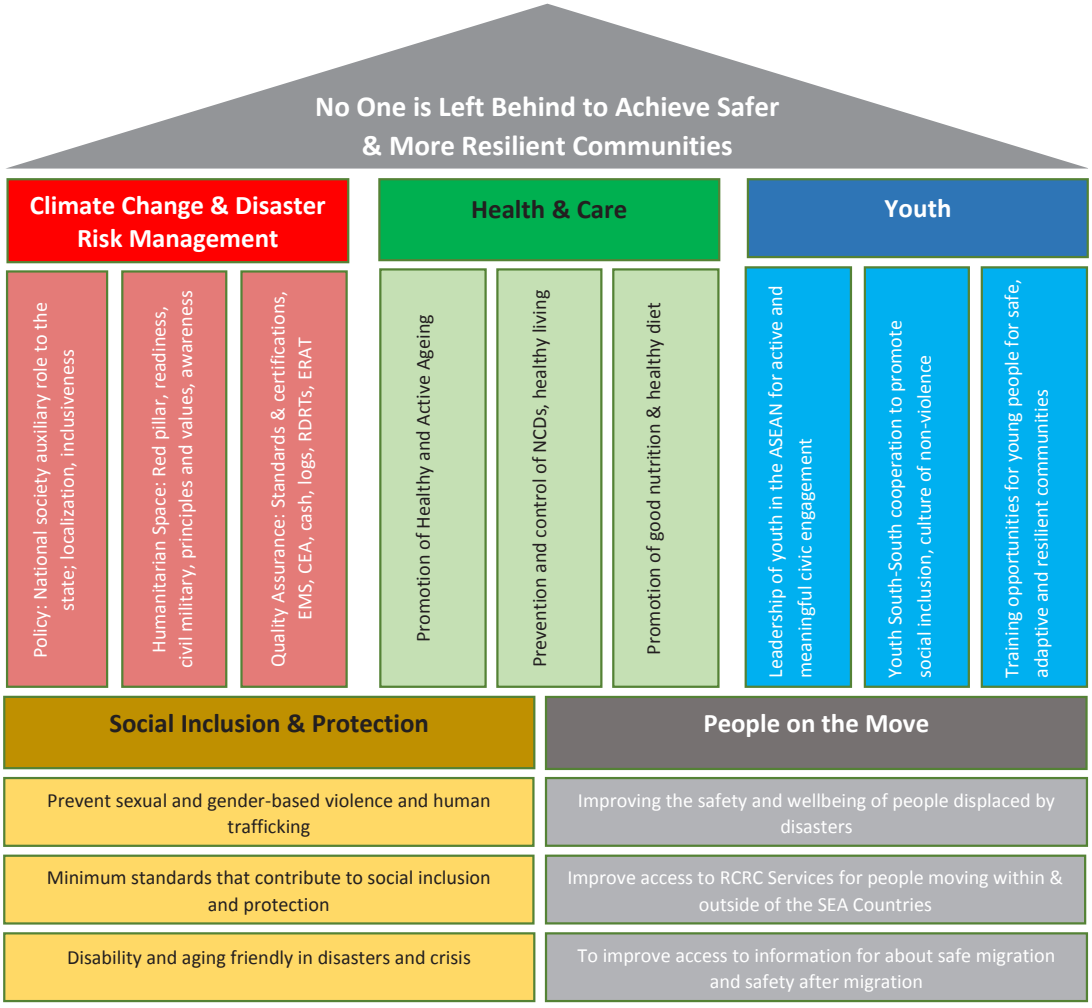


Figure 16: Priority Areas of Engagement, 2017 IFRC Engagement Strategy with ASEAN

an MOU on Strengthening of Community Resilience in Southeast Asia. The MOU provides opportunities in promoting localization in the ASEAN region, including in areas such as disaster management, DRR, disaster law, health in emergencies, disaster relief and emergency response, gender, youth, and climate change. This agreement also marked a milestone in ASEAN's longstanding cooperation with the IFRC as it recognizes the mutually beneficial roles of ASEAN and the IFRC in strengthening climate change adaptation and disaster resilience in vulnerable communities in Southeast Asia.[298]

Australian Civil-Military Centre (ACMC)

The Australian Civil-Military Centre (ACMC) was established in 2008 as an initiative of the Australian Government,[299] administered by the Ministry of Defence and governed by an interagency advisory panel. The mission of ACMC is to support the development of national civil-military-police capabilities to prevent, prepare for, and respond more effectively to conflicts and disasters overseas.[300] ACMC works closely with Australian, regional, and global stakeholders, including ASEAN member-states.[301] ACMC was among the co-founders and supporters of the RCG on Humanitarian Civil-Military Coordination for Asia and the Pacific, established in 2014. The RCG Secretariat is represented by UN OCHA and the CFE-DM. The RCG facilitates disaster preparation in several countries at high risk of large-scale

sudden-onset disasters, including ASEAN member-states Indonesia, Myanmar, and the Philippines, with Singapore having chaired or hosted events.[302]

ACMC played a prominent role in supporting the ASEAN-Australia Women, Peace, and Security (WPS) Dialogue held in Melbourne in April 2018. The initiative focused on the implementation of the WPS Agenda in ASEAN and the region, addressing national action plans and promoting gender equality within ASEAN.[303] The WPS agenda emerged out of the UN in recent decades as a significant cross-cutting thematic program to strengthen global peace and security by not only recognizing the unique impact conflicts have upon women, men, boys, and girls, but also advocated for the inclusion of women in conflict prevention, transition, and peace processes.

United Nations

The UN is a key partner of ASEAN and provides a platform for ASEAN to build global leadership. ASEAN and UN began the ASEAN-UN Joint Strategic Plan of Action on Disaster Management (JSPADM) in 2012 and launched the JSPADM IV (2021-2025) in October 2021 on the sidelines of the 9th AMMDM. The UN agencies present in ASEAN member-states provide sector-specific support and expertise before, during, and after a disaster. They usually work in partnership with member-states' NDMOs and relevant line ministries on emergency preparedness and response. The UN and ASEAN have developed a strong relationship since the Indian Ocean tsunami in 2004. Apart from working together in times of disaster, other collaborations include capacity-building workshops, knowledge-sharing exercises, and joint training programs.

UN Office for the Coordination of Humanitarian Affairs (OCHA)

OCHA plays a critical role in coordinating international humanitarian assistance. It provides support at the regional and country levels to coordinate humanitarian action, develop humanitarian policies, manage humanitarian information systems, oversee humanitarian pooled funds, and support resource mobilization for the humanitarian community. Within the framework of the ASEAN-UN JSPADM, ASEAN has engaged OCHA to enhance interoperability in times of need. This partnership led to the ASEAN-OCHA Interoperability Brief in 2017 and the ASEAN-OCHA Partnership Roadmap in 2020. During the 2021 Humanitarian Networks and Partnerships Weeks, which OCHA coordinates annually, ASEAN and OCHA organized a joint session to promote international awareness of the partnership, providing an overview of regional policy and practices in ASEAN and the roadmap of ASEAN and OCHA in deepening disaster resilience cooperation.[304]

OCHA works with the AHA Centre to coordinate international humanitarian assistance with the regional mechanisms. While OCHA traditionally takes the lead among international responders in supporting the affected state government in disaster responses, there has been a shift in this dynamic in ASEAN. In the aftermath of the 2018 Central Sulawesi earthquake and tsunami, the AHA Centre for the first time was put in charge of coordinating offers of international and non-government assistance in support of Indonesia. The influence of international actors such as the UN remained relatively high but were operationalized in some shifting ways. OCHA played a support role rather than a leading role in mobilizing the necessary clusters in the humanitarian Cluster System. The clusters were instead led by national and local government representatives from Indonesia in the emergency response.

Figure 17 shows AHA Centre and OCHA resources and tools that support DM in ASEAN member-states, as laid out in the 2017 ASEAN Joint Disaster Response Plan.[305]

Figure 18 shows significant collaborations from 2017 through 2021 between the AHA Centre and external partners, including states, NGOs, regional organizations, academic and research organizations, and the private sector.[306]

AHA CENTRE AND OCHA RESOURCES	ONE ASEAN ONE RESPONSE	OCHA
TECHNICAL TEAMS	▸ ASEAN - ERAT	▸ UNDAC ▸ JEU
DEPLOYABLE ASSETS	▸ ASEAN Standby Assets and Capacities	▸ IHP ▸ APHP ▸ UNHRD network
RESPONSE PLANNING	▸ Emergency Response Action Plan	▸ Flash Appeal ▸ Strategic Response Plan
FINANCIAL RESOURCES MECHANISMS	▸ ADMER Fund ▸ Partnership Conference ▸ High Level Conference ▸ Dialogue Partners Funds	▸ CERF ▸ ERF ▸ UN OCHA Emergency Cash Grants
COORDINATION CENTRE	▸ JOCCA	▸ OSOCC

Figure 17: AHA Centre and OCHA Resources for Disaster Response

SIGNIFICANT COLLABORATIONS BETWEEN AHA CENTRE AND EXTERNAL PARTNERS, 2017 – 2021

Logistics	2019	MOI with DHL (2019)
Training and Accreditation	2020	ASEAN Standards and Certification for Experts in Disaster Management (ASCEND) with Korea
ICT	2017	MOI with Pacific Disaster Centre (Technical Assistance for DMRS)
Telecommunications	2018	MOI with Telecoms Sans Frontieres
Capacity-building/ knowledge sharing	2019	EU-SAHA Project
	2021	MOI with Temasek Foundation; Temasek Foundation National University of Singapore Disaster Management Programme in Southeast Asia
	2021	Humanitarian and Emergency Logistics Innovation Expo (HELIX)

Figure 18: Collaborations between AHA Centre and External Partners (2017-2021)

CONCLUSION

ASEAN has increasingly developed a regional identity and closer cooperation among its 10 member-states – i.e., Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. ASEAN's major principles include respect for all nations' independence, sovereignty, equality, territorial integrity, and national identity, as well as promoting peaceful dispute settlement, non-interference in internal affairs, and effective regional cooperation. Disaster response and DRR, including climate change adaptation, are areas where ASEAN has made key progress integrating these principles and developing regional cooperation.

ASEAN cooperation in HADR has flourished since the 2004 Indian Ocean Tsunami, which killed nearly 230,000 people in coastal communities around the Indian Ocean and was a major catalyst for HADR cooperation.[307] While approximately a dozen countries from Asia to Africa suffered some casualties, Indonesia was the worst affected with over 130,000 deaths and other hard-hit ASEAN member-states included Thailand and Myanmar. This massive regional catastrophe spurred the 2005 negotiation of AADMER by the ACDM, which itself had just been established in 2003.

The successful completion of AADMER marked the world's first binding regional guidelines on disaster response. Under AADMER, ASEAN established disaster preparedness and emergency response mechanisms and tools, including the ARDEX series, ASEAN-ERAT, SASOP, and the AHA Centre as mechanisms facilitating a more unified ASEAN approach to disaster preparedness and response. The inaugural ARDEX was conducted in late 2005 in Malaysia. Subsequent ARDEX exercises have been conducted on a regular basis to test regional processes and capabilities, rotating among ASEAN host countries and disaster scenarios.[308] Out of ARDEX-07, hosted by Singapore in 2007, came the idea for an ASEAN rapid assessment team, which eventually became the ERAT. The response to Cyclone Nargis, which struck Myanmar in 2008, saw the initial deployment of ERAT.[309] Following Cyclone Nargis, the ASEAN SASOP was published in 2009. The SASOP provided procedures for joint disaster relief and emergency response operations, including the utilization of military and civilian assets and capacities.[310] The establishment of the AHA Centre in 2011 marked another operational development for ASEAN disaster management. The AHA Centre primarily works closely with NDMOs of ASEAN member-states on disaster monitoring, preparedness, and response, leveraging ASEAN resources to build each country's capacity. The AHA Centre also partners with international organizations, civil society, and the private sector, thus expanding its global networks.

In 2016, ASEAN leaders signed the One ASEAN One Response declaration on responding to disasters in a unified way both within and outside the ASEAN region. Following this, the ASEAN Joint Disaster Response Plan (AJDRP) was developed in 2017[311] and Operationalising One ASEAN One Response was released in 2018.[312] All of these developments have contributed to ASEAN building capacity for stronger coordination, faster response, and mobilizing greater resources. Notably, 2018 also saw stronger localized and regional responses to earthquakes in Indonesia, including after the 28 September earthquake and tsunami that struck Palu on Sulawesi Island. Indonesia was very discerning about foreign assistance, only accepting a limited amount that was targeted in scope from foreign organizations with a record of working in Indonesia.[313] ASEAN also had an increased operational role, as the Palu response was the first time ASEAN-UN interoperability was implemented between the AHA Centre and UN OCHA. Indonesia's disaster management agency, BNPB, assigned ASEAN-ERAT to set-up and manage the on-site JOCCA, which later hosted members of the UN Disaster Assessment and Coordination Team.[314]

APPENDICES

Sendai Framework

The Sendai Framework is the global blueprint and fifteen-year plan to build the world's resilience to natural disasters.[315] The information in this section is sourced directly from the Sendai Framework for Disaster Risk Reduction 2015-2030. The Framework outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks.

The Seven Global Targets include:

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015.
- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015.
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
- Substantially increase the number of countries with national and local DRR strategies by 2020.
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.[316]

The Four Priorities of Action include:

- Understanding disaster risk
- Strengthening disaster risk governance to manage disaster risk
- Investing in disaster reduction for resilience; and
- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction.

The Sendai Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries by 2030. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in 2015.[317] The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.[318]

Since the last regional HFA progress report for ASEAN covering 2011-2013, Singapore's Rajaratnam School of International Studies (RSIS) released an analysis of ASEAN progress in 2015. In short, based on individual member-states' National Progress Reports on DRR, a self-evaluation of a country's implementation of the HFA, ASEAN member-states performed best in institutional basis for implementation (priority 1). They perform weakest in the adaptive capacities of education to build a culture of resilience (priority 3) and reducing underlying risk factors (priority 4).[319]

Figure 19 shows the Sendai DRR Framework.[320]

Chart of the Sendai Framework for Disaster Risk Reduction
2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Figure 19: UN Sendai Framework for Disaster Risk Reduction (2015-2030)

HFA Country and Regional Progress Reports

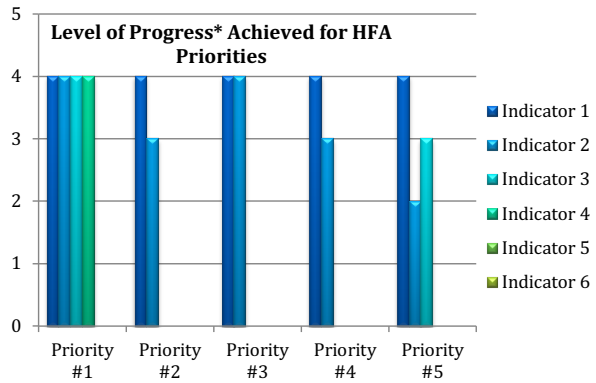


Figure 20: HFA Level of Progress Achieved

The Hyogo Framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assists participating countries to become more resilient and to better manage the hazards that threaten their development. The most recent levels of progress results published from ASEAN are from 2011-2013 and are represented in Figure 20 and Table 4. Table 5 provides an overview of the overall challenges and the future outlook statement from the HFA report. The 2013 Report is the most recent HFA report available for ASEAN.The information in this section is sourced directly from the HFA Country Progress Report.[321]

Priority for Action #1: Ensure that DRR is a national and a local priority with a strong institutional basis for implementation.		
(Sub-) regional Indicator*	**(Sub-)regional Indicator Description**	**Level of Progress Achieved***
1	A (sub-)regional framework, strategy, or action plan for DRR exists.	4
2	A multi-sectoral (sub-)regional institutional mechanism exists.	4
3	Institutional mechanism in place to monitor risk reduction status and progress at (sub-) regional level.	4
4	(Sub-)regional training / capacity building programs / institutions exist to support capacity building for DRR at national / regional levels	4
Priority for Action #2: Identify, assess, and monitor disaster risks and enhance early warning		
5	Institutional mechanism and procedures are in place to carry out trans-boundary risk assessments.	4
6	(Sub-)regional early warning systems exist.	3
Priority for Action #3: Use knowledge, innovation, and education to build a culture of safety and resilience at all levels		
7	(Sub-)regional information and knowledge sharing mechanism available.	4
8	(Sub-)regional research institutions for DRR exist.	4
Priority for Action #4: Reduce the underlying risk factors		
9	DRR is an integral objective of (sub-)regional policies and plans.	4
10	(Sub-)regional infrastructure projects have processes to assess disaster risk impacts.	3
Priority for Action #5: Strengthen disaster preparedness for effective response at all levels		
11	(Sub-)regional response mechanism in place to address disaster preparedness, emergency relief, and rehabilitation issues across borders.	4
12	(Sub-)regional contingency mechanism exists to support countries in post disaster recovery.	2
13	(Sub-)regional catastrophe risk pooling facility available.	3
14	(Sub-)regional information exchange mechanism in place for effective communication during trans-boundary disasters.	4

Table 4: National Progress Report on the Implementation of the HFA

Recommendations for Future Actions in the (Sub-)Region
1. Continue current efforts in strengthening the capacities of the AHA Centre to include disaster risk management by mobilizing more resources internally and externally. 2. Sustain current cooperation programs focusing on DRR as most programs and projects are funded externally by partners. 3. Support the work of the Prevention and Mitigation Working Group of ACDM to champion HFA2 and assist them in policy development and DRM planning.

Table 5: Recommendations for Future, ASEAN's Regional HFA Monitor Report (2011-2013)

Acronyms and Abbreviations

°C/°F	degrees Celsius / Fahrenheit
AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ACC	ASEAN Coordinating Council
ACDM	ASEAN Committee on Disaster Management
ACE	AHA Centre Executive (Programme)
ACMC	Australian Civil-Military Centre
ACMM	ASEAN Centre for Military Medicine
ACRF	ASEAN Comprehensive Recovery Framework
ADINet	ASEAN Disaster Information Network
ADMER	ASEAN Disaster Management and Emergency Relief Fund
ADMM	ASEAN Defence Ministers' Meeting
ADRFI	ASEAN Disaster Risk Financing and Insurance
AHA Centre	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
AJDRP	ASEAN Joint Disaster Response Plan
AMMDM	ASEAN Ministerial Meeting on Disaster Management
AMRG	ASEAN Military Ready Group
APAN	All Partners Access Network
APEC	Asia-Pacific Economic Cooperation
APG	AADMER Partnership Group
APHECS	ASEAN Public Health Emergency Coordination System
APRO	Asia Pacific Regional Office (of the IFRC)
ARDEX	ASEAN Regional Disaster Emergency Response Simulation Exercise
ARF DiREx	ASEAN Regional Forum Disaster Relief Exercise
ARF	ASEAN Regional Forum
ARF-PGI	ASEAN Regional Framework on Protection, Gender, and Inclusion
ARMOR	ASEAN Risk Monitor and Disaster Management Review
ARPA-AD	ASEAN Regional Plan of Action for Adaptation to Drought
ASC	ASEAN Security Community
ASCC	ASEAN Socio-Cultural Community
ASCCR	ASEAN State of Climate Change Report
ASCEND	ASEAN Standards and Certification for Experts in Disaster Management
ASEAN	Association of Southeast Asian Nations
ASPEN	ASEAN Strategic Plan on Environment
ASSI	ASEAN Safe Schools Initiative
BAPPEDA	Local Agency for Planning and Development (of Indonesia)
BAPPENAS	National Development Planning Agency (of Indonesia)
BHA	Bureau for Humanitarian Assistance (of USAID)
BNPB	National Disaster Management Authority (of Indonesia)
CBDRM	Community-Based Disaster Risk Management

CBRN	Chemical, Biological, Radiological, and Nuclear
CCA	Climate Change Adaptation
CCNDPC/SAR	Commanding Committees for Natural Disaster Prevention and Control, Search and Rescue (of Vietnam)
CELAC	Community of Latin American and Caribbean States
CIS	Computer Information System
COP	Conference of the Parties (of AADMER)
COVID-19	Coronavirus Disease – 2019
DDM	Department of Disaster Management (of Myanmar)
DDPM	Department of Disaster Prevention and Mitigation (of Thailand)
DELSA	Disaster Emergency Logistics System for ASEAN
DKI-APCSS	Daniel K. Inouye Asia-Pacific Center for Security Studies
DM	disaster management
DMHA	Disaster Management and Humanitarian Assistance
DMO	Disaster Management Order
DMRS	Disaster Monitoring and Response System
DRFI	Disaster Risk Financing and Insurance
DRM	disaster risk mitigation / management
DRR	disaster risk reduction
DRRM	disaster risk reduction and management
DSG	Deputy Secretary-General
EAS	East Asia Summit
ECHO	European Commission Humanitarian Organization
ECO	Economic Cooperation Organisation
EMOPS	Emergency Operations
EOC	emergency operations centers
ERAT	Emergency Response and Assessment Team
EU	European Union
EWG	Experts Working Groups
FTA	Free Trade Agreement
GCC	Gulf Cooperation Council
GDACS	Global Disaster Alert and Coordination System
GDP	gross domestic product
HADR	humanitarian assistance and disaster relief
HAZMAT	Hazardous Material Detection and Handling
HCT	Humanitarian Country Team
HDX	Humanitarian Data Exchange
HFA	Hyogo Framework for Action
ICCT	In-Country Coordination Team
ICLT	In-Country Liaison Team
ICRC	International Committee of the Red Cross

ICT	Information and communications technology
IDRL	international disaster response law
IFRC	International Federation of Red Cross Red Crescent Societies
IOM	International Organization for Migration
INSARAG	International Search and Rescue Advisory Group
ISM-DR	Inter-Sessional Meeting on Disaster Relief (of ARF)
ISWG	Information Sharing Working Group (of the RCG)
JAIF	Japan-ASEAN Integration Fund
JOCCA	Joint Operation and Coordination Centre of ASEAN
JSPADM	ASEAN-UN Joint Strategic Plan of Action on Disaster Management
JTF	Joint Task Force
JTWC	Joint Typhoon Warning Center
kph	kilometers per hour
LNDPC	Law on Natural Disaster Prevention and Control
MAPDRR	Myanmar Action Plan on Disaster Risk Reduction
MERCOSUR	Southern Common Market
MKN	National Security Council of Malaysia
MNL	multi-national logistics
MOU	memorandum of understanding
MPAC 2025	Master Plan on ASEAN Connectivity 2025
mph	miles per hour
MSU	Mobile Storage Units
NADMA	National Disaster Management Agency (of Malaysia)
NCDM	National Committee for Disaster Management (of Cambodia)
NDC	National Disaster Council (of Brunei)
NDMC	National Disaster Management Centre (of Brunei) or National Disaster Management Committee (of Lao PDR or of Myanmar)
NDMO	National Disaster Management Organization or National Disaster Management Office (of Lao PDR)
NDPMC	National Disaster Prevention and Mitigation Committee (of Thailand)
NDRRMC	National Disaster Risk Reduction and Management Council (of Philippines)
NFP	National Focal Point
NGO	non-governmental organization
NSCNDPC	National Steering Committee for National Disaster Prevention and Control (of Vietnam)
OAOR	One ASEAN One Response
OCHA	Office for the Coordination of Humanitarian Affairs (of the UN)
OSOCC	On-Site Operations and Coordination Center
PDC	Pacific Disaster Center Global
PDR	People's Democratic Republic (Laos)
PGI	Protection, Gender, and Inclusion
RACER	Regional Alliance for Collective Emergency Response

RCG	Regional Consultative Group on Humanitarian Civil-Military Coordination for Asia and the Pacific
RHCC	Changi Regional HADR Coordinating Center
ROAP	Regional Office for Asia and the Pacific (of UN OCHA)
ROK	Republic of Korea (South Korea)
RSIS	Rajaratnam School of International Studies
SAARC	South Asian Association for Regional Cooperation
SASOP	Standard Operating Procedure for Regional Standby Arrangement and Coordination of Joint Disaster Relief and Emergency Response Operations
SCDF	Singapore Civil Defence Force
SCO	Shanghai Cooperation Organisation
SDG	Sustainable Development Goal
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SG-AHAC	Secretary-General ASEAN Humanitarian Assistance Coordinator
SitRep	Situation Report
SOER	State of Environment Report
SOP	Standard Operating Procedure
TCTP	Third Country Training Program
TWG-CIMIC	Technical Working Group on Civil-Military Coordination
U.S.	United States
U.S. INDOPACOM	Indo-Pacific Command (of the U.S. Department of Defense)
UN	United Nations
UN-CMCoord	United Nations civil-military coordination
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UNHRD	United Nations Humanitarian Response Depot
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
USAID	U.S. Agency for international Development
USAR	urban search and rescue
VAP	Vientiane Action Programme
VDMA	Vietnam Disaster Management Agency
VISUS	Visual Inspection for Safety Upgrading Strategy
WASH	Water, Sanitation, and Hygiene
WebEOC	Web-based Emergency Operations Centre
WFP	World Food Programme
WPS	Women, Peace, and Security
WG	Working Group

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