



## ASEAN Socio-Cultural Community POLICY BRIEF

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### EXECUTIVE SUMMARY

- ASEAN should advance a more integrated Loss & Damage (L&D) assessment between disaster management and climate change (environment) sectors. Before advancing L&D-related actions, more foundational work is needed in the region for the integration of disaster risk reduction (DRR) and climate change adaptation (CCA) policies to break down silos and ensure coherent risk reduction measures.
- The integration of disaster risk reduction and climate change adaptation for addressing L&D within ASEAN Member States is feasible but requires DRR and CCA communities to seek common operational ground, in particular, to revisit and redefine their operations to address L&D.
- Novel risk transfer and risk retention instruments have emerged and shown progressive development with notable initiatives in the region to help communities and local stakeholders to better prepare for the inevitable climate impacts before climate disasters occur.

### POLICY RECOMMENDATIONS

- The convergence of CCA-DRR needs to be strengthened at the national level through regulatory frameworks. Regional initiatives could encourage and motivate ASEAN Member States to expedite this convergence.
- Building synergies with local stakeholders will be essential to build better risk information systems that can facilitate L&D estimation and arrive at coherent CCA-DRR actions.
- Investments are necessary to enhance capabilities and technologies to expand L&D data collection across levels.
- Adaptive social protection systems is necessary to support vulnerable communities to prepare, cope, and adapt to shocks.

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## Climate-related Loss and Damage and its Implications for Disaster Risk Reduction in ASEAN

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### Introduction: Increasing Recognition of Loss and Damages

Addressing climate-related loss and damage (L&D) will become more relevant and urgent in the coming years. The global average temperature edges closer to 1.5°C above the pre-industrial level. When it does, there will be more devastating and frequent hydrometeorological phenomena that go far beyond the current capacities of the human system to handle. Addressing the impacts becomes the most important concern in the climate policy arena, especially in establishing financing facilities and mechanisms.

Although there is no consensus on the working definition, L&D is often considered as residual impacts that, despite adaptation efforts, show up as negative, unavoidable and irreversible consequences of climate change due to the magnitude of the hazard and deep-rooted vulnerability. It is beyond the capabilities of human and ecological systems to cope with frequent and intensifying climate extreme events (WFP, 2014; Roy et al., 2018). The Intergovernmental Panel

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on Climate Change (IPCC) (2018) considers losses and damages as harm from (observed) impacts and (projected) risks, that include economic and non-economic, although the latter is often hard to quantify in monetary terms (e.g., biodiversity losses and cultural heritage) (IPCC, 2018).

The discourses of addressing L&D have now attracted significant attention. The Conference of Parties (COP) 19 established the Warsaw International Mechanism (WIM) to promote the understanding of L&D approaches, enable stakeholder dialogues, and enhance actions for addressing L&D. Later, the Paris Agreement urged the United Nations Framework Convention on Climate Change (UNFCCC) parties to act on loss and damage (Article 8), including enhancing understanding of L&D and related actions, such as early warning systems and risk insurance facilities. Strong voices are coming from Small Island Developing States (SIDS) and Least Developed Countries (LDCs) to push for liability and compensation for L&D as they contribute least to exacerbating climate change and have the lowest carbon emissions but pay the highest price. Recently, the Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum has prepared for establishing a funding facility for addressing L&D (V20, 2022). And most recently, the COP27 in Egypt agreed to set up a landmark L&D fund with a transitional committee set up to look into the composition, mandate and timelines of operationalizing the fund.

Despite the promising progress at the global level, there are challenges in implementing the agenda at the national or lower level. An estimated one-third of recent nationally determined contributions (NDCs) involve L&D, and half of these are those of SIDS and LDCs (UNDP, 2021). Additionally, few clearly outline knowledge creation, policy programs, and institutional arrangements to address L&D. These suggest while there is a clear

and urgent need for addressing loss and damage, stronger commitment and blueprints are needed to push forward the actions at the national level, particularly from large greenhouse gases emitter countries. At the operational level, addressing L&D is a cross-cutting issue between communities working for disaster risk reduction (DRR) and climate change adaptation (CCA). Some aspects of both policies can complement each other to support the actions, but some can block efforts. Thus, more efforts should be devoted to redefining and synchronising L&D principles from both policy domains.

This policy brief aims to discuss potential ASEAN roles in understanding and utilising recent development in L&D in the region. The following part highlights the status of the integration of DRR and CCA policies and how it could help both practitioners and policymakers reconsider their current approaches in addressing L&D for more effective and efficient implementation at the practical level. Here, the brief focuses on how it affects the L&D measurement and highlights potential existing approaches in ASEAN that are already available to address L&D at the local level.

## **The Integration of Climate Change Adaptation and Disaster Risk Reduction Policies in ASEAN: Implications on Understanding L&D**

Integrating DRR and CCA is the key to addressing L&D. Both share similar approaches to increase resilience through risk identification, risk transfer, and mitigation, but they have distinct features in doing so, including methodologies, funding mechanisms, and authorities. DRR players usually use the post-disaster DaLA (Damage and Loss Assessment) methodology to assess economic losses and physical damages to assets and infrastructures. It is often considered part of the Post-Disaster Need Assessment (PDNA) as a basis

for short-term and long-term recovery. Actors working on DRR tend to focus on present risks while the other side estimates future risks with changing climatic factors.

There are some opportunities to combine their approaches to take more effective and efficient action on L&D. However, in ASEAN member states, CCA and DRR policy implementation remains separate and lacks a unified policy and institutional framework to integrate the principles, means and resources of both to make this possible. The Philippines and Indonesia have two different laws for each stream, leaving two agencies working separately to implement regulatory mandates. Consequently, this arrangement separates institutional arrangements and policy instruments. Such arrangements lead to incoherent risk management approaches, including in conducting L&D assessments due to differences in standardised measurement methods, lack of data to support the existing and projected risk profile, sectorally dispersed data and data mismatches.

In terms of data, all member states already have a meteorological data management system and some national initiatives have been done at the national level to incorporate baseline and projected climate data into risk or impact assessment, including in Indonesia, Malaysia, and the Mekong Delta region in Viet Nam. However, these are not supported with integrated risk-information systems because of a lack of cross-sectoral coordination of data and information between ministries and agencies, which creates data gaps. For example, Indonesia has different databases that can provide climate-related and disaster impact and risk data input for calculating L&D, including tools such as DIBI, InaRISK, SIDIK. Nevertheless, there exists no integration among them to facilitate climate-driven L&D yet. Some ASEAN Member States

can downscale the data to make climate risk information available for DRR and CCA planning at

the local level, including Indonesia, Malaysia, the Philippines, Singapore, and Viet Nam. Furthermore, the existing instruments for assessing risk or L&D are yet to be fully probabilistic approaches that can determine the likelihood of a number of different events.

In terms of methodological approaches, some agencies have their own standards to measure L&D and even still do not have one. For instance, there are potential overlapping between DaLA methodology (National Disaster Management Authority – Badan Nasional Penanggulangan Bencana (BNPB) regulation 15/2011) and climate impact assessment (Ministry of Environment and Forestry Regulation 7/2018)) in Indonesia although the former does not include climate variability data. Similarly, in the Philippines, its DRR law regulates the use of PDNA only after a disaster occurs while no specific guidance on L&D is written in its climate change law (GOP, 2010)<sup>2</sup>

The chances of integration within the national level have been proven feasible when the DRR and CCA players seek common ground to revisit and redefine their operations for addressing L&D. The Philippines encountered a similar problem in that different organizations manage such databases separately. However, the Government of the Philippines has taken steps to accommodate L&D measurements for climate-driven hazards. The National Economic and Development Authority (NEDA) published the rehabilitation and recovery planning guide that includes instructions to combine data from different databases to create disaster scenarios that could occur in a specific area. The scenarios cover potential damage, losses, and impacts. These are prepared by local governments with technical support from various agencies, including the Philippine Atmospheric Geophysical and

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<sup>2</sup> <https://www.officialgazette.gov.ph/2010/05/27/republic-act-no-10121/>



Astronomical Services Administration (PAGASA). Moreover, the government established GEORiskPH, a centralized hazard and risk information database, to assess the likelihood of the consequence of different hazards. It is still building the system to incorporate analytics for impact-based forecasting based on PAGASA-collected data.

## **Policy Options to Address Loss and Damage in ASEAN: the Potential of Risk Retention and Risk Transfer Instruments**

Addressing climate-related loss and damage (L&D) will become more relevant and urgent. Integrating DRR and CCA is the key to addressing L&D. Both share similar approaches to increase resilience through risk identification, risk transfer, and mitigation, but they have distinct features. Beyond funding for physical reconstruction, governments in the region typically retain risks of rapid and slow-onset climate events with social assistance programs so the affected communities can immediately ease their burdens and restart their activities. Indonesia, Myanmar, Viet Nam, Cambodia, and the Philippines have legal frameworks for deploying such social protection instruments in the case of disasters, and experience in providing unconditional cash transfers and food assistance (ILO, 2015). The Philippines utilized the Catastrophe-Deferred Drawdown Option (CAT-DDO) on a Development Policy Loan (DPL) as a contingent financing instrument for the Pantawid Pamilyang Pilipino Program (4Ps) that delivered cash-for-work and cash-for-asset rebuilding in the post-Typhoon Yolanda recovery (World Bank, 2017). Not all ASEAN Member States have social protection programs that can be used in emergency or recovery phases. By 2018, Lao PDR had no nationwide regular social assistance instruments that provided cash benefits or in-kind assistance, and its spending on social protection was the lowest among ASEAN Member States (WFP, 2021).

Meanwhile, risk transfer can offer financial protection to those insured for their physical assets and livelihood against climate shocks. However, its contribution to addressing L&D is still underdeveloped in the region. In 2018, five ASEAN Member States and Japan established the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) to provide the regional catastrophe risk insurance pool that facilitates ASEAN member countries to secure financial resources through affordable parametric insurance solutions before a disaster strikes (World Bank, 2020). The earliest SEADRIF's financial solution is a flood risk insurance pool for Lao PDR and Myanmar with technical assistance from the World Bank's Disaster Risk Financing & Insurance Program (DRFIP). SEADRIF has its risk monitoring tool, which uses various data sets to determine near real-time magnitudes of a flood and its potential impacts. It becomes the basis for the SEADRIF Insurance Company to determine the pay-out.

At the same time, the penetration of market-based disaster insurance is low and less widespread in Asia in general (ADB, 2016). However, some initiatives have been started to expand parametric weather index insurances to offer affordable premiums and pay out benefits based on pre-determined indexes such as precipitation level for loss of productive assets due to extreme events. Indonesia and Thailand have initiated its weather index insurance with the assistance of the World Bank to offer this approach for maize farmers (World Bank, 2011).

## **Existing Opportunities and Obstacles for Addressing L&D in ASEAN**

Based on the existing conditions above, some opportunities and obstacles should be addressed to turn L&D policies in the region into reality.

The convergence of DRR and CCA receives more attention to support L&D policies but perhaps the most challenging one to implement. Nevertheless, there is some encouraging developments in the convergence of DRR and CCA for addressing L&D at the policy level. At regional level, The ASEAN Committee on Disaster Management (ACDM) and ASEAN Senior Officials on Environment (ASOEN) have facilitated the integration of DRR and CCA in ASEAN Member States that are usually governed separately under the leadership of different institutions. There is evidence that ASEAN Member States have tools that can be merged, such as risk or L&D assessment tools and risk information databases.

Experience shows that the coordination mechanism has been done through a coordinating agency that can convene multiple agencies from different levels of government to set up the policy dialogues and interlinked mechanism and one coordination mechanism agreed between DRR and CCA governing institutions (MEFI, 2017). At the regional level, ASEAN has started an initiative<sup>3</sup> to demonstrate the integration of climate change projection into flood and landslide risk assessment for land use planning. It is expected to provide lessons and experience that can guide to incorporate the climate change dimension in the decision-making process of reducing risks in a river basin scale in the region.

Technological advancement and maturity are the critical building blocks to assess risks, reduce risks, and recover from L&D. Understanding the present and future state with the help of technologies is a pre-requisite to start addressing L&D. As shown

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3 The ASEAN Project on Disaster Risk Reduction by Integrating Climate Change Projection into Flood and Landslide Risk Assessment (ASEAN DRR-CCA) is an initiative under the ASEAN Committee on Disaster Management Working Group on Prevention and Mitigation, supported by the Government of Japan through Japan-ASEAN Integration Fund (JAIF).

by the development of weather index insurance in Thailand, measuring L&D in near real-time conditions, is possible with the help of high-quality and timely data. It provides the basis for the company to estimate L&D and forms of protection. It comes in handy when the accessibility to remote sensing technology is available that accelerates risk assessment activities. High-resolution satellite imagery and digital elevation models can ease the analysis and visuals of spatial and temporal information that capture rapidly changing landscapes due to climate and slow-onset events.

Phase 2 of the ASEAN Disaster Risk Financing and Insurance (ADRFI) Programme was launched in 2019 to strengthen ASEAN's disaster risk management capabilities, including risk information and assessment<sup>4</sup>. One of the ambitions is to establish a new ASEAN Data and Analytics Platform that uses remote sensing technologies and produces economic exposure data, including the type of construction and building values. This opportunity should be anticipated whether it aims to integrate existing databases from different institutions.

Adaptive Social Protection (ASP) systems emerge as options amidst the rise of climate financing instruments. While social protection is traditionally designed to alleviate poverty and stimulate economic activities, ASP can help the poor and vulnerable communities prepare, cope with, and adapt to potential covariate shocks in the future. A few ASEAN Member States have started shifting the role of social protection systems from ad-hoc emergency responses during a crisis to more anticipative and shock-responsive systems. The Government of the Philippines launched the PH Social Protection Plan 2022 to target 'shock-

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4 ASEAN. "Launched: ASEAN Disaster Risk Financing and Insurance Phase 2". Statements. 2 August 2019. URL: <https://asean.org/speechand-statement/launched-asean-disaster-risk-financing-and-insurance-phase-2/> (accessed May 9, 2022).

responsive 4Ps' beneficiaries that are strengthened by climate and disaster risk information (D.o.t Philippines, 2020). Indonesia has also developed a roadmap for implementing ASP nationally, while some pilot projects have been started in several districts and cities (Joint SDG Fund, 2021). The emergence of sovereign pooling risk transfer can be the steppingstone to leveraging ASEAN and ASEAN Member States' efforts to enhance the implementation of ASP. However, it should be followed by a paradigm shift in utilizing social protection from responsive to a preventive one and designing social protection programs to support disaster preparedness and recovery.

## **Conclusion: The Ways Forward to Incorporate Climate and Disaster Loss and Damage Estimation in ASEAN**

This policy brief thus far has made sense of the effort towards achieving consistent L&D mitigation in ASEAN and how ASEAN can play a role in facilitating the adoption of L&D solutions in the region. In the ASEAN context, DRR incorporating climate-related loss and damages could introduce an expanded paradigm on the complexities and uncertainties of the hazards and risk landscape in the region. The harnessing of such an opportunity will require acknowledging the various potential climate-related risks scenario that exists within the region. The region also has to prepare for eventualities.

There are some key recommendations for ASEAN disaster management stakeholders and ASEAN Member States to facilitate the incorporation of L&D policies:

**1. The convergence of CCA-DRR needs to be strengthened at the national level through regulatory frameworks.** The frameworks to address methodological and administrative

barriers that impede the estimation of L&D. This includes the promotion of data interoperability across different available databases to enable easier and faster data generation and exchange in support of the L&D. The use of L&D assessment should eventually feed into long-term development and recovery planning. Thus, depending on the government structures, local actors need to get involved in promoting L&D policies.

**2. Building synergies with local stakeholders is required to build better risk information systems to feed L&D estimation and action.**

Some initiatives at the local level can be initiated to demonstrate and reveal opportunities/challenges as the basis to consolidate different risk information systems. This synergy can improve development cooperation led by ASEAN to perform effective and efficient humanitarian operations at the operational level.

**3. The investment should be directed to enhance capabilities and technologies to expand L&D data collection across levels.**

This investment could directly enhance the availability and quality of L&D data. It can help public authorities to identify, select, and reach vulnerable communities. It can also be beneficial to determine and timely deliver appropriate interventions at the local level. Naturally at the national level, an appropriate data governance regime would be critical and, at regional level. A framework for data exchange and protection should be defined. A low-hanging opportunity on this front is the expansion of the ASEAN Disaster Information Network to collect more variety and consistent data that could contribute to L&D estimation.

**4. Appraising the existing social protection systems is necessary to understand their capability to facilitate vulnerable communities to prepare, cope, and adapt to shocks.**

A robust L&D will only enhance the quality of planning and implementation of ASP for resilience building across levels. The initiation of ASP programs can be started by measuring existing national social protection systems to deal with potential climate-related shocks. The mapping can include evaluating

- (i) existing vulnerability criteria for selecting beneficiaries,
- (ii) current

- (iii) the coverage of social registry data,
- (iv) the interoperability of data related to social welfare,
- (v) existing financing strategies, and
- (vi) coordination among different organizations.

The results can suggest interventions that need to be invested in the existing system, including program design, data and information, finance, and institutional arrangement.

## References

- ADB.** (2016). *Disaster Risk in Asia and the Pacific: Assessment, Management, and Finance*. Asian Development Bank, Manila, Philippines. Retrieved from: <https://www.adb.org/publications/disaster-risk-asia-pacific-assessment-management-finance>
- D.o.t. Philippines.** (2020). *Philippines: Building Adaptive Capacity for Social Protection*. presented at the Joint Workshop on Strengthening Multi-Hazard Early Warning Systems and Early Actions in Southeast Asia, Bangkok, Thailand. Retrieved from: [https://www.unescap.org/sites/default/files/5\\_Hannah%20Giray%20Carcido%20Philippines.pdf](https://www.unescap.org/sites/default/files/5_Hannah%20Giray%20Carcido%20Philippines.pdf)
- Masson-Delmotte, Zhai, P., Pörtner, H.-O., Roberts, J., Skea, P., Shukla, R. et al.,** (2018). Annex I: Glossary [Matthews, J.B.R. (ed.)]. in *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Eds., ed: IPCC. Retrieved from: <https://www.ipcc.ch/sr15/chapter/glossary/>
- Joint SDG Fund.** (2021). *Joint SDG Fund for Adaptive Social Protection and COVID-19 Multi-partner Trust Fund*. Retrieved from: <https://indonesia.un.org/sites/default/files/2021-06/Newsletter%20Joint%20SDG%20Fund%20COVID-19%20MPTF%20-%20April%202021.pdf>
- MEFI-Ministry of Environment and Forestry of Indonesia.** (2017). *Konvergensi Adaptasi Perubahan Iklim dan Pengurangan Risiko Bencana (API-PRB) - The convergence of climate change adaptation and disaster risk reduction (CCA-DRR)*. Ministry of Environment and Forestry of Indonesia, BNPB, and UNDP, Jakarta. Retrieved from: <https://bnpb.go.id/berita/konvergensi-adaptasi-perubahan-iklim-dan-pengurangan-risiko-bencana>
- Roy, J., P. Tschakert, H. Waisman, S. Abdul Halim, P. Antwi-Agyei, P. Dasgupta, B. Hayward, M. Kanninen, D. Liverman, C. Okereke, P.F. Pinho, K. Riahi, and A.G. Suarez Rodriguez.** (2018). *Sustainable Development, Poverty Eradication and Reducing Inequalities*. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 445-538. Retrieved from: doi:10.1017/9781009157940.007.
- V20.** (2022). *V20 Ministerial Communique: Ministerial Dialogue VIII of the Vulnerable Twenty (V20) Group*. ed: Vulnerable Twenty Group. Retrieved from: <https://www.v-20.org/activities/ministerial/ministerial-dialogue-viii-of-the-vulnerable-twenty-group-21-april-2022>

- World Bank.** (2017). Philippines - Disaster Risk Management Development Policy Loan with a Catastrophe Deferred Drawdown Option (CAT-DDO). World Bank, Philippines. Retrieved from: <https://reliefweb.int/report/philippines/philippines-disaster-risk-management-development-policy-loan-catastrophe-deferred>
- World Bank.** (2020). Southeast Asia Disaster Risk Insurance Facility (SEADRIF): Strengthening Financial Resilience in Southeast Asia Project Information Document (PID). World Bank. Retrieved from: <https://documents1.worldbank.org/curated/en/772221601306153071/pdf/Project-Information-Document-Southeast-Asia-Disaster-Risk-Insurance-Facility-SEADRIF-Strengthening-Financial-Resilience-in-Southeast-Asia-P170913.pdf>
- WFP-World Food Programme.** (2014). Loss and damage: repairing shattered lives. Black and White Paper Series. Bangkok: World Food Programme. Retrieved from: <https://www.wfp.org/publications/loss-and-damage-repairing-shattered-lives>
- WFP & Oxford Policy Management.** (2021). Strengthening the capacity of ASEAN Member States to design and implement risk-informed and shock-responsive social protection systems for resilience: Lao PDR case study. Bangkok: World Food Programme. Retrieved from: <https://www.wfp.org/publications/strengthening-capacity-asean-member-states-design-and-implement-risk-informed-and>



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