RSiS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University, Singapore

NTS INSIGHT

NTS Insight, no. IN18-07, October 2018

Simultaneous Disasters in Southeast Asia: Is Risk Outpacing Resilience?

By **Christopher Chen[1], Foo Yen Ne[2] and Margareth Sembiring[3]**

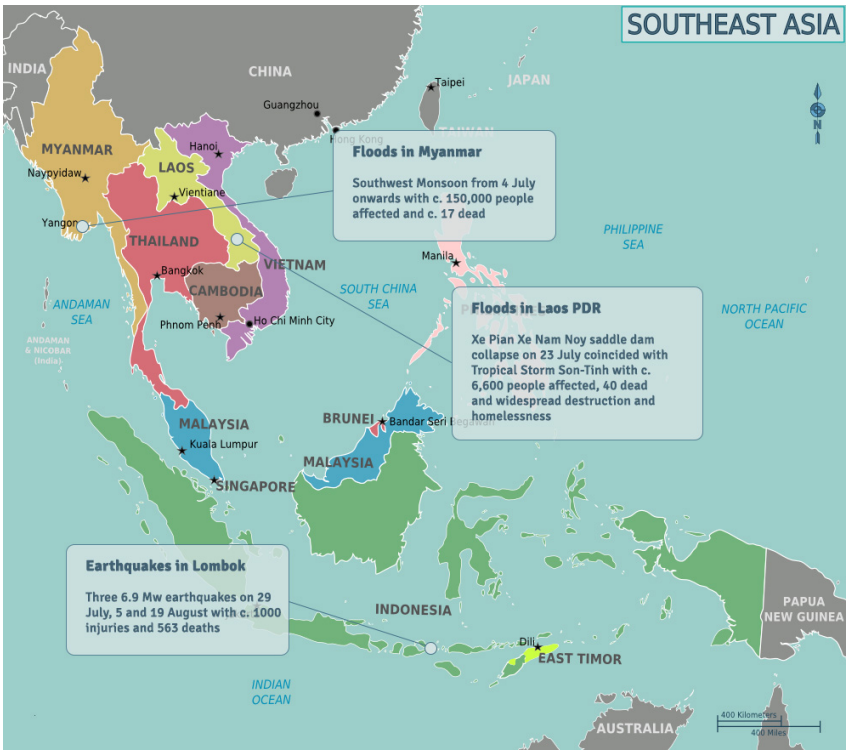
Contents

Recommended citation: Christopher Chen, Foo Yen Ne, Margareth Sembiring, 'Simultaneous Disasters in Southeast Asia: Is Risk Outpacing Resilience?', NTS Insight, No. IN18-07 (Singapore: RSIS Centre for Non-Traditional Security Studies (NTS Centre)).

ABSTRACT

Since Southeast Asian leaders signed the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) in 2005, the region has prioritised developing national and regional disaster management capabilities to respond to disasters. However, the recent back-to-back disasters that occurred between July and August 2018 tested the response capacities of national governments and the humanitarian community. Parts of Myanmar, Vietnam, Laos, Cambodia and the Philippines battled floods of varying severity induced by seasonal monsoon rains, tropical storms and a dam collapse on a tributary of the Mekong River. Meanwhile, Indonesia's Lombok Island, West Nusa Tenggara was hit by multiple earthquakes and aftershocks between 29 July and 19 August. The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) reported that at the peak of these disasters, over 588,000 people were displaced and more than 5.2 million people in Southeast Asia were affected.[4] Against the backdrop recent disasters generating simultaneous responses, this NTS Insight makes key observations on Southeast Asia's ability to meet the immediate needs of disaster-affected communities while building greater disaster resilience for the future. It assesses the (i) institutionalisation of disaster management in ASEAN; (ii) localisation of disaster response; and (iii) opportunities for financial risk management for building disaster-resilient communities.

[1] About the author: Christopher Chen is a Research Associate at the Centre for Non-Traditional Security Studies, S Rajaratnam School of International Studies, Nanyang Technological University, Singapore.
[2] About the author: Foo Yen Ne is a Senior Analyst at the Centre for Non-Traditional Security Studies, S Rajaratnam School of International Studies, Nanyang Technological University, Singapore.
[3] About the author: Margareth Sembiring is an Associate Research Fellow at the Centre for Non-Traditional Security Studies, S Rajaratnam School of International Studies, Nanyang Technological University, Singapore.
[4] AHA Centre, "Weekly Disaster Update 13-19 August 2018", 2018, https://reliefweb.int/sites/reliefweb.int/files/resources/D-Week-33_13-19-Aug-2018-rev.pdf.



ASEAN in the eye of the storm – Institutionalisation of Disaster Management in ASEAN

In assessing current and future disaster management capabilities, this NTS Insight focuses on the floods in Laos and Cambodia after the collapse of a saddle dam of the Xe Pian-Xe Nam Noy hydropower project, floods in Myanmar caused by heavy monsoon rainfall and a breached dam in the Bago region, and the earthquakes and aftershocks in Lombok, West Nusa Tenggara, Indonesia. It identifies the evolution of a regional mechanism to respond to disasters grounded in the legally-binding AADMER. This agreement was ratified by all ASEAN Member States and came into force in 2009 and represented ASEAN's regional commitment to respond to disasters. Its objectives are to provide effective disaster management mechanisms and to have ASEAN Member States "jointly respond to disaster emergencies" through regional cooperation.[5] AADMER's most significant contribution has been to institutionalise disaster management within and between ASEAN Member States. This framework provides a solid basis to further strengthen regional disaster response architecture as can be seen in the recent disasters in Indonesia, Laos and Myanmar.

At the regional level, the AHA Centre mobilised to respond to the floods in Laos, Myanmar and the earthquakes in Indonesia, in support of the National Disaster Management Organisations (NDMOs) and relevant government ministries of ASEAN member states. This is the first time the AHA Centre has responded to multiple disasters simultaneously. Various ASEAN-led disaster management mechanisms were activated during the response, including the In-Country Liaison Teams to facilitate coordination through the web-based Emergency Operations Centre and the Emergency Response and Assessment Team (ERAT) to support local procurement and reception of incoming ASEAN relief materials from the Disaster Emergency Logistic Stockpile of ASEAN (DELSA). In Lombok, the AHA Centre seconded staff to the Indonesian National Disaster Management

[5] See Article 2 of AADMER, Available at: http://agreement.asean.org/media/download/20140119170000.pdf

Authority's (BNPB) Data and Information Centre to support dissemination of official information to international stakeholders.[6] Through its periodic Situation Updates, the AHA Centre also provided timely information and recommendations to humanitarian partners on operational needs in disaster-affected areas.

Floods in Myanmar

Heavy rainfall from the Southwest Monsoon since 4 July 2018 brought floods and landslides to 9 out of 14 regions in Myanmar. According to the AHA Centre, there has been 17 recorded deaths and more than 150,000 people affected by the floods in Myanmar as at 6 August 2018.[4] It reported that although the Government of Myanmar issued flood warnings, their effectiveness was hindered by the lack of electricity and low mobile phone penetration in rural areas.[4] The floods have led to the closure of schools and the damage to homes and crops, disrupting the country's rice supply. As part of the Government of Myanmar's disaster relief efforts, the country's Department of Disaster Management, Ministry of Social Welfare, Relief and Resettlement have provided affected communities with rice, seeds and building materials to facilitate early recovery.[4] Separately, the Swar irrigation dam in the Bago region was breached on 29 August 2018. Media outlets reported that the resulting floods from the breach inundated two villages in the nearby town of Swar and two villagers. More than 50,000 people were evacuated and a bridge on a major highway linking Yangon, Mandalay and Naypyitaw was damaged by surging flood waters.[4]

The AHA Centre's seamless integration into national disaster management operations, especially in countries where national governments have refrained from seeking international assistance, reveals its comparative advantage. Unlike a conventional humanitarian agency, the AHA Centre operates as an auxiliary to national governments; its mandate is to support national-led operations. Its contribution to disaster zones around Southeast Asia is indicative of strong working relationships within ASEAN through national disaster management actors not only at the strategic and policy levels but also at practical and operational levels. This is attributable to AADMER's focus on building a knowledge and skills base for disaster management at the regional and national levels. Many of the AHA Centre-led capacity development programmes such as the ASEAN-ERAT training, the AHA Centre Executive (ACE) Programme and the ASEAN Standards and Certification for Experts on Disaster Management (ASCEND) are intended not only to enhance its own preparedness and response capacity but to create a network of disaster responders who abide by the 'One ASEAN One Response' philosophy.

Further, AADMER pays particular attention to operationalising joint responses by practicing, assessing and reviewing ASEAN disaster management mechanisms and their interoperability with national and other international mechanisms through joint trainings, exercises and simulations. One example is the participation of ASEAN Member States in the ASEAN Disaster Emergency Response Simulation Exercise (ARDEX), designed to test and validate the ASEAN Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations. Another is the bi-annual ASEAN Regional Forum Disaster Relief Exercise (DiREx) which focuses on inter-agency and civil-military coordination. The AHA Centre has also attributed its ability to activate multiple responses to preparedness exercises like the ARDEX.[7]

[6] AHA Centre, "Situation Update No.5 M6.4 Lombok Earthquake (29 July 2018) & M7.0 Lombok Earthquake (5 August 2018), Indonesia", 2018, https://ahacentre.org/wp-content/uploads/2018/08/AHA-Situation_Update_no_5_M-7.0-Lombok-Earthquake-final.pdf.
[7] Maizura Ismail, "Southeast Asia: Hit by multiple disasters", *The Asean Post*, 2018, https://theaseanpost.com/article/southeast-asia-hit-multiple-disasters.

Notwithstanding ASEAN's success at establishing and activating regional systems for disaster response, there are challenges to realising AADMER's vision of institutionalising disaster management in the region. AADMER envisions the AHA Centre as central to all stages of the disaster management cycle in the region. More than just building response capacity, the current AADMER Work Programme (2016-2020) focuses on building disaster-resilient communities in ASEAN in response to future disasters. It places greater emphasis on areas such as enhancing risk assessments and improving risk awareness, building disaster-resilient infrastructure and services, establishing regional risk financing and insurance frameworks and developing capacity for post-disaster recovery. But, the AHA Centre is primarily a disaster responder; its strengths are in providing a platform for information sharing between ASEAN Member States and their partners, response capacity building and coordinating interventions on the ground during an emergency. Recent engagement with

representatives of the AHA Centre inform the writers that in responding to the multiple disasters this year, the AHA Centre's material and personnel resources have been stretched.

Floods in Laos

On 23 July 2018, a saddle dam that is part of the Xe Pian-Xe Nam Noy hydropower project in Laos collapsed and let out five billion cubic litres of water into the Attapeu region. It washed away entire downstream villages, led to the evacuation of more than 1000 families,[4] and destroyed critical infrastructure including roads. It was reported that early warning to villages in Attapeu were issued only three to four hours before the dam burst.[4] Tides from the dam also washed into neighbouring Cambodia and an estimated 25,000 people in the northern Cambodian province of Stung Treng were evacuated.[4] SK Engineering & Construction, a South Korean firm that is part of the joint venture to build the dam has called the collapse an "accident" and had warned Laotian authorities about the possibility of a breach.[4] The collapse of the dam coincided with rainfall brought by tropical storm Son-Tinh in July 2018 which flooded 349 villages in 41 districts of 10 provinces in Laos.[4] The AHA Centre reported that 42.36 sq.km, of which 32.53 sq.km are agricultural land was inundated. Within the flooded area, 302 buildings and 31.5 km road length were submerged.[4]

Expanding the AHA Centre's role beyond response to include post-disaster recovery programmes would require substantial investment in material and personnel resources. At the moment, ASEAN Member States make a mandatory contribution of USD90,000[8] each to the AHA Centre budget. ASEAN Member States also make voluntary contributions in funds and in kind. For instance, Indonesia provides the office space for the AHA Centre office and Malaysia contributes storage facilities for DELSA. But, 92% of the total costs for AHA Centre programmes and operations in 2017 was funded by ASEAN Dialogue Partners.[9] ASEAN is aware of the need to secure the financial future of the AHA Centre. The ASEAN Vision 2025 on Disaster Management which charts the strategic direction for disaster management in the region identifies finance and resource mobilisation as a key challenge to the implementation of AADMER.[10] As it is unlikely that ASEAN Member States would substantively increase the level of mandatory contributions in the near term to the AHA Centre, ASEAN needs to explore other innovative financial sourcing strategies. This includes building partnerships with the private sector and tapping onto capital markets. The potential for leveraging funds from the capital markets is discussed in the section below.

[8] Kannan, Hashini Kavishtri and Suhaila Shahrul Annuar, "ASEAN Agrees to Increase Fund for Disaster Management", 2018, https://sg.news.yahoo.com/asean-agrees-increase-fund-disaster-111206964.html.
[9] AHA Centre, "Annual Report 2017", 2017, https://ahacentre.org/wp-content/uploads/2018/06/AHA-Centre-Annual-report-2017.pdf.
[10] ASEAN Vision 2025 on Disaster Management, http://www.asean.org/storage/2012/05/fa-220416_DM2025_email.pdf.

Secondly, the effectiveness of regional disaster management mechanisms depend substantially on national capabilities. The response to the recent spate of disasters in the region shows that the institutionalisation of disaster management and response capabilities among ASEAN Member States are uneven. In Laos, the inadequacy of early warning systems was exposed when flood survivors said that they received no warning or instructions for evacuations before the collapse of the dam. Despite being aware of the risk, it was reported that the only warning from Vientiane came in the form of "a message on a piece of paper with a map telling residents to be careful, not to evacuate".[11] In Lombok, relief efforts in the aftermath of a 6.9 magnitude earthquake was said to be hampered by the lack of heavy lifting equipment, with rescuers being forced to dig by hand. This also hindered the removal of debris from damaged roads.[12]

Lombok earthquakes and aftershocks

A series of moderate and strong earthquakes hit Lombok Island, West Nusa Tenggara (NTB), Indonesia between 29 July 2018 and 19 August 2018. Following the first magnitude 6.4 earthquake on 29 July, the NTB Governor declared an emergency response period that lasted until 11 August. This was subsequently extended to 25 August. The Government of Indonesia and the country's National Disaster Management Authority (BNPB) have officially declined international assistance on the basis that national capacity and resources were sufficient to support emergency response and recovery led by the Provincial government.[4] At the end of the emergency period, BNPB reported that the total number of fatalities were 561 and that over 430,000 people were displaced. It also put the value of loss and damage at IDR7.7 trillion.[4]

AADMER places the biggest onus for institutionalising the agreement on ASEAN Member States. NDMOs who are represented on the ASEAN Committee of Disaster Management (ACDM) drive the implementation of AADMER and the prioritisation of the items on the AADMER Work Programme at the regional level and are the national focal points for the implementation of AADMER at the national level. But, monitoring national progress in implementation is challenging. The gap between regional and national disaster management capacity suggests that AADMER is largely seen and implemented as a regional project, with more limited impact on national disaster risk management frameworks. There is room for NDMOs to consider how it can align national disaster management goals with regional ones and better leverage regional resources for national capacity building in technical and operational aspects of disaster management. Doing so would position national disaster management stakeholders for a more localised approach to disaster management.

Localisation: Moving from Rhetoric to Practice

This brings us to the next point – the localisation of disaster management in ASEAN. The localisation agenda was one of the key discourses that came out of the World Humanitarian Summit (WHS) in 2016. The WHS pushed for sustained investment in local capacities, and the continued reinforcement of national and local systems. In the recent ASEAN Strategic Policy Dialogue on Disaster Management, it was heartening to note that participants and practitioners alike recognised the importance of a Community-Based Disaster Risk Management (CBDRM) approach, as well as whole of

[11] Pichayada Promchertchoo, "Bodies, mud and destruction: Rescuer describes bleak aftermath of Laos dam collapse", *Channel News Asia*, 2018, https://www.channelnewsasia.com/news/asia/laos-dam-collapse-sanamxai-destruction-aftermath-attapeu-10578460.
[12] Kate Lamb and Luke Harding, "Indonesia earthquake: lack of equipment hampers rescue efforts", *The Guardian,* 2018, https://www.theguardian.com/world/2018/aug/06/indonesia-earthquake-lack-of-equipment-hampers-rescue-efforts.

society approach in disaster risk reduction.[13] While countries and humanitarian organisations in the region are starting to embrace this concept, much more needs to be done at a faster pace.

As mentioned before, in the recent Laos dam disaster, villagers in the Attapeu province of Laos received no warning before the hydropower dam collapsed. A spokesperson for the Mekong River Commission indicated that "[r]obust emergency preparedness plan[s] [should] include specification of roles and responsibilities of all parties when dam failure is considered imminent, as well as communication flow charts and contact lists for households at risk".[14] The Laos example highlights the importance of involving the people who are potentially affected by disasters in emergency preparedness planning.

Women should also be actively involved in emergency preparedness and response. The YAKKUM Emergency Unit runs programmes to help women protect their communities from disasters in Central Java and Yogyakarta.[15] It provides disaster training to women, teaching them first aid skills and evacuation procedures. Through this process, it seeks to raise awareness among the local community about the importance of robust preparedness measures and response mechanisms. Acknowledging the fact that Indonesian women are "often forgotten when a community draws up plans to deal with disasters"[16], YAKKUM hopes that women will be more involved in national disaster risk reduction strategies. Initiatives like these should be scaled up and adopted in other Southeast Asian countries.

Finally, a localisation agenda should be about the matching of capacities. As the WHS reiterates, it is not about replacing current national and local systems, but about reinforcing them.[17] International and regional humanitarian actors should adopt a people-centred, localised approach, and leverage on the comparative advantages of all actors. The International Federation of Red Cross and Red Crescent Societies, for example, works through its National Societies. Individual National Societies possess local knowledge and are aware of the nuances in specific countries. They also already have a presence in the countries. In the event of a disaster, the National Societies, along with other grassroots organisations, will be the first responders on the ground. Consequently, the emphasis should be on ensuring that these local actors are well equipped to deal with any disasters.

Institutionalisation and Localisation of Climate Change Adaptation Initiatives

It is important to build on the Sendai Framework for Disaster Risk Reduction 2015-2030, specifically regarding climate change issues. With the recent onset of floods in the region, much more needs to be done to integrate climate change adaptation initiatives into disaster risk reduction strategies.

Given the frequent occurrence of climate-induced disasters in Southeast Asia, the region has been making efforts to mitigate and adapt to the changing climate in the last decade. Climate change has indeed been given a space in relevant policies and regulations at the national level despite varying scope and priority areas across states. Measuring the degree of resilience that is resulted from climate adaptation initiatives is not an easy undertaking. There is no standardized format

[13] ASEAN, "ASEAN: Stronger Collaboration and Innovative Approaches Needed to Enhance Disaster Management Capabilities", 2018, http://asean.org/asean-stronger-collaboration-innovative-approaches-needed-enhance-disaster-management-capabilities/.
[14] Kelli Rogers, "Laos Dam Disaster Reignites Calls for Stronger Safety Systems", 2018, https://www.devex.com/news/laos-dam-disaster-reignites-calls-for-stronger-safety-systems-93198.
[15] Michael Taylor, "With Warning Drums and River Clean-ups, Indonesian Women Head Off Disasters", 2018, https://www.reuters.com/article/us-indonesia-disaster-women/with-warning-drums-and-river-clean-ups-indonesian-women-head-off-disasters-idUSKBN1I1036v.
[16] Ibid.
[17] Agenda for Humanity, "World Humanitarian Summit: Commitments to Action", 2016, https://www.agendaforhumanity.org/sites/default/files/resources/2017/Jul/WHS_Commitment_to_Action_8September2016.pdf.

to making such measurement. This is evidenced in the formulation of at least three different approaches namely vulnerability indicators, climate adaptation indicators and resilience indicators. The indicators may also adopt different conceptual frameworks by either monitoring and measuring the *process*, or focusing on the *outcome*. The former keeps track on the development of climate change plans at the national or local levels,[18] while the latter concerns more about the effectiveness of such policies[19] and the concrete advancement towards set objectives.[20] Regardless of different emphases and approaches, most countries in Southeast Asia have identified flooding as a common major risk that they face due to the changing climate.

Based on the *process* approach, Vietnam, Thailand, Lao PDR and Cambodia have increased their resilience through the enactment of climate-relevant policies in recent years as follows. Short of a dedicated climate change adaptation policy, Vietnam has promulgated a number of climate change-related policies including Central Party Committee's Resolution 24/NQ/TW (2013) on Responding to Climate Change, National Climate Change Strategy 2011, National Action Plan on "Climate Change 2012-2020, National Green Growth Strategy 2012, and National Action Plan on Green Growth 2014. Thailand has drafted a dedicated National Adaptation Plan 2015-2023 in complement of the National Strategy on Climate Change 2008-2012 and the Climate Change Master Plan 2012-2050. Similarly, Lao PDR has developed its National Adaptation Programme of Action (NAPA) and Strategy in Climate Change whereas Cambodia has come up with NAPA, National Climate Change Strategic Plan (2014-2023) and the National Policy on Green Growth Development and National Strategic Plan on Green Growth Development 2013-2030. In addition to national policies, Vietnam, Thailand, Lao PDR and Cambodia are part of the Mekong River Commission (MRC)'s Climate Change Adaptation Initiative (CCAI). Within the sub-regional grouping, these countries have consolidated their climate vision and are working on collective climate adaptation projects. According to the *process* approach, therefore, the sub-region is attempting to become climate resilient through these efforts.

While a *process-based* framework may suggest that Vietnam, Thailand, Lao PDR, and Cambodia have made progress in building climate resilience through their domestic policies and sub-regional efforts, an *outcome-based* framework shows that the scale of recent flooding in Vietnam, Thailand, Laos PDR and Cambodia may prove insufficient in withstanding current and future climate challenges.

Considering a series of large-scale flooding in different parts of Vietnam, Thailand, Lao PDR and Cambodia that affected thousands of people, damaged houses, farms and the environment in the last two months alone, it is timely to ask whether process indicators are sufficient to conclude that existing initiatives are adequate to meet current and future climate challenges. One of the most striking observations is in the apparent mismatch between the pilot sites for MRC CCAI's climate adaptation projects and the areas impacted by the floods in Vietnam, Thailand, Lao PDR and Cambodia. There is an urgent need, therefore, to go beyond existing measures and expands climate adaptation efforts to cover more areas within the affected countries to shore up their disaster preparedness.

---

[18] Harley, Mike and Jelle van Minnen, "Development of Adaptation Indicators: European Topic Centre on Air and Climate change Technical Paper 2009/6. European Topic Centre", 2009, http://acm.eionet.europa.eu/docs//ETCACC_TP_2009_6_Adaptation_Indicators.pdf. http://eccaconf.tutech.eu/presentations/PDF/ECCA2013-9-6_4_1-Harley.pdf Accessed 27 August, 2018.

[19] Harley, Mike, Lisa Horrocks and Nikki Hodgson, "Climate Change Vulnerability and Adaptation Indicators. European Topic Centre on Air and Climate Change Technical Paper 2008/9", 2008, http://acm.eionet.europa.eu/docs/ETCACC_TP_2008_9_CCvuln_adapt_indicators.pdf.

[20] Natural England, "Climate Change Adaptation Indicators for the Natural Environment. Natural England Commissioned Report NECR038", 2010, http://publications.naturalengland.org.uk/publication/45007.

Financial Risk Management

The recent influx of disasters in the region has also drawn attention to the financial aspect of disaster risk management strategies. While the saving of lives during the onset of a disaster is an immediate priority, there is also a need to ensure that mechanisms are in place to help restore the livelihoods of the affected people. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) recently forecasted that disasters and natural catastrophes in the Asia-Pacific region could result in $160 billion in assets lost annually by the year 2030.[21] The consequences are potentially worsened given that only 8% of the region's losses are currently insured. Moreover, insurance penetration in emerging markets is still very low (less than 10%) compared to that of developed countries.[22] This section examines some of the factors behind the low insurance penetration in the South-East Asian region, and the importance of incorporating financial risk management into disaster risk reduction strategies.

The protection gap - the difference between insured losses and economic losses, or simply uninsured losses[23] – is widening in the region. In countries with inadequate disaster preparedness and mitigation plans, and where resilience is already low, this can mean that the cost of disasters on livelihoods are magnified. The magnitude 7.0 earthquake which hit Lombok, Indonesia on 5 August damaged tens of thousands of homes and displaced several hundred thousand people.[24] As of 13 August, the estimated economic toll of the earthquake, which considers damages to infrastructure and loss of productivity, has hit five trillion rupiah (S$471 million).[25] Evidently, this will place considerable financial strain on individuals and the government, as they have to bear the full brunt of this cost.

Low insurance penetration in developing countries can be attributed to a few factors. Affordability and lack of knowledge are probably two of the main reasons for a lack of insurance coverage at the individual level. Lower-income households, particularly those residing in rural areas, often cannot afford to pay for the insurance premiums. There is also a significant knowledge gap. A farmer residing in the Mekong region is more than likely to not have any experience with insurance, and thus will not understand its role in protecting them from the financial impact of disasters.[26] In such instances, personal experience with a disaster would be the main driver of insurance adoption; by then it would have been too late. Moreover, many communities expect their governments to render post-disaster assistance, particularly in the form of monetary aid.[27] This reduces the demand for private insurance.

Financial risk transfer and insurance should be part of a country's holistic disaster risk management strategy. In fact, at the regional level, steps have already been taken to implement risk pooling. In May 2018, Finance Ministers from Cambodia, Japan, Lao PDR, Myanmar and Singapore agreed to establish the Southeast Asia Disaster Risk Insurance

---

[21] United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), "Opening Statement at Innovative Financing for Disaster Risk Reduction in Asia-Pacific", 2018, https://www.unescap.org/speeches/opening-statement-innovative-financing-disaster-risk-reduction-asia-pacific.
[22] Ernst and Young, "Global Insurance Trends Analysis 2018", 2018, https://www.ey.com/Publication/vwLUAssets/ey-global-insurance-trends-analysis-2018/$File/ey-global-insurance-trends-analysis-2018.pdf.
[23] Thomas Holzheu and Ginger Turner, "The Natural Catastrophe Protection Gap: Measurement, Root Causes and Ways of Addressing Underinsurance for Extreme Events", The Geneva Papers on Risk and Insurance 43, No.1 (2018): 2.
[24] Associated Press, "Indonesian Earthquake Swarm Kills 12 People", 2018, https://www.news.com.au/world/asia/indonesian-earthquake-swarm-kills-12-people/news-story/31455f05fe609e4b6bf1e8611d1371f3.
[25] The Straits Times, "Lombok Quake Death Toll Rises to 436 as Economic Losses, Damage Hit $470 million", 2018, https://www.straitstimes.com/asia/se-asia/lombok-death-toll-rises-to-436-as-economic-losses-damage-hits-472m.
[26] Clyde and Co., "How Parametric Insurance can Help After Natural Catastrophes", 2016, https://www.clydeco.com/blog/insurance-hub/article/how-parametric-insurance-can-help-after-natural-catastrophes.
[27] Thomas Holzheu and Ginger Turner, "The Natural Catastrophe Protection Gap: Measurement, Root Causes and Ways of Addressing Underinsurance for Extreme Events", The Geneva Papers on Risk and Insurance 43, No.1 (2018): 5.

Facility (SEADRIF).[28] It is scheduled to be officially established by the end of the year. Primarily a regional facility to provide "advisory services at the national level to build and implement comprehensive disaster risk finance strategies,"[29] it also incorporates a regional catastrophe risk pool, which is slated to provide "participating countries in Southeast Asia affected by natural disasters with immediate rapid response financing."[30] As the first of its kind in Asia, it will aim to strengthen the resilience of its members against disasters. Sovereign risk pools in the Caribbean, Africa and the Pacific have shown their efficacy in helping transfer excess risk to the reinsurance and capital markets, thus mitigating some of the financial burdens brought about by disasters.[31] Lao PDR and Myanmar are expected to be the first beneficiaries of the catastrophe risk insurance pool. With both countries devastated by floods in recent times, it provides a great impetus to push for the operationalisation of the SEADRIF initiative.

Another proposed solution is the use of parametric insurance. Traditional insurance usually requires the insured party to file a claim, before the company sends someone to assess the value of the insured's loss.[32] This is a lengthy process which slows down the release of a claim payment.[33] The nature of the disaster and the damage it inflicts can also hinder the claim process. In a flood for example, it will be difficult to place a dollar sum on property and livestock that have been swept away. In contrast, parametric insurance operates on a model of predicted loss that the insured will occur in a disaster. Once a set of pre-determined threshold parameters are met such as an earthquake of a certain magnitude, or a certain amount of rainfall, then the insurance product provides an automatic payout to the insured parties.[34] Both the parameters and the sum of the payout are based on quantitative data provided by recognised third party entities.[35] The National Catastrophe Data Analytics Exchange (NatCatDax) project in Singapore, for example, uses satellites and drones to collect building images and extrapolate them to calculate potential economic exposure and losses. This data is then used to inform stakeholders and policymakers from both the public and the insurance sectors to create sustainable, robust solutions to address the disaster protection gap. Through the use of satellite images and sensors, post-disaster insurance claims can be processed more efficiently. Payouts can be disbursed quickly without the need to send loss surveyors to the sites. Moreover, it removes the need for the buyer of the insurance coverage to document the losses, which speeds up the payment claims process.[36]

Southeast Asian countries have taken steps to address the issue of financial risk accrued during disasters. However, as the past few months have demonstrated, disaster risk is quickly outpacing resilience. There is an urgency to accelerate initiatives such as SEADRIF in the region. Coordinated efforts need to be undertaken by the different stakeholders and sectors. Partnerships between national governments, the insurance industry, international organisations, and grassroots

---

[28] Ministry of Finance, Singapore, "Joint Statement of the Finance Ministers' Meeting on the Establishment of the Southeast Asia Disaster Risk Insurance Facility", 2018, https://www.mof.gov.sg/aseanfinance2018/newsroom/press-releases/joint-statement-of-the-finance-ministers-meeting-on-the-establishment-of-the-southeast-asia-disaster-risk-insurance-facility-(seadrif).

[29] Ibid.

[30] The World Bank, "Southeast Asian Countries Reach Milestone Agreement to Strengthen Resilience", 2017, http://www.worldbank.org/en/events/2017/05/05/southeast-asian-countries-reach-milestone-agreement.

[31] The World Bank, "What Makes Catastrophe Risk Pools Work: Lessons for Policymakers", 2017, http://www.worldbank.org/en/news/feature/2017/11/14/what-makes-catastrophe-risk-pools-work.

[32] Nigel Brook, "Legal Perspective: Increasing Awareness of Parametric Insurance", 2016, https://www.commercialriskonline.com/legal-perspective-increasing-awareness-of-parametric-insurance/.

[33] Ibid.

[34] Clyde and Co., "Parametrics: Closing the Protection Gap", 2016, https://www.clydeco.com/blog/insurance-hub/article/parametrics-closing-the-protection-gap.

[35] Ibid.

[36] Nigel Brook, "Legal Perspective: Increasing Awareness of Parametric Insurance", 2016, https://www.commercialriskonline.com/legal-perspective-increasing-awareness-of-parametric-insurance/.

leaders are essential for the successful implementation of disaster risk insurance schemes.[37] Governments can provide tiered subsidies to people from all income brackets, thus incentivising enrolment in disaster insurance schemes. They can also provide oversight over the insurance industry to ensure fair and equitable products.[38] The insurance sector should strive to offer innovative insurance solutions to consumers, while making it a point to share risk data and information with policymakers.[39] International organisations, or in ASEAN's case, regional organisations, can help to facilitate regional risk pooling mechanisms and programmes. Finally, grassroots leaders should be involved in the process as well. They can act as intermediaries between their communities and the bigger stakeholders, namely the government and insurance companies. Outreach activities can help to raise awareness among individuals at the rural level.

While insurance is definitely not the be-all and end-all of disaster risk management – one can never put a price on a human life – it certainly plays an important role in ensuring the mitigation of natural catastrophe risk. The funds from insurance payouts can help survivors rebuild their homes and work towards restoring their pre-disaster livelihoods. At the national level, payments from regional risk pools can ease some of the financial burden of governments. As mentioned earlier, the economic toll of the Lombok earthquake so far is hovering around the three trillion rupiah mark. In such an instance, parametric insurance schemes with fast payout structures would definitely have provided the Indonesian government with some form of financial protection and respite.

CONCLUSION

In the face of multiple catastrophes and burgeoning risk in the region, the need for robust disaster management and risk reduction mechanisms becomes even more apparent. ASEAN has made much progress in terms of institutionalising disaster management in the region. However, the recent spate of disasters have stretched regional and national capacities to the limit, and in the process, exposed some of the fragilities and limitations of the current humanitarian system in the region.

While institutional policies and frameworks at the regional level tend to get a lot of attention, it is important that policymakers do not neglect capacity at the national and grassroots levels. There is still much room for NDMOs to leverage regional resources for national capacity building. Local organisations could also benefit from more support – in the form of resources, media coverage and training – as they strive to develop more robust policies and systems. Climate change adaptation initiatives also need to be better incorporated into disaster preparedness efforts.

The huge economic losses stemming from the multiple disasters also necessitate a drastic re-evaluation of the way financial risk is managed in the region. Engagement with the private sector, particularly with insurers and reinsurers, should be a policy imperative. The private sector can help national governments implement disaster risk financing tools and build up financial resilience. Post-disaster rebuilding efforts are very costly. Coupled with the fact that insurance markets are still very much under-developed in many developing countries in the Southeast Asian region, affected communities are placed under considerable financial strain. Insurance allows countries to transfer some of the financial risk to the capital market and the private sector, thereby lifting some of the burden off governments and affected populations.

---

[37] United Nations Development Programme, "Financing Solutions for Sustainable Development: Disaster Risk Insurance", undated, http://www.undp.org/content/sdfinance/en/home/solutions/disaster-risk-insurance.html.

[38] Ibid.

[39] Ibid.

The region cannot afford to let disaster management mechanisms and standards lapse, lest disaster risk will outpace resilience in the region. States in the region have already demonstrated their commitment to reinforcing regional and national disaster management capacities. However, they are still in the process of finding ways to integrate local capacity into the regional disaster management architecture. They have also begun to explore options to mitigate the financial risks that accompany disasters. The challenge now is for them to strengthen and implement these mechanisms before the next inevitable series of disasters hit the region.

About the Centre:

The Centre for Non-Traditional Security Studies (NTS Centre) conducts research and produces policy-relevant analyses aimed at furthering awareness and building capacity to address NTS issues and challenges in the Asia-Pacific region and beyond. The centre addresses knowledge gaps, facilitates discussions and analyses, engages policymakers and contributes to building insti- tutional capacity in the following areas: Humanitarian Aid & Disaster Relief; Food, Health and Energy Security; Climate Change, Resilience and Sustainable Development; and Peace, Human Security and Development. The NTS Centre brings together myriad NTS stakeholders in regular workshops and roundtable discussions, as well as provides a networking platform for NTS research institutions in the Asia-Pacific through the NTS-Asia Consortium, for which it is the founding secretariat.

More information on the NTS Centre and a complete list of available publications, policy papers and reports can be found on the NTS Centre website at: www.rsis.edu.sg/research/nts-centre.

For more information on the NTS-Asia Consortium, please log on to: http://www.rsis-ntsasia.org/.