

Southeast Asia needs to improve disaster resilience

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(LR) Dr Lauriane Chardot, Research Fellow, lead author of the NTUCOP26 Report, and Professor Benjamin Horton, Director of the Singapore Earth Observatory at NTU. Credit: Nanyang Technological University

A group of scientists led by Nanyang Technological University (NTU Singapore) and the University of Glasgow in Singapore have announced various disaster risk mitigation strategies and policies in ASEAN, a region at risk of multiple natural disasters that are exacerbated by the climate. .. Change.

Their report is from ASEAN **dangerous** By 2050, climate change and natural disasters will have lost more than 35% of GDP, affecting human health and labor productivity as well as major sectors such as agriculture, tourism and fishing.

The region is also expected to see hotter weather, longer monsoon seasons and increased droughts as global temperatures are projected to rise 1.5 ° C above pre-industrial levels over the next 20 years.

By 2050, sea level is also projected to rise by at least 25 centimeters compared to 2000, and scientists feel the greatest impact in ASEAN due to

the number of people living in lowland coastal areas. I warned that it would be.

A report entitled "Adaptation and Resilience in ASEAN: Managing Disaster Risk from Natural Disasters" calls for strong government policy development to increase resilience and focus on climate change readiness in the 2021 UN Climate. Announced prior to the Floating Conference (COP26), it will be held from October 31st to November 12th, 2021.

1. To build ASEAN's resilience to the consequences of climate change, a team of scientists advised:
2. Understanding the root causes of disaster risk should be a priority
3. Disaster risk reduction in ASEAN needs to focus on the circumstances, needs and priorities of economically disadvantaged and marginalized people
4. Need to support institutional mechanisms to assess and respond to changing patterns of greater uncertainty and disaster risk
5. All disaster risk mitigation measures should be considered systematically and on an equal footing to ensure that the best set of measures to mitigate risk in the long run is selected.
6. Transparency, accountability, and enforcement of financial standards and regulations are needed to better allocate funds among disaster response, recovery and preparedness, and resilience building efforts.

Dr. Lauriane Chardot, EOS Research Fellow at NTU, the lead author of the study, said: It will be considered by the policy makers of COP26. We have drawn attention to the importance of adapting to climate change in order to mitigate disaster risk and increase resilience at the sub-national, national and regional levels. "

Professor Benjamin Horton, director of NTU's Singapore Earth Observatory (EOS), who led the project, said: **sea level rise**, Dramatic increase in heat and humidity, extreme precipitation, landslides and droughts. This threatens ASEAN's progress in human development and poverty reduction over the last few decades. Therefore, disaster risk mitigation in ASEAN requires a set of policies, including livelihood support, effective emergency relief, and social protection. "

Professor Fabris Renault of the University of Glasgow's Faculty of Interdisciplinary Research, who co-led the project, said: It is essential to characterize risk from multiple hazards on a subnational scale in order to provide region-related adaptation measures, sustainably reduce risk and avoid maladaptation.

The ASEAN Report was co-led by scientists from NTU's Singapore Earth Observatory and the University of Glasgow.

It is a series of reports issued by the UK High Commission to Singapore prior to COP26 and more than 80 universities in the UK and Singapore to discuss opportunities and challenges in the transition to a more environmentally friendly economic post in Southeast Asia. It is part of the COP26 University Network, which consists of. COVID-19 (new coronavirus infection.

Researcher at the University of York, Heriot-Watt University, Malaysia, UK. Vietnam National University and ASEAN Secretariat also contributed to the report.

This report is also consistent with the NTU Sustainability Manifest. This manifest aims to promote a wide range of sustainability initiatives over the next 15 years and to solidify the university's position as a global leader in sustainability.

Assessment of ASEAN vulnerability

An important focus of the report argues that policies to mitigate disaster risk should focus on the vulnerability of infrastructure, ecosystems, and social groups throughout ASEAN.

Climate change affects ecosystems and agricultural activities through changes in rainfall patterns and temperatures. The Global Climate Risk Index, which calculates the effects of extreme weather events, ranked Myanmar (2nd), Philippines (4th) and Thailand (9th) as the top three risk countries from 2000 to 2019. On the other hand, Brunei Darussalam (176th) and Singapore (179th) were ranked as the least risky.

The report emphasizes that climate change has a strong impact on the poor in ASEAN and may cancel ASEAN's efforts to reduce poverty and promote human development over the last three decades. According to a recent

report by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), up to 96% of the region can be affected by drought and up to 64% can be affected by extreme drought.

Extreme weather events are also a serious concern for the livelihoods of the ASEAN population. This is because the productivity of the ASEAN agricultural sector depends on the predictable climate and environment.

Natural disasters in ASEAN affect the agricultural sector by damaging the physical assets and infrastructure of agriculture and disrupting the flow of the agricultural economy. For example, the Philippine typhoon Haien killed at least 6,350 people, submerged crops for about 16 hours, devastated about 600,000 hectares of farmland, lost 1.1 million tonnes of crops, and adversely affected livelihoods and food supply chains. Caused. regional.

The report shows how to mitigate the effects of a disaster **Natural disasters** Climate change is the conservation of the region's ecosystems, including mangroves, wetlands, coral reefs and tropical forests, while preserving the rich biodiversity of ASEAN.

Preparation is the key

The report has made a lot of progress in preparing for the effects of climate change, including regional climate forecasts, but due to limited progress reports, it thoroughly assesses regional disaster preparedness. It says it can't.

Dr. Chardot added: "In designing and implementing adaptation and resilience building initiatives, this study encourages ASEAN to promote the involvement of multiple stakeholders. EOS's current sea level rise research involves multiple universities. , The EOS Advanced Rapid Imaging and Analysis—Singapore (ARIA-SG) program involves multiple stakeholders to improve disaster response. Such initiatives should be supported. "

The ARIA-SG program was established in 2018 at NTU's EOS in collaboration with the California Institute of Technology (Caltech) and NASA's Jet Propulsion Laboratory (JPL). The system uses satellite technology to map the damage caused by natural disasters in the Asia-Pacific region. region.

In Singapore, for example, the National Sea Level Program aims to coordinate relevant locals. **climate** With a particular focus on Singapore and

the wider ASEAN region, we will conduct research with higher education institutions to address key knowledge gaps in understanding and modeling the physical mechanisms of sea level rise and fluctuations.

The report also emphasized that floods are a major hazard in the ASEAN region and suggests that strategies to reduce flood risk should include a landscape approach where decisions are made region-wide on a catchment scale. bottom.

To address this, the report said it needed to develop initiatives between scholars and stakeholders, such as the Living Delta Initiative, which addresses issues related to the sustainability of the Delta in South and Southeast Asia. rice field.

The report also emphasized the importance of nature-based solutions such as reconstructed and protected mangroves and coral reefs that protect, sustainably manage and restore natural or altered ecosystems.

An example is a healthy mangrove in Vietnam, scientists said they make an important contribution to both [Climate change](#) Adaptation and mitigation by storing and sequestering carbon, acting as a natural barrier to storms, sea level rise and erosion.

[Scientists fear a global “cascade” of climate impacts by 2030](#)

For more information:

Adaptation and resilience in ASEAN: Management of disaster risk from natural disasters. [Assets.publishing.service.gov. ... Rk_Policy_Report.pdf](#)

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Quote: Report: Southeast Asia needs to improve disaster resilience (October 28, 2021) October 28, 2021 <https://phys.org/news/2021-10-southeast-asia-boost-disaster-resilience> Obtained from .html