

# The ASEAN



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## ASEAN 2045 Shaping a Green, Connected, and Sustainable Tomorrow

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Towards a Net-Zero  
and Resilient ASEAN  
Community

Advancing  
Equality for  
Women and Girls

Digital  
Transformation for a  
Sustainable Future







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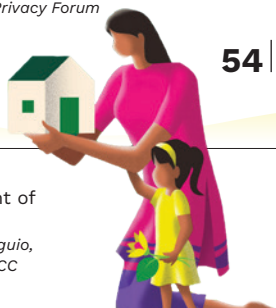
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# A Note on this Special Issue

The ASEAN presents part two of a special series on the region's trends and challenges in the next 20 years. The first edition, published in September 2023, examined how the region's demographic shifts impact socioeconomic progress, healthcare delivery, access to social protection, education, and employment.

In this issue, we tackle other pivotal trends and challenges shaping the region's journey towards an inclusive, sustainable, and resilient future.

The year 2023 has been declared the warmest year on record, underscoring the acceleration of global temperatures beyond initial projections. The urgency is clear: commitments to reduce carbon emissions and combat global warming must be translated into concrete and immediate actions.

The repercussions of this warming trend encompass a wide array of environmental, social, and economic challenges, from extreme weather events and rising sea levels to disruptions in ecosystems, migration, and threats to global food security.

International Organization for Migration (IOM) Asia Pacific Regional Director Sara Lou Ysmarel Arriola shares how collaboration and a comprehensive approach to climate mobility can be addressed. In past decades, climate-related disasters have displaced millions of people in Southeast Asia.

The ASCC Environment Division and GIZ contribute articles on how a net-zero and resilient ASEAN community can still be attained. Nuki Agya Utama and Zulfikar Yurnaidi from the ASEAN Centre for Energy share ongoing multipronged strategies of ASEAN to tackle the energy trilemma: security, affordability, and sustainability. ASEAN Centre on Biodiversity Executive Director Theresita Mundita Lim offers solutions needed to mitigate climate change impacts on biodiversity.

ASEAN recognises the transformative power of digital technologies in shaping a more sustainable and resilient future. The Fourth

Industrial Revolution (4IR) and digital transformation can provide innovative solutions to social, economic, and environmental challenges. The ASEAN Socio-Cultural Community has laid the groundwork for digital transformation initiatives in education, health, disaster management, labour, civil service, and culture.

In parallel, the ASEAN Economic Community has developed the ASEAN Digital Economy Framework Agreement (DEFA) to accelerate the region's digital economy transformation. Both socio-cultural and economic communities cite the role of digital literacy and rights in transitioning to a digital society.

Deputy Executive Director Anthony Pramualratana of the ASEAN Centre for Sustainable Development Studies and Dialogue also writes about how digitalisation can accelerate the transition to a low-carbon economy and sustainable practices.

An article from the Poverty Eradication and Gender Division sheds light on advancing equality for all women and girls in ASEAN, another crucial component of ASEAN's vision for creating an inclusive and equitable society.

As ASEAN outlines its vision for the next two decades, the challenges ahead are considerable, but so are the opportunities for intensifying regional and international cooperation towards a resilient and vibrant ASEAN community.

In continuation of our first edition, we engaged with ASEAN citizens, asking them questions about the implications of climate change and digital transformation. Respondents voiced concerns about adapting to global warming, safeguarding data privacy, and potential job displacement due to artificial intelligence. Despite these apprehensions, a notable number expressed optimism and hope, emphasising the belief that viable solutions can be attained through collaborative efforts among nations.

## Related Issues:



Issue 29 | 2023

[https://bit.ly/TheASEAN\\_Beyond2025](https://bit.ly/TheASEAN_Beyond2025)



Issue 30-31 | 2023

[https://bit.ly/TheASEAN\\_Disaster\\_Management](https://bit.ly/TheASEAN_Disaster_Management)



Issue 23 | 2022

[https://bit.ly/TheASEAN\\_Digital\\_Transformation](https://bit.ly/TheASEAN_Digital_Transformation)



Issue 06 | 2020

[https://bit.ly/TheASEAN\\_Climate\\_Change](https://bit.ly/TheASEAN_Climate_Change)





# In Your Words

**T**he ASEAN posed questions about people's concerns and hopes for ASEAN in the next 20 years. We aimed to involve various perspectives in this endeavour, reaching out extensively to gather insights.

We received responses from our magazine's readers and social media followers, delegates who participated in various ASEAN-related events, and members of youth organisations. *The ASEAN* also spoke to Attachment Officers from different Member State ministries who had just concluded a year-long assignment at the ASEAN Secretariat.

The collected responses are just a glimpse of the ASEAN people's aspirations for the region. The conversations are just beginning, and we invite you all to join in.

## The Questions

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What will Planet Earth look like in 20 years?  
How livable do you think it will be?

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What worries you about climate change and how will it affect you and your community, if we do not act now? How can countries work together to address climate change and make the Earth healthier for everyone?

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How important is it for you to be informed about your digital rights and privacy online? What regulations and measures are needed to protect online users from harm?

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Can gender equality be achieved in ASEAN?

# A Resilient and Net-Zero ASEAN Community is Still Possible

## The Global Stocktake Shows the Way

COP 28 UNFCCC in Dubai, UAE



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Eight years have passed since the world committed to keep the Earth's temperature rise to below 1.5 degrees Celsius during the 21st Conference of the Parties (COP21) in Paris in 2015. At the COP28 held in Dubai from 30 November to 13 December 2023, parties acknowledged that despite progress in mitigation, adaptation, and means of implementation and support, the world is not collectively on track to achieving the Paris Agreement's purpose and long-term goals.



The Paris Agreement has established an evaluation mechanism called the Global Stocktake (GST) to ensure that global efforts to combat climate change stay on the right path. Article 14 defined GST as “the periodic action to take stock of the implementation to assess the collective progress towards achieving the purpose of the agreement and its long-term goals.” The result of the first GST was adopted at the COP28 in Dubai in 2023. GST is to be conducted every five years.

“The global stocktake is an exercise in ambition, accountability, and acceleration,” said UN Climate Change Executive Secretary Simon Stiell.

The GST is essential to assess all efforts made to combat climate change. The decision of the first Global Stocktake recalls Article 4, paragraph 9 of the Paris Agreement, which stipulates that parties must communicate a nationally determined contribution (NDC) every five years. Moreover, it encourages parties to communicate their NDC with an end date of 2035 by 2025, pursuant to paragraph 2 of decision 6/CMA.3. The outcome of the GST is relevant for all countries, including ASEAN countries, the most vulnerable to the impacts of climate change.

The mechanism presents a significant opportunity for ASEAN Member States to assess the adequacy of their current actions and identify gaps and opportunities for improvement in their NDCs and National Adaptation Plans (NAP). It also encourages countries to harmonise climate change efforts in the region through sharing best practices, exchanging views, identifying gaps and opportunities, mobilising resources, and implementing joint initiatives.

The first GST process unfolded in three components: data collection and preparation, technical

assessment, and consideration of outputs, culminating in the release of the synthesis report in September 2023. The report outlines 17 key findings, shedding light on the global community's efforts against climate change vis-a-vis the provisions of the Paris Agreement.

The first outcome of the GST report, which concluded in Dubai, expresses significant apprehension that 2023 could be the hottest year on record. This alarming projection has since been confirmed by agencies like the US National Oceanic and Atmospheric Administration (NOAA). The report underscores the need for immediate action and support to achieve the 1.5-degrees-Celsius goal and avert the climate crisis in this pivotal decade.

The first stocktaking decision also addresses some crucial topics, including adaptation and mitigation, means of implementation and support as well as loss and damage. One of the most significant decisions was to urge parties to “transition away from fossil fuels in energy systems in a just, orderly, and equitable manner.” It was hailed as the beginning of the end of fossil fuels, albeit the Alliance of Small Island States (AOSIS) raised concerns regarding what they perceived as inadequately ambitious language.

Moreover, the decision called for parties to support initiatives addressing loss and damage. It recalls Article 8 of the Paris Agreement, where parties acknowledge the significance of preventing, minimising, and addressing loss and damage associated with the adverse effects of climate change in a cooperative and facilitative manner.

There is apprehension about the widening adaptation finance gap and concern that developed countries are merely encouraged to report on doubling the collective provision of climate adaptation financing for developing country parties from 2019 levels by 2025.

The GST synthesis report also emphasises the IPCC's Sixth Assessment Report (AR6) findings in March 2023. One of the critical findings confirms that based on NDCs, greenhouse gas (GHG) emissions will likely increase the global temperature to beyond 1.5 degrees Celsius in the 21st century and will make it even harder for parties to keep the increase from reaching the 2 degrees Celsius threshold. If we keep current global commitments, the planet will further heat up, soaring by a devastating 2.8 degrees Celsius by 2100—way beyond the Paris Agreement target. Meanwhile, adaptation gaps exist and will continue to grow at current implementation rates.

After the COP28 in Dubai, all parties must address the critical timespan from now the second GST in 2028. The initial GST will be a foundation for updating several essential documents, such as the NDC and Biennale Transparency Report (BTR).

According to decision 18/CMA.1, paragraph 3, the first BTR must be submitted by all parties by 31 December 2024, with the exemption of the least developed countries and small island developing states. The BTR is an integral component of the Paris Agreement's Enhanced Transparency Framework (ETF), aimed to build mutual trust and confidence and promote effective implementation. Within the context of transparency, this document plays a pivotal role in the GST process, serving as a critical source of information. The report should encompass five separate chapters, with “National Inventory Report on GHG Emissions” and “Progress Made in Implementing and Achieving the NDC” as mandatory subjects. The report may include “Climate Change Impact and Adaptation” and “Financial, Technology Transfer, and Capacity Building Support Provided, Needed, and Received” as optional sections.



*Informal consultation on the Global Stocktake at COP28*

## Aligning with the GST outcomes: Challenges and opportunities in ASEAN

The first stocktaking is a test to all parties' readiness to align with the Paris Agreement. It expresses deep concern over the Intergovernmental Panel on Climate Change's (IPCC) AR6 findings, especially that the aggregate of all parties to the UNFCCC NDCs are still not aligning with the 1.5 degrees Celsius pathways. The report further underscores the importance of increasing both adaptation and mitigation financing. While acknowledging the existence of ample global capital to bridge the investment gap, it notes barriers hindering the redirection of capital towards climate action.

According to "The IPCC 6th Assessment Report, Global Stocktake Process and its Relevance" article by the ASEAN-German Climate Action Programme, most ASEAN Member States have updated their NDCs. Some countries have submitted their updates in 2022 in compliance with the COP 26 decision. However, based on the latest NDCs of the Member States, GHG emissions from energy sectors are projected to keep increasing until 2030, and most of ASEAN Member States' NDCs remain

incompatible with the 1.5 degrees Celsius pathways.

Meanwhile, several ASEAN Member States have showcased their adaptation efforts through national policies. Notably, the Philippines introduced the Climate Change Act of 2009 and established the National Framework Strategy on Climate Change (2010-2022), and the National Climate Change Action Plan (2011-2028).

Similarly, Viet Nam has delineated its adaptation strategy in the National Strategy on Climate Change. It has initiated a National Target Program to Respond to Climate Change, acknowledging the significant impacts of climate change on the nation. Likewise, Indonesia has laid out its ambition for adaptation as elaborated in the programmes, strategies, and actions to achieve economic, social and livelihood, and ecosystem and landscape resilience through its updated NDC submitted in 2021.

Cambodia has established technical teams to coordinate the development of a National Climate Change Strategic Plan. Myanmar has established a National Adaptation Program of Action, which serves as a guiding document for identifying priority adaptation projects eligible for funding. Thailand, Malaysia, and the Lao PDR have also implemented significant climate policies at the

national level, thereby reinforcing the integration of adaptation and the formulation of plans.

Although most ASEAN Member States have national adaptation policies, only Indonesia, Singapore, and Thailand have submitted their respective Adaptation Communication to the UNFCCC. Meanwhile, Cambodia is the only Member State that submitted its National Adaptation Plan to the UNFCCC as of the time of writing. Responding to the first GST outcomes on adaptation, Member States should indicate their adaptation efforts in their national adaptation plans and/or communicate the same through Adaptation Communication, ensure their submission by 2025, with a commitment to implement them and attain progress by 2030.

Capacity-building poses another challenge, as ASEAN countries exhibit differing readiness levels and capacity to engage in the GST. These disparities result from variations in their institutional arrangements, technical expertise, financial resources, and stakeholder involvement. Moreover, in the adaptation sector, all the strategies and action plans have yet to be translated into national adaptation plans.

In the regional policy context, ASEAN Member States can foster an updated shared vision of dealing with climate change. It is crucial to strengthen collaboration with other regional and sub-regional groups to build alliances and leverage their influence in the global arena. ASEAN Member States should also view the GST as an opportunity to explore new possibilities within the energy transition, nature-based solutions, utilisation of digital technologies, and other low-carbon and climate adaptive measures.

## Enhancing support for ASEAN vision

The *ASEAN State of Climate Change Report* (ASCCR) provides recommended actions towards achieving the ASEAN Climate Vision 2050, which include maximising the synergy between mitigation and





ASEAN Member States participate at COP28



Discussion on 'ASEAN's Experiences of and Responses to Loss and Damage in Island and Coastal Communities' at the Philippines Pavilion, COP28

adaptation strategies while ensuring sustainable development.

Given the first GST assessment and noting that the pre-2020 gaps in both mitigation ambition and implementation to reduce GHG emissions 20-40 per cent below the 1990 levels by 2020 was not achieved by developed country-parties, it is fundamental for ASEAN Member States to strengthen their climate commitments through their NDCs and national adaptation plans. Article 4, paragraph 9, of the Paris Agreement states that each Party shall communicate a nationally determined contribution every five years by decision 1/CP.21. Moreover, countries have the flexibility to update or enhance their NDCs between the designated time frames to increase their ambition. This second cycle of NDCs should immediately outline unconditional targets and serve clearer development pathways to peak emissions.

Additionally, ASEAN Member States should incorporate net-zero objectives and policies for a just energy transition and outline plans to phase down (or phase out) fossil fuel usage and transition towards low-carbon, climate-resilient economies. Larger emitting countries are urged to strengthen their mitigation policies, while smaller emitters should align

developmental policies with the goals of the Paris Agreement.

As of this writing, many ASEAN countries have submitted their second updated NDCs, which either clarify their initial NDCs or articulate more ambitious targets. The GST outcomes are essential, as countries need to reassess their NDCs after COP28 and explore opportunities for strengthening them to achieve collective goals.

Efforts to adapt to climate change are evident in the policies of several ASEAN Member States, varying in their levels of adaptation readiness. Despite progress in enhancing adaptive capacity and resilience, quantitative climate risk assessments still need to be undertaken. This gap is primarily attributed to the need for more downscaled climate information and local technical expertise.

Further, in the face of urgent calls to enhance action on averting, minimising, and addressing loss and damage associated with climate change impacts, it is timely for ASEAN to develop a set of robust policy guidelines to address such impacts. These include improving disaster risk reduction strategies, and ensuring access to financial support for dealing with loss and damage, one of the key outcomes of COP28.

Given the vulnerability of ASEAN countries to the impacts of global warming, increased support is imperative to address the challenges of climate change. ASEAN Member States belong to different groups, such as G77 and China, Least Developed Countries, and Small Island Developing States, which share common vulnerabilities. ASEAN voices need to be heard in international climate forums. In addition to official country positions and regional statements, academia, research institutions, policy think tanks, and development partners should also be involved to echo more actions and visibility for advocating increased support in dealing with climate change.







The GST is a vital checkpoint to assess progress, achievements, and long-term needs. As a region highly vulnerable to climate change, ASEAN should use this inaugural GST to advance its climate vision, striving to become a resilient and net-zero community.



References may be accessed through the following link:  
[https://bit.ly/Issues34and35\\_Ref](https://bit.ly/Issues34and35_Ref)

# CLIMATE CHANGE

## PROJECTED CLIMATE CHANGE IMPACT IN THE ASEAN REGION

Country	Observed			Projection until 2100			
	Temperature	Precipitation	Observed extreme events	Temperature	Precipitation	SLR	Projected extreme events
 <b>Brunei Darussalam</b>	0.6 °C rise between 1970 to 2014	10.8 mm increase per year until 2100 (RCP8.5)	Frequent and significant flash floods, forest fires, winds and landslides	0.5 °C rise per decade in the next 30 years until 2100 (RCP8.5)	10.8 mm per year until 2100 (RCP8.5)	0.44-0.45 m	Increase in sea level rise in the next 30-50 years. Increase in unpredictable extreme rainfall events resulting in flash floods and landslides
 <b>Cambodia</b>	0.8 °C rise since 1960	General increase in rainfall	Riverine and extreme rainfall floods, high rainfall variability, and droughts	Increase by 1.6 °C (SRES-B1); 2.5 °C (SRES A2)	3-35% increase (SRESA2)	1.7 cm/year (SRES A2)	Increase in extreme rainfall events, droughts, and floods
 <b>Indonesia</b>	0.01-0.06 °C rise per year since 1950	-2-3% since 1990	Extreme rainfall events, increase in floods, storms and drought	Increase by 0.75 °C (RCP2.6) and 2.7 °C (RCP8.5)	10-30% in Sumatra, Borneo by 2080	0.5 m by 2040 (RCP4.5)	Increase in ENSO episodes, coastal flooding, wildfires
 <b>The Lao PDR</b>	0.05 °C rise per year in the past 40 years	Increased	Increase in extreme rainfall events, drought, and flood events	Increase by 1.4-4.3 °C	10-30% in eastern, southern parts	Not relevant	Increase in extreme flood and drought events
 <b>Malaysia</b>	0.13 °C-0.24 °C rise per decade since 1969	Unclear long term trend	Increase in rainfall intensity	1.2-1.6 °C rise (SRES) by 2050	7.1% to 10.6% increase by 2050	0.11-0.21 m (SRES) by 2050	Frequent extreme dry spells, extreme rainfall events, extreme floods in specific river basins
 <b>Myanmar</b>	0.3-0.8 °C rise from 1971 to 2000	Increased during March-November and decreased in rest	Increasing intensity and landfall of cyclones, droughts, and floods	1.2-2.5 °C rise (A1T scenario) and 2.8-3.5 °C rise (A2 scenario)	10% increase during March to November	0.2-0.6 m	Increase in extreme hot days



Country	Observed			Projection until 2100			
	Temperature	Precipitation	Observed extreme events	Temperature	Precipitation	SLR	Projected extreme events
 <b>The Philippines</b>	0.62 °C rise during 1958-2014	Increased intense rainfall	Increase in extreme rainfall events, increase in hot days, droughts, forest fires, change in typhoon behaviour	Increase by 1.8-2.2 °C (A1B)	-9.5% to 27.8% (A1B)	0.2 m	Increase in extreme rainfall events, hot days, change in typhoon behaviour, storm surge in coastal areas
 <b>Singapore</b>	0.25 °C rise per decade from 1948 to 2015	Increased at average rate of 67 mm per decade from 1980 to 2019	General uptrend in annual average rainfall from 2192 mm in 1980 to 2727 mm in 2014	Increase by 1.4-2.7 °C (RCP4.5), 2.9-4.6 °C (RCP8.5) (mean daily temperature change for the years 2070-2099, relative to period of 1980-2009)	Increasing trends in both intensity and frequency of heavy rainfall events	0.30-0.74 m (RCP4.5), 0.45-1.02 m (RCP8.5), by 2100 relative to the period of 1986-2005	Increase in contrast between wet months and dry months, with increasing trends in both intensity and frequency of heavy rainfall events
 <b>Thailand</b>	1.04 °C rise during 1970-2009	64.8 mm in East-Coast Gulf	Increase in hot days, extreme flood events	Increase by 0.9-1.8 °C (RCP2.6), 2.0-3.1 (RCP8.5)	(-) 66 to 193 mm (RCP2.6), (-) 19 to 191 mm (RCP8.5)	1-2 m	Increase in hot days, increase in high rainfall events
 <b>Viet Nam</b>	0.62 °C rise during 1958-2014	2.6% during 1958-2014	Increase in droughts, extreme rainfall events, super typhoons and typhoon period	Increase by 1.7-2.4 °C (RCP4.5), 3.0-4.0 °C (RCP8.5)	5-15% (RCP4.5), 20% (RCP8.5)	0.53 m (RCP4.5), 0.73 m (RCP8.5)	Increase in strong and very strong typhoons, the intensity of droughts, number of hot days

#### Notes:

1) Representative Concentration Pathway (RCP)

i. RCP 8.5 is a high-emissions scenario, representing a “business as usual” approach with little to no effort to cut GHG emissions. This pathway will likely lead to global temperature rise by more than 4 degrees Celsius above pre-industrial levels by the end of the century.

ii. RCP 4.5 is an intermediate scenario, where moderate mitigation efforts are undertaken to reduce emissions. This will likely keep global warming to below 2 degrees Celsius, but still exceed the target of 1.5 degrees Celsius above pre-industrial levels.

iii. RCP 2.6 is the lowest emissions scenario, featuring aggressive mitigation efforts and assuming a peak in GHG emissions by around 2020 then a

subsequent decline. This pathway will keep global temperature rise to well below 2 degrees Celsius above pre-industrial levels.

2) Special Report on Emissions Scenarios (SRES)

i. A1 scenario: In this scenario, the world is characterised by rapid economic growth, global population that peaks in mid-century and declines afterward, and rapid introduction of new and highly efficient technologies. The A1T variant assumes a predominant reliance on non-fossil energy sources, whereas A1B assumes a balanced mix of energy supply.

ii. A2 scenario: In this scenario, global population continues to grow, and economic growth is regionally focused, leading to a more fragmented and slower-paced economic expansion compared to other scenarios.

iii. B1 scenario: This scenario portrays a world with a similar global population but with swift shifts in economic structures toward a service and information-based economy. It includes reductions in material intensity and the introduction of clean, resource-efficient technologies.

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# ASEAN CLIMATE MITIGATION PLEDGES IN NATIONALLY DETERMINED CONTRIBUTIONS



## BRUNEI DARUSSALAM



### Mitigation Type

Relative emission reduction



### Mitigation Target

**20%**

reduction of GHG emission relative to Business as Usual (BAU) scenario



30% renewable energy share of power generation mix by 2035



60% electric vehicle share of total annual vehicle sales by 2035



Increase in forest reserves to 55%



### Target Year

**2030**



## CAMBODIA



### Mitigation Type

Relative emission reduction



### Mitigation Target

**41.7%**

reduction compared with the BAU scenario



Forestry and other land use (FOLU) sector will be the main source of emission reduction at 59.1%



Also significant reductions in the energy, agriculture and industrial sectors



### Target Year

**2030**



## INDONESIA



### Mitigation Type

Relative emission reduction



### Mitigation Target

**29%**

unconditional GHG reduction and 41% conditional (with international support) against the BAU scenario



### Target Year

**2030**



## THE LAO PDR



### Mitigation Type

Relative emission reduction



### Mitigation Target

**40%**

unconditional and

**50%**

conditional relative to BAU scenario



Forest cover increase to 70% of land area



Increase in the share of renewable energy



30% electric vehicle in national vehicles mix; biofuels to meet 10% of transport fuels



### Target Year

**2030**



## MALAYSIA



### Mitigation Type

Carbon intensity reduction



### Mitigation Target

**45%**

unconditional reduction of carbon intensity against GDP compared to 2005 levels.



Reduction covers seven GHGs



### Target Year

**2030**





## MYANMAR



### Mitigation Type

Relative emission reduction



### Mitigation Target

Unconditional emission reduction of 244.52 million tons of carbon dioxide equivalent; reduction of 414.75 million tons of carbon dioxide equivalent contingent on international finance and technical support



### Target Year

**2030**



## SINGAPORE



### Mitigation Type

Absolute emission peaking



### Mitigation Target

Peak emissions at 65 metric tons of carbon dioxide equivalent to achieve a 36% reduction in emissions from 2005 levels



### Target Year

**2030**



## THAILAND



### Mitigation Type

Relative emission reduction



### Mitigation Target

**20%**

unconditional GHG reduction relative to the BAU level, to increase up to 25% (if there is access to technology and financial support)



### Target Year

**2030**



## THE PHILIPPINES



### Mitigation Type

Relative emission reduction



### Mitigation Target

**2.71%**

unconditional GHG emission reduction,

**75%**

conditional relative to the 2020-2030 BAU scenario



Reduction of emissions will come from energy, transport, waste, forestry, and industry sectors



### Target Year

**2030**



## VIET NAM



### Mitigation Type

Relative emission reduction



### Mitigation Target

**7.3%**

unconditional GHG reduction by 2025, 9% unconditional up to 27% conditional GHG reduction by 2030 compared to BAU



GHG reduction in five priority sectors: energy; agriculture; land use, land-use change, and forestry; waste; and industrial process



### Target Year

**2030**

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# Living in Harmony with Nature

## ASEAN's Battle against Climate Change and Biodiversity Loss



**Theresa Mundita Lim, DVM**

*Executive Director, ASEAN Centre for Biodiversity*

Given the triple planetary crisis that we face—pollution, climate change, and biodiversity loss—can we really envision living a life in harmony with nature by 2050?

**T**he Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' 2019 *Global Assessment Report* warns that around a million plant and animal species are on the brink of extinction due to the interlinked drivers of biodiversity loss, which include climate change. This is the worst species decline projected in human history.

Species and ecosystems have evolved to thrive in specific locations due to the range of temperatures they can tolerate. Certain species may become extinct if they are unable to adapt to this sharp spike in temperature brought about by climate change.

While climate change may lead to biodiversity loss, species decline resulting in ecosystem degradation weakens nature's ability to regulate greenhouse gas emissions and act as our natural defence against the effects of climate change. Hence, both issues are interlinked and require equal attention and urgent actions.

### **Biodiversity loss and the changing climate**

The COVID-19 pandemic caused a substantial decline in economic activities around the world; however, it also showed that reduced human activity can provide a pause for nature. It helped improve air quality

in 70 per cent of ASEAN cities due to lockdowns and limited mobility of goods and people (ASEAN Centre for Biodiversity [ACB], 2023). Perhaps, as we recover from the pandemic, we should be calibrating our actions and interventions so we can continue to live sustainably, learning from our experiences in the last three years. Unfortunately, today, we seem to be breathing the same air quality we inhaled before the pandemic, especially in highly urbanised areas, and the increasing observed impacts of climate change aggravate our situation. ASEAN's megacities such as Bangkok, Jakarta, Tuong Duong, and Luang Prabang experienced scorching heat waves and air pollution in 2023



alone, posing health-related risks as well as heart and lung problems (Newburger, 2023).

Southeast Asia is considered one of the most vulnerable areas to climate change impacts due to the increasing urban population, long coastlines, high population density and economic activities along coastal areas, consumption of biodiversity, and use of natural resources of populations offered by agriculture and forestry sectors for food supply and livelihoods (Asian Development Bank, 2009). Currently, we are experiencing these impacts in the form of more extreme typhoons, droughts, and storm surges, among others, causing a decrease in overall agricultural yields, affecting food supply and production, and wreaking havoc on other socio-economic activities—loss of livelihood, properties, and worst of all, lives of people while impeding social services and government operations.

Our healthy oceans, wetlands, and forests in the region shelter us and render us more resilient to these natural disasters. However, these ecosystems can only effectively function if protected and maintained within their threshold to absorb surrounding pressures. A degraded forest means fewer trees to hold the soil together to prevent flooding and erosion and retain rainwater needed to recharge our aquifers. A destroyed wetland means losing some of our natural water impounding systems, aggravating drought in some areas, or losing tributaries that provide the natural diversion for excess water from rainfall and rising sea levels. Depleting populations and the natural diversity of species create an imbalance that results in the proliferation of some and, worse, the extinction of others, creating opportunities for pests and new diseases to emerge. A polluted ocean smothers coral reefs that serve as spawning grounds for fish that contribute to our food security.

Development and reclamation, with disregard to natural coastal and marine ecosystems, affect the capacity of our oceans to sequester carbon and our coasts to serve as natural breakwaters against

storm surges. Polluting our oceans threatens species that ensure the health of our marine ecosystems. According to the third edition of the *ASEAN Biodiversity Outlook* (2023), plastic wastes swimming in ASEAN's oceans will have outnumbered its marine biodiversity by 2050, and 99 per cent of seabirds will have ingested them.

Forty-seven per cent of the ASEAN region's total land area consists of forest ecosystems (ACB, 2023). Today, these forests remain threatened and are still considered "deforestation hotspots" as the demand for timber products and land conversion for agricultural use and human settlements continuously increases. The region's forest cover is declining at a rate of 8,000 square kilometres annually (ACB, 2023), which is almost 10 times larger than Singapore.

Moreover, it is projected that the forests of Southeast Asia may contract by 5.2 million hectares (52,000 km<sup>2</sup>) under worst-case scenarios. However, in the best cases, it could expand by 19.6 million hectares (196,000 km<sup>2</sup>) (Estoque et al., 2019).

## Biodiversity loss and pandemics

Given the concerning decrease in biodiversity and the effects of climate change, there is a considerable chance that another catastrophic pandemic may break out in the future.

The region is susceptible to zoonotic diseases, partly due to the high wildlife diversity of ASEAN, especially the range of species known to be natural hosts to several pathogens. In fact, a large number of species found in the ASEAN region have been linked to the leading causes of previous zoonotic outbreaks, including the Ebola Reston virus in the 1990s, the Nipah virus in 1998, the Severe Acute Respiratory Syndrome (SARS) in 2003, Avian Influenza AH5N1, the New Influenza AH1N1 in the 2000s, and the coronavirus disease in 2019. Couple this with higher temperatures and precipitation that promote pathogen transmission

(Guernier et al., 2004), land-use change that increases human-wildlife interactions, socio-economic factors, low reporting effort, and the rise in antimicrobial drug use (Jones et al., 2008), and Southeast Asia becomes veritable hotspot for zoonotic diseases (Bordier and Roger 2013).

However, the prevention of these diseases may also lie in ASEAN's biological richness. Pharmaceuticals can be made from the by-products of different plant and animal species, and vaccines may be developed from the rich microbiota of the region, many of which remain unidentified. Curbing wildlife trade and reducing contact between humans and wildlife by properly enforcing boundaries between human settlements and wildlife habitats also reduce the risk of transmission. A diverse assemblage of wildlife may have a dilution effect on the impact of the disease reservoir (Ostfeld and Keesing, 2000).

## Solutions are in nature

On 19 December 2022, the Kunming-Montreal Global Biodiversity Framework (KM GBF) was officially adopted in Montreal, Canada. The framework has 23 action-oriented global targets that must be addressed, acted upon, and achieved by 2030, enabling us to live in harmony with nature by 2050.

More than 190 states agreed and signed to protect 30 per cent of the global lands and waters, reduce food waste by 50 per cent, and annually mobilise at least 272 billion Canadian dollars as global biodiversity funds by 2030.

The ASEAN recognises the urgent need to address climate change through mitigation and adaptation, as aligned with Target 8 of the KM GBF. In the spirit of unity and regional call and action to contribute to Target 8, the ASEAN Leaders, during the 43rd ASEAN Summit in Jakarta, Indonesia expressed the significance of nature-based solutions to protect biodiversity as a post-pandemic recovery and further build the resilience of the region against zoonotic diseases.

The ASEAN region is home to three of the world's megadiverse countries and harbours rich species diversity and vast ecosystems that can provide layers of protection from the impacts of climate change and serve as sources of food and livelihoods for diverse populations in the ASEAN.

Our coastal and marine ecosystems, such as mangroves and coral reefs, can protect us from storm surges and intense flooding, prevent soil erosion, and sequester carbon dioxide from the atmosphere, which can mitigate the impacts of climate change.

ASEAN is likewise endowed with at least 12 forest types that can counter strong winds and protect vulnerable areas. They absorb large amounts of rainfall to help prevent sudden rise of water levels in flood-prone areas. Our rich and diverse species in trees and in wildlife are our key to more resilient ecosystems, and the genetic diversity in wild foods can be valuable sources of disease-resistant and pest-resistant protein and have valuable potential for food productivity.

### **‘One ASEAN’ for biodiversity**

As the region's response to biodiversity loss and other related challenges, the ASEAN Centre for Biodiversity (ACB) has been facilitating coordination and cooperation among the ASEAN Member States in safeguarding ecosystems and biological diversity from various threats since its establishment in 2005. In cooperation with the ASEAN Secretariat, the Member States, and ASEAN's dialogue and development partners, the ACB supports the management and conservation of 57 ASEAN Heritage Parks—protected areas of high importance that contribute to species and habitat conservation.

Through the ASEAN Green Initiative, the ACB promotes planting at least 10 million native trees across the 10 ASEAN Member States in 10 years by recognising outstanding ecosystem restoration initiatives in the region.



*The rich diversity of wildlife in Southeast Asia renders the region highly vulnerable to zoonotic diseases*

Moreover, with the support of its dialogue partners such as the European Union and the Federal Government of Germany through the KfW and GIZ, the ACB has been implementing national and regional projects since 2005 to (1) promote awareness among the ASEAN citizens of the value of biodiversity conservation through different communication, education, and public awareness (CEPA) activities; (2) provide management and technical assistance to the ASEAN Member States in their biodiversity conservation initiatives; (3) design and implement capacity-enhancement activities for AHPs and protected area management; (4) promote sustainable livelihood benefiting communities living in and around the AHPs; and (5) mainstream biodiversity conservation consideration into other development sectors.

ASEAN leaders emphasised the role of nature-based solutions to improve the region's resilience against the impacts of climate change and pandemics through the ASEAN Comprehensive Recovery Framework (ACRF). The ACRF acknowledges the importance of ASEAN centres in ensuring the successful execution of its policies. Indeed, the ACB helps the region adopt a whole-of-society approach to pandemic response, recovery, and prevention, in addition to strengthening resilience to natural disasters and the effects of climate change. The ACB's support for the ACRF's implementation also includes raising ASEAN citizens'

awareness of biodiversity and encouraging them to adopt practices that tackle the underlying causes of pandemics and zoonosis.

In September 2023, the ACB and the ASEAN Business Advisory Council formalised a partnership to establish the ASEAN Business and Biodiversity Initiative. This regional platform will push for the climate action agenda in ASEAN. This initiative will actively contribute towards transitioning to a greener and sustainable future for ASEAN by mainstreaming biodiversity and nature-based solutions to climate change in the strategic priorities of the region's business sector.

The road to living in harmony with nature may seem elusive and challenging, but the journey becomes more manageable with sound and sustainable policies articulated through leaders' statements and guidance, strengthened support for science-based and participative decision-making, increasing cross-pillar and cross-sectoral collaboration, and stronger regional cooperation that promotes ASEAN centrality and a whole-of-society approach. With these concerted efforts, curbing the impacts of climate change and halting biodiversity loss in the ASEAN region will not be impossible.



References may be accessed through the following link:  
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# PIVOTING TOWARDS NATURE-BASED SOLUTIONS FOR A SUSTAINABLE FUTURE



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The COVID-19 pandemic offered a bitter lesson, disrupting the social and economic order globally. Nature-based solutions offer an opportunity to bring transformational change to Southeast Asia.

In response to the unprecedented challenges posed by the pandemic, ASEAN has pledged to rebuild not only shattered economies but also to shape a sustainable and interconnected future. Recognising the inextricable link between human health and the environment, ASEAN is committed to integrating nature-based solutions (NbS) into its recovery process and sustainable development strategies. This commitment is demonstrated in the strategy and implementation plan outlined in the ASEAN Comprehensive Recovery Framework (ACRF), adopted at the 37th ASEAN Summit in 2020.

In recent years, various definitions of NbS have surfaced. It was only at the 5th United Nations Environment Assembly (UNEA)

meeting held in February 2022 in Nairobi that consensus was reached on the definition of NbS as: “actions to protect, conserve, restore, sustainably use, and manage natural or modified terrestrial, freshwater, coastal, and marine ecosystems that effectively and adaptively address social, economic, and environmental challenges while simultaneously providing human well-being, ecosystem services, resilience, and biodiversity benefits.”

The COP28 decision in Dubai encourages all parties to accelerate the use of ecosystem-based adaptation and nature-based solutions to reduce climate impact on the ecosystem through management enhancement, restoration and conservation, and the protection of terrestrial,

inland water, marine and coastal ecosystems.

Nature-based solutions are based on the premise of sustainable deployment of natural capital. From the local, national, and regional levels, implementing NbS offers a transformative opportunity to contribute to preserving and restoring the natural capital. The recent report titled *Investing in Sustainable Natural Capital in ASEAN* defines natural capital as “the stock of resources and ecosystem.” It covers renewable natural ecosystems and their biodiversity and resources, such as forests, water and farmland, and non-renewables, such as minerals. Natural capital provides benefits in goods and services, such as food, water, and energy. It also acts as





GIZ-supported Programme on Conservation and Sustainable Use of Forest Biodiversity and Ecosystem Services in Viet Nam

the ecosystem support for natural disaster mitigation, carbon sink, and ecotourism opportunities.

Southeast Asia, in particular, has relied on these benefits for years, underscoring the importance of NbS. The region, home to 600 million people, is blessed with biodiversity, dense rainforests, abundant mangrove forests, and numerous coral reefs.

The abundance of natural capital in the region underpins much of ASEAN's prosperity. According to the report, *Investing in Sustainable Natural Capital in ASEAN*, it was estimated that 30 per cent of the wealth of the Asia Pacific region comes from natural capital, while in high-income countries, only 2 per cent of wealth is derived from natural capital. However, according to the World Resource Institute, the region loses at least 1.2 per cent of its forests annually. It is projected to lose up to 42 per cent of all species by the end of this century.

Natural capital provides benefits to the people and economies of ASEAN and is integral to achieving the Sustainable Development Goals (SDGs). Beyond its contribution to climate management and biodiversity, the report states that natural capital is crucial in tackling societal challenges in ASEAN,

such as food security, sustainable agriculture, clean energy, health, and well-being.

In recognition of NbS' pragmatic and transformative approach, ASEAN Member States have incorporated these nature-based solutions into their key policies.

## NbS within the ASEAN framework

NbS is an integral part of the Paris Agreement and play a prominent role in the nationally determined contributions (NDCs) of countries, including the ASEAN Member States. Most ASEAN Member States highlight the role of NbS in their updated NDCs in the mitigation and adaptation actions, according to the Study on Nature-Based Solutions in ASEAN.

The report conducted jointly by ASEAN and GIZ reveals that all of the ASEAN countries, except the Philippines and Thailand, underscore the significance of NbS in their climate adaptation strategies. These include water management and agricultural resources, coastal restoration, and ecosystem-based disaster risk reductions.

Meanwhile, all ASEAN Member States acknowledge the crucial role of NbS in climate mitigation strategies, mostly through programmes such as Results-based Payment from Reducing Emissions from Deforestation and Forest Degradation (REDD+), social forestry, and promoting forest landscape restoration. The countries have incorporated NbS in land use, land-use change, and forestry (LULUCF) through forest and peatland restoration and conservation of nature or indigenous wildlife.

ASEAN emphasises the importance of promoting NbS in its Comprehensive Recovery Framework to respond to the pandemic and the region's sustainability challenges. Both the framework and NbS recognise the need to advance towards a more sustainable and resilient future. The paradigm shift will require ASEAN governments, businesses, and civil society to work collectively to enable systemic

change in the region to achieve this future.

Natural capital is finite, and damages to it are often irreversible. Unsustainable practices in the food sector, for instance, can lead to food insecurity in the ASEAN community. At the same time, biodiversity loss can give rise to other diseases and pandemics in the future. The framework encourages ASEAN Member States to promote NbS to increase the region's resilience by addressing sustainable use and management of natural resources, supporting the circular economy in the region.

The ASEAN Member States have likewise incorporated NbS into national-level policy frameworks. For example, Indonesia relies on its Social Forestry Program to address intricate cross-sectoral challenges, such as poverty, forest degradation, clean water, and tenurial conflicts. Meanwhile, Malaysia's Forestry Policy is designed to address forestry and biodiversity conservation issues.

Further, Myanmar has started implementing its new National Environment Policy, while Viet Nam has revised its Forestry Law, Biodiversity Law, and Forestry Sector Development Strategy 2021–2030 with a vision until 2050.

At the international stage, ASEAN endorses using NbS to address climate change. The ASEAN Joint Statement on Climate Change to the UNFCCC COP28 calls upon countries to improve adaptation and reduce vulnerability by implementing NbS and ecosystem-based approaches. Moreover, the Statement reaffirms ASEAN's commitment to sustainable forest management and social forestry development.

## Lessons from the field

One noteworthy example of NbS practice is the KEO Seima Wildlife Sanctuary REDD+. This sanctuary in Mondulkiri and Kratie provinces in eastern Cambodia covers 167,000 hectares of protected dense forest and a 297,000-hectare buffer zone. It is home to 75 endangered wildlife species, including the iconic Asian elephant and other primates like the Black-shanked douc.



As one of the largest REDD+ programmes in the country, Keo Seima is estimated to store 17.4 million tons of CO<sub>2</sub> emissions over the next 10 years. It is also home to 13,000 indigenous Bunong people scattered among 20 villages.

According to Cambodia's Ministry of Environment, the Keo Seima Wildlife Sanctuary has the most mixed biodiversity among the natural protected areas of Cambodia. Cambodia currently has 7.3 million square hectares of protected areas, equivalent to 41 per cent of the country's land area. The Cambodian government ran a carbon credit scheme and sold approximately 11.6 million US-dollar-worth of credits from 2016 to 2020.

The head of Keo Seima Wildlife Conservation Society REDD+, Chhay Kimheak, mentioned that the sanctuary sold 600,000 US dollars in carbon credits in 2022 and expects this to increase to 1 million US dollars in 2023.

"The budget has been shared among 20 villages based on their contribution to natural resource protection," said an article in the Phnom Penh Post.

Another example is how Viet Nam is making strides in NbS implementation and improving the resilience of vulnerable coastal communities. The country had lost 150,000 hectares of mangroves until 2019 because of war, degradation, and deforestation, which disrupted the livelihoods of local communities dependent on these ecosystems. Annually, approximately 60,000 houses in coastal provinces are destroyed or damaged by floods and storms.

To overcome this challenge, the government of Viet Nam proposed a five-year project for improving the resilience of vulnerable coastal communities to climate change. The project, which began in 2017, has three main targets: building 4,000 storm and flood-resilient houses with mezzanine and reinforced roofing, planting/rehabilitating 4,000 hectares of mangroves, and increasing access to climate and disaster data/risk information. All

of these targets were successfully achieved.

"Project houses proved highly successful during the 2020/2021 storm season," the project report stated.

Further, planting and rehabilitating 4,000 mangroves contributed to reducing GHG emissions and benefited more than 1,600 households. This support encompassed various livelihood assistance, including raising poultry like chickens and ducks and cultivating new agricultural produce, such as organic potatoes.

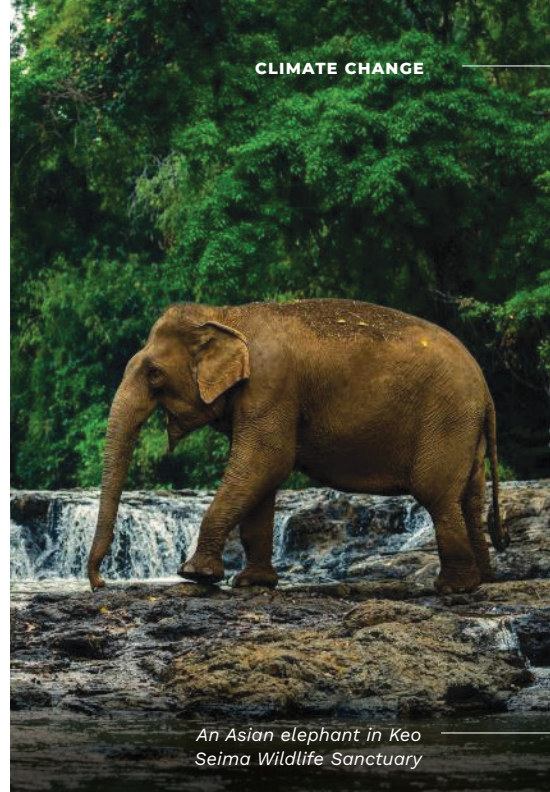
## Strengthening the NbS roles in ASEAN

NbS has played a pivotal role in managing natural capital sustainably and in achieving the domestic and international policy targets of ASEAN Member States. Different activities related to NbS measures have been implemented in the region. However, NbS must become an organic part of strategies and planning processes and part of laws and regulations. While most countries have incorporated NbS in their policy framework, it is crucial to harmonise those policies. Lack of national and sub-national political support will hamper the NbS's upscaling progress and fail to attract multi-sector contributions.

Moreover, technical and financial development cooperation is essential to upscale NbS. Countries need continued support in regional and national coordination, knowledge management, and exchange of best practices.

Meanwhile, significant demand for targeted technical and capacity-building means that ASEAN Member States should be supported in monitoring and measuring NbS impacts and implementing additional fundraising efforts. Although there are various public funding sources, these resources could be improved in their capacity. Without significant investments, the potential benefits of NbS cannot be realised.

NbS provide significant investment opportunities for the private sector.



An Asian elephant in Keo Seima Wildlife Sanctuary

Meanwhile, many NbS projects funded by public investment fail to reach the commercialisation phase. The private sector needs to jump into the long-term NbS investment strategies, which include risk mitigation, portfolio diversification, and exit plans. It is also crucial to align investments with development cooperation programmes to avoid pitfalls and reduce risks. To ensure a common understanding and shared priorities among the public sector, private entities, banking and financial institutions in planning and budgeting NbS projects, there is a need to mainstream the knowledge for all the actors.

Many NbS initiatives, encompassing climate mitigation and adaptation strategies implemented in ASEAN Member States, have yielded positive outcomes. It is crucial to mainstream future strategies to invest further in NbS in their respective sectors for better, cleaner, greener and sustainable ASEAN.



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# THE SEARCH FOR CLIMATE SOLUTIONS

With the clock ticking and the world at a critical juncture, governments, businesses, and the scientific community continue to explore effective climate solutions. Below is a range of innovative ideas that have been proposed, are in progress, or are currently undergoing testing.



## NATURE-BASED OR NATURAL CLIMATE SOLUTIONS

### Ecosystem restoration

Involves reforestation of forest cover, rewetting of peatlands and moorlands, restoration of seagrass meadows, and large-scale afforestation to absorb and lock up the carbon from the atmosphere. Reforestation and afforestation can potentially remove 0.5–3.6 billion metric tons of carbon dioxide per year by 2050. Growing trees on a massive scale, however, is a slow process. Some experts also say that afforestation may affect biodiversity.

### Sustainable land management practices

Includes shifting to sustainable techniques such as agroforestry to retain soil fertility, reduce erosion, and improve carbon sequestration. This practice can sequester up to 5 billion metric tons of carbon dioxide per year by 2050.

### Ecosystem conservation

Includes protection of existing forests, moorlands, and coral reefs to halt the loss of carbon from soils, forests, or the ocean.



## GEOENGINEERING SOLUTIONS

### Saving the ice sheets

Proposes the building of windmills that can pump seawater onto surface ice during winter, making it freeze, thickening the sea ice, and extending ice coverage. This requires 10 million windmills across the entire Arctic to refreeze it at a cost of 500 billion US dollars. The other method involves coating the ice with glass bubbles or silica microspheres to shield the ice from solar radiation. Covering up to 100,000 square kilometres of Arctic sea ice would cost around 1 to 2 billion US dollars per year; while coating the Himalayan glaciers would cost anywhere from 1 to 13 billion US dollars per year.

### Solar geoengineering

Involves reducing the amount of sunlight that reaches the Earth by (i) releasing sulfate aerosols into the stratosphere to reflect sunlight away, (ii) spraying clouds above oceans with salt to make them brighter and more reflective, or (iii) thinning cirrus clouds so they trap less heat. The process requires further study into the potential consequences, such as their impact on the ozone layer and global rainfall patterns. It also requires an investment of 2.25 billion US dollars a year over a 15-year period, according to a 2018 Harvard study.



### Direct air carbon capture and storage or DACCS

Proposes the use of chemicals that directly bind carbon from the air. This captured carbon is then removed from the sorbent and stored underground or mineralised. With sustained DACCS implementation, it has the potential to remove up to 5 billion metric tons of carbon dioxide annually by 2050.

### Ocean geoengineering

Involves ocean fertilisation or introduction of large amounts of micro- or macro-nutrients, such as iron or urea, into specific ocean regions to stimulate the growth of phytoplankton which can absorb and store atmospheric carbon dioxide. Some scientists, however, caution that the process may disrupt marine food chains and cause other ecological problems. The other technique revolves around enhancing ocean alkalinity. This is achieved by adding alkaline substances, such as olivine, to seawater to bolster sequestration of carbon dioxide as bicarbonate and carbonate ions in the ocean.

### Bioenergy with carbon capture and storage or BECCS

Entails producing biomass, such as wood and compost, then converting this into bioenergy. The carbon emissions generated during this conversion are to be collected and stored underground in geological formations such as mountains, or within durable products like harvested wood and landfills. It can remove up to 5 billion metric tons of carbon dioxide per year by 2050. The process, however, requires large tracts of land for biomass production.

### Biochar

Proposes turning plant and animal materials (biomass) into charcoal to store carbon. It can remove 0.5 to 2 billion metric tons of carbon dioxide per year by 2050. Biochar's effectiveness, however, hinges on its long-term stability within the soil, since rapid decomposition would release the stored carbon back into the atmosphere.

### Enhanced weathering

Involves the extraction of rocks containing minerals that react with carbon dioxide. These rocks are then crushed and spread on farmland or other suitable areas, where they absorb atmospheric carbon dioxide. While this process is energy-intensive, it has the capacity to sequester up to 4 billion metric tons of carbon dioxide each year by 2050.

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# What will planet Earth look like in 20 years? How livable do you think it will be?



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The livelihoods of people in ASEAN nations, heavily reliant on agriculture, income, employment, and export advantages, are under threat.

Our countries, each boasting a rich heritage of thousands of years in rice cultivation, have consistently ranked among the top nations in terms of exporting rice and other agricultural products. However, we are currently grappling with challenges such as drought and salinity intrusion.

Despite the rising awareness, a crucial dilemma persists. When we weigh the immediate monetary gains from direct profits, often without considering conservation efforts, against the investment required for restructuring production models and fostering sustainable development, the latter aspect tends to be overlooked.

I believe the crux of the matter lies not in the regulations and measures themselves, but rather in the tools and human resources involved. Different ages and generational backgrounds often lead to distinct attitudes. The younger generation possesses experiences and perspectives that make them more sensitive to these issues. As a result, the board that leads and plans projects about climate change should have at least 30 per cent personnel around these ages.



**Aliaa Ramzani, 25**

*Fellow, UNICEF Malaysia Young Leaders; Tech Evangelist, Google Developer Group Cloud Kuala Lumpur and Women TechMakers Kuala Lumpur*

Looking ahead to 2043, I'll turn 45 in November. I wonder if I'll be fortunate enough to witness that future. The prospect of living in a deteriorating world is unsettling. I've always taken life day by day, setting goals and working towards them, hoping the fog lifts up little by little as time passes. But, the increasing environmental challenges make me question how having children now would be beneficial. I am scared to set them on a life that is unbearable and unlivable—I have no one but myself to blame.

Thinking of starting a family in such uncertain times weighs heavily. Conversations with my partner, Wan Hisham, reflect these shared apprehensions, and we know we're not alone.

If the trajectory of "development" leads to frequent flash floods, extreme weather patterns, pervasive microplastics in our food, and further species extinction, then one must question: At what cost are we advancing? If there's no community or livable environment left, what's the purpose of such progress?

Overall, I advocate for a circular economy. Let's start with centralised waste management systems—it may seem menial, but the potential is vast. Toxic emissions can be transformed into energy sources, aligning our human needs with environmental preservation. Perhaps from there, we can see more opportunities that set us on a more sustainable life to live. Adopting sustainable practices today can pave the way for a better tomorrow.





### **Minh Nguyễn Hồng, 25**

*Teacher, Young Southeast Asian Leaders Initiative Alumni and Volunteer Youth of the ASEAN Foundation from Viet Nam*

In two decades, without immediate intervention, Bac Giang's distinctive topographies, particularly the mountainous belts, might undergo stark transformations. These regions, rich in biodiversity, serve as ecological reservoirs. However, they stand threatened by changing rainfall patterns, soil erosion, and shifting agricultural cycles. Cities globally might grapple with heatwaves or rising sea levels, but in Bac Giang, climate changes could disrupt the symbiotic relationship between nature and the ethnic communities relying heavily on it.



### **Wisnoe Satrijono, 57**

*Director of Human Capital Management, PLN Indonesia Power*

How the planet Earth will be in the next 20 years highly depends on the actions that we take today. If all of us are serious about our transition to a greener energy and sustainable economy, I am optimistic that we can live in a better Earth where we are powered by green energy, people drive electric vehicles because it is an environmentally friendly transport, and digital technology will further transform the way we live in a good way. However, the future will be different if we don't do anything to address climate change and just continue with business as usual. Reports mentioned that the global sea level today is already four inches higher than it was in 1993. If global warming continues and the sea level continues to rise, the Earth will lose more islands, and if the ozone depletion continues to get worse, the air quality will also worsen and negatively impact our lives. But I am still more optimistic that we will have a better life because we have started our effort. PLN Indonesia Power has strong commitment and excellent environmental management and practices, and has managed to accomplish beyond mere compliance today and in the future.



### **Linthone Bouavanheung, 21**

*Economics Research Assistant at the National University of Laos, the Lao PDR*

I believe that if we don't act now, our planet will become inhabitable in 20 years. Climate change is already affecting us, and it worries me that it will only get worse if we don't take action. Countries need to work together to address climate change and create policies that will protect the environment and the people living in it.



### **Lovenigasri A/P Rajendran, 24**

*Student, Universiti Malaysia Sabah Labuan International Campus (Master in International Finance Research), Malaysia*

Future generations, who depend increasingly on processed foods, have their health worsened due to air pollution and uncontrolled environmental issues, and would undoubtedly have a lot of questions about how they would be able to survive in the future.

Malaysia is already feeling the effects of climate change, and things could get worse if we don't act soon.

On the other hand, it is difficult to deny that knowledge of our planet and climate change has been shared and acknowledged across a variety of platforms and businesses and that these contributions have led to the development of solutions like e-bikes and hybrid cars. Furthermore, the UN, ASEAN, and other relevant associations can address the issue and implement more relevant policies, while encouraging other organisations to speak out. However, significant changes can only be brought about by having more countries come together. Therefore, we need to give young people greater chances to participate in bringing about change so that they can clearly see the problems we are currently facing.



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In 20 years, I envision a planet Earth that's on the path to becoming a more sustainable and livable place.

— Elroy Ramantan



### **Vu Minh Anh, 21**

*Student at Universitas Gajah Mada Indonesia, from Viet Nam*

The 20-year-old version of me finds it a little bit difficult to experience things I used to take for granted when I was

10. Living in Hanoi, where there are supposed to be four seasons a year, I was able to enjoy the cozy Tết holiday with peach blossoms blooming everywhere, summer vacations on the beach where the sun shone bright, chilly mornings with typical autumn vibes of Hanoi, and the joy of eating delicious *phở* amidst the winter breeze.

It's hard for me to put everything in the past tense, but much has changed in the last decade. The weather is becoming more and more extreme every day, and I feel like I'm experiencing a loss. Much has changed in 10 years, and so it will in the next 20 years. I remain optimistic that in 20 years, planet Earth can be restored to a state similar to what I experienced in the past, but I know that this hope can only come true if every citizen of this planet works together towards environmentally friendly and sustainable development. Whether it is a tiny little action or a huge giant one, it is important that we act immediately, at the very moment. As the saying goes, "The best time to plant a tree was 20 years ago. The second-best time is now."



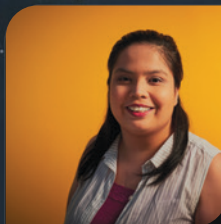
### **Mohammad Zulhafiy, 24**

*Marketing and Communication Manager of ASEAN Youth Organization from Malaysia*

Floods have become an annual climate disaster in Malaysia, with Klang Valley experiencing a devastating flood in 2021. Over 150,000 people were displaced, and more than 50 lives were lost. It's clear that localised climate emergency response plans are essential to address these recurring disasters effectively.

I firmly believe that development and sustainability should go hand in hand. Last March, I attended the World Circular Economy Forum in Helsinki, Finland, where I learned about the effective strategies used by European cities. Implementing circular city designs and environmental projects can address climate change, reduce natural resource use, and minimise energy consumption.

Looking ahead, the circular economy presents an excellent approach to combat climate change. According to UNDP, these strategies could reduce global greenhouse gases emissions by 40 per cent by 2050. Key practices include sustainable production and consumption, improved waste management, carbon emission reduction, the elimination of single-use plastics, and regenerating nature. This is the path to a more sustainable and climate-resilient future. Since ASEAN implemented the regional framework on Circular Economy in 2021, few countries have to take up the opportunity to start adopting circularity approaches to combating climate change.



### **Cheyenne Alexandria Phillips, 30**

*Writer, Performer, and Educator from Singapore*

As a tour guide, I work outdoors frequently, and I experience these changes first-hand. Additionally, people with pre-existing medical conditions, like myself, will find the need to make adaptations to our daily lives in order to cope. Those who are already having a challenging time will find that things will get harder.





## Elroy Ramantan, 27

*Cultural Advocate, Member of YSEALI Alum in Civic Engagement and AYAN (ASEAN Youth Advocacy Network) Brunei Darussalam*

In 20 years, I envision a planet Earth that's on the path to becoming a more sustainable and livable place. My optimism stems from the potential for a brighter ecological future, where communities and environmental advocates collaborate seamlessly with government bodies to achieve and protect the environment. A pivotal factor in this transformation is the leadership of indigenous peoples, who possess invaluable knowledge about safeguarding our natural resources.

By supporting indigenous-led initiatives and fostering their close relationship with government bodies, we can tap into their wisdom and deep-rooted connection to the environment. Their custodianship can guide us in preserving biodiversity, conserving precious ecosystems, and adopting sustainable practices.

While challenges persist, I believe that through unified efforts, improved policies, and a growing global consciousness about the environment, we can create a world where Earth thrives, offering a more livable and harmonious home for all its inhabitants. Together, we can build a greener, more sustainable future.



## Ariff Amir Ali, 18

*Awardee, Yayasan Khazanah Global Scholarship; Fellow, UNICEF Young Leaders Program from Malaysia*

Assuming that we acknowledge our house is on fire, and governments and corporations are held accountable, we might have a shot at damping the magnitude of global warming. In the recent IPCC synthesis report, to ensure that global warming remains at 1.5 degrees Celsius, net carbon emissions must be cut down by 48 per cent from 2019 levels by 2030, translating into the decarbonisation of the economy and energy. But while solving these fundamental issues, it's commonly overlooked how intersectional climate action is. I believe that the world will be more livable if we are strategic in our actions. We are at a turning point, and what we do now will impact the destiny of humanity. I am hopeful that this will be a reality one day, and I will cling to that hope until it is achieved.



## Serey Sambrathna, 20

*Student, Institute For International Studies and Public Policy, Cambodia*

Cambodia is particularly vulnerable to the effects of climate change, including rising sea levels, heat waves, floods, droughts, and more extreme and unpredictable weather events.

However, there are some solutions that we can act on and work together to address climate change and make the Earth healthier for everyone. First, we need to stop utilising fossil fuels and make investments in clean, accessible, affordable, sustainable, and reliable alternative energy sources. Second, since plastics release greenhouse gases into the atmosphere during their whole lifecycle, we must lessen our impact on the world by using fewer plastic bags. Lastly, the simple thing we can do to make Earth a healthier place for everyone is to plant and protect trees because trees absorb carbon dioxide from the atmosphere and release oxygen, which helps to save the planet.



## Aijohn Santos, 23

*Mental Health Worker at the National Center for Mental Health, the Philippines*

Living in a province, I've seen how agricultural lands have been transformed into urban areas. What worries me about climate change is the prospect of flooding. Flooding in our community has a profound impact, affecting our access to basic necessities like clean water, crops, and it often results in the destruction of our homes and belongings. If we do not take decisive action now, there's a real danger that the entire community might be overwhelmed by floods.

Countries can work together in addressing climate change through collaborative efforts through their respective governments, industries, educational institutions, and healthcare providers. These collaborations are vital for a comprehensive approach to tackling these multifaceted challenges.

*The views and opinions expressed belong solely to the respondents and do not reflect the official policy or position of ASEAN.*



# ENERGY MATTERS JUST AND INCLUSIVE TRANSITION TO LOW CARBON DEVELOPMENT



**Nuki Agya Utama, PhD**

*Executive Director, ASEAN Centre  
for Energy*



**Zulfikar Yurnaidi, PhD**

*Energy Modeling and Policy  
Planning (MPP) Department  
Manager, ASEAN Centre for Energy*

ASEAN's economy has grown tremendously and is on track for continuing progress. With the total population reaching about 792 million people in 2050, the economy is expected to grow by 4.6 per cent annually (CAGR) from 2020 to 2050. To ensure this growth trajectory, the region's energy demand needs to be met.



According to the baseline scenario of the 7th ASEAN Energy Outlook, the demand for primary energy (i.e., energy extracted from natural resources such as crude oil and natural gas) is expected to quadruple during the same period. However, regional efforts to pursue energy efficiency and adopt renewable energy measures could limit this increase to 2.7 times, emphasising the importance of “decoupling” economic growth and energy demand (ASEAN Centre for Energy, 2022).

These efforts are aligned with the global focus on climate change mitigation. Energy accounts for the bulk of total emissions, reaching 51 per cent by 2025. The global push to achieve the Sustainable Development Goals (SDGs), particularly Goal number 7 on affordable and clean energy; limit global temperature rise to 1.5 degrees per the Paris Agreement; and reach net-zero or carbon neutrality targets, are among the factors shaping the ASEAN energy sector.

In addressing these challenges, the ASEAN Plan of Action for Energy Cooperation (APAEC) serves as the regional blueprint of energy cooperation, setting aspirational targets to achieve energy security, accessibility, affordability and sustainability for all. The current iteration, APAEC 2016-2025 Phase II: 2021-2025, sets three targets by 2025: i) achieve a 35 per cent share of renewable energy share in installed capacity; ii) secure 23 per cent renewable energy in total primary energy supply (TPES); and iii) reduce energy intensity to 32 per cent compared to 2005 levels (APAEC Drafting Committee, n.d.).

As of the latest update, ASEAN is in a good position to achieve the installed capacity target, already reaching 33.6 per cent in 2021. However, the renewables’ share in TPES reached 14.4 per cent and the energy intensity reduction was at 24.5 per cent in 2021 (ASEAN, 2023). Therefore, accelerated efforts are required to meet these aspirational targets. With APAEC nearing its end, ASEAN Member States will now need to work on the next cycle of its energy blueprint. In line with this, ASEAN just released its Strategy for

Carbon Neutrality, placing a strong emphasis on the energy sector.

To address such challenges, APAEC works across seven programme areas, namely, ASEAN Power Grid, Trans ASEAN Gas Pipeline, Coal and Clean Coal Technology, Energy Efficiency and Conservation, Renewable Energy, Regional Energy Policy and Planning, and Civilian Nuclear Energy. These seven programme areas clearly highlight the diversity and comprehensiveness of energy issues. Noting that a singular solution cannot adequately address the energy trilemma, including energy security and sustainability concerns, ASEAN should leverage its strength through cooperation and interconnectivity in advancing each programme area.

### **Energy efficiency: Optimising the first fuel**

Energy efficiency has been touted as the first fuel or low-hanging fruit in clean energy solution due to its profound impact. Each unit of saved energy would reduce the amount of energy required—and with that, the associated emissions. Policies should be geared to provide incentives for end-users to improve their energy efficiency. These measures include standards and labelling for energy appliances, the promotion of energy conservation practices, nurturing innovative business models, enhancements in fuel efficiency and public transport, electrification, and smart energy management.

As a complement to policy development, innovative technology and financing should also be developed, especially in energy-intensive sectors, such as transport and industry. For example, ASEAN Centre for Energy is collaborating with the Korea Development Bank and the Green Climate Fund to develop and implement de-risking mechanisms in the industry energy efficiency sector. These mechanisms include guarantees, energy saving insurance, and the establishment of energy service companies.

In the building sector, a roadmap on energy-efficient building and construction has been formulated, identifying specific actions and recommendations in seven

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Energy efficiency has been touted as the first fuel or low-hanging fruit in clean energy solution due to its profound impact.

categories: urban planning, new building, existing building, materials, system and operations, sustainable energy, and resilience.


### **Energy interconnectivity: Electricity and beyond**

The region received a considerable boost in pursuing interconnectivity through the recent progress in the ASEAN Power Grid. At the forefront of this initiative is the success of the Lao PDR-Thailand-Malaysia, Singapore Power Integration Project in 2022. The initial 100 MW project is now under discussion for an upgrade to 300 MW. Indonesia, during its Chairmanship in 2023, initiated another interconnection project involving Brunei Darussalam-Indonesia-Malaysia-Philippines or BIMF. Additionally, Singapore has proactively initiated bilateral agreements with Cambodia, Viet Nam, and Indonesia.

In support of these efforts, ACE is conducting two feasibility studies between Indonesia and Malaysia, as follow-up to the ASEAN Interconnection Masterplan Study III. The overarching vision of the ASEAN Power Grid is crucial in facilitating and maximising the renewable energy potential across Member States. Such interconnection improves the region’s energy security and promotes sustainability. Achieving a balance between supply and demand is critical, allowing a higher penetration of variable renewable energy, such as solar and wind power.

Beyond electricity, interconnectivity is also important for other





energy sectors, such as oil and gas (for security) and bioenergy infrastructure. Emerging technologies, such as hydrogen and ammonia, even carbon as part of carbon capture and storage (CCS) technology, stand to benefit strongly from interconnection. Initiatives like a common gas market, oil stockpiling, and trans-ASEAN gas pipeline play a crucial role in securing energy during the energy transition phase, especially in addressing market volatility.

## Renewables: Securing stable supply

Renewable energy is indispensable in the transition to a low carbon economy. In power generation, ensuring a stable supply is vital, emphasising the need for baseload generation. The transition to renewable energy necessitates a higher share of hydro, geothermal, and bioenergy sources. Many countries in the region, such as Cambodia, the Lao PDR, and Myanmar, already use renewable energy, particularly hydroelectric power, with renewables even dominating their electricity mix.

Noting the differing resource availability in Member States, incorporating variable renewable energy sources is essential. Despite its intermittency issue, the interconnection, as previously discussed, can address the supply-demand balance. In this context, upgrading the available power grid to a smart power grid system becomes critical. Higher use of electricity by different types of end-users further underscores the necessity for such a smart grid system. In addition to power grids, energy storage emerges as another key technology for managing the variability of renewable energy sources. Technological innovations are crucial in providing the capacity and costs required for effective storage solutions.

The higher demand for clean energy technologies brings forth another key factor: critical minerals. From lithium to copper, nickel to rare earth materials, these critical minerals are essential components of many technologies, such as batteries, wind blades, photovoltaic (PV) cells, and even power grids. ASEAN countries can become

central players in the supply chain: Indonesia and the Philippines for nickel; Viet Nam, Malaysia, and Myanmar for rare earth elements.

Collaboration in developing a regional supply chain system is imperative to support ASEAN's initiatives towards sustainable transport and energy transition. Substantial progress has been achieved, among others, by the release of the ASEAN Leaders Declaration on Electronic Vehicle Ecosystem this year.

## Policy and emerging technologies: Planning the future

New technologies and innovations play a crucial role in pursuing energy transition. Examples include, Carbon Capture and Utilisation Storage (CCUS), Pumped Hydro Energy Storage (PHES), smart grids, nuclear small modular reactor (SMR), etc. Even for technologies that are available and have been adopted in other regions, implementation in ASEAN requires addressing issues related to maturity, cost effectiveness, and life cycle assessment.

For example, while nuclear energy has been part of the global energy mix, the region is still in the awareness-raising and capacity-building stage, seeking buy-in from policy-makers before implementation.

All of these shifts come with significant costs. Given their limited financial capacity, ASEAN Member States require support and collaboration from the private sector and global community. Noting the many options available, clear and robust policy-making becomes increasingly important. A regional approach must consider the differing status, potential, and strategies in each Member State. This discussion is timely as the region prepares for the next cycle of the APAEC, which includes defining targets and strategies.



References may be accessed through the following link:  
[https://bit.ly/Issues34and35\\_Ref](https://bit.ly/Issues34and35_Ref)



# ASEAN Sets Course for a Carbon-Neutral Future

**Enterprise and Stakeholder Engagement Division  
ASEAN Economic Community Department**

Climate action is urgent since the ASEAN region is acutely vulnerable to the various impacts of climate change. Its long coastlines, heavily populated low-lying areas, and high dependence on agriculture expose it to the threat of rising sea levels, severe floods, and prolonged dry seasons. Germanwatch's Global Climate Risk Index noted that five of the world's 20 most at-risk countries are from ASEAN.

Climate action is also crucial to maintaining ASEAN's economic growth. Climate-related regulations such as the Carbon Border Adjustment Mechanism (CBAM) that will be introduced by the European Union in 2026 will impact trade and investment in the region, given the tariffs imposed on carbon-intensive products. Additionally, investors are increasingly considering climate action when deploying new investments and large corporations are demanding more access to renewable energy supply before committing to investments or capacity expansions.

An analysis by the Boston Consulting Group (BCG) highlighted that pursuing a carbon-neutral future holds the potential to create a value-add of between USD 3.0 and USD 5.3 trillion to ASEAN's GDP by 2050. This can attract USD 3.7 to USD 6.7 trillion green investments,

and generate between 49 and 66 million additional jobs in ASEAN.

Recognising this potential, the ASEAN Economic Ministers endorsed the ASEAN Strategy for Carbon Neutrality on 19 August 2023, a visionary strategy that provides a springboard to propel forward ASEAN's green transition while unlocking huge economic opportunities in the region.

## **ASEAN Strategy for Carbon Neutrality**

The ASEAN Strategy for Carbon Neutrality aims to accelerate an inclusive transition towards a green economy by fostering sustainable growth and complementing ASEAN Member States' national policies in achieving their respective Nationally Determined Contributions target.

The strategy leverages ASEAN's structural advantages to identify appropriate actions that can be taken collectively at the regional level to accelerate decarbonisation and achieve a carbon-neutral economy.

The strategy defines carbon neutrality as the state where the net carbon dioxide emissions of a geographical area reach zero. This means that the carbon dioxide emitted within a geographical boundary is offset by an equivalent absorption of carbon dioxide within the same boundary through carbon sinks or appropriately agreed-upon and accounted-for carbon transfers. ASEAN Strategy for Carbon Neutrality outlines eight strategies that will deliver four key outcomes for the region namely: i) development of green industries; ii) interoperability within ASEAN; iii) globally credible standards; and iv) development of green capabilities.



## EIGHT CARBON NEUTRALITY STRATEGIES FOR ASEAN



Accelerate green value chain integration by establishing cooperation frameworks and remove trade barriers between member states to bring green products to market faster.



Strengthen regional circular economy supply chains by developing waste taxonomy and facilitate trade deals to support circular economy via regional trade.



Connect green infrastructure and market through building interconnectivity for green technologies and decarbonisation solutions to underpin regional deployments.



Attract and deploy green capital by building effective pathways to attract necessary capital to the region and between member states.



Develop carbon markets that are interoperable with each other within the region as well as globally.



Credible and common standards through the development of taxonomies and definitions on GHG reporting, carbon credits, and energy efficiency that align with the requirements of key markets.



Green talent development and mobility classifying and ensuring regional access to skills needed for carbon neutrality journey.



Green best practices sharing in R&D, technology, and green transition from within ASEAN and borrowing from the best practices in the world.



Photo Credit: ©Sansoen Saengsakoratt / Shutterstock

## Why the ASEAN Strategy for Carbon Neutrality matters for businesses

### Market opportunity and green competitiveness

Demand for sustainable products and services is skyrocketing globally. Consumers are increasingly conscious of environmental impact and prioritise brands that demonstrate commitment to sustainability. Aligning with the ASEAN strategy positions businesses to tap into this growing market and strengthen their brand image.

The transition to a green economy opens up new opportunities for innovation and investment. Businesses can develop and leverage cutting-edge clean technologies, circular economy models, and carbon-neutral processes, gaining a competitive edge in the region's rapidly evolving market.

### Regulatory compliance and risk mitigation

Carbon neutrality is not just an aspiration, it is becoming a regulatory reality. Countries across ASEAN are implementing stricter environmental regulations and carbon pricing mechanisms. The ASEAN strategy helps businesses anticipate future regulations and avoid potential penalties or operational disruptions.

Climate change poses significant risks to businesses, including supply chain disruptions, resource scarcity, and extreme weather events. The strategy's goals are to help businesses build resilience, mitigate these risks, and ensure long-term operational sustainability.

### Collaboration and shared value creation

The ASEAN strategy emphasises regional cooperation and collaboration. Businesses can participate in cross-border partnerships, knowledge sharing initiatives, and joint ventures to access resources, expertise, and scale up their climate action efforts.

*Note: This article appears in the January 2024 edition of ASEAN for Business Monthly Bulletin: <https://asean.org/our-communities/economic-community/resilient-and-inclusive-asean/public-private-sector-engagement-ppe/>*



# SOCIO-CULTURAL IMPACT OF CLIMATE CHANGE



## CULTURE



World Heritage sites face climate-related challenges, including fires, floods, droughts, desertification, and ocean acidification. Climate-induced community displacement endangers cultural practices, oral traditions, performing arts, and traditional knowledge, impacting the environment. Additionally, climate change hampers economic opportunities in cultural and creative industries, as well as cultural tourism, severely limiting global communities' access to and enjoyment of their own culture.



## HEALTH AND NUTRITION



Extreme climatic events like heatwaves, floods, and typhoons lead to deaths, injuries, and disabilities.



Climate change creates favourable environments for climate-sensitive infectious diseases, particularly water-, food- and vector-borne diseases.



Climate change brings new and emerging health issues such as heat stress and renal disease caused by high temperature; also increases respiratory diseases due to poor air quality.



Food shortages and higher food prices caused by extreme weather events can lead to malnutrition and undernutrition. Child malnutrition, in particular, can have severe and long-term consequences, including stunted growth and impaired cognitive development.



Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from undernutrition, malaria, diarrhea, and heat stress alone.



## LABOUR AND EMPLOYMENT



Extreme heat and heatwaves pose a significant threat to the health and productivity of workers. Heat stress has the potential to reduce total global working hours by 2.2 per cent, equivalent to a productivity loss of 80 million full-time jobs. This could result in a global gross domestic product reduction of 2.4 trillion US dollars by 2030.



Rising sea levels and increased coastal flooding put jobs in coastal regions, especially in the fishing and tourism industries, at risk.



Disruptions in the supply chain, often triggered by climate-related events such as hurricanes or wildfires, result in job losses and financial instability.



Climate action creates opportunities for the growth of green jobs. For example, jobs created by the renewable energy industry could total 42 million worldwide by 2050, more than enough to offset jobs lost in fossil fuel industries.



## EDUCATION AND YOUTH



Severe weather events, such as typhoons and floods, damage school facilities or necessitate the use of schools as emergency shelters. This leads to school closures which disrupt learning.



The loss of property and assets due to weather-related disasters and displacement can exact a heavy financial toll on families, forcing them to prioritise survival and economic stability over their children's education.



## MIGRATION AND HUMAN SECURITY



Climate change also results in the displacement and movement of people within and across borders. It is expected to displace between 25 million and 1 billion people by 2050 on a permanent or temporary basis. Given the vulnerability of some ASEAN countries to extreme weather events, migration from these countries to their less vulnerable neighbours is likely to occur.



## WOMEN AND GIRLS



Women in rural and impoverished areas bear the brunt of additional household responsibilities, such as taking on extra childcare duties, when disaster strikes.



In low- and lower-middle income countries, during periods of drought and unpredictable rainfall, women who rely on agriculture work harder to secure income and resources for their families.



Climate change heightens the potential for conflict across the world. This increases the vulnerabilities of women and girls to all forms of gender-based violence.



Climate change and natural disasters jeopardise the health of women and girls by limiting their access to essential services and healthcare, while also heightening risks related to maternal and child health.

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**What worries you about climate change and how will it affect you and your community, if we do not act now? How can countries work together to address climate change and make the Earth healthier for everyone?**



**Raihan Zahirah Mauludy Ridwan, 25**

*Associate Account Manager, Google and Official Youth Representative at 42nd ASEAN Summit 2023, Indonesia*

Seventy per cent of the northern Bandung area is home to more than 100 farmers. Hitherto, Bandung can reach temperatures beyond 30 degrees Celsius, which leads to drought and a devastating catastrophe for the local farmers as their main source of income is disrupted. This eventually interferes with the food security of local people since the majority of traditional markets and supermarkets take the vegetables and fruits from the local farmers in northern Bandung. Last but not least, drought has also brought water crises and scarcity to 10 areas of Bandung. That being said, I believe that countries can work together by strengthening multi-sectoral collaboration and enacting penta-helix partnerships to share technology and expertise, cooperate on research and development, enforce a stronger global carbon market, mainstream carbon offset programmes, provide financial assistance to developing countries, and invest in climate mitigation/adaptation initiatives.



**Amal Firzanah Binti Haji Abdul Ghafar, 23**

*Student, Master in Islamic Finance, University Brunei Darussalam, Brunei Darussalam*

Climate change, as we know, will always happen naturally, but human factors made it happen more frequently and faster compared to the last Ice Age. It worries me that the effects of climate change, such as the frequent natural disasters, will take place and result in unfortunate events of basic needs deprivation for both myself and my community. To counter climate change issues, we must practice sustainable development and living that does not compromise the present and future generations' needs, such as adapting the biomimicry of nature and emphasising the awareness of climate change so the Earth will be a healthier sanctuary for us to live in.



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To reverse the climate crisis and achieve climate recovery, collective action is needed. Every country can work nationally to reduce its contribution to environmental degradation by working seriously with the commitments that they have made during the annual COP or any high-level meetings.

*Fithriyyah, MD*



**Nur Marsya Amani Binti Mohd. Jamil, 25**

*Perdana Fellow to the Minister in the Prime Minister's Department (Law and Institutional Reform) of Malaysia*

Climate change deeply worries me for its far-reaching consequences. In Malaysia, where I come from, the impacts are already evident through more frequent floods and rising temperatures. Prolonged inaction on climate change threatens our agriculture, biodiversity, and coastal communities. Addressing this challenge requires collective effort. Nations must collaborate, sharing technologies and best practices. We can promote green policies, incentivise eco-friendly innovations, and invest in sustainable infrastructure. Additionally, education and public awareness play a vital role in fostering a global culture of environmental stewardship. By acting together, we can reduce emissions, adapt to a changing climate, and ensure a healthier, more livable Earth for generations to come.



**Eugene Wong Weng Soon, 54**

*Chief Executive Officer, Sustainable Finance Institute Asia Limited, Malaysia*

Climate change is real and its consequences will change our lives as we know it. It will cause physical damage, bring about food shortages, destroy the ecosystem, and cause economic and social instability. Fighting climate change is not easy as money is required and we cannot decarbonise overnight. As such, we need to manage an orderly, just, and affordable transition. ASEAN Member States have come together to drive the sustainability agenda. The efforts run the range, including collaborating to orient funding towards the region's sustainability efforts, the establishment of the ASEAN Taxonomy for Sustainable Finance, and regional power interconnection. Developed economies need to support the emerging and developing economies in this transition. We are already running out of time. At the rate we are going, without more significant effort, we are on track for a 2.8 degrees Celcius temperature rise instead of the 1.5 degrees Celcius we are aiming to achieve. All stakeholders—governments, the private sector, civil society and academia must collaborate.





### Fithriyyah, MD, 27

*Member, Youth Advisory Group at the London School of Hygiene and Tropical Medicine Centre for Climate Change and Planetary Health; Program Associate from Indonesia, ASEAN Youth Forum*

From a medical doctor's perspective, the unfavourable impacts of climate change will directly and indirectly affect the health of the people globally, including my own community which I'm serving right now. For the current climate, we are already experiencing unusually hot temperatures that are getting hotter every day, fewer rainy days, and people tend to have indoor activities instead of outdoors in daylight. These factors increase the risk of heat-related illness, exposing vulnerable people such as the unhoused, older people, and young children, to heat stroke or heat stress. Besides that, there will be more health concerns arising apart from the fact that other sectors might be impacted. Health is a crucial pillar—it can make communities resilient, with an ability to adapt and mitigate the climate crisis effects.

To reverse the climate crisis and achieve climate recovery, collective action is needed. Every country can work nationally to reduce its contribution to environmental degradation by working seriously with the commitments that they have made during the annual COP or other high-level meetings. The global leaders should recognise their role as the upstream stakeholder and should be able to provide systematic solutions that also enable the downstream stakeholders, such as grassroots communities, to support it through their own capacity in enhancing efforts to reduce environmental degradation.



### Jin Xuan, 22

*Master of Science Candidate at University of Oxford; ASEAN observer to G20 Youth 2022 from Singapore*

Coming from a low-lying island state, climate change is of immediate concern to me and my community. As the heat becomes increasingly unbearable (and air conditioning becomes increasingly unsustainable for the long run, not to mention the issues surrounding energy poverty with services such as air conditioning), our bodies may start to falter and weaken. The heat may worsen certain underlying conditions amongst the vulnerable (e.g. asthma) and also perpetuate vector-borne diseases such as dengue fever. All of these are extremely grave concerns that are inadvertently linked to rising temperatures. Even though they may not be as dramatic as catastrophic events such as earthquakes or typhoons, the potential long-term damages of heat-related health problems must not be underestimated.

To me, the first step to motivate global climate action is to think of ourselves not only as members of nation-states but also as inhabitants of planet Earth. We have much more in common than we think. Whilst not every country will experience the direct ramifications of climate change to the same extent, we will inadvertently experience some form of indirect effect through the social or economic domain. For instance, the climate change-induced impacts on financial markets—such as the shared process of carbon crediting mechanism—will be felt in every corner of the world. Therefore, the first step to motivate collective climate action is to think of ourselves as not simply as citizens of a country but also as citizens of the Earth.

*The views and opinions expressed belong solely to the respondents and do not reflect the official policy or position of ASEAN.*



ACTING NOW FOR TOMORROW

# Addressing Climate Mobility Challenges in Southeast Asia



**Sarah Lou Ysmael Arriola, JD**

*Regional Director for Asia and the Pacific,  
International Organization for Migration (IOM)*

Climate change is impacting the lives of people worldwide and stands out as one of the gravest challenges facing the international community. Respondents to the 2022 World Economic Forum Global Risks Perception

Survey ranked “climate action failure” as the number one risk with potentially the most severe impact over the next decade. Extreme weather due to climate change is considered the second most serious short-term risk, with biodiversity loss coming in third. One-quarter of humanity lives in conflict-affected areas, and in 2022, there were 31.8 million new internal displacements due to weather-related events (IOM, 2023a).





**S**outheast Asia is one of the regions most vulnerable to the adverse impacts of climate change, where rising sea levels, heat waves, floods, and droughts, as well as increasingly intense and unpredictable weather events, affect millions of people in densely populated areas and coastal zones. According to a study published in 2021 (Eckstein et al., 2021), the Philippines, Myanmar, and Thailand ranked among the top 10 countries in the world for climate-related loss events between 2000 and 2019, while Cambodia and Viet Nam were in the top 20. Nineteen of the 25 cities most exposed to a one-meter sea-level rise are in Asia, seven of those are in the Philippines. Although Southeast Asia is projected to warm slightly less than the global average, the region's sea levels are rising faster than elsewhere, and shorelines are retreating in coastal areas where 450 million people live (World Economic Forum, 2021).

Human mobility patterns, including migration and displacement, are already being influenced by climate and environmental factors in various parts of the world, including in Southeast Asia. Climate-related disasters and deprivation compel individuals and families to make the challenging decision to migrate, whether to safeguard themselves from environmental risks or to seek better economic opportunities elsewhere. Human mobility can be both an outcome of climate and environmental impacts, as well as serve as an important adaptation strategy to build resilience.

The Internal Displacement Monitoring Centre indicates that in the past decade, floods, storms, wildfires, and other weather-related disasters have caused an average of 21.9 million annual displacements worldwide per year. In the Asia Pacific region, there were over 225 million internal displacements between 2010 and 2021, which was over three-quarters of the global total for this period. Southeast Asia accounted for over 30 per cent of this (Internal Displacement Monitoring Centre, 2022). The growing consequences of climate change are a reminder that without proper adaptation plans to improve resilience, more and more people will likely be on the move in the future, and humanitarian crises will become increasingly frequent in the years ahead.

Reflecting on these challenges, an extensive array of international agreements and frameworks have sought to address climate and environmental change and human mobility collectively. For example, linkages have been integrated in the context of the United Nations Framework Convention on Climate Change (UNFCCC), notably the Paris Agreement, and in the Sendai Framework for Disaster Risk Reduction. The main migration frameworks, such as the Global Compact for Safe, Orderly and Regular Migration, also acknowledge and address climate and environmental migration. Unfortunately, despite the progress that these international

agreements have made, and the many strong examples of policies and programmes implemented worldwide addressing climate change and human mobility together, the scale of action and the pace of change have so far been insufficient (IOM, 2023b). Moreover, human mobility and climate change have been unevenly integrated within national frameworks, with only 39 per cent of Nationally Determined Contributions in 2022 referring to human mobility (IOM, 2023a).

This is a particular challenge in the Asia Pacific region, especially for the countries in Southeast Asia. Consecutive reports by the United Nations and others have all pointed to the fact that the region is off-track in meeting the climate-related Sustainable Development Goals and is in fact regressing on these important commitments. Environmental degradation continues unabated while greenhouse gas emissions continue to rise. At the same time, disaster and displacement risk is increasing, partly driven by the significant urbanisation experienced across the region. Several analyses have also highlighted that human mobility is still “under-discussed” in ASEAN climate-related policymaking.

There is an urgent need to act without further delay. In Southeast Asia, ASEAN will be a critical actor in this effort. The association already plays a key role in promoting regional collaboration and policy coherence, including on climate





change and disaster risk reduction areas. However, ASEAN Member States need to upscale efforts to advance proactive and forward-looking responses to the human mobility dimensions of climate and environmental change, for example, efforts to better anticipate, prepare, and respond to challenges arising in the future, as well as to promote better governance of human mobility linked to climate and environmental factors.

IOM has successfully provided support to ASEAN countries and other regional partners in promoting better governance for climate mobility. In September 2023, on the sidelines of the United Nations General Assembly, IOM and the Republic of the Philippines convened a high-level, pre-COP28 Ministerial Roundtable on Migration, Environment, and Climate Change in the Asia-Pacific Region. The roundtable brought together high-level participants from governments to discuss country perspectives on the impact of climate change on migration and identify specific needs and potential areas of action to address these impacts, with a view to working towards a common understanding and approach on the issue across the region.

Additionally, IOM convened the first-ever Asia-Pacific Youth Summit on Climate Change and Human Mobility in Manila on September 2023. The Youth Summit hosted over one hundred and forty virtual and in-person attendees from several Philippines universities

including students from Miriam College's Communications, Global Studies, Environmental Planning, and Management programmes and from the Ateneo Law School. Eight young leaders from the Asia-Pacific Region (including from the ASEAN countries of Singapore and the Philippines) discussed the issue of climate migration in their respective contexts, as well as approaches to climate mobility activism and the challenges faced by youth activists.

With the ASEAN Secretariat, IOM is also supporting the development of the second edition of the *ASEAN Migration Outlook*, which will focus on climate mobility. It is hoped that this next iteration of the *Outlook* will help develop a comprehensive understanding of the climate-migration nexus, including its complexities, challenges, and options for policy for governments across the region. It will be the first such report produced on this topic in the ASEAN context.

The above-mentioned initiatives are, however, just the beginning of the dialogue that needs to take place within the region. Over the long-term, governments across the region should work collaboratively towards a comprehensive approach to climate mobility that seeks to increase the scope of options available to the individuals, households, and communities affected by climate change, including the most vulnerable. This may include leveraging well-managed migration pathways to allow people to move out of harm's

way, enhancing humanitarian responses and providing durable solutions to displacement to support people on the move, and promoting sustainable development measures, building community resilience, and preventing and reducing disaster risks to allow people to stay.

Many options are available to states, individuals, and communities to address human mobility in the context of climate change, and there is a range of practical examples that can be replicated and scaled up while also developing a robust and commonly agreed governance framework within the ASEAN region. Such a framework will bring the region closer to achieving the related sustainable development goals espoused in the UN 2030 Agenda, and leverage the links between mobility and development.

There is an urgent need for a comprehensive response that will provide solutions for people to stay, solutions for people to move, and solutions for people who are already on the move.

Time is running out, and climate change response needs to advance urgent action boldly. To many Southeast Asian countries, it will soon become an existential crisis.



References may be accessed through the following link:  
[https://bit.ly/Issues34and35\\_Ref](https://bit.ly/Issues34and35_Ref)



# DIGITAL TRANSFORMATION PAVING THE WAY FOR A SUSTAINABLE FUTURE



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The ASEAN region is noted for its economic vitality, and in recent years, some of the world's fastest-growing digital industries have emerged in the region. The COVID-19 pandemic accelerated this trend, with an increase of 60 million more digital customers since the pandemic began. The internet economy is on track to account for 360 billion US dollars by 2025. According to a Google and Temasek report, ASEAN is the region with the fastest-growing internet economy. By 2020, the user base is anticipated to increase to 480 million from 260 million users in 2016. Parallel to this, digitalisation has impacted ASEAN societies and brought with it an expanding number of advantages and conveniences. These include the expansion of the digital economy, fresh avenues for learning and working, and closer bonds with loved ones.



As the internet becomes an indispensable source of knowledge and information, digital access is essential for the growth of a knowledgeable and connected populace. However, segments of the ASEAN population, particularly those who belong to vulnerable groups, remain digitally excluded. This can be attributed to common obstacles, such as lack of access to technology, lack of expertise, and discomfort with using technology. ASEAN Member States must be prepared for the digital age in terms of both the availability of connectivity infrastructure and the widespread adoption of technology by enterprises, governments, and the general public. If development is unequal, the digital gap may get worse.

To promote the digital readiness of ASEAN Member States, the Framework for Developing Digital Readiness Among ASEAN Citizens was adopted during the 15th Conference of the ASEAN Ministers Responsible for Information (AMRI) held in March 2021. The framework, which is comprehensive, non-binding, and aspirational, situates the sector's ongoing work on digital communication, information access, and literacy within a larger context of creating "digital readiness" among ASEAN residents. This framework has identified three interrelated elements relevant to digital readiness, namely (i) digital access; (ii) digital literacy; and (iii) digital participation.

## Focusing on digital literacy, access, and participation to increase readiness

In the modern era, the proliferation of digital technologies has brought about profound changes in various facets of human life, from communication and education to commerce and governance. As societies increasingly rely on digital platforms and tools, the concepts of digital literacy, digital access, and digital participation have emerged as cornerstones of digital readiness. This section explores how these

three interrelated elements enhance the level of digital readiness in individuals and communities, ultimately fostering empowerment and preparedness in the digital age.

Digital literacy, access, and participation are crucial to enhancing digital readiness in the ASEAN region. As ASEAN countries continue to develop and integrate technology into various aspects of their societies, these factors contribute to their preparedness to engage effectively and benefit from digital advancements.

### i. Digital Literacy: Navigating the Information Landscape

Digital literacy in the ASEAN region equips individuals with the skills to navigate the digital landscape, utilise technology, and critically assess digital information. It enables people to access and evaluate information from various sources, promoting informed decision-making; facilitates the safe and secure use of digital tools, which counter online threats and cybercrimes; fosters regional and global connections; and helps people embrace digital solutions for addressing local challenges like healthcare, education, and agriculture.

### ii. Digital Access: Bridging Socioeconomic Divides

Digital access ensures that people across the ASEAN region have the necessary tools and infrastructure to participate in the digital world. It allows individuals and communities to access online educational resources and remote learning opportunities to bridge gaps in education; participate in the digital economy through e-commerce, online marketplaces, and digital financial services; connect with government services and information, promoting transparency and efficiency; and engage in telehealth services, especially in remote or underserved areas.

### iii. Digital Participation: Engaging and Contributing

Active digital participation empowers individuals to contribute to the digital ecosystem and benefit from its opportunities. In the ASEAN context, digital participation enables people to share local knowledge, culture, and traditions globally, promoting cultural exchange; collaborate on regional initiatives, such as environmental conservation and disaster management; harness the power of social media to raise awareness about social issues and drive change; and develop digital skills that are relevant to emerging sectors, fostering innovation and entrepreneurship.

In the ASEAN region, where countries vary in economic development, urbanisation, and technological infrastructure, addressing digital readiness is particularly important. Governments, organisations, and stakeholders across the region can work together to:

- Provide digital literacy training programmes to equip citizens with essential skills.
- Invest in improving digital infrastructure to ensure widespread access to technology and the Internet.
- Foster digital inclusion policies that prioritise marginalised and underserved populations.
- Promote cross-border collaboration and knowledge-sharing to accelerate digital growth.

The ASEAN region can enhance its overall digital readiness by fostering digital literacy, ensuring equitable digital access, and encouraging active digital participation. This, in turn, can lead to improved economic growth, social development, and global competitiveness within the rapidly evolving digital landscape.





## Digitalisation and sustainable development efforts

Digitalisation refers to the use of digital technologies to transform processes, operations, and communication within an industry or sector. The emergence of the carbon market in Asia in the last decade is directly related to commerce, finance, and entrepreneurship, and can be considered an emerging digitalisation trend. The carbon market is closely related to the Sustainable Development Goals (SDGs) through its potential to contribute to global efforts to address climate change and promote sustainable development. In the context of the carbon market, digitalisation plays a significant role in enhancing its efficiency, transparency, and accessibility. Some of the ways digitalisation is influencing the carbon market include:

- i. Digital emissions tracking and reporting can facilitate real-time monitoring and reporting of emissions, enabling companies to track their carbon footprint more accurately. This type of

data can be used for compliance with emission reduction targets and for trading carbon credits.

- ii. Block chain technology can offer a decentralised and transparent platform for recording carbon credit transactions. It helps verify the authenticity of carbon credits and ensures their proper accounting and trading, reducing the risk of fraud.
- iii. Advanced data analytics can analyse large datasets related to emissions, energy consumption, and carbon offsets. This information can assist businesses in making informed decisions to optimise their carbon reduction strategies.
- iv. Devices and smart sensors can be employed to monitor energy usage and emissions in real-time. These data can be integrated into the carbon market platforms, enabling more accurate carbon credit calculations. Digital platforms serve as marketplaces where buyers and sellers of carbon credits can connect, negotiate, and execute transactions efficiently.

The combination of the carbon market and digitalisation holds great potential in accelerating the transition to a low-carbon economy, encouraging sustainable practices, and contributing to global efforts to combat climate change. Overall, the carbon market can be a valuable tool in the global effort to address climate change and contribute to achieving the SDGs by promoting environmentally responsible practices and supporting sustainable projects worldwide.

However, the most challenging task is how to involve local communities in the carbon market mechanism. Without them, the pathway to carbon net zero will not be possible. Ultimately, achieving carbon reduction requires a collective effort involving governments, businesses, communities, and individuals. It will require a shift in values, behaviours, and policies to prioritise sustainability and long-term well-being over short-term consumption. As consumers, each of us can play a vital role in making informed choices, supporting sustainable practices, and advocating for a more environmentally responsible future.



# ACCELERATING DIGITAL TRANSFORMATION AND EMBRACING GROWTH IN THE ASEAN SOCIO-CULTURAL COMMUNITY (ASCC)

The COVID-19 pandemic acted as a catalyst for the ASEAN region, prompting a focus on accelerating its development agenda by incorporating the Fourth Industrial Revolution (4IR) into its recovery strategy. In response to the crisis, ASEAN developed the Consolidated Strategy on the Fourth Industrial Revolution for ASEAN in 2021, providing policy guidance to build an ASEAN digital community and maximise

the benefits of digital transformation. The ASEAN Comprehensive Recovery Framework (ACRF) and the Ha Noi Declaration on the ASEAN Community's Post-2025 Vision recognise the need to accelerate inclusive digital transformation to address emerging opportunities and social challenges.

## DIGITAL TRANSFORMATION EFFORTS IN THE ASCC



### HEALTH

The ASEAN Post-2015 Health Development Agenda (2021-2025) emphasises digital health and health information systems to strengthen healthcare and enhance public access. Initiatives like the ASEAN Biodiaspora Virtual Centre and the ASEAN Public Health Emergency Coordination System (APHECS) contribute to regional pandemic response efforts.



### CULTURE

The Digital Cultural Heritage Content of ASEAN Project was launched in 2019 to showcase and promote ASEAN's cultural heritage. The ASEAN Culture House in Busan, South Korea offers visitors a virtual reality (VR) experience that digitally recreates World Heritage Sites from the 10 ASEAN Member States.



### COMBATTING MISINFORMATION

Recognising the challenge of misinformation, the ASEAN Ministers Responsible for Information adopted a Joint Statement in August 2020 to minimise the adverse effects of COVID-19 by combating fake news and enhancing effective public communication during the pandemic.



### EDUCATION

The 12th ASEAN Education Ministers Meeting in October 2022 endorsed the Declaration on Digital Transformation of Education Systems in ASEAN. This declaration focuses on optimising digital technology for teaching and learning, promoting a safe and secure digital education ecosystem.



### POVERTY ERADICATION

The ASEAN Framework Action Plan on Rural Development and Poverty Eradication (2021-2025) includes workshops on leveraging digital and smart villages to revive the village economy.



### DISASTER RESILIENCE

The ASEAN Disaster Resilient Outlook (2021) recommends technological innovations in disaster management, highlighting the importance of increased digital literacy for strengthening response mechanisms and building resilience during disasters.



### FUTURE OF WORK

The ASEAN Declaration on Promoting Competitiveness, Resilience, and Agility of Workers for the Future of Work underscores ASEAN's commitment to developing a human-centred approach in preparing workers for technological advances, demographic transitions and the green economy.



# PREPARING ASEAN FOR THE DIGITAL FUTURE

To transition to a digital economy and society, ASEAN emphasises progress in four key areas:



## SKILLS

The ASEAN Declaration on Human Resource Development for the Changing World of Work commits to reskilling and upskilling the workforce, acknowledging the need for lifelong learning in the face of evolving work environments.



## DIGITAL INFRASTRUCTURE

The ASEAN Digital Masterplan 2025 outlines interventions to upgrade telecommunications and digital infrastructures, ensure broadband coverage, and extend it to rural areas.



## BUSINESS TRANSFORMATION

The Masterplan on ASEAN Connectivity 2025 promotes the adoption of digital technology by micro, small, and medium enterprises (MSMEs) to enhance their participation in the digital economy. The ASEAN Agreement on Electronic Commerce aims to boost e-commerce growth.



## DIGITAL PUBLIC SERVICES

The ASEAN Declaration on Human Resource Development for the Changing World of Work commits to reskilling and upskilling the workforce, acknowledging the need for lifelong learning in the face of evolving work environments.

## COLLECTIVE ACTION

During the 28th ASCC Council Meeting, ASEAN Member States reaffirmed their commitment to building resilience and preparing for future challenges in the new era. The meeting emphasised the importance of digital transformation in education, with Thailand, the incoming ASEAN education sector chair for 2024, highlighting the theme "Transforming Education to Fit the Digital Era."

Indonesia stressed ASCC's commitment to accessibility and the future of education, while Malaysia highlighted national policies such as the National Digital Economy Blueprint for digitalisation. Brunei emphasised the role of digital

transformation in uplifting the livelihoods of cultural and creative workers, and the Philippines urged capitalising on global technological advancements for a high-performing, people-centred civil service and good governance.

In the coming years, ASCC aims to collaborate with other pillars and Member States to ensure digital policies and initiatives benefit the entire ASEAN population, fostering a safe environment for all, regardless of age, gender, ethnicity, or economic status. With a collective effort, ASEAN is poised to leverage digital transformation for a stronger and more inclusive future.

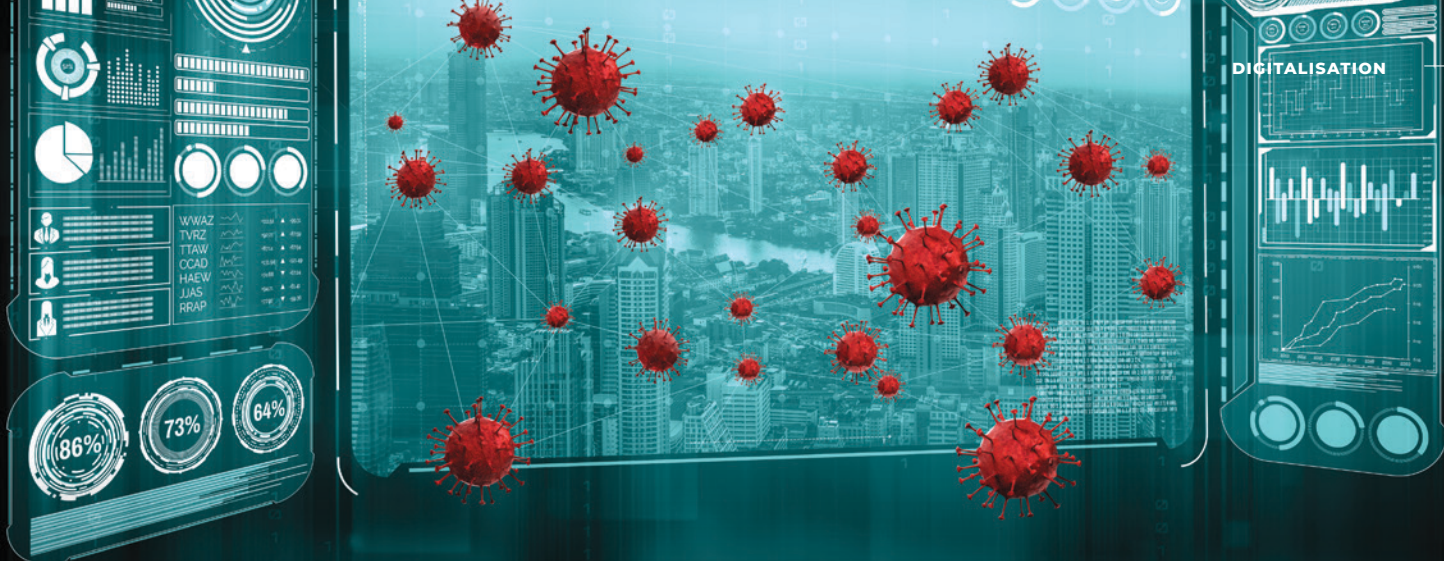


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**Digital Transformation**



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# REVOLUTIONISING BIOLOGICAL THREAT INTELLIGENCE



## ASEAN BioDiaspora Virtual Center

In the face of unprecedented global health challenges, the ASEAN BioDiaspora Virtual Center (ABVC) has emerged as a pioneering force in the realm of infectious disease analytics within the region. ABVC has evolved into a crucial player in the battle against infectious diseases, leveraging big data analytics to monitor, analyse, and disseminate information. Over the past century, global disease outbreaks have increased, with a 17 per cent chance of another pandemic in an individual's lifetime, potentially increasing to 44 per cent in the next few decades. However, identifying the pathogen remains challenging.

The genesis of ABVC traces back to the onset of the COVID-19 pandemic in the Philippines, where it embarked on its mission to provide timely and comprehensive insights into the evolving landscape of infectious diseases. Presently headquartered in Indonesia, ABVC has expanded its purview to include an array of emerging diseases. Additionally, ABVC actively monitors infectious and emerging diseases based on the frequently reported diseases in the ASEAN Region.

One of ABVC's standout features is its commitment to transparency and

accessibility. The centre produces a spectrum of reports, including the Morbidity and Mortality Weekly Report (MMWR) for infectious and emerging diseases in the region. These reports serve as a valuable resource for policymakers, healthcare professionals, and researchers, offering a comprehensive overview of disease trends, risk assessments, and emerging threats. ABVC's reports are currently accessible through the ASEAN Public Health Emergency website, and the centre has focus plans to enhance its digital presence by 2024.

Looking ahead, ABVC envisions the creation of an interactive data hub that connects regionally and globally. This initiative aims to open access to infectious disease data, foster collaboration between government and non-government organisations, researchers, and empower the public with knowledge. The data hub will serve as a dynamic repository, allowing users to explore, analyse, and contribute to the collective understanding of infectious diseases in the ASEAN region.

The multifaceted reports generated by ABVC cater to diverse audiences. In addition to the MMWR, the

centre produces focused reports on specific diseases, ensuring stakeholders can access in-depth analyses tailored to their areas of interest. Moreover, disease alerts are formulated to enhance preparedness and response to biological threats.

ABVC's commitment to knowledge dissemination extends beyond traditional reports. The centre actively engages with the general public through social media advisories, providing accessible and digestible information that aids in promoting awareness and understanding of infectious diseases.

In conclusion, the ABVC stands at the forefront of biological threats in the ASEAN Region. With its expanding catalogue of reports, digital initiatives, and pledge to transparency, ABVC is poised to catalyse a paradigm shift in the way the region responds to health emergencies. As we navigate an era of evolving health threats, ABVC emerges as a beacon of innovation, collaboration, and knowledge-sharing for the benefit of the ASEAN Community.

# THE ASEAN DIGITAL ECONOMY FRAMEWORK AGREEMENT

## Overview

The ASEAN Digital Economy Framework Agreement (DEFA) aims to accelerate ASEAN's transformation into a leading digital economy that fosters greater digital cooperation and paves the way for regional digital integration and inclusive growth and development.

To secure widespread support for the agreement, ASEAN has commissioned a comprehensive study to assess the progress of ASEAN and identify opportunities across various facets of the digital economy.

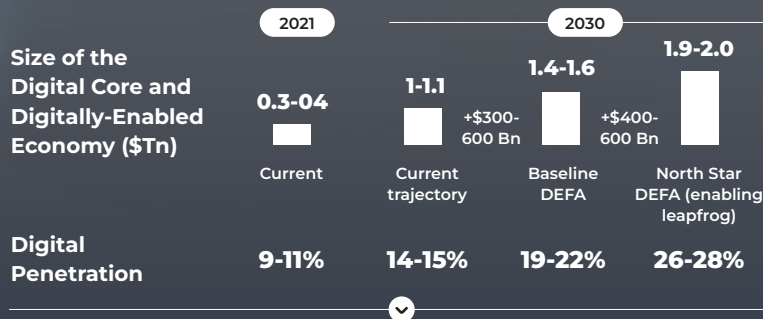
Drawing on the understanding of ASEAN's strengths, ongoing efforts on the digital economy, and consultations with the private sector and ASEAN Member States, the DEFA study outlines elements that can inform the negotiation process and serve as the foundation for the launch of negotiations on a without-prejudice basis.

## Size of the digital core and digitally-enabled economy

At current trajectory, ASEAN Digital Economy will **grow 3X to reach \$1Tn+ by 2030**

Forward-looking and aspirational DEFA can **double the value** of Digital Economy to **~\$2Tn**

A forward-looking and aspirational DEFA can grow the digital economy to ~\$2Tn by 2030...



...with positive economic impacts on all AMS, especially emerging AMS



**Value Multiplier**

Value Multiplier can be as high as 6.5x for lower-middle income ASEAN countries

Source: Oxford Economics; Gartner; IDC; VMware; Straits Research; EDBI; BCG Analysis;



## Massive additional benefits expected through digital economy not all quantifiable, but highly valuable

### Positive climate impact

Estimates show, if brought to scale, digital technologies could potentially create \$12-30 Bn in social cost savings

### Improved resilience

Economies with high digital readiness showed better resiliency to crisis during COVID-19. This was especially true for ASEAN businesses/companies; highlighting the need for greater digital inclusivity

### Employment and social mobility

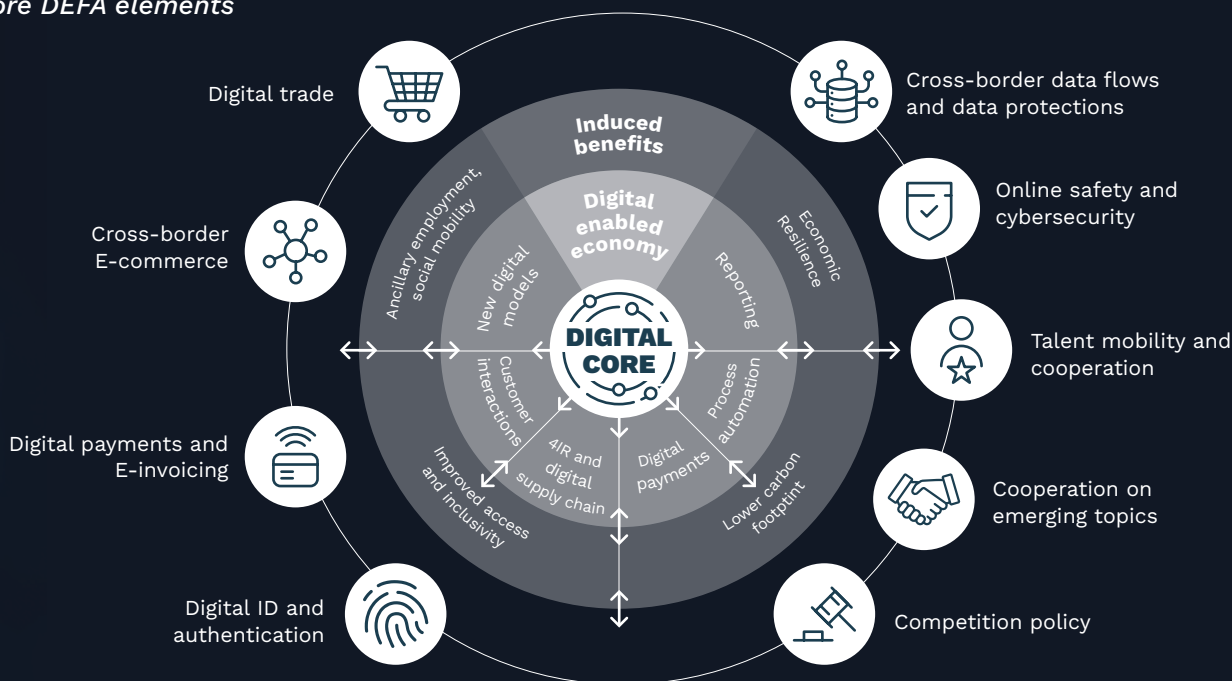
Digital adoption can create new jobs and income opportunities in rural communities, promoting poverty reduction

### Improved access and inclusivity

Digital technology has made it easier for people to access educational resources, access information and more effectively participate in civic life

## Nine core DEFA elements endorsed without prejudice through various engagements

### Core DEFA elements



## Tasks ahead

The nine elements identified in the study were endorsed without prejudice at the 55th ASEAN Economic Ministers meeting in Semarang, Indonesia, on 19 August 2023.

On 30 November 2023, during the 10th ASEAN Economic Community dialogue, the key provisions of DEFA were presented to an audience of 600 business representatives from the ten ASEAN Member States, multinational companies, and various international organisations and forums. Panel discussions delved into the agreement's

implications for the region and explored the business sector's aspirations tied to the accord.

The negotiations for DEFA among ASEAN Member States formally began in December 2023. The overarching goal of ASEAN is to conclude negotiations by the end of 2025, followed by the development of a comprehensive implementation plan.

DEFA will serve as a living document capable of adapting to a constantly evolving technology and socio-economic landscape.

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Inputs from the Digital Economy Division, ASEAN Economic Community

# THE RIGHT TO DATA PRIVACY IN THE DIGITAL ECONOMY



**Josh Lee Kok Thong**

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Imagine this. You are a commuter in Bangkok, or a pedestrian in Indonesia. You are going about your daily life—shopping, working, or enjoying some leisure time. Suddenly, you discover that somebody has been tailing you and tracking your every move. The perpetrator has been finding out details about your life, and sharing it with parties you do not know.

You are shocked, but you know what you can do. You report this to the nearest police station. They investigate; the perpetrator is dealt with by the law. The world is now a safer place.

Yet, imagine if this happened entirely online, by actors completely unbeknownst to you and about data you had no idea you had shared. Do you know what your rights are in your data, and what actions you can take?

Today, where the digital world has melded into all aspects of life, literacy of our rights as digital citizens and about our personal data and how it is being used is not just important—it is imperative. Yet, despite Southeast Asia having an Internet penetration rate of over 70 per cent and being one of the world's fastest-growing regional digital economies, there is an anecdotal sense that regional consumer awareness of data protection is not where it should be. This lack of understanding creates issues downstream: it creates room for misunderstanding about how and why companies deal with personal data, resulting in a roadblock in forming digital trust; it increases the risks of exploitation by non-bona fide players; and it feeds into a region-wide culture that does not adequately respect and value the criticality of data in the digital economy.

This is not to say that the narrative about the digital economy is purely negative and digital literacy is simply to protect against threats. In fact, the digital economy promises immense economic and social benefits to

countries, companies and citizens, and a greater awareness of one's digital rights and personal data will boost the growth of a trusted digital economy. This begets more innovation and the adoption of more digital technologies, further boosting the economic and social value of digital technologies.

To foster the right conditions to develop a trusted digital economy, sensible, balanced, stable and future-oriented policymaking and regulations are needed. Today, 88 per cent of all ASEAN nationals are covered by an omnibus data protection law. Yet, beyond just having a law, ASEAN jurisdictions need effective and pragmatic implementation and enforcement to ensure these laws perform the function they need to play—to strike a sensible balance between companies' need for data for the digital economy, and individual's right to control their personal data.

Regionally, there is also a need for frameworks that foster regional convergence and interoperability, so that cross-border compliance for companies does not become overly complicated, while supporting cross-border regulatory cooperation and enforcement. ASEAN has taken steps in the right direction with regional frameworks and mechanisms such as the ASEAN Framework on Personal Data Protection, the ASEAN Framework on Digital Data Governance, and the ASEAN Model Contractual Clauses. But as regulatory and technological developments march on regionally and globally, ASEAN needs to remain agile and continually update these frameworks and their implementation to ensure that they remain relevant and fit-for-purpose.

An area of digital technology with the most promise—and concern—is AI. Modern AI has been in development since the 1950s; current generations of AI (including generative AI) that rely on machine learning and deep learning are essentially a combination of big data, sheer computing power, algorithms and sophisticated

statistics. Yet today, we have reached the stage where the technology is arguably capable of being adopted across sectors and industries, and is even able to perform tasks without necessarily having to be trained specifically for it. It is widespread, it is prevalent, and it is powerful. It can vastly improve the quality of life of many in Southeast Asia, further access to public services, generate new innovative products, services and business models, and propel economic growth.

Yet, omnipotent and risk-free AI is not. It carries numerous risks as well—many we know, but may not fully appreciate. These include risks to data protection and privacy, ethical concerns such as bias and discrimination, concerns of abuse and misuse, and their impact on the job market. This is why governments across ASEAN are closely watching the technology's development, and many have developed AI strategies, frameworks and guides to start addressing some of the issues it poses. Collectively, ASEAN is also preparing a regional guide that will address its key ethical and governance challenges. These are promising steps forward. While more needs to be done, it has to be done in concert—with governments, industry players, academia, and civil society groups across the region—so that we can harness AI's benefits and minimise its risks holistically and sustainably.

In the end, it comes down to literacy. This is not just about staying updated. It is about being digitally savvy and empowered citizens of ASEAN, prepared for a future that is hyper-intertwined with digital technologies. As ASEAN citizens, embracing these challenges and opportunities with informed enthusiasm and sensible optimism will be key to navigating the digital age for decades to come.

*The views and opinions expressed belong solely to the author and do not reflect the official policy or position of ASEAN.*



# ARTIFICIAL INTELLIGENCE

## PROSPECTS AND PITFALLS



**Fitriani, PhD**

*Special Project Researcher on Digitalisation, Centre for Strategic and International Studies, Indonesia*

Artificial intelligence (AI) is defined as the ability of smart computers and programs to perform tasks that would normally need human intellect. AI has enormous potential in various areas, including energy, agriculture, health, retail, and logistics. The advantages of using AI may include higher productivity, better decision-making, better client experiences through optimising energy use, assisting with precision information, and simplifying supply chains.

Several Southeast Asian countries have invested in developing and using AI, albeit in varying degrees. For example, Singapore invests heavily in the development of AI for its citizens, especially for improving clinical diagnoses, scam detection, and managing government affairs. The country is also posturing itself as the region's AI hub. Other countries in the region have different applicability of AI. For example, Viet Nam deploys the technology to increase tax compliance; Thailand utilises AI to find traffic-jam solutions; and Indonesia applies

it in health and agriculture. A 2020 study by Kearney and Edbi titled "Racing toward the Future: Artificial Intelligence in Southeast Asia" showed that 80 per cent of the region has begun adopting AI in private companies and research institutions. The 2023 publication by Albert Rapha noted that AI has the potential to increase ASEAN economy between 10 to 18 per cent, or close to 1 trillion US dollars by 2030.

AI technologies—which cover big data processing, machine learning, robotic automation, speech recognition, chatbot and speech

recognition—can provide users with economic benefits and ease people's lives, but it also poses potential risks. These risks include job displacement, issues of privacy, inadequate cybersecurity measures that may expose AI systems and make them vulnerable to attacks, ethical concerns regarding bias in decision-making algorithms due to limitations in data-pool or coding. Additionally, AI misuse is possible, such as when malicious actors utilise the technology for mass creation and dissemination of disinformation, leading to social unrest.



Photo Credit: ©TZIDO SUN / Shutterstock

Specific concerns raised include the use of doctored images, and videos and other related AI-generated fake content that targets information surrounding general elections, which has the potential to influence the result. The use of AI in editing photos and videos to produce deepfakes is concerning because they look vivid, deceptively real, and are difficult to verify, thus potentially damaging people's credibility and reputation.

The rapid digitalisation in Southeast Asia following the COVID-19 pandemic, which has led to increased use of social media in the region, has raised concerns about the spread of false news. With an estimated 68 per cent of the overall population using social media and young people aged 16 to 24 spending more than 10 hours each day on the internet, the region has been at risk of being a breeding ground for disinformation and misinformation. As such, social media has become an increasingly essential tool in political campaigns. Politicians and political parties in the region are reaching out to share their messages and mobilising support using platforms like Facebook, Twitter, and TikTok.

Businesses also reap benefits from the platforms to sell products and services. Nevertheless, with social media, it is now easier to distribute disinformation, and AI simplifies the manufacture and spread of false news and propaganda, which may be used to sway public opinion and impact societies. Additionally, AI

algorithms enable the creation of bots and support buzzers—account operators with thousands or even millions of followers who are paid to spread a certain message—which countries in the region worry about during elections.

The risks presented by AI development, which include disinformation and misinformation, cybersecurity attacks, and societal disturbances, call for a multidimensional approach. While it is impossible to foresee which actions will be beneficial, there are strategies that governments can adopt to mitigate risks. This article suggests seven policy recommendations, namely, (i) increase digital literacy, specifically in AI and related concerns, (ii) multistakeholder collaboration, (iii) creation of ethical framework and norms, (iv) ensuring adaptive regulations, (v) implementing regulatory oversight, (vi) investment in research and development of AI, and (vii) international collaboration.

First, enhancing digital literacy and awareness, especially focusing on AI and its related issues, can be directed towards the general public, politicians, and specific groups with significant outreach and societal impact. This action allows societies to recognise and reduce the risk of AI development and implementation. For example, the 2022 ASEAN Training-of-Trainers Program led by the Senior Officials Meeting on Education emphasised education as key to media literacy and countering disinformation. The programme

connects with the ASEAN Work Plan of Action to Prevent and Counter the Rise of Radicalisation and Violent Extremism (Bali Work Plan); the Framework and Joint Declaration to Minimize the Harmful Effects of Fake News; and the ASEAN Declaration on Culture of Prevention for a Peaceful, Inclusive, Resilient, Healthy and Harmonious Society. The programme also produced an educator's toolkit that is disseminated widely.

Second, multi-stakeholder and multisectoral collaboration, involving governments, research organisations, business and experts in the AI sector, paves the way for discussing each other's activities and can be useful in tackling AI issues as a group as well as charting a blueprint for sectoral actions. One potential outcome from this collaboration is the implementation of a joint "verification and certification" process for AI, involving multiple actors, to ensure the safety and security of AI systems.

Third, ethical frameworks and norms to govern AI development and deployment need to be established to regulate and ensure proper usage, provide limits, and penalise malicious actors. Values such as safety, justice, openness, and accountability can be adopted within these frameworks.

To ensure that the advantages of AI exceed the risks, Southeast Asian countries are developing the ASEAN Guide on AI Governance and Ethics that aims to provide safety measures on the burgeoning technology. The process, which began in February 2023 and is led by Singapore as the chair, will be launched at the ASEAN Digital Ministers' Meeting in the following year.

Fourth, ensuring the implementation of adaptive regulation is important given the fast pace of AI and technology development. Government rules and standards must be adaptable and capable of evolving as technology progresses to capture the economic benefits that AI brings. Moreover, regulations must be reviewed and updated periodically to guarantee their



effectiveness. Understandably, balancing innovation and regulation is a difficult task, as excessive and rigid regulation may impede innovation, while little regulation might result in uncontrolled hazards. To strike a balance, governments, the corporate sector, academia, and civil society must work together on a continual basis. In 2020, ASEAN issued *Managing Technology's Implications for Work, Workers and Employment Relationships*, which includes rudimentary examination of the application of robotic and automation in Southeast Asia's industries. The report notes that the use of AI and cloud computing may compel business outsourcing and disturb labour market, hence proposes "robot tax" to gain fund for expanding social welfare programmes. Although the report does not discuss regulating the technology, it is the first step for the region to raise concern on how AI influences labour condition in the region.

Fifth, the governments' capacity to conduct regulatory oversight hinges on the recognition that policies and regulations are likely to be influenced by national values, political, economic, and cultural considerations. Governments must aspire to have the capacity to measure the conduct of AI and enact and implement regulations governing AI research, development, and application. This covers rules governing AI safety, data privacy, and cybersecurity.

Sixth, governments need to invest in AI research and development to foster the development of safe and useful AI technology. This involves financing for AI ethics, security, and risk assessment research. Governments must commission independent audits and studies of AI systems, specifically focusing on their potential hazards. These audits may assist in identifying and addressing problems.

Last but not least, the seventh recommendation stresses the importance for governments to actively pursue international cooperation given the inherently transboundary nature of technology and AI. Mitigating the

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The risks presented by AI development, which include disinformation and misinformation, cybersecurity attacks, and societal disturbances, call for a multidimensional approach.

risks associated with AI requires collaborative international efforts, trust, and capacity. To maintain global security and ensure the safe and responsible use of AI, governments are advised to cooperate in developing common standards, exchange best practices, and coordinate activities in capacity and trust-building. If deemed necessary, governments may consider creating international treaties or accords.

Within the Economic Community of ASEAN, standards and conformance have been discussed to facilitate trade, ease transparency, harmonise regulatory regimes, and undertake technical cooperation. A similar approach can be done on AI technology. For example, governments can explore the possibility of establishing agreements similar to the Agreement of Harmonized Electrical and Electronic Equipment (EEE) Regulatory Regime in 2005, which has been adopted and updated by the Member States.

The use and development of AI are indeed inevitable, holding the potential to bring about significant benefits to society. Ensuring that AI works for and not against humanity requires several key considerations. One of these is upholding the principles of transparency and fairness since AI tools are not universally accessible. Technological and economic disparities often allow only the privileged to benefit from AI. The United Nations Educational, Scientific and Cultural



Organization (UNESCO) has raised profound ethical concerns, emphasising that biases embedded in AI systems may contribute to climate degradation, endanger human rights, and exacerbate existing disparities, causing greater damage to already marginalised communities. In response to these challenges, UNESCO formulated the Recommendation on the Ethics of Artificial Intelligence in 2021, underscoring the fundamental principle of protecting human rights and dignity in the oversight of AI systems. The recommendation has been adopted by all 193 UN member states.

The ASEAN Member States have been taking various initiatives to embrace AI and technology through their issuance of national strategy. Nevertheless, the level of engagement and investment in AI varies from one Member State to another, as countries have different priorities and approaches toward this technology. To cultivate AI's potential in the region, it is crucial for Member States to work collectively and collaboratively. Sharing best practices, promoting cross-border cooperation, and developing a regional approach to AI policy and regulation can help ensure that AI technology benefits the entire region, and contribute to building capacity and trust in AI development.

*The views and opinions expressed belong solely to the author and do not reflect the official policy or position of ASEAN.*

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# Building Foundations for Digital Literacy



**Joanne B. Agbisit**

Associate Editor, *The ASEAN*

ASEAN Socio-Cultural Community Department

As ASEAN moves towards a digital economy, a digitally literate population becomes essential. Citizens equipped with digital skills can use technology to work more efficiently and productively, participate in e-commerce, and contribute to overall economic growth. A digitally literate workforce will also be resilient in the face of new and emerging technologies and shifts in work arrangements as industries and sectors undergo digital transformation.

Digital literacy enables individuals to detect credible sources, evaluate information more critically, shield their personal data and information, and practice responsible online behaviour.

ASEAN acknowledges the need to elevate its citizens' digital competence. "A significant challenge looms over the flourishing ASEAN digital economy; that is, the lack of digital literacy," said Assistant Director Le Quang Lan of the ASEAN Secretariat, speaking at the ASEAN Digital Literacy Programme Impact Forum on behalf of ASEAN Secretary-General Dr. Kao Kim Hourn.

Assistant Director Lan said that those with low digital literacy skills, such as older adults, women, and the rural population, are more susceptible to misinformation and more likely to fall prey to online attacks and cybercrimes. "Digital literacy empowers individuals to safely and effectively participate and engage in the digital world and to realise the technology's full potential," he said.

## Regional frameworks promoting digital literacy

ASEAN has devised regional frameworks to guide and support Member States' efforts in improving their citizens' digital literacy. The study on the ASEAN Digital Economic Framework Agreement or DEFA

(2023) underscores the development of people's digital talents as a foundational element of digital transformation.

The Declaration on the Digital Transformation of Education Systems in ASEAN (2022) calls on ASEAN Member States to harness digital technology for teaching and learning and create a safe and secure digital education ecosystem.

The ASEAN Task Force on Fake News (2022) seeks to foster a common understanding of concepts like fake news and disinformation, while facilitating exchanges on strategies to address these issues.

The Framework for Developing Digital Readiness Among ASEAN Citizens (2021) identifies digital literacy as one of three key elements for achieving digital readiness and encourages ASEAN Member States to identify a set of basic digital skills that citizens must possess, such as the ability to search for information, communicate, and access basic digital services.

The ASEAN Declaration on Human Resources Development for the Changing World of Work and Its Roadmap (2020) identifies digital literacy as a tool for cultivating lifelong learning and improving labour competitiveness.

The Core Values on Digital Literacy for ASEAN recommends that Member States heed the values of responsibility, empathy, authenticity, discernment, and integrity in developing their digital policies and programmes.

## ASEAN support for digital literacy initiatives

ASEAN has also been supporting the digital literacy initiatives of its entities, in particular, the ASEAN Foundation.

Mahmudi Yusbi, the head of programmes of the ASEAN Foundation, noted that the foundation has been at the forefront of building the digital capabilities of young people in the region.

He told *The ASEAN*, "Over the last seven years, our emphasis has been on equipping young individuals with digital literacy skills. The rapid pace of technological advancement is transforming industries, making digital literacy a basic requirement for many jobs today. Thus, our overarching goals revolve around empowering ASEAN youth to thrive in the digital age, participate meaningfully in the workforce, and contribute to the ongoing development of society.

"Further, the rapid pace of technological advancement has introduced new security issues for communities and countries around the region as information technology evolves. For instance, social media have been used by irresponsible people to spread disinformation and fake news, causing confusion and fear among people—this happened many times during COVID-19.

"Therefore, our digital literacy programmes not only equip youth with the skills to navigate the fourth era of the Industrial Revolution but also educate citizens to become media literate and filter the information they receive, combating fake news."

The foundation has successfully implemented programmes like the ASEAN Digital Literacy Programme, ASEAN Cybersecurity Skilling Programme, ASEAN Data Science Explorers, Future Ready ASEAN.org, and Seeds for the Future Programme. The programmes address specific needs and challenges in the region, according to Yusbi.



In the case of the ASEAN Digital Literacy Programme (see pages 51-53 for a feature on programme partners) and the ASEAN Cybersecurity Skilling Programme, Yusbi said the intent is to make ASEAN citizens more discerning when it comes to the information they consume, emphasising aspects like source reliability, integrity, and potential biases and raise (their) awareness about the threat of cyber-attacks.

Both programmes have successfully trained over 200,000 individuals, including young people and underserved communities, across all Member States. Yusbi attributed the programmes' success to the highly effective approach of training master trainers who conduct echo training sessions, and the involvement of the private sector, local governments, and implementing partners, such as civil society groups and universities.

To further extend its reach and impact, the ASEAN Foundation has launched online learning platforms, such as Future Ready ASEAN (<https://futurereadyasean.org/>), Digital Class (<https://www.digitalclassasean.org/>), and Data Analytics (<https://aseandse.org/>), that offer courses on digital literacy, cybersecurity, and data analytics.

### Regional collaboration as a path forward

Raising digital literacy levels in the region is a monumental task. ASEAN is committed to complementing national-level digital literacy programmes with regional initiatives in the coming years.

Regional collaboration and the development of supportive policies across the ASEAN Member States are particularly important to the continuing success of ASEAN Foundation's digital initiatives, according to Yusbi.

He said the ASEAN Foundation sees three areas where regional collaboration is crucial: i) Research and innovation, to contribute to the growth of a dynamic and resilient digital ecosystem; ii) Capacity-building and education, to develop standardised digital literacy programmes and training to cultivate a skilled workforce; iii) Awareness-raising, to inform and engage stakeholders and ASEAN people about the value of ASEAN digital initiatives, mobilise support, and encourage active participation from various stakeholders.

"By focusing on these areas, the ASEAN Foundation and ASEAN can create an environment conducive to the success of digital initiatives. Regional collaboration, policy development, and awareness raising are instrumental in addressing common challenges, maximising opportunities, and ensuring the equitable spread of the benefits of digital transformation across the ASEAN community," said Yusbi.

## Partnerships at the Grassroots



**Ixora Tri Devi**

Staff Writer, The ASEAN

ASEAN Socio-Cultural Community Department



### Minh Trang Ngo

EXECUTIVE DIRECTOR,  
VIETNET-ICT

Thirty-eight-year-old Minh Trang Ngo holds a particular fondness for her hometown, Hanoi, with its rich history, varied cuisine, and lively nightlife. The city's unique mix of the old and new—traditional and modern elements—never ceases to captivate her. So, returning to Hanoi after earning her Master's in Entrepreneurship from Business School Strasbourg in France felt like the right choice for her.

Minh Trang pursued different government and private roles a few years after her return. Yet, she hadn't found a job that resonated with her until late 2010, when she decided to volunteer at Vietnet Information Technology and Communication Centre (Vietnet-ICT), founded in 2007.

As Vietnet-ICT's first full-time employee, Minh Trang was initially in charge of a small donor-funded project. Her skills and foresight quickly led her to establish lasting partnerships with major technology companies like Microsoft, Meta, Google, and IBM. Her career progressed

steadily, leading to her appointment as Executive Director in 2018.

During its two-year involvement with the ASEAN Digital Literacy Programme (2021-2023), Vietnet-ICT exceeded its targets, training 224 Master Trainers against 115 proposed and 64,535 beneficiaries over the proposed 14,000. It also extended the training to 30 provinces from the initially proposed 4.

“Over 16 years, Vietnet-ICT faced numerous challenges but grew significantly. A notable achievement was during the COVID-19 pandemic when the need for digital technology surged due to lockdowns and social distancing. We adapted quickly, creating online training programmes, communication campaigns, and multimedia content tailored to various audiences. In 2020, we taught digital literacy and safety skills to over 150,000 people from diverse communities in Viet Nam.

“Working in technology, which evolves rapidly, poses continuous learning challenges. Attracting professional IT resources is difficult due to low NGO salaries. However, we have built a network of advisors and experts in related fields.

“As Viet Nam advances with its National Digital Transformation programme, digital literacy becomes increasingly important. Vietnet-ICT’s role is crucial in ensuring no one is left behind in this transformation. We focus on strengthening digital capabilities in marginalised communities.

“Our involvement with the ASEAN Digital Literacy Programme began with discussions with the ASEAN Foundation. The lack of comprehensive training programmes to combat misinformation in Viet Nam, especially during the COVID-19 pandemic, motivated us to participate. We aimed to address this gap and contribute to a regional effort.

“We exceeded our target in the ASEAN Digital Literacy Programme by responding to the community’s needs and collaborating with local partners like the Department of Training and Education in Vinh Phuc and Lam Dong Provinces. We also empowered master trainers and created online communities for continuous learning.

“The challenge of misinformation in Viet Nam is significant. Despite high internet usage, digital literacy levels are low. Our survey on digital literacy among the young and elderly in low-income areas revealed a need for formal training to identify misinformation.

“Our future goals for the ASEAN Digital Literacy Programme and Vietnet-ICT involve expanding reach and influence, deepening collaborations, and introducing innovative initiatives. We aim to be at the forefront of digital literacy and technology developments, driving positive change in the ASEAN region and Viet Nam.”

## Htet Thiri Shwe

FOUNDER, MYANMAR YOUTH  
EMPOWERMENT  
OPPORTUNITIES (MYEO)

One thing Htet Thiri Shwe (32) noticed after studying in Hong Kong was the striking contrast in resources available to students compared to Myanmar. This comparison has opened her eyes and shaped her perspective on education, emphasising the importance of experiential learning.

In 2013, she founded Myanmar Youth Empowerment Opportunities (MYEO). This period was significant as it coincided with the opening of internet access in Myanmar. Htet saw it as an opportunity and a gateway to knowledge.

“In 2013, we had the internet, but that was the first transitional period that we had. At that time, Myanmar really felt cut off from information. MYEO’s

aim was to be that friend who tells you about opportunities, acting as an information hub in the early days of Myanmar’s digital era.

“However, the introduction of the internet came with its challenges, such as misinformation and propaganda. We aimed to use this new tool to empower people positively. By 2016, it became clear that while bridging the information gap was important, addressing the skills gap was crucial, too. We noticed a deficiency in fundamental skills, especially in the youth from lower socioeconomic backgrounds across ASEAN.

“In response, we transformed MYEO into a training hub, focusing on empowering young people to use the

internet more effectively, beyond just social media. Our courses, primarily online, aimed to reach even the most remote areas of Myanmar. We believed in equitable access to information and skills, and technology was the key to achieving this.

“By 2017, we had launched our 21st-century skills series online. Our courses were designed to be accessible, focusing on essential digital skills and media literacy. We also realised that our mission extended beyond MYEO to the wider community. Our approach combined technology with community spaces, creating a network of empowered youth.



"My personal journey from student to social entrepreneur wasn't straightforward. After completing my studies in economics and finance, I returned to Myanmar in 2016. Before MYEO became a formal entity in 2019, I balanced it with other jobs, fueling it as a passion project on weekends. Our initial lack of funds meant we had to keep our courses affordable, aligning with our belief that these skills should be accessible to all.

"The turning point came in 2019 with a grant from Facebook's Community

Leadership Programme. This funding allowed us to grow MYEO, transitioning from a volunteer-driven initiative to a full-time team of 30. We've since expanded our offerings, focusing on digital literacy and leadership, training community leaders who, in turn, empower others.

"Looking back, I see my decision to return to Myanmar and focus on MYEO as a choice driven by my belief in the power of education and experiential learning. Our mission is to unlock human potential in an

equitable manner, not just in Myanmar but across ASEAN. We face unique challenges in our context, but I believe that with the right approach, these are not insurmountable.

"For the ASEAN Digital Literacy Programme, I think the materials and curriculum are solid and highly distributable. I also really liked the event in Bali; it was excellent, bringing practitioners to the ground level. Our master trainer was there. She is from Kuching state, and having her there was very valuable."

Collaborating with experts in various fields has also been crucial.

"My engagement with the ASEAN Digital Literacy Programme began with my admiration for the ASEAN Foundation. When an opportunity arose to implement a Digital Literacy Programme in the Lao PDR, I applied without hesitation. Addressing the widespread issue of misinformation and disinformation in our society is crucial, and I believe training master trainers to educate others would be impactful.

"Misinformation and disinformation are growing concerns in the Lao PDR, especially among the underprivileged youth and elderly. With the increase in digital media, the spread of false information is a significant risk. It's essential for everyone, including governments, media organisations, and tech companies, to promote media literacy and address this issue.

"My future vision involves more collaboration and support from the ASEAN Digital Literacy Programme and other partners to enhance digital literacy in the Lao PDR, focusing on youth and the elderly in the provinces. The goal is to provide participants with the tools and knowledge to navigate digital media safely, effectively, and responsibly, ultimately contributing positively to their communities and society. Digital literacy is not just a skill but a vital civic responsibility. By equipping ourselves with the necessary knowledge and skills to use digital media safely and responsibly, we can become active and positive contributors to our communities, society, and the wider region."

## Bounheng Southichak

FOUNDER, LAO  
YOUTH RADIO

Sitting in front of a black and white television, watching his favourite shows—animē and traditional Thai dramas—the young Bounheng Southichak could not have imagined himself founding an entertainment and education media outlet later in life. Forty-seven-year-old Bounheng grew up amidst lush greenery and rice fields, inspiring him to pursue a career in environmental engineering. Now, he has established his own environmental consulting company. Driven by a desire to contribute to his community, especially the youth, Bounheng later founded a radio and online media platform for young people and the young-at-heart in the Lao PDR.

"Lao Youth Radio, initiated in 2015 in collaboration with the Lao Youth Union, has evolved into more than just a radio station. It's now a comprehensive online media outlet, a hub for media training, and an event organiser, all energised by the youth of the Lao PDR. Our approach, 'Edutainment,' combines educational content with music and entertainment. We connect with the community through informative radio broadcasts, collaborations with various organisations, and events focusing on social issues such as the environment, gender equality, and technology.

"Recalling the numerous training sessions on media skills and literacy, it's gratifying to see our trainees utilise their skills in their personal and professional lives. Many have become skilled MCs, videographers, YouTubers, and content creators, with some joining Lao Youth Radio.

"Adapting to a rapidly changing media landscape and catering to shorter attention spans has been challenging. We overcome this by engaging with young people, understanding their needs, and involving them in the development and implementation of new ideas.



# ASEAN WORKFORCE TRENDS

## INSIGHTS FROM LINKEDIN



**Trisha Suresh**

Head of Public Policy & Economic Graph (Southeast Asia), LinkedIn

Significant changes are underway in the world of work. AI, digital technologies, and the climate transition are reshaping the work landscape, transforming jobs, careers, and whole industries. In this article, we explore the latest trends from data on the LinkedIn platform and their impact on the region's workforce.

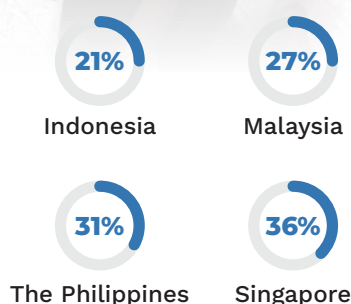
The article draws on insights from LinkedIn's Economic Graph, a digital representation of the world. It consists of over 1 billion global members on the LinkedIn platform, 67 million companies, 133,000 schools, and 41,000 skills. There are over 277 million members on LinkedIn in Asia Pacific, of which more than 60 million are in the ASEAN region.

### Skills needed for jobs are changing

Through LinkedIn's data and insights, we have seen the real-time, granular effects of the labour market and economy writ large. Our data shows that the accelerated pace of digitisation and the current trend towards hybrid work have fundamentally changed the labour market and socio-economic landscape. In fact, skills needed for any given job globally have changed by over 25 per cent since 2015. This means that the skill set necessary for a particular job is changing rapidly, even for workers who have not switched jobs. With new AI tools accelerating the pace and scale of change, we expect an even faster rate of job transformation—by up to 65 per cent total change by 2030.

### How overall skills are changing across selected ASEAN economies

Skills changes (%), 2015–2022



Source: LinkedIn's Economic Graph, Future of Skills

### The impact of generative AI extends beyond the tech industry

While it may be premature to know the net impact of Generative AI (GAI) on the workforce, we anticipate that this technology will change essential skills across roles and industries. In our analysis, we find that most jobs require skills that Generative AI technologies can perform, but not every job will be affected the same way. We developed a conceptual framework to explain how skills—and, therefore, jobs and industries—can be impacted by Generative AI.

### Three groups of occupations

#### Augmented

These jobs' core skills include a large share of both skills that can be replicated by GAI and people skills. For example, data analysts automate the computation and interpretation of metrics with GAI, enabling them to focus their time on people skills, such as cross-functional engagement and stakeholder management.



#### Disrupted

These jobs' core skills include a large share of skills that GAI can replicate and a relatively low share of people skills. For example, language translators' skills shift from doing translations from scratch to reviewing and certifying machine-generated translations or specialising in specific legal or literary domains.



#### Insulated

These jobs have a relatively small proportion of skills that GAI can replicate in their core skills. For example, real estate agents might utilise GAI to write a listing's description, but their core relationship management skills would be insulated from GAI.



Source: LinkedIn Future of Work Report, November 2023



In Indonesia, for example, the share of LinkedIn members (25 million) with the most exposure to disruptions from AI work in the retail, tech, wholesale and financial services, and professional services industries.

AI and GAI-powered products are expected to transform many industries. The widespread adoption of GAI products across industries also creates the potential for greater job mobility among professionals across a wide array of industries. In fact, workers who embrace AI-literacy will find that their knowledge and skills will become more transferable, accelerating the ongoing trend of workers pivoting roles in response to job market demands.

### Climate transition will need more green talent

Beyond digital technologies, we expect the world of work to further evolve as a result of global efforts to green the economy. However, both supply and demand of green jobs and talent are not growing at the pace we need to meet our climate targets. Around the

world, only one in eight workers have one or more green skills. Between February 2022 and February 2023, LinkedIn global job postings that require at least one green skill have grown by a median of 15.2 per cent.

As the ASEAN region continues to meet the challenges of climate-related vulnerabilities, it is important to develop a talent pool of green skills and talent. According to a recent ASEAN Secretariat report, it is particularly important for women, who are disproportionately impacted by climate change. In LinkedIn's 2023 *Global Green Skills Report*, we found that two-thirds of the global green talent pool (made up of workers with at least one green skill or one green job experience) is male. Nine in 10 women globally lack a single green skill.

### The way forward: A skills-first approach to transforming the ASEAN workforce

With the rapidly changing world of work and skills, ASEAN countries urgently need to rethink how we

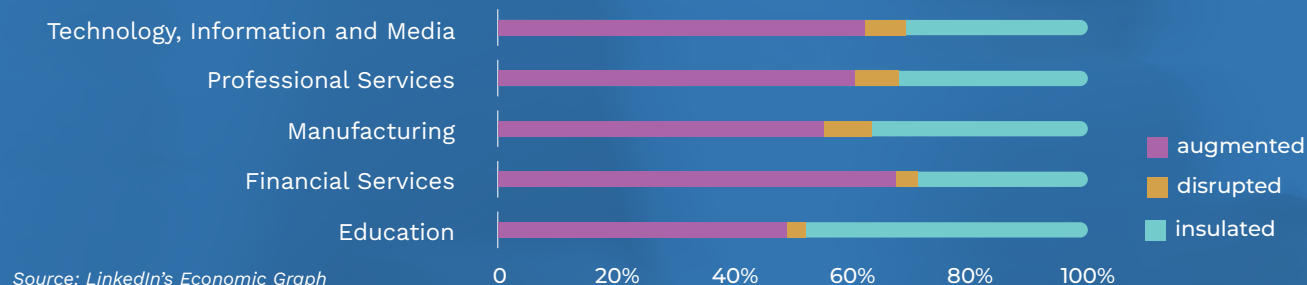
prepare the workforce for future jobs, and efficiently and equitably match talent to opportunity.

We have found that hiring based on skills—and not solely on a degree or job title—can strengthen the workforce, expand and diversify the talent pool for businesses, and expand access to jobs for workers. Globally, talent pipelines can increase by nearly 10 times when using a skills-first approach.

A skills-first approach means hiring talent based on skills instead of traditional signals such as educational qualifications and prior job experience. When skills needed for jobs are changing so rapidly, these traditional hiring methods may lead to businesses struggling to find talent and workers not being able to fulfil their economic potential. A skills-first approach to hiring presents an opportunity for the ASEAN workforce and business community.

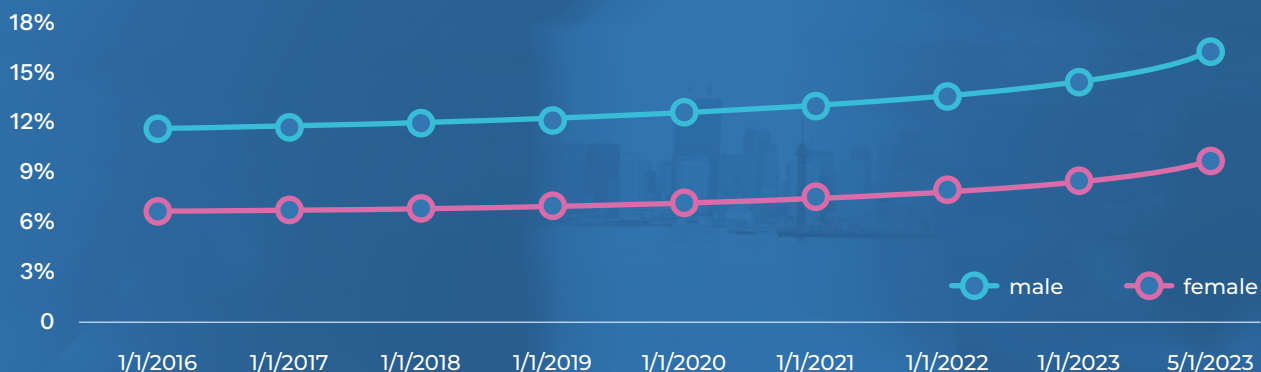
*The views and opinions expressed belong solely to the author and do not reflect the official policy or position of ASEAN.*

### Share of Indonesia LinkedIn members by level of AI exposure and industry



### Green talent concentration by gender, Singapore

Source: LinkedIn's Economic Graph



# Q How important is it for you to be informed about your digital rights and privacy online? What regulations and measures are needed to protect online users from harm?



**Nguyen Duong Thien Thanh, MD, 30**

*Head in-charge of Department of*

*Healthcare Activities, Scientific Research, and International Cooperation, Dong Nai General Hospital, Viet Nam*

Understanding our digital rights and online privacy is incredibly important. Regulations take time to develop. Often, by the time they are ready to be implemented, they are no longer relevant due to the fast-paced nature of technology.

With the challenges posed by climate change and the emergence of artificial intelligence, it is the generation born between the 1980s and 2020s that will be most impacted. Incorporating the insights and perspectives of this age group in the development of laws and regulations, along with early recognition and prevention of potential risks, can significantly enhance our ability to address these evolving issues effectively. As a young person, I believe we have a golden opportunity to close the gap between our developing countries and the developed ones. But first, we must improve the skill level of our workforce.



**Raihan Zahirah Mauludy Ridwan, 25**

*Associate Account Manager, Google and*

*Official Youth Representative at 42nd ASEAN Summit 2023, Indonesia*

Being present online without being well-informed about digital rights and privacy is like sailing into a sea without proper navigation skills. In today's digital world, I spend a lot of time online and share a lot of personal information with companies and organisations. Thus, it is important for me to understand how this information is being collected, used, and handled, and to have control over it.

Digital rights and privacy online include not only the ability to express ourselves freely online, but also the ability to access information online, be free from surveillance and censorship, understand cybercrime, child data protection, obtain parental consent, have our personal data protected, and be compensated for any harm caused by the misuse of our personal data. To fully understand digital rights and privacy online, it is important to have digital literacy, where people have the basic skills to identify, evaluate, find, and use information in the digital realm.

ASEAN should have a wide range of instruments ranging from data protection laws to privacy-enhancing technologies (encryption, anonymisation, and differential privacy), consumer protection laws,

and internet governance. I believe ASEAN can learn from the EU when it comes to enforcing strong regulations related to digital rights and privacy online, such as the General Data Protection Regulation, the Age Appropriate Design Code, the Digital Service Act, the EU User Consent Policy, the EU Cookie Consent, and strong education for civil society.



**Boravan Tann, 27**

*Vice-chief, ASEAN Bureau, Department of International*

*Cooperation, Ministry of Labour and Vocational Training, Kingdom of Cambodia*

Everyone is entitled to have their digital data and privacy protected at all times, which should be considered as a fundamental right of all users. No one should be subject to having the data stolen or used for unintended purposes, especially personal or sensitive data, which could cause life-changing effects for individuals. As society is becoming more and more digitalised, companies and governments have the duty to protect online users' digital lives and data. They need to work together to set up or tighten digital systems that not only tackle, but also prevent all forms of cybercrimes such as identity theft, hacking, scamming, fraud, and phishing. It is critical to ensure the data can only be used for intended purposes with permission from the users.





### Lovenigasri A/P Rajendran, 24

*Student, Universiti Malaysia Sabah  
Labuan International*

*Campus (Master in International Finance Research)*

Industrial Revolution 4.0 is upon us, but the incorporation of digital technologies in our daily lives did not adequately address online privacy and digital rights. If our digital rights and online privacy are not properly recognised, they will be trampled on. We have seen digital scams and the distribution of personal images for possible nefarious purposes. Thus, it's critical for us to be vigilant and uphold our online privacy and digital rights.



### Sodanin Net, 24

*Member, Young People's Action Team (YPAT) under Unicef EAPRO from Cambodia*

It is really important to be informed about our digital rights and privacy online. If we're aware of the online risks and dangers, then we'll understand how to prevent them. We should control how much information we share online so that we do not fall for scams, be manipulated, or have our accounts hacked and savings stolen. Some measures to protect ourselves include reading the site's or application's privacy policy, making sure we are using a secure connection, and using strong passwords and multi-factor authentication.



### Qhasdiba Refiza, 21

*Member, Community of Practice UNFPA Indonesia*

In my opinion, it is very important for technological advancements to go hand in hand with awareness of digital security rights. There should be regulations to protect online users, especially children and women.



### Linthone Bouavanheung, 21

*Economics Research Assistant at the National University of Laos, the Lao PDR*

It is crucial to be informed about our digital rights and privacy online. Regulations and measures are needed to protect online users from harm and ensure that our personal data is not misused for malicious purposes. Artificial intelligence is an exciting technology, but it also concerns me as it can potentially replace human jobs and lead to further economic inequality.



### Julian Lotus, 29

*Founder, SEA Stats, Indonesia*

It's crucial! Social media and technological advancements, including AI, have negative aspects. I value privacy when using social media, so I rarely expose my life in great detail on these platforms. Governments must take this seriously from now on—our information and privacy must be protected. It might not be a significant issue for us, but in 10 or 20 years, as technology and AI advance rapidly, it could affect our children or grandchildren. Strict laws should be implemented now across all platforms to prevent potential victims and losses due to the leakage and misuse of our private data.



### Muhammad Afiq Iman Bin Adnan, 20

*Student, International Islamic University*

*Malaysia; Part of Malaysian Delegate at eMPowering Youth Across ASEAN Cohort 3*

It is important for us to be informed about our digital rights and privacy. The Internet exposes us to a lot of mediums to express our opinions and thoughts. Basic freedom of expression must prevail, and the Internet should not be controlled by interested parties to steer propaganda and personal agendas. The Internet, in general, should be the common platform for people, regardless of their nationality, race and religion, to voice out their take on certain issues and highlight concerns. The right to privacy should include digital rights. The users should be part of protecting their own personal data. Digital companies should normalise requesting prior consent of their users on data processing and collection. This procedure clarifies to the users what type of data and personal information they make known to the public. The government, on the other hand, should step up and implement more coherent legislation and effectively enforce laws on digital protection to ensure the safety of the users online.

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There should be regulations to protect online users, especially children and women.

— Qhasdiba Refiza




**Jin Xuan, 22**

*Master of Science Candidate at University of Oxford, ASEAN observer to G20 Youth 2022 from Singapore*

Extremely important! As our physical and virtual spaces increasingly overlap, I think it is important for all of us to be informed about our digital rights and privacy online. First and foremost, I think it is important to exercise discretion when providing personal information to merchants online. This is especially important with the increasing prevalence of phishing scams. Further, in today's day and age where speed is prioritised in most transactions, I personally believe that slow and steady wins the race. In other words, I think we should go through terms and conditions carefully and equip ourselves with digital literacy and a basic legal understanding of the digital space before clicking the "accept" button. That said, the individual's effort is necessary but not sufficient to protect ourselves from online harm. State regulations and inter-state regulations must be at the forefront of ensuring user safety.


**Serey Sambrathna, 20**

*Student, Institute for International Studies and Public Policy Cambodia*

By utilising strong passwords, sharing personal information with caution, and monitoring our accounts regularly, we can lessen our risk of being victims of cybercrime. However, we need regulations to protect online users from harm. The government must make sure that owners of online platforms uphold their duty of safeguarding platform security. Second, we need to make sure that an independent regulator is created and has the power to supervise and enforce regulations. Lastly, regulations on protecting individuals, especially children from online harm, should be harmonised and clarified.


**Sounisa Khammoung-khoun, 22**

*Youth Volunteer at eMpowering Youth*

*Across ASEAN Cohort 3, and Co-founder, COO of Startnovation, the Lao PDR*

Personally, digital space is an alternative platform allowing people to present themselves and exercise their human rights, especially the right to freely express their thoughts. However, it would be better to have privacy protection to keep me safe from personal information leakage, threats, media violence, and logical fallacies. Apart from a number of laws on data protection, and social media principles, I think the core regulation and measure is to comprehensively educate people with digital awareness, including digital literacy and critical thinking to refrain from logical fallacies, which should be commenced as a compulsory education.


**Jul Rashed Cuta Kasid, 27**

*ASEAN Youth Dialogue 2023-Philippine Delegate*

Everyone has the right to communicate using social media, but this right does not include infringing on others' rights. These include slandering others and telling lies, stealing information you don't own, defrauding people, spreading obscene things, and exploiting young people. Minor children are often affected by this, because of the widespread availability of mobile phones. Parents often do not teach their children about using the right applications or are unaware of the appropriate age for their children to use devices.


**Siti Nuryani Kasanah, 43**

*Lecturer at Gistrav Polytechnic, Yogyakarta, Indonesia*

Online regulations can help to ensure that people's personal information is safe and people are not exposed to harmful content. We can assess a country's digital regulations framework using the 31 regulatory elements from the World Bank's Global Data Regulation Diagnostic Survey. The three main categories are cybersecurity (18 elements), personal data protection (12 elements), and non-personal data protection (1 element). Survey results revealed that ASEAN as a group falls under the moderate category in terms of the existing frameworks for safeguarding cybersecurity and non-personal data, and at an early stage of development when it comes to the regulatory framework for protecting personal data (World Bank, 2021). Based on best practices, some regulations to protect online privacy from harm include: (i) Data protection laws: These laws regulate how companies can collect, use, and share personal information; (ii) Privacy laws: These laws protect people's right to privacy, including their right to control how their personal information is used. For example, Consumer Privacy Act, Children's Online Privacy Protection Act, Health Insurance Portability and Accountability Act; (iii) Cybersecurity laws: These laws regulate how companies can protect their computer systems and networks from cyberattacks; (iv) Online safety laws: These laws protect people from harmful content online, such as cyberbullying and hate speech.

*The views and opinions expressed belong solely to the respondents and do not reflect the official policy or position of ASEAN.*



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# Do you understand AI and what excites or concerns you most about it?



**Minh Nguyễn Hồng, 25**

*Teacher, Young Southeast Asian Leaders Initiative Alumni and Volunteer*

*Youth of the ASEAN Foundation from Viet Nam*

Artificial Intelligence, with its transformative promise, holds specific allure for the Bac Giang province. Imagine AI-driven agricultural tools predicting the best sowing seasons or AI models forecasting potential landslides in mountainous tracts. Yet, alongside the promise lies the peril. Without clear guidelines, AI can inadvertently reinforce societal biases or be misused. It's imperative to ensure AI's integration is accompanied by ethical guidelines, ensuring its boon doesn't morph into a bane.



**Sodanin Net, 24**

*Member, Young People's Action Team (YPAT) under Unicef EAPRO from Cambodia*

What concerns me the most about AI is that it requires deep technical expertise and proper training. AI is used in a lot of sectors and one thing that needs to be addressed is that it is taking away jobs from humans such as customer services, which will increase unemployment.



**Ayu Hidayah Tulloh, 22**

*Student, Faculty of Social and Political Science, Jenderal Soedirman University Indonesia*

Recently, I have encountered massive information about AI on various social media. AI makes me more anxious about myself and humanity at large. The ease, speed, and intelligence of AI make me less hardworking, pessimistic, and unsure of myself. I also worry that in the future, human thinking and work will be completely replaced by AI.

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It's imperative to ensure AI's integration is accompanied by ethical guidelines, ensuring its boon doesn't morph into a bane.

*Minh Nguyễn Hồng*



**Julian Lotus, 29**

*Founder, SEA Stats, Indonesia*

I work in the digital world for a media company. I often deal with content, editing, design, and so on. Initially, to me, the idea of AI was frightening, with concerns about whether it would hinder human abilities, jobs, etc. But after understanding it better now, AI is not bad. In fact, I'm assisted by AI in my work. For instance, if I need good copywriting, I use AI. I use AI to improve my writing and grammar, get content ideas, and conduct research.

AI is not a technology that makes me and fellow media creators like graphic designers, content creators, and social media managers obsolete or unnecessary. On the contrary, AI enables us to innovate further with ideas we previously found difficult to execute without AI. Now, we can overcome those challenges and improve our work using AI.



**Qhasdiba Refiza, 21**

*Member, Community of Practice UNFPA Indonesia*

Yes, I know about AI. I am interested in studying this because it will be very useful and needed in the future. But on the other hand, I also feel concerned about digital security. By using AI and also digital traces that we accidentally and unexpectedly upload on the media, people will very easily access these things and there is a possibility that they can be misused.





### **Cheyenne Alexandria Phillips, 30**

*Writer, Performer, and Educator from Singapore*

It's definitely going to be a new frontier for the world. I would be interested in understanding it and using it for art or community purposes if I had the skill set and I could be assured of checks and balances. That is because my main concern with AI, especially with ones that sweep data from the entire internet, is that it does not respect copyright laws.



### **Min Thant Tun, 18**

*Student, University of Information and Technology, Myanmar*

As an IT student who has been studying neural networks and knowledge engineering, I can definitely say it is the next biggest thing in the market. The AI that was used in the first robot ever made in the 1920s has come a long way. An example is Toshiba company's robot, Sophia. The AI used in Sophia is so advanced that some people think there might be more robots in the future that can very well replicate or even go beyond what humans can do! The development of AI has been very rapid. For example, AI has now achieved human-level performance in tasks like object detection and emotion recognition. These improvements in AI have been perceived as groundbreaking and it is exciting to discover what else AI will be able to do in just a few years. However, even as someone who is interested in this field, there are some concerns that strike me as AI can indeed take people's jobs in the future, such as in manual labour. This is something very worrisome not only to scientists but also to society as many other business companies might start using AIs. Still, AI can improve people's lives if humanity truly knows how to handle it well.



### **Arkar Min, 24**

*Youth Advocate, Youth Leaders of U-Report Myanmar*

Digital transformation is critical to national development. However, many people throughout the world still do not have access to the internet. They have no concept of digital literacy or digital privacy. We must also engage these folks in the digital realm so that they are comfortable with it. Last but not the least, there is no doubt that AI is a very useful tool. I have no excitement about using AI since it is created by humans and will not be better than humans' creativity—that is the universal truth.



### **Nur Marsya Amani Binti Mohd. Jamil, 25**

*Perdana Fellow to the Minister in the Prime*

*Minister's Department (Law and Institutional Reform) of Malaysia*

The ability of AI to revolutionise industries, enhance medical diagnoses, and automate processes is undeniably thrilling. However, its rapid development also raises concerns, particularly regarding ethics and bias. The ethical use of AI is critical to prevent discrimination and ensure fairness in decision-making processes. There is also a need for regulations that govern the development and application of AI, striking a balance between innovation and ethical considerations. Moreover, the idea of AI-driven job displacement is a real concern, and we need policies to retrain the workforce and ensure a just transition. While AI holds immense promise, it is vital that we address the ethical and societal challenges to fully harness its potential.



### **Muhammad Afiq Iman Bin Adnan, 20**

*Student, International Islamic University*

*Malaysia; Part of Malaysian Delegate at eEmpowering Youth Across ASEAN Cohort 3*

I love the fact that AI could process billions of data in a short period of time, which would otherwise take humans years to do. With this advantage, we could use AI to create multiple predictions in different situations and cases. I really want to see the integration of AI in the agricultural sector. If used correctly, AI could help modern farmers and industry players to increase agricultural yields, thus combating the food scarcity crisis. In Malaysia, food security is among the urgent issues we need to tackle. Using AI in this industry could be a game changer for this nation to satisfy the demand of its people.

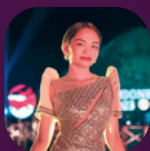


### **Aijohn Santos, 23**

*Mental Health Worker at the National Center for Mental Health, the Philippines*

As a person who has used AI, I only understand the benefits it can provide to me, but I believe that I have not fully grasped its full potential which excites me because I appreciate how it personalises the learning experience. AI possesses the ability to tailor educational content or ideas to individual needs and preferences. It can adapt to a learner's pace, style, and prior knowledge, making the learning journey more engaging and effective. Whenever I do not understand something, I ask the AI some questions, explain it in a different manner, or ask for more examples. Although I already attained my degree and am a working adult, I look forward to witnessing how it will continue to revolutionise the way we learn and grow, inside and outside of the classroom.





**Tiffany M.  
Templonuevo,  
23**

*Student, Université  
catholique de Louvain-*

*Extension School, Micromasters  
in International Law from the  
Philippines*

AI integrates technology in various tasks which traditionally require human intervention. Its concept is to imitate human output at a much-accelerated pace, decreasing time consumption and increasing productivity. These developments have proven to be a revolutionary tool for different fields. However, what concerns me the most is the ethical issues that come with the use of AI. One of which is privacy. AI, particularly data-driven algorithms, has the potential to collect and analyse massive amounts of personal data, intruding on people's right to privacy. User information, for example, is frequently utilised for targeted advertising without explicit authorisation.

AI bias is also an issue. AI systems may inherit biases from the data on which they are trained, resulting in discriminating outcomes. Incorrect identifications, for example, have been related to racial and gender biases in facial recognition systems. Another is job loss. While AI boosts productivity, it also has the potential to replace labour in some industries, raising concerns about job security and other societal consequences. Another ethical concern is how to hold the makers of AI systems accountable and provide transparency in their decision-making. It is difficult to assign accountability when AI systems make choices, especially in industries such as banking and healthcare. While AI has various benefits, ethical concerns must be addressed in order to ensure responsible AI development and use.



**'Aliaa  
Ramzani, 25**

*Fellow, UNICEF  
Malaysia Young  
Leaders; Tech*

*Evangelist, Google Developer Group  
Cloud Kuala Lumpur and Women  
TechMakers Kuala Lumpur*

Digital transformation is undeniably on the rise, promising greater efficiency in our daily lives. Coming from a technical background, dabbling with Software Engineering, Artificial Intelligence, and Augmented Reality, etc., I've quickly realised that as we demand more from technology, it, in turn, demands more from us. We're expected to apply critical thinking, guided by our values and ethics when making informed decisions. Yet, these decisions can be marred by biases, prejudices, misinformation, misconceptions, misunderstandings, etc. We must remember that AI is a reflection of us as humans, echoing our inherent biases and such via the data it's fed. It's crucial for us to be aware of our digital rights and online privacy. While we move towards a more secure digital realm, more solutions might include linking our citizenship IDs to our phone numbers, social media accounts, emails, etc. This raises questions like, "How secure is our digital identity?" and "Who holds the custody of these details?"

For the comprehensive protection of online users, we may need to look into establishing protocols, policies, and agreements nationwide or maybe even internationally. Only with these safeguards in place can we harness the true potential of globalisation and fully understand our role as digital global citizens.

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The ethical use of AI is critical to prevent discrimination and ensure fairness in decision-making processes. There is also a need for regulations that govern the development and application of AI, striking a balance between innovation and ethical considerations.

— **Nur Marsya Amani  
Binti Mohd. Jamil**

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# Advancing Equality and Empowerment of all Women and Girls in ASEAN



**Miguel Rafael V. Musngi**

Head, Poverty Eradication and Gender Division

ASEAN Socio-Cultural Community Department



**Jacel Javier Paguio**

Senior Officer, Poverty Eradication and Gender Division

ASEAN Socio-Cultural Community Department

ASEAN firmly believes that bridging the gender gap and ensuring that all women and girls realise their fullest potentials are *sine qua non* to the realisation of a fairer, inclusive, and resilient ASEAN Community. Through the years, ASEAN has mobilised political consensus and placed high-level political commitment on introducing and institutionalising these perspectives in multiple areas of cooperation across the three ASEAN Community pillars.

ASEAN cooperation on advancing gender equality and women empowerment is blazing the trail, imbued with respect and commitment to human rights, social justice, peace and security, and social progress for all women and

girls. Amidst uncertainty and the uneven and gendered impacts of global threats and challenges, such as the COVID-19 pandemic, ASEAN has remained a strong and steadfast champion of gender equality and empowerment of all women and girls.

ASEAN is committed to current and future efforts on advancing gender equality and women empowerment beyond the common milieu of women and men inequality issues. This is evidenced by the constellation of mutually reinforcing and complementary ASEAN frameworks that enshrine ASEAN's high-level political commitment as well as strong regional solidarity and alliance.

ASEAN's breakthrough on the elimination of all forms of violence and discrimination against women and children, including those in the context of migration and trafficking-in-persons, is exhibited through the Declaration on the Elimination of Violence Against Women and Elimination of Violence Against Children in ASEAN (2013). This has been translated into the ASEAN Regional Plan of Action on the Elimination of Violence Against Women (ASEAN RPA on EVAW, 2016). This plan of action is the first of its kind in the world and a hallmark regional instrument in view of realising ASEAN's commitments under the Convention on the Elimination of All Forms of Discrimination against Women



(CEDAW) which all ASEAN Member States have ratified.

Notably, the adoption of the Declaration on the Gender-Responsive Implementation of ASEAN Community Vision 2025 and Sustainable Development Goals (2017) has drawn urgent attention to the deeply rooted gender gaps that affect women and girls, and their agency.

Through the Action Agenda on Mainstreaming Women's Economic Empowerment (WEE) (2017), ASEAN encouraged all ASEAN Member States to mainstream women's economic empowerment, particularly in innovation, trade, and inclusive business.

## A cross-cutting agenda

ASEAN recognises that the women, peace and security agenda is a cross-cutting issue, and it is giving attention to the deepening and gendered impacts of non-traditional security issues affecting women and children. The ASEAN Regional Plan of Action on Women, Peace and Security (2022) outlines ASEAN's priority actions in the four pillars of the women, peace and security agenda namely: (i) prevention; (ii) protection; (iii) participation; and (iv) relief and recovery. A dedicated pillar on implementation mechanisms and arrangements has been included to institutionalise cross-sectoral and inter-pillar cooperation while facilitating effective stakeholder engagements.

The development of this landmark regional plan of action has been preceded by the Joint Statement on Women, Peace and Security (2017) and the ASEAN Regional Study on Women, Peace and Security in ASEAN (2021), key milestones which exemplify how the women, peace and security agenda urgently matter to ASEAN.

The nexus of gender equality and disability inclusion, especially for women with disabilities and older women, cannot be undermined. Adhering to the principle of gender equality, the ASEAN Enabling Masterplan 2025: Mainstreaming the Rights of Persons with Disabilities

(2018) has been pivotal in ensuring that the most vulnerable women with disabilities are afforded dignity, respect and equal access, empowering them to live life to the fullest.

The foregoing regional policy frameworks have guided ASEAN's cooperation on advancing gender equality and women's empowerment. It is important to highlight that these frameworks leverage on regional cooperation to catalyse actions both at the national and regional levels. These frameworks cover a myriad of issues that touch upon the lives of women, and how they can be effectively engaged as agents of transformative change.

## Regional mechanisms and platforms

ASEAN has established dedicated regional mechanisms and platforms to translate its political commitments into concrete actions. These mechanisms and platforms facilitate strong linkages and flow of regional cooperation into actions at the national level, and takes into consideration developments at the national level to inform regional cooperation at the ASEAN level.

At the forefront of such mechanisms are the ASEAN Committee on Women (ACW) and the ASEAN Commission on the Promotion and Protection of the Rights of Women and Children (ACWC). They support ASEAN Sectoral Bodies, development and dialogue partners, as well as civil society organisations and stakeholders on building meaningful and substantive engagements.

The ASEAN Committee on Women was established in 2001 as a subsidiary body of the ASEAN Ministerial Meeting on Women or AMMW. It is implementing its third work plan, with the current iteration covering 2020-2025. The work plan covers a wide range of thematic areas namely: (i) gender data and statistics; (ii) gender mainstreaming; (iii) gender-responsive climate and disaster resilience; (iv) gender approach to enhancing safety and protection of women and girls; (v)

women, peace and security; (vi) women's economic empowerment and future of work; and (vii) gender-responsive governance and leadership.

On the other hand, the ASEAN Commission on the Promotion and Protection of the Rights of Women and Children was inaugurated in 2012 and reports to the ASEAN Ministerial Meeting on Social Welfare and Development or AMMSWD. It is, likewise, implementing its third work plan covering the period 2021-2025. In fulfilment of its mandate, ACWC's work plan covers the following key results areas: (i) promoting women and children's rights; (ii) building partnerships and platforms to advance women and children's rights; (iii) deepening awareness and institutionalising women and children's rights; and (iv) strengthening institutional and stakeholder capacities.

ASEAN has also established the ASEAN Women Entrepreneurs Network or AWEN. It is a regional network of national women entrepreneurs who own or manage micro-, small- and medium-sized enterprises that engages with economic sectors in the ASEAN region. Through the years, AWEN has served as a regional forum for ASEAN women entrepreneurs to share information, knowledge and experiences, provide assistance to fellow women entrepreneurs, and network with regional and international organisations of women entrepreneurs.

## Leaving no woman and girl behind

The steady emergence of these ASEAN frameworks, instruments, and platforms demonstrates that ASEAN's commitment in advancing gender equality and the empowerment of all women and girls are constantly reaching new heights. The frameworks also fulfil another significant role—they open and carve out policy spaces for women and girls who remain invisible and exist at the fringes of society.

The women at most risk of exclusion and marginalisation are those

belonging to ethnic minorities, residing in rural areas, coming from poor households, experiencing disabilities, and living or working as migrants. *The ASEAN Gender Outlook: Achieving the SDGs for All and Leaving No Woman or Girl Behind* (2021) revealed that these women are more prone to discrimination, and that when multiple forms of discrimination overlap, the barriers they face are heightened.

Persistent absolute poverty in the region has made the work of women invisible. In the ASEAN region, rural areas experience poverty twice as much compared to urban areas. Women in agricultural value chains often face the challenge of being rendered invisible. While they actively participate, their contributions are frequently relegated to the realm of reproductive work and stereotyped roles, often going unrecognised in national accounts and lacking monetary acknowledgment at the household level. Despite the invisible nature of rural women's agriculture work, their contributions to farm and off-farm activities ensure food security at the household level and spur the growth of local rural economies.

### Ensuring the protection of women and girls

Violence against women and girls increased in tandem with unpaid care and domestic work during the COVID-19 pandemic. Such violence—physical, psychological, or economic—against women and girls are often hidden and unreported. The region's post-pandemic recovery is an opportunity to rethink and re-imagine the concept of work—undertaken by women and men, in all settings, and in rural and urban spaces—to recognise, reduce, and redistribute unpaid care work, ensure sufficient remuneration and representation, and uphold the rights of women.

The demographic shifts in the region show that ASEAN is home to ageing societies but also a young population. Women tend to live longer compared to their male

counterparts. A closer look reveals that older women, those well past beyond the age of 60, remain hidden. Older women bear the brunt of unpaid care and domestic work well into their old age. They have limited access to social protection and livelihood opportunities. Older persons primarily work in the informal sector, with less security and less social protection. In the region, coverage of pension is low in most countries, mostly out of pocket contributions.

The phenomenon of child marriage also continues to be an issue in the region. From child marriage based on deeply rooted customs and beliefs, to early voluntary unions and adolescent pregnancies, such an occurrence is correlated with risks on health as well as increased exposure to gender-based violence.

The break-neck speed of advances in technology and innovations is adding a layer of complexity on achieving gender equality in the region. The pervasiveness of mobile gadgets that are connected to the internet has led to an increase in cybercrime committed against children, particularly girls and young women.

The impacts of climate change on women and girls in ASEAN is an emerging concern. The influence of climate change on gendered migration decisions needs further investigation. Climate change impacts on women's responsibility for food security at the household level, and risk of displacement due to slow-onset disasters such as droughts and rising sea levels are further emerging issues that ASEAN will need to adequately address.

Lastly, on the discourse on preventing violence extremism, women and girls are either perceived as victims or willing perpetrators. There is a need to move beyond this binary approach. Unpacking these complex circumstances require a recognition of their roles as recruiters and campaigners, as wives and daughters of those who are radicalised, and as abductees who are forced to join violent extremist groups. These women are also at the

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ASEAN has established dedicated regional mechanisms and platforms to translate its political commitments into concrete actions.

forefront of building and nurturing peace at the community level. By harnessing indigenous knowledge, engaging in community-based peace building initiatives, they act as active agents of peace and security.

### Putting women at the forefront of post-pandemic recovery

Increasing the role and status of women in society has been at the centre of the ASEAN Community Vision 2025 and the ASEAN Comprehensive Recovery Framework. With the COVID-19 pandemic compounding the economic constraints faced by women for the past three years, ASEAN seizes opportunities to cushion and stimulate resilience-building efforts through a gender-responsive and inclusive economic ecosystem that will benefit all women in the region.

In fulfilment of its convening mandate, ASEAN has articulated the role of women in recovering from the COVID-19 pandemic through the “ASEAN Ministerial Dialogue on Strengthening Women's role for Sustainable Peace and Security” held in September 2020, and the First ASEAN Women Leaders' Summit “Women's Role in Building a Cohesive, Dynamic, Sustainable and Inclusive ASEAN Community in a Post COVID-19 World” held in November 2020.





Indeed, overcoming the uncertainties of the changing world that widened the gender-divide and increased inequalities calls for high-level commitment and regional strategic direction to sustain the position of ASEAN as a change-focused actor on gender and inclusion issues.

Heeding this call, ASEAN pioneered the ASEAN Gender Mainstreaming Strategic Framework that was launched in January 2022. The Framework adopts a whole-of-ASEAN approach in the development of medium- and long-term strategies for mainstreaming gender perspectives at the ASEAN and Member State level. Its ongoing implementation has led to robust engagements between and among ASEAN Sectoral Bodies as well as women's organisations and various stakeholders on gender mainstreaming. The cooperation takes form in developing gender equality frameworks, action plans, and tools and guidelines in various sectors such as labour, disaster management, MSMEs, agriculture, and political security, among others.

ASEAN's agenda on gender mainstreaming is also moving forward through taking stock of sectoral work plans and identifying strategies to engender such plans. ASEAN and its partners also affirmed commitment to support women at the ASEAN Women, Peace and Security Summit in Yogyakarta on 6-7 July 2023.

The fundamental principle of addressing gender inequalities to reduce poverty is given life by ASEAN most recently through the Declaration on Building a more Sustainable, Inclusive and Resilient Future: Unlocking Women's Entrepreneurship in ASEAN (2022). This Declaration mobilises collective action to address systemic and institutional barriers faced by women, especially women with disabilities and those in vulnerable situations, to entrepreneurship and broader economic empowerment. It urges ASEAN Member States to strengthen policy and legislative frameworks and promote gender-responsive investments and targeted measures to enable women to adapt, respond to, and recover from crisis situations. This includes the provision of gender-responsive and accessible entrepreneurship support services for women.

Recognising and valuing women's unpaid care and domestic work is also key in addressing gender inequalities. ASEAN adopted the ASEAN Comprehensive Framework on Care Economy (2021) which charts the strategic priorities and maps the relevant ASEAN sectoral initiatives for the realisation of an ASEAN Care Economy. In particular, these priorities include: (i) promoting healthy ageing; (ii) enhancing the role of the care economy in building a disaster resilient ASEAN; (iii) accelerating technology innovations and digital transformation; (iv) building stronger

and resilient families; (v) enhancing social protection/leaving no one behind; and (vi) strengthening resilience and care for the environment.

## Conclusion

Moving forward, there is much enthusiasm and confidence on ASEAN's pioneering work on advancing gender equality and empowerment of all women and girls. As ASEAN continues to play a central and strategic role, the Outlook on the Indo-Pacific, there are opportunities to showcase ASEAN's achievements on gender equality and women's empowerment. These are in the areas of digital economy, MSMEs, science and technology, active ageing and innovation, climate change and disaster risk reduction, and the attainment of the SDGs.

The shifting perspectives that recognise women as rightsholders and with untapped potentials and capacities to participate and catalyse change in the society is ardently rallied by ASEAN. Bringing the voices of the most invisible and most vulnerable women and girls in society into the ecosystem of gender equality and women empowerment has allowed ASEAN to take a quantum leap on mainstreaming the rights of women and girls, ensuring that no one is left behind.

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# Can gender equality be achieved in ASEAN?



**Amar Syahirah  
Haji Abd Murad, 29**

*ASEAN Rising Leaders  
Regional Network,  
Brunei Darussalam*

In contemplating the attainability of gender equality within the ASEAN context, I hold the belief that while the realisation of this goal is feasible, it necessitates a journey of considerable duration. Given that many nations within the region are structured around patriarchal systems, women face substantial challenges in their endeavours to excel across domains such as education, careers, and societal roles. Nevertheless, the contemporary era offers a sense of optimism as a growing number of women are actively dismantling these barriers. The emergence of more female politicians and their involvement in decision-making processes, the increasing presence of accomplished female athletes, and the expanding array of opportunities collectively illustrate a shifting landscape that holds promise for a more equitable future.



**Aisha Nicole  
Lim Dones, 19**

*Computer Science  
Sophomore at Mapúa  
Malayan Colleges  
Mindanao & Chief*

*Executive Officer at Google Developer  
Student Clubs Mapúa-MCM, the  
Philippines*

Gender equality, a challenge not only within ASEAN but worldwide, continues to elude us despite the presence of laws and policies addressing gender-based discrimination and violence against women. The persistence of deep-rooted cultural norms and stereotypes poses a significant hurdle in this journey.

For true progress, we must work to dismantle these harmful biases. Creating an environment where leadership qualities are recognised and celebrated, regardless of gender, is essential. Only then can we truly hope to achieve the gender equality that our societies aspire to—a future where every individual, regardless of gender, can contribute to the betterment of our nations and the region as a whole.



**Ibnu Galih  
Madini, 24**

*Member of ASEAN  
Youth Organization  
from Indonesia*

This can be achieved, but it is quite challenging because there are still many people who do not know about gender equality issues. According to the Global Gender Gap Report 2022 by the World Economic Forum (WEF), gender inequality in Indonesia is massive, especially in the political field. The gender inequality index score in the political field is below the global average, with Indonesia ranking 92 out of 146 countries. In reality, I still find a lot of my friends, even my family, aren't aware of gender equality in society. They believe that men will always be the leaders and women will be followers. It is a super challenging issue in Indonesia, especially in my community, but I believe that someday, gender equality will be achieved in ASEAN, especially in my community.



**Chonticha  
Distan, 21**

*Senior Student  
at Thammasat  
University, Thailand*

I think equality can be achieved in ASEAN, but we should all build knowledge and more understanding for everyone to realise and see the importance of equality.



**Le Thi Luong, 34**

*Researcher, Institute  
of Labour and Social  
Affairs, Ministry of  
Labour, Invalids and  
Social Affairs, Viet Nam*

The issue of gender equality is complex and multifaceted, and progress towards gender equality can vary significantly across different countries. Some ASEAN countries have acknowledged the importance of gender equality and women's empowerment and have adopted various initiatives and policies to promote gender mainstreaming and women's participation in various sectors, particularly in areas such as education, labour force participation, and employment. However, challenges remain, such as gender-based violence, unequal access to resources, and underrepresentation of women in leadership positions.

Whether gender equality can be fully achieved in ASEAN depends on several factors, including political will, societal attitudes, economic development, and continued advocacy and implementation of gender-sensitive policies and programmes. To achieve gender equality in ASEAN, it is essential to improve educational systems and ensure equal opportunities for women in employment and the political field. At the same time, it is necessary to change cultural views and prejudices as well as remove restrictions on women's rights in the family and society.

*The views and opinions expressed belong  
solely to the respondents and do not reflect  
the official policy or position of ASEAN.*



# ASEAN 2045

This issue of *The ASEAN* is the second of a two-part special series on trends and challenges facing ASEAN in the next 20 years.



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# The ASEAN



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