



## **Event Report**

# **ASEAN STRATEGIC POLICY DIALOGUE ON DISASTER MANAGEMENT (SPDDM) 2021**

## **ADVANCING DISASTER MANAGEMENT INTO A FUTURE OF POSSIBILITIES**

### **Rapporteurs:**

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### **Edited by:**

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**24 – 26 August 2021**

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## EXECUTIVE SUMMARY

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COVID-19 has impacted the way we work and function at all levels. The disaster management sector had to prepare for and manage disasters against the backdrop of COVID-19. Considering that the types, dynamics, and dimensions of disaster threats will be more complex in the future and require far more strategic analysis and preparation, it is prudent for organisations to rethink strategies and transform to strengthen capabilities and capacities for the future. Thus, the theme for SPDDM 2021 was “**Advancing Disaster Management: Into a Future of Possibilities**” to spark discourse on identifying future humanitarian trends, challenges, and opportunities. The theme also facilitated discussions on key outputs in the AADMER Work Programme 2021–2025 such as leadership, cooperation, technology, and innovation as well as effective resource mobilisation for stronger coordination among ASEAN Member States.

This event report summarises key points from the panel discussions and presentations. The first panel focused on how the ASEAN community could further localisation and regionalisation in disaster management. The discussion highlighted that national governments and international partners should provide continued support to grow local organisations as COVID-19 responses demonstrated their strengths and importance in dealing with disasters. Regional organisations such as ASEAN can be convening platforms for collaboration and coordination. Panel two discussed sustainable disaster finance options for the ASEAN region, which has been a regular topic of the SPDDM since 2015. The panellists emphasised the importance of anticipatory action and innovation in financing. The third panel and community session focused on the use of innovation and technology in disaster management. While acknowledging the importance of technology for disaster-related activities, the panellists discussed potential risks associated with the greater use of technology and explored how to mitigate negative impacts.

**24 August 2021**

## **OPENING CEREMONY**

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### **OPENING REMARKS BY MR K SHANMUGAM, MINISTER FOR HOME AFFAIRS AND LAW, SINGAPORE**



Mr K Shanmugam, Minister for Home Affairs and Law, Singapore, delivered the opening remarks. He recognised the SPDDM as an important platform for disaster management stakeholders in ASEAN to discuss how the region could strengthen cooperation and coordination in dealing with disasters. Disaster management is crucial for ASEAN as the region is prone to disasters, such as typhoons, floods, and earthquakes. COVID-19 further compounds challenges in disaster management as containment measures have affected the mobilisation and deployment of resources and personnel for disaster response. Given the regional riskscape, it is important that ASEAN be prepared for emerging challenges and disasters in the future.

Mr Shanmugam suggested three areas for ASEAN to strengthen its disaster-related work, which included strengthening local responses, innovative financing, and the use of technology. Local actors, such as civil society groups, local governments, and communities are integral to disaster relief and recovery. The ASEAN Village Project in Palu City, Central Sulawesi, Indonesia, set a good example of how regional and international partners can support local responses in disaster management in ASEAN. Palu was hit by an earthquake, a subsequent tsunami and soil liquefaction in 2018. The ASEAN Village Project is

part of the recovery effort, which was led by the local government and coordinated by the AHA Centre.

Disaster management is resource-intensive, and the availability of funds is crucial for sustaining related efforts. ASEAN has achieved notable progress in securing financial and material resources for its disaster-related work, evident in the development of the Disaster Emergency Logistics System of ASEAN (DELSA) and the establishment of the ASEAN Disaster Management and Emergency Relief (ADMER) Fund. Moving forward, Mr Shanmugam pointed to the need to explore additional funding sources, such as the private sector and philanthropic organisations. As ASEAN is now reviewing the ADMER Fund, a conversation on innovative financing was timely.

Technology is viewed by many people as a game changer, as ASEAN and its member states have been leveraging technology to transform different dimensions of disaster management, such as logistics, information management, early warning as well as search and rescue. To deepen the use of technology in disaster management, Mr Shanmugam encouraged ASEAN member states to continue supporting research and development, share best practices and experiences, and strengthen joint capabilities. In conclusion, he reiterated the importance of these three areas for ASEAN to become future-ready in disaster management. He also expressed appreciation to the AHA Centre and ASEAN Secretariat for co-organising the event and to the Government of Switzerland for their support towards ASEAN's development, including disaster management.

## OPENING REMARKS BY DATO LIM JOCK HOI, SECRETARY GENERAL OF ASEAN



Dato Lim Jock Hoi, Secretary General of ASEAN, started with a brief review of the development of the SPDDM since its inauguration in 2015 and highlighted its important value for ASEAN's policy discussions and directions in disaster management as well as for ASEAN's dialogues and cooperation with its partners. Given that the risk landscape for ASEAN was evolving and the risk of concurring and complex emergencies was increasing, Secretary General Lim emphasised that localisation and regionalisation were key for ASEAN to be more prepared for complex emergencies. ASEAN has established the necessary regional framework and institution to support locally-led responses, which comprises the ASEAN Emergency Response and Assessment Team (ASEAN-ERAT) and the AHA Centre Executive (ACE) Programme. Partners such as the United Nations and the AADMER Partnership Group are also important for the localisation agenda in ASEAN.

In view of the changing riskscape in the region, Secretary General Lim pointed to the need to harness information and communication technologies in disaster management, such as satellite-based technology, drones, cash-based programming, and artificial intelligence. Disaster finance and resource mobilisation was another area highlighted in his remarks. He reaffirmed ASEAN's commitment to strengthening the financial resiliency of ASEAN member states through the ASEAN Roadmap for Disaster Risk Financing and Insurance adopted in November 2011. He mentioned the Strategic and Holistic Initiative to Link ASEAN Responses to Emergency as ASEAN's recent move to improve financing and resource mobilisation. This initiative aims to tap into new

sources of fund, such as the people of ASEAN, ASEAN partners, and the private sector, to complement the existing funding mechanisms. In conclusion, he extended ASEAN's appreciation to all humanitarian workers for their contribution to and sacrifice for humanitarianism.

## REMARKS BY MR KURT KUNZ, AMBASSADOR OF SWITZERLAND TO ASEAN



H.E. Kurt Kunz delivered remarks on behalf of the Swiss Government. Switzerland has long been a partner of Southeast Asia for disaster management. At the ASEAN level, the Swiss government signed a Memorandum of Intent with the AHA Centre in 2019, which reaffirmed the commitment of both sides to continued collaboration in disaster management and humanitarian assistance. Amb Kunz pledged Switzerland's continued support for a variety of activities related to disaster management in ASEAN, such as preparedness, capacity-building, financing, logistics, and simulation exercises. Bilaterally, Switzerland provided humanitarian relief to Laos, Indonesia, the Philippines, and Myanmar in response to disasters in the past few years. During the pandemic, Switzerland offered medical equipment to Thailand, Indonesia, and Viet Nam. Moreover, as one of the co-conveners of the work-stream on localisation of humanitarian action, the Swiss Agency for Development and Cooperation can provide strong support for localising disaster management in ASEAN.



# SESSION 1: REDEFINING DISASTER MANAGEMENT IN A POST-COVID LANDSCAPE: LEVERAGING ON LOCALISATION AND REGIONALISATION



## Panellists

### **Mr Tay Kok Chin**

Chairman, Smart Cities Network  
Director (ASEAN), Smart Cities Council

### **Dr Deepmala Mahla**

Vice-President of Humanitarian Affairs,  
CARE USA

### **Professor Virginia Murray**

Head, Global Disaster Risk Reduction;  
and a COVID-19 Senior Public Health Advisor  
Public Health England

### **Ms Maimunah Mohd Sharif**

Under Secretary-General and Executive Director  
UN-Habitat

## Moderator

### **Ambassador Ong Keng Yong**

Executive Deputy Chairman  
S. Rajaratnam School of International Studies, NTU

COVID-19 poses one of the biggest challenges to humanitarian operations globally. The reallocation of many resources to cope with the spread of the pandemic have led to fewer available resources to be used for disaster management. Additionally, the lack of access and border restrictions have limited international support. The situation also highlighted the importance of localisation efforts, a trend that emphasises disaster response by local and national players of the affected country. It is also timely for international organisations such as the United Nations and regional mechanisms such as ASEAN as well as operational entities like the AHA Centre to ensure relevance by exploring new forms of cooperation models to support and strengthen disaster management for affected countries. In view of these trends, the panellists shared their insights on three related questions.

The first question asked the panellists about their reflections on the implications of COVID-19 for managing disasters and crises. Ms Maimunah Sharif, who engaged in the discussion through a pre-recorded video, pointed to the need to rebuild trust within communities and with governments and to pursue an integrated approach to disaster management to ensure safety for all. Dr Deepmala Mahla highlighted the need to increase the predictability and flexibility of funding, to invest in anticipatory action, to ensure the safety of humanitarian workers, and to fine tune remote working and adaptive management protocols. She also noted the importance of inclusiveness in decision-making, which should involve women and local communities more. Prof Murray discussed how the pandemic has impacted social groups differently and disproportionately. Children, for instance, have been affected heavily in terms of education. She pointed to the lack of global leadership in the initial stages of the pandemic response and the disconnection between disaster risk reduction and preparedness in the health sector. She suggested creating a pandemic framework treaty and a global threat council, as well as develop a global pandemic early warning system. She also highlighted the need to harness scientific expertise to inform decision-making processes. Mr Tay discussed the need for governments at various levels to build up capabilities and capacity to deal with simultaneous crises.

The second question asked how local and international players should adjust their roles to ensure disaster management is fit for purpose. Dr Mahla pointed to the importance of promoting the localisation agenda and provided examples of how CARE has supported the growth of local partners. Since 2016, almost half of CARE's humanitarian programming have been implemented by local actors. In the Philippines, CARE set up a Humanitarian Partnership Platform in 2014, which includes over 30 local organisations and covers 95% of the country geographically. This platform can mobilise as many as 3,500 staff in a few days to provide services such as procurement, on-demand technical support, supply chains, and cash transfers. Prof Murray drew attention to the need to advance health emergency awareness and strengthen preparedness

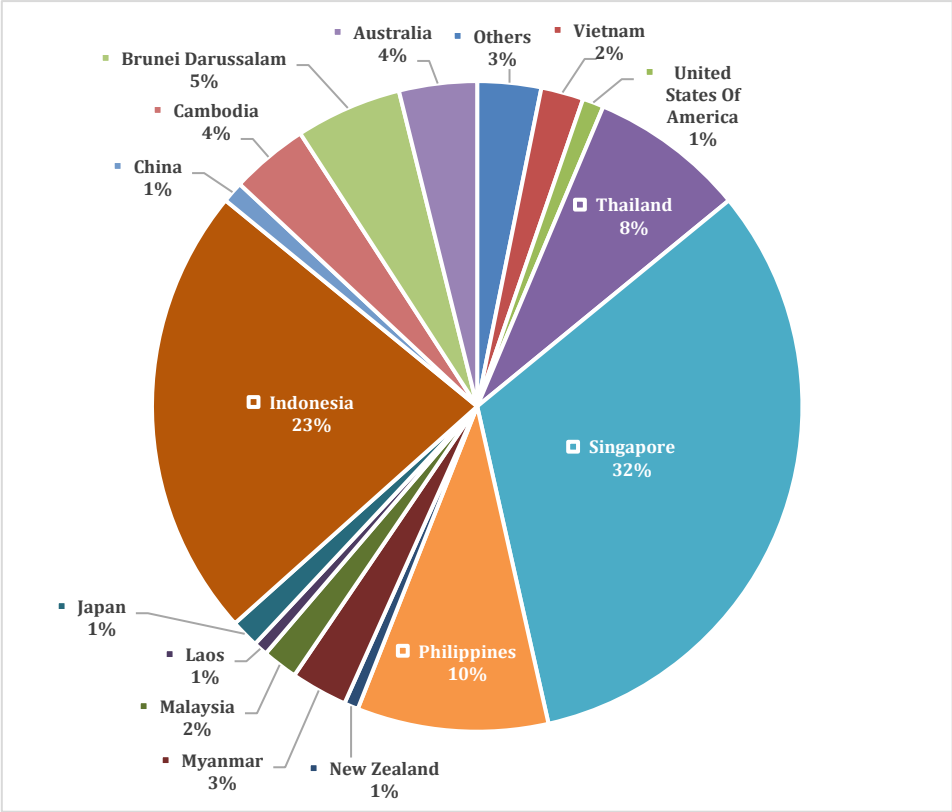
for COVID-19 in urban settings. Mr Tay emphasised the important role of local actors in implementing new policies and the need to embark on capacity-building and training programmes for local actors to assume new roles and tasks.

The third question asked panellists to identify key priorities to build back better in the post-COVID era. Dr Mahla again emphasised the importance of local actors and localisation. She suggested that governments must collaborate to mobilise international resources for local actors. International humanitarian actors should build equitable partnerships with local actors, instead of just subcontracting services to local organisations. Prof Murray identified the need to adopt an all-hazards approach, while Mr Tay pointed to the need to be proactive and reach out to the right people as soon as possible. He also suggested the creation of a cross-sector taskforce to deal with future threats.

## **QUESTION AND ANSWER SESSION**

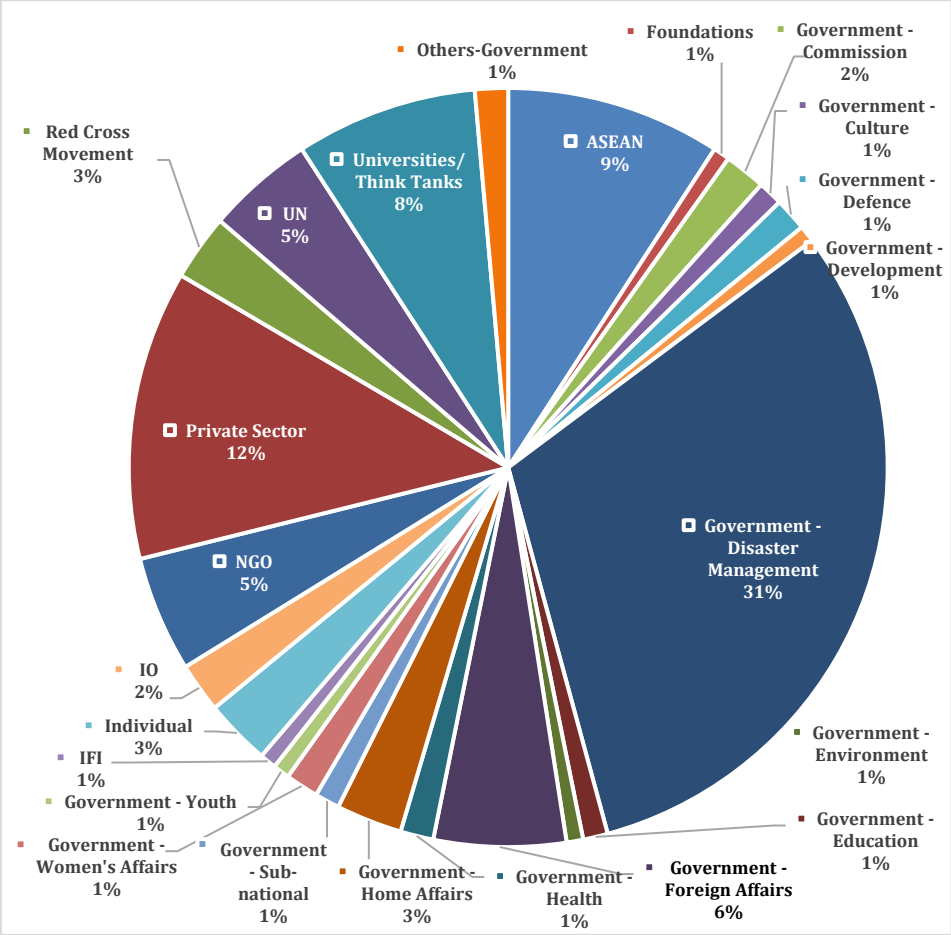
A community-based approach to disaster management is not a new concept, but disaster resilience at community level still faces many issues and challenges. Problems in COVID-19 responses have shown that there are weaknesses in our preparedness. There is a need for a combination of top-down and bottom-up approaches to build community resilience. Apart from the provision of funding and capacity building to local actors, Dr Mahla suggested the need to involve local voices and representation on regional and global platforms. Technology can give local actors more visibility and access. With regard to comprehensive resilience of urban and rural settings, Dr Mahla pointed to the need for context-specific solutions and equitable partnerships, in addition to localisation.

# PARTICIPANTS BY COUNTRY



Session 1 Total Participants  
**284**

# PARTICIPANTS BY ORGANISATION

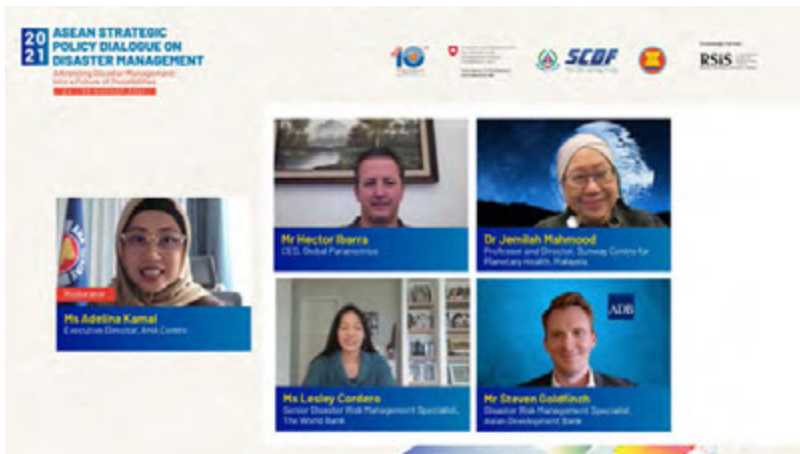


Session 1 Total Participants  
**284**

**25 August 2021**

## **SESSION 2: EFFECTIVE FINANCING AND RESOURCE MOBILISATION FOR DISASTER MANAGEMENT IN THE FUTURE**

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### **Panellists**

#### **Ms Lesley Cordero**

Senior Disaster Risk Management Specialist  
The World Bank

#### **Mr Steven Goldfinch**

Disaster Risk Management Specialist  
Asian Development Bank

#### **Mr Hector Ibarra**

CEO, Global Parametrics

#### **Dr Jemilah Mahmood**

Professor and Director,  
Sunway Centre for Planetary Health, Malaysia

### **Moderator**

#### **Adelina Kamal**

Executive Director, AHA Centre

Sourcing for financial support and valuable resources is a constant challenge, especially so in a post-crisis world fraught with economic uncertainties. ASEAN, as a region, must examine new modes of partnerships and review current practices of obtaining resources in support of disaster-related operations. Under the chairmanship of Brunei Darussalam in 2021, ASEAN developed a concept paper on Strategic and Holistic Initiative to Link ASEAN Responses to Emergency (ASEAN SHIELD). One of the strategic components outlined in the concept paper is to link the people of ASEAN to regional relief and recovery efforts by promoting a participative and socially responsible community. This will involve establishing a platform that will enable the people of ASEAN to contribute during natural disasters, such as through the ADMER Fund, subject to the revision of its financial rules. Drawing from international experience in resource mobilisation, prominent speakers from different sectors were invited to discuss: (i) methods of “streamlining” and prioritisation of competing needs when a disaster strikes; (ii) how regional organisations can facilitate disbursement and allocation of resources to affected states for immediate relief; and (iii) the potential of community-level crowd-funding.

Dr Jemilah Mahmood shared that a multi-hazard approach was gaining momentum in disaster management, which appreciated the intersection of natural hazards, pandemics, and the effects of climate change. Given the increasing complexity and uncertainty of disasters in the future, Dr Mahmood argued that it was important to put greater emphasis on disaster preparedness and mitigation as well as anticipatory funding. Given the growing needs for funding, it is imperative to diversify and innovate financing mechanisms. Currently, governments bear most costs of disaster management. Southeast Asian countries have made efforts to diversify sources and mechanisms for disaster financing. This has occurred most notably in the Philippines since 2019, which has issued catastrophe-linked bonds with the support of the World Bank. Unconventional sources of humanitarian funding should also be explored further, such as Islamic financing. Ms Cordero highlighted people as sources of funding and resources for disaster management and echoed Dr Mahmood’s emphasis on preparedness and anticipatory action. She suggested that greater flexibility was necessary for existing resources and financing mechanisms to be more efficient. Moreover, financing and resource mobilisation should be customised in line with local contexts. She also emphasised the importance of transparency and accountability.

Mr Goldfinch pointed out that the pandemic exposed the weaknesses in ASEAN’s preparedness. He suggested that the Sendai Framework for Disaster Risk Reduction provided a useful reference framework and that scenario planning was a useful tool for countries to strengthen disaster preparedness and response. He also suggested the need to increase financial literacy if innovative financing mechanisms were to draw on unconventional sources, such as diaspora communities. Mr Ibrarra discussed the importance of financial

resilience and cited examples of natural disaster funds in developed countries, such as the UK and Germany. He said that business continuity planning should include measures to ensure liquidity after disasters and that governments and companies could build a forecasting model to inform financial strategies. He argued that resilience should be understood in a broad sense, which applied to not only infrastructure but liquidity as well.

## QUESTION AND ANSWER SESSION

The discussion focused on three broad themes: roles of different actors, reform and innovation of disaster financing, and leadership. Regional organisations, such as ASEAN, play a crucial role in disaster management convening multistakeholder action, setting standards for disaster-related activities, and providing support for national and local actors. Specifically, ASEAN can further develop regional strategies to plug gaps in individual countries, provide platforms for cross-sectoral conversations at the ministerial levels, present tools and mechanisms available to the leaders at different levels, and catalogue the responsibilities of actors at different levels within the ASEAN community.

Financing for local actors was discussed, which was a key component of the localisation agenda. The panellists suggested that governments should be held accountable for localisation. ASEAN member states should invest more in local actors. International partners should recognise the ability of local actors to bring about changes and facilitate their financial sustainability. Apart from relying on official and international funding, local groups should tap into local resources. Engagement with the private sector should go beyond fundraising. Business continuity planning provided a strong motivation for companies to contribute to disaster management. They possess a variety of resources and advantages that are useful for disaster management, such as logistics and supply chains. The panellists suggested that the way to succeed in complex disaster was to have distributed governance with a whole-of-society approach.

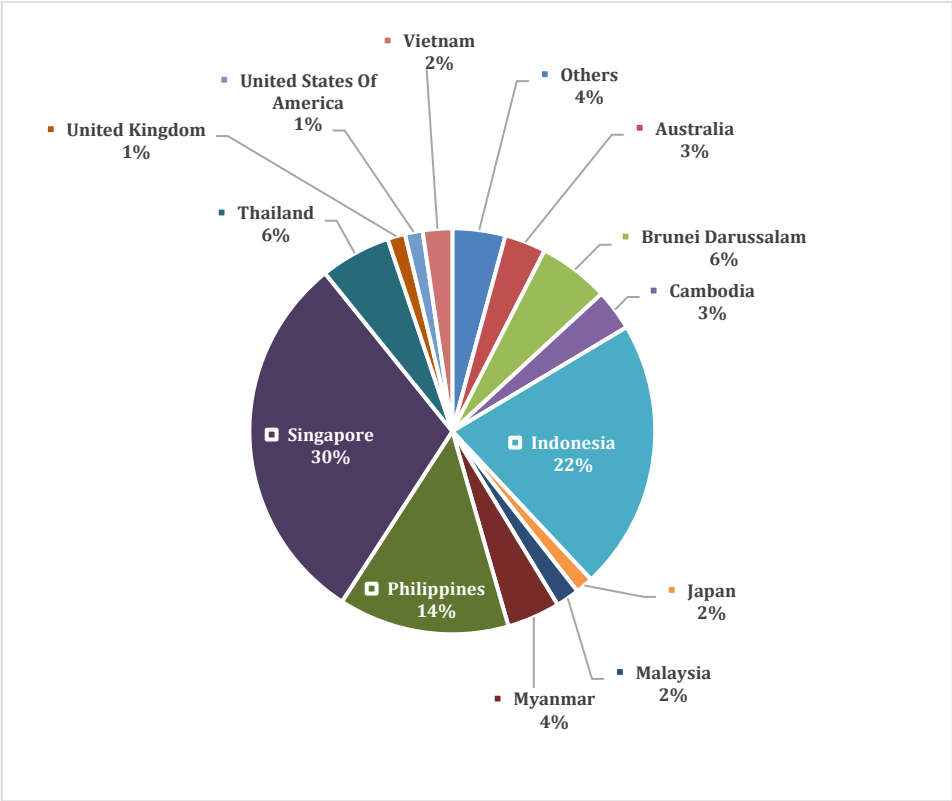
The panellists raised the need for transformation in disaster financing and the broader disaster management system. Innovative mechanisms should be explored to strengthen the effectiveness and impact of funding for disaster management. Nevertheless, pragmatism also matters when promoting new ways of financing. The panellists pointed to the need to assess the availability, accessibility, and reliability of new financial instruments like cryptocurrencies in times of disasters. The panellists also argued that countries in the region should foster the culture of preparedness and anticipation and develop the necessary tools in line with future scenarios. Instead of being reactive, ASEAN and its member states should get prepared, anticipate, and respond before disasters occur. The region should be more ambitious and go beyond resilience. ASEAN and its member states should aim for a better model to progress in the



aftermath of disasters, rather than merely building back.

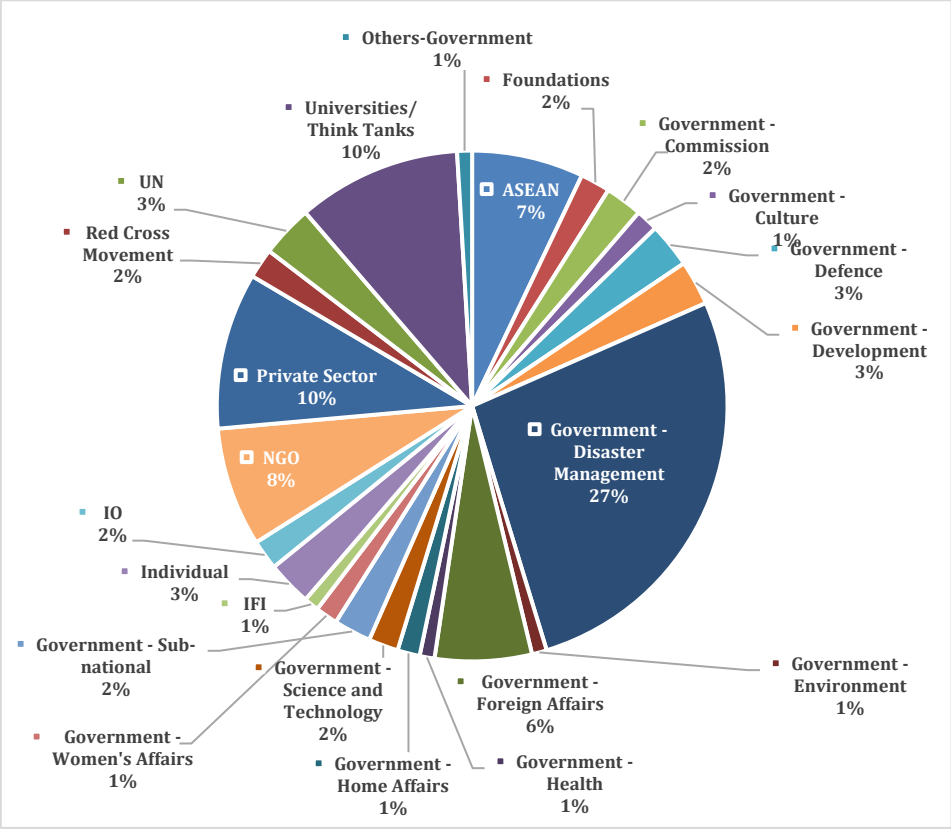
All the panellists agreed on the importance of leadership in effective disaster management. They highlighted that transformative changes need leadership. National leaders should demonstrate the political will to support budget planning for disaster management that allows greater flexibility. Local governments should take the lead in identifying beneficiaries of aid, developing pre-agreed arrangements for aid distribution, and providing targeted support such as subsidies for vulnerable communities. Governments must also understand that young people are an important force to push for changes in disaster management.

## PARTICIPANTS BY COUNTRY



Session 2 Total Participants  
**213**

# PARTICIPANTS BY ORGANISATION



Session 2 Total Participants  
**213**

**26 August 2021**

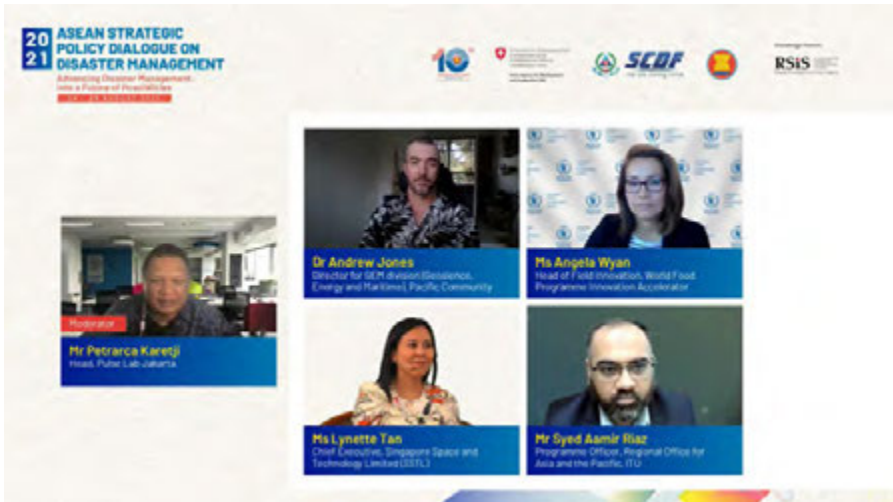
**OPENING REMARKS BY MR ERIC YAP, COMMISSIONER,  
SINGAPORE CIVIL DEFENCE FORCE AND CHAIR OF ASEAN  
COMMITTEE ON DISASTER MANAGEMENT (ACDM) 2021**

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The third day of the SPDDM 2021 opened with remarks from Mr Eric Yap, Commissioner of Singapore Civil Defence Force, and the ACDM Chair 2021. Mr Yap introduced the theme of the third day's session, which was to discuss how to leverage technology and innovation to improve efficiency and effectiveness in disaster risk reduction initiatives and in disaster management. He emphasised how COVID-19 had affected the way in which the disaster management sector had operated. He also spoke about how organisations had adapted. For instance, virtual planning exercises and hybrid ones that involve simultaneous deployment of forces at respective local levels have been increasingly used. The adaptation of the disaster management sector during the pandemic highlighted human ingenuity in the face of difficulties.

## SESSION 3: INTRODUCING GAME-CHANGERS IN DISASTER MANAGEMENT: LEVERAGING ON TECHNOLOGY AND INNOVATION



### Panellists

#### **Dr Andrew Jones**

Director for GEM division (Geoscience, Energy, and Maritime)  
Pacific Community

#### **Mr Aamir Riaz**

Programme Officer, Regional Office for Asia and the Pacific  
International Telecommunication Union (ITU)

#### **Ms Lynette Tan**

Chief Executive  
Singapore Space and Technology Limited (SSTL)

#### **Ms Angela Wyan**

Head of Field Innovation  
World Food Programme Innovation Accelerator

### Moderator

#### **Mr Petrarca Karetji**

Head of UN Global Pulse Lab Jakarta

New technology may provide opportunities for disaster management, but it can also intensify the dynamics of humanitarian crises. There are many innovative approaches to apply new technology such as the use of Artificial Intelligence (AI), data analytics, digitalisation, social media, and space technology to support disaster management efforts, emergency telecommunications, disaster risk assessment, and remote assistance. These new technologies serve as enablers for organisations to transform; they strengthen the organisations' capabilities to predict, prepare, prevent, and respond to disasters. However, it is also important to consider the implications and constraints of new technology. There are concerns over data protection, the security of systems (e.g., possible hacking into ICT systems to disrupt operations) and the potential for Natech disasters (i.e., man-made disasters caused by the failure of technological systems impacted by natural disasters).

Ms Angela Wyan highlighted how COVID-19 expedited the processes and effects of digitalisation in the field. While the technologies serve to strengthen organisations' capabilities to predict, prepare, prevent, and respond to disasters, it is also important to recognise that technology can also intensify the dynamics of humanitarian crises. Dr Andrew Jones raised the importance of open and accessible data for communities which may not have the capacity to collect data on their own such as in the Pacific Islands. Ms Lynette Tan further expanded on this discussion by highlighting the many innovative ways to overcome this problem including the creation of specialised public-private partnerships which can act as very short-term, focused control groups. The panel presentations all referenced the importance of having practices and systems in place to anticipate the possible negative impacts of technologies.

## **QUESTION AND ANSWER SESSION**

During this session, over 34 questions were asked by participants. One question that generated much discussion was on the potential to scale up practices such as youth engagement. For Ms Lynette Tan, this was a natural process that would happen when there was a need, as was highlighted by COVID-19 and the scalability of most digital processes when it proved necessary. Other discussion topics put to the panel included the need to "future-proof" technologies and the importance of ensuring equitable implementation of technological solutions such that vulnerable populations are not further marginalised, a theme that ran throughout the panel.

## **CLOSING REMARKS BY MR KUNG PHOAK, DEPUTY SECRETARY-GENERAL OF ASEAN FOR ASEAN SOCIO-CULTURAL COMMUNITY**

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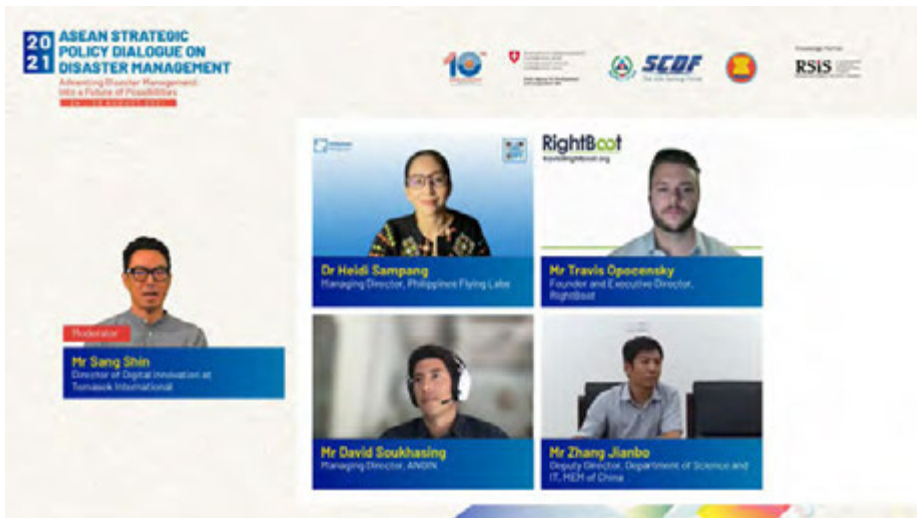
H.E. Kung Phoak, the Deputy Secretary-General of ASEAN for ASEAN Socio-Cultural Community delivered the closing remarks. He expressed his appreciation to the speakers, moderators, and participants for their contributions to the session. He highlighted how the ASEAN riskscape had been made more complex by climate change, and how the on-going pandemic had compounded challenges to disaster management in the region. As parts of its best efforts, ASEAN has been leveraging new technology and innovation to advance disaster resilience in the region – themes which have been echoed in ASEAN documents such as the ASEAN Vision 2025 on Disaster Management, AADMER Work Programme 2021–2025 as well as the adoption of Information and Communication Technology (ICT) Roadmap on Disaster Management for 2025 and beyond. He also highlighted the need for ASEAN to continue promoting innovative approaches through harnessing information and communication technology in areas such as prevention, mitigation and preparedness, emergency response, and post-disaster recovery. Mr Kung Phoak concluded by reiterating the need for ASEAN to work together with partners including UN agencies, multilateral financial institutions, nongovernment organisations, and the private sector.

## VIRTUAL EXHIBITION



This year, the SPDDM featured a virtual exhibition that showcased 12 companies and technology start-ups that adopted technology and innovation in disaster management. Five of the exhibitors shared their experiences in implementing their projects and reaching out to relevant partners. Ms Julie Kang from SCDF introduced the Responders Performance Vehicle (RPV), which is deployed for protracted fire and rescue operations to provide emergency responders with comprehensive recovery. Mr Robin Lim from XVR Simulation presented to the audience how the XVR Platform facilitates emergency responders to enhance their competence and expertise through 3D simulation training. Mr Sean Baptist, the co-founder of Graffiquo, introduced the reality 3D model provided by Graffiquo, which facilitate governments and emergency responders to identify vulnerable areas in disasters and plan in advance. Dr Motoyuki Arai from Synspective shared on how synthetic aperture rader (SAR) satellite technology and data could provide solutions to various challenges posed by natural hazards and climate change. Ms Clare Jones from what3words explained how the innovation of what3words contributed to rapid disaster response by facilitating more effective communication.

# INNOVATION AND TECHNOLOGY IN DISASTER MANAGEMENT: PUTTING IDEAS INTO ACTION



## Panellists

### **Mr Travis Opocensky**

Founder and Executive Director  
RightBoot

### **Dr Heidi Sampang**

Philippines Flying Labs

### **Mr David Soukhasing**

Managing Director  
ANGIN (Angel Investing Network of Indonesia)

### **Mr Zhang Jianbo**

Deputy Director  
Department of Science and Information Technology  
Ministry of Emergency Management of China

## Moderator

### **Mr Sang Shin**

Director  
Digital Innovation, Temasek International



The final session of the SPDDM 2021 targeted operational level practitioners with an interest to implement technology and innovation in the field of disaster management. This session featured speakers involved in technology projects related to disaster management, sharing about the current state of technology development for disaster management.

Mr Sang Shin began the session referencing the rapidly evolving disaster management space due to salient factors including climate change as well as cultural and social changes. He emphasised the need to anticipate future needs and create innovative solutions to meet them. Dr Heidi Sampang shared her organisation's experience being part of the global network of Flying Labs which uses drone technology to work with local experts to create innovative solutions for local problems. She collaborates with local organisations like the University of the Philippines Resilience Institute to work on issues such as using their drone technology to map the blind faultlines which caused an earthquake in Luzon in 2019. This improved hazard mapping has led to improved decisions being made at the policy level.

Mr Travis Opocensky shared his experience working on repurposing items in North America such as unwanted donations during a disaster response, which may be ignored during the initial disaster response and left to the already-suffering affected population to clean up. He connects disaster response organisations to local waste or recycling companies to sell them, using this revenue to benefit local responders — a circular solution. There is also a need to bring the private sector into the disaster management sector. Mr David Soukhasing's organisation focuses on disaster financing which he sees as having "untapped potential". His organisation helps investors and early-stage organisations connect with each other to facilitate disaster financing. This aids in raising funds for NGOs and other local organisations during the crucial early part, allowing local organisations to connect with local partners which in turn encourages long-term partnerships. In the past few years, technological innovations around the world have exponentially increased with countries such as China being part of this technology boom. This has led to a shift in practices of the disaster management sector, particularly in how they manage their data. For Mr Zhang, the disaster management system must have practices in place to accurately assess and analyse big data, which is typically gathered from a host of technologies including satellite data, early-warning systems, and social media platforms. This data can then be used to share relevant information with the public.

## QUESTION AND ANSWER SESSION

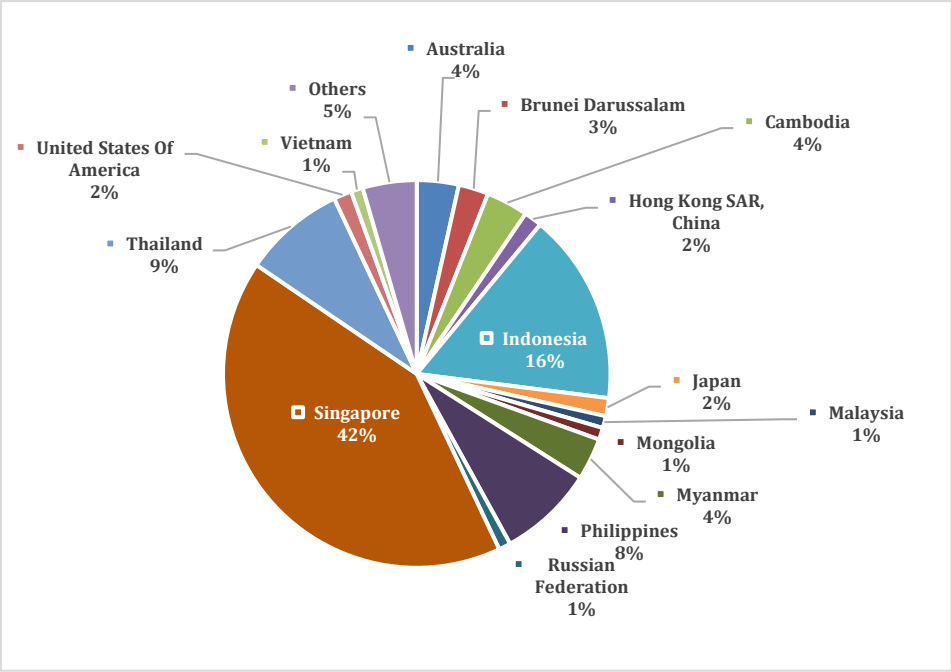
The question that generated the most discussion among panellists was how to measure the impact of organisational activities. The panellists agreed that this was both a matter of metrics as well as more intangible value outcomes, such as in impact investments. For Mr Travis Opocensky, in particular, impact tends to be measured in terms of volume of items removed as well as the revenue derived from selling these items to waste companies. The final question from the audience to the panellists addressed what barriers exist to implement these technologies and innovative solutions in the region. In response, Dr Sampang pointed out there is insufficient knowledge about existing technologies, inadequate political will to search for solutions, and the absence of sustainable funding.

## **CLOSING REMARKS BY MR TEONG HOW HWA, DEPUTY COMMISSIONER, SINGAPORE CIVIL DEFENCE FORCE**



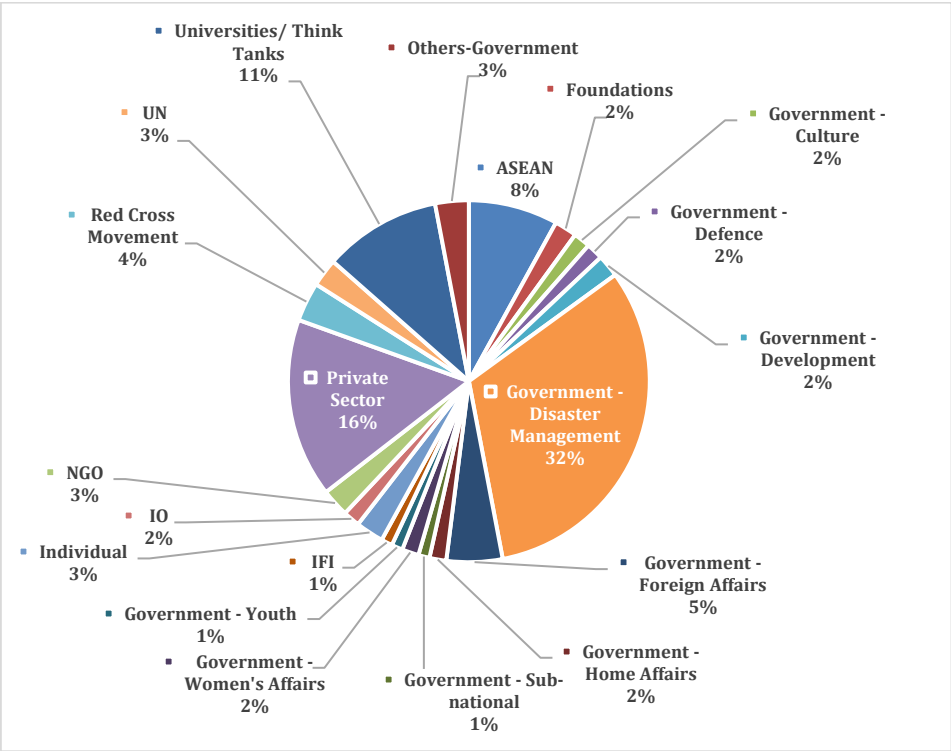
The SPDDM 2021 concluded with Mr Teong How Hwa, Deputy Commissioner, SCDF, delivering the closing remarks. Mr Teong first expressed his excitement over the global nature of this community session by acknowledging the speakers, exhibitors, and showcases from countries such as the UK, Japan, Singapore, Indonesia, Germany, the United States, and China as well as the possibilities that lie ahead in disaster management. The deliberate attempt to reach out to the technology and innovation ecosystem including startups and investors was made to widen the perspectives of this dialogue from its traditional policy level conversations. As such, participants were able to gain insights into the innovation process as well as the impact on customers on the ground. For Mr Teong, the diversity of opinions and agility of startups provided an inspiration. He reflected upon the three lessons to be learnt from these startups. First, there must be a deliberate attempt to target those who are at risk of being disproportionately impacted by disaster and solve local problems in disaster management. Second, the use of technology must be scaled up in “traditional” organisations to be response-ready, and overall, build up capabilities to inculcate a prevention-first mindset. This will enable organisations to identify and communicate disaster risks, and to take concrete action to minimise such risks for all. Third, in order to attract a stream of talent including youths, traditional actors need to project their purpose of transforming disaster management to an attractive and purposeful sector. An ongoing conversation about the purpose and future of ASEAN is required to further expand the disaster management ecosystem.

# PARTICIPANTS BY COUNTRY



Session 3 Total Participants  
**200**

# PARTICIPANTS BY ORGANISATION



# TOTAL NUMBER OF PARTICIPANTS

	Total Number of Participants
Session 1	284
Session 2	213
Session 3	200
Total Registrations	697

# ORGANISERS

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## **ASEAN Secretariat**

The ASEAN Secretariat was set up on 24 February 1976 by the Foreign Ministers of ASEAN. Its function is to provide for greater efficiency in the coordination of ASEAN organs and for more effective implementation of ASEAN projects and activities. While building a people-centred, people-oriented ASEAN Community that is globally respected, the ASEAN Secretariat's mission includes, among others, facilitation and coordination with ASEAN stakeholders in realising the purposes and principles of ASEAN as reflected in its Charter. The ASEAN Secretariat is based in Jakarta, Indonesia.

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

The AHA Centre was established on 17 November 2011 by the ASEAN member states through the signing of the ASEAN Agreement on the Establishment of the AHA Centre. It was established following the mandate of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) in order to facilitate cooperation and coordination among ASEAN member states and with international organisations such as the United Nations for disaster management and emergency response. The AHA Centre facilitates joint emergency preparedness and response. It also operationalises the regional coordination mechanism for emergency preparedness and response. The Centre is based in Jakarta, Indonesia.

## **Singapore Civil Defence Force (SCDF)**

The Singapore Civil Defence Force (SCDF) is the national authority that provides fire-fighting, rescue, and emergency ambulance services in Singapore. SCDF is also responsible for mitigating hazardous materials incidents, as well as formulate, implement, and enforce regulation on fire safety and civil defence shelter matters. SCDF's Ops Lionheart contingent is classified as a Heavy Urban Search and Rescue (USAR) team by INSARAG since 2008. SCDF is also the national focal point for ASEAN Committee on Disaster Management (ACDM).

## **Swiss Agency for Development and Cooperation (SDC)**

The Swiss Humanitarian Aid is one of the four departments of the Swiss Agency for Development and Cooperation (SDC) and part of the Swiss Confederation. In Southeast Asia, Switzerland contributes to the implementation of the AADMER in the context of the ASEAN-Switzerland Sectoral Dialogue Partnership. In support of AADMER's Practical Cooperation Area on Disaster Management and Humanitarian Assistance, the Swiss Humanitarian Aid provides technical and financial support for the ASEAN Strategic Policy Dialogue in Disaster Management (SPDDM) from 2018–2020.

## About the S. Rajaratnam School of International Studies

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The **S. Rajaratnam School of International Studies (RSIS)** is a think tank and professional graduate school of international affairs at the Nanyang Technological University, Singapore. An autonomous school, RSIS' mission is to be a leading research and graduate teaching institution in strategic and international affairs in the Asia Pacific. With the core functions of research, graduate education, and networking, it produces research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-traditional Security, Cybersecurity, Maritime Security and Terrorism Studies.



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