

ASEAN Vision 2040: Towards a Bolder and Stronger ASEAN Community

Integrative Report



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Economic Research Institute for ASEAN and East Asia

I. Introduction

The Association of Southeast Asian Nations (ASEAN) adopted the ASEAN Vision 2020 during the Second ASEAN Informal Summit in Kuala Lumpur, Malaysia, in December 1997, a few months after the outbreak of the East Asian financial crisis and amidst depreciating currencies in the region. Although born during the heady days of late 1996, the ASEAN Vision 2020 was adopted at the height of the financial crisis – a testament to the determination of ASEAN leaders to move boldly forward. Such dogged persistence over the subsequent nearly 2 decades has borne fruit: an increasingly integrating and cohesive ASEAN community that has become the hub of economic and political–security architecture in the wider region.

The subsequent ASEAN Community Vision 2025, signed in 2015 by the ASEAN Heads of State/Government in celebration of the formal establishment of the ASEAN Community in 2015, reaffirmed the ASEAN vision of an integrated, peaceful, stable, prosperous, and caring

community. Furthermore, the 2025 vision emphasises a rules-based, people-oriented and people-centred, and sustainable ASEAN Community that is outward-oriented within a global community of nations while maintaining ASEAN centrality. It is a vision of a community of peoples enjoying human rights and fundamental freedoms, higher quality of life, and a greater sense of togetherness and common identity. (See ASEAN Secretariat, 2016.) The 2025 vision underpinned the ASEAN blueprints for 2025 for the ASEAN Political Security Community (APSC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC). The ASEAN Community Vision 2025 is an embodiment of the continuing resolve of the ASEAN Heads of State and Government to ‘forge ahead together’ to realise a vision of a peaceful, stable, integrated, prosperous, and sharing community as articulated in the ASEAN Vision 2020, and indeed expanded to embrace people centredness and people orientedness, sustainability and resilience, and a greater regional role anchored on ASEAN centrality.

However, the geo-economic, geopolitical, and technological landscape has been changing tremendously since the ASEAN Vision 2020 and the ASEAN Community Vision 2025 were adopted, and is likely to change much more in the next 2 decades or so. It is time for ASEAN to develop the ASEAN Vision 2040, with a similar 20-year window. The ASEAN Vision 2040 seeks to assess the challenges ASEAN faces and set out a vision for the next 2 decades and the strategies to achieve it.

The considerable achievements in developing the three ASEAN communities, the fast-changing geo-economics and geopolitics in the wider region, as well as the fast-developing digital revolution and new industrial revolution shape ASEAN Vision 2040. Facing greater uncertainty, ASEAN must, more than ever, maintain its unity and centrality, adjust to and benefit from economic and technological transformations under way or emerging worldwide, and ensure that ASEAN engages and benefits its people and the ASEAN community is an embodiment of ‘unity in diversity’ bonded together in peace, security, and prosperity.

The Integrative Report consists of nine chapters. Chapter Two discusses the context of the ASEAN Vision 2040, specifically ASEAN's remarkable achievements and the considerable gap between people's aspirations and expectations for ASEAN, and the key global and regional developments that will significantly impact the trajectory of ASEAN's development. Chapter Three presents the key themes of the Integrative Report. Chapter Four highlights the importance of collective and cooperative leadership as well as ASEAN centrality for peace and security in East Asia and across Asia, and how ASEAN Plus Six and the United States (US) can help engender collective leadership and peace in East Asia and the Indo-Pacific area. The chapter also suggests that ASEAN's and Asia's integration approach and pan-regional connectivity initiatives provide a mechanism for re-energising and reshaping the multilateral trade regime.

Chapter Five discusses the digital revolution and Industry 4.0 and their implications for ASEAN economic transformation. Embracing and adapting to the new industrial revolution means that creative imitation and innovation have priority, and new technologies adapted for economic and social progress. Chapter Six discusses the vision for resiliency and environmental sustainability in ASEAN, with emphasis on opportunities for enhanced resilience and sustainability that new technologies offer, and for the energy sector where sustainability, security, reliability, and inclusiveness loom large. Chapter Seven discusses measures needed to realise an integrated and connected Seamless ASEAN (akin to an ASEAN Single Market) underpinned by Good Regulatory Practice. Chapter Eight highlights people empowerment, people engagement and the sense of ASEAN belonging and identity. Chapter Nine shows how all of the developments must influence the ASEAN institutional ecosystem.

II. Context of the ASEAN Vision 2040

ASEAN: Remarkable achievements

Prime Minister Mahathir Mohammad of Malaysia at the Asia Society Conference on Asia and the Changing World in Tokyo in 1993 eloquently summed up the remarkable achievements of ASEAN during its first two and a half decades of existence:

I am... an ASEANist. I am deeply committed to ASEAN which has played such a critical role in turning what was an area of turmoil, antagonism, conflict – sometimes violent conflict, an area with no history of cooperation whatsoever, into a zone of cooperative peace and prosperity (Pitsuwan et al. (eds.), 2017).

ASEAN would grow in stature from then, increasing its member states from six to 10, including Myanmar and the previously warring countries of Indo–China; and transform itself from a ‘cold war pawn to ASEAN Centrality’, as Indonesia’s former Foreign Minister Marty Natalegawa put it, to the hub of the political–security forums for peace in Asia and the Pacific, principally the East Asia Summit, the ASEAN Regional Forum, and the ASEAN Defence Ministers Meeting Plus (Natelegawa, 2018).

ASEAN has arguably been the most successful developing economy region during the past 4 decades, becoming the fourth largest economy (valued in 2016 purchasing power parity) in the world (if ASEAN were viewed as a single economy) by 2016 and into 2040 (see Figure 6 on page 70 below). Table 1 shows the average growth rates of gross domestic product (GDP) of AMS from the early 1990s, highlighting the extraordinary growth rates in the early 1990s of Indonesia, Malaysia, Singapore, and Thailand as part of ASEAN’s first Golden Decade (1986–1995), the high growth rates of the newer ASEAN members during much of the period, and the surge in the growth rate of the Philippines in recent years. McKinsey calls ASEAN the region of global growth outperformers (Das et al., 2018):

- Indonesia, Malaysia, Singapore, and Thailand are long-term outperformers with per capita GDP growth outpacing the US consistently during 1965–2016, with a compound growth rate of at least 3.5% per year. The other three on the list are China, Hong Kong, and the Republic of Korea.

- Cambodia, Lao People’s Democratic Republic (Lao PDR), Myanmar, and Viet Nam are recent outperformers that outpaced US per capita GDP growth consistently during 1995–2016, with a per capita compound growth rate of at least 5.0% per year. Six other countries are on the list, including India, Ethiopia, and Central Asian countries such as Kazakhstan.

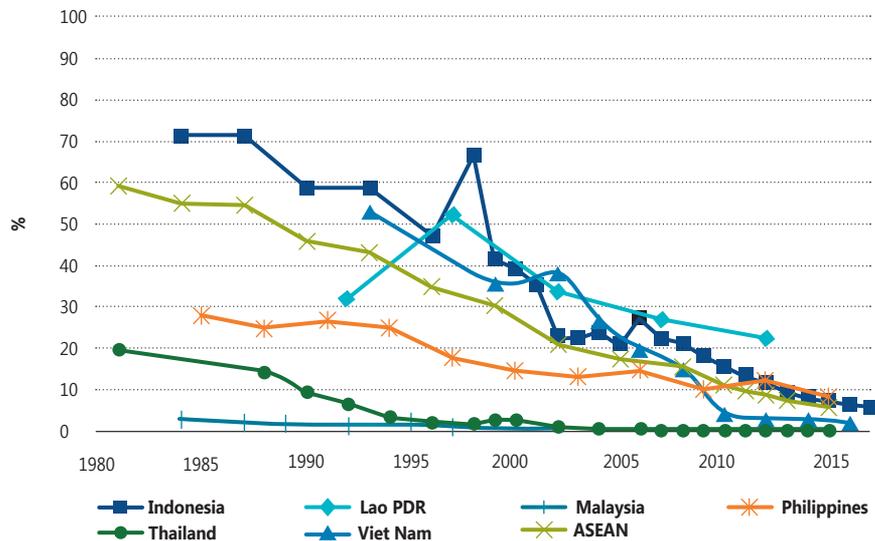
Table 1: Growth Rates of ASEAN, China, and India GDP at Constant 2010 US\$ (%)

	1990–1996	1997–1999	2000–2004	2005–2009	2010–2014	2015–2017
Brunei Darussalam	2.8	0.3	2.6	0.2	0.6	–0.6
Cambodia	–6.3*	7.1	8.7	8.2	7.0	6.9
Indonesia	7.2	–2.5	4.6	5.6	5.8	5.0
Lao PDR	6.4	6.0	6.0	7.7	8.0	7.1
Myanmar	5.5	7.5	12.9	11.9	7.8	6.4
Malaysia	9.5	2.0	5.5	4.1	5.8	5.0
Philippines	2.8	2.6	4.5	4.4	6.2	6.5
Singapore	8.7	4.1	5.2	5.3	6.9	2.8
Thailand	8.3	–1.9	5.5	3.1	3.9	3.4
Viet Nam	7.9	6.2	6.7	6.5	5.9	6.6
China	10.7	8.2	9.2	11.5	8.6	6.8
India	5.5	6.4	5.7	8.1	7.2	7.3

* Data for Cambodia available from 1994.

Source: World Bank (<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD?view=chart>).

Figure 1: Headcount Poverty Rates at US\$1.90 per Day per Capita at 2011 Purchasing Power Parity (% of population)



Note: Malaysia uses income data, the rest consumption data; ASEAN data is aggregated from Indonesia, Lao PDR, Philippines, Thailand, and Viet Nam data.

Source: World Bank, data are retrieved from PovcalNet (<http://iresearch.worldbank.org/PovcalNet/index.htm>).

- The Philippines is a recent accelerator, with a per capita GDP growth rate of more than 3.5% per year during 2006–2016. Eight other countries belong to this group, including Bangladesh, Peru, Poland, and Sri Lanka.

Underpinning such remarkable growth of almost all AMS are high investment (and saving) rates¹ and strong foreign direct investment (FDI) in most AMS. ASEAN vies with China as the most preferred FDI destination in the developing world. Most AMS have also been trade oriented. Total factor productivity also contributed modestly to their robust growth. AMS' remarkable growth has translated to the near elimination of dire poverty and a marked reduction in overall poverty (**Figure 1**). Health and education have also improved substantially. **Tables A.1 to A.4** in the appendix provide a quantitative picture of the

¹ Cambodia, Lao PDR, and the Philippines have substantially lower saving rates than the rest of the AMS.

remarkable economic and social performance of AMS over the past few decades.²

A review of the policy developments and economic performance of AMS suggests that ASEAN has been a co-driver together with the World Trade Organization (WTO) of significant policy reforms in many AMS, especially the newer ones (Intal and Chen, 2017). The implementation of the AEC Blueprint 2009–2015 is also noteworthy, even if there remains a significant gap between the actual and ideal ASEAN single market. Tariffs on intra-regional trade in goods have been nearly eliminated. Major trade facilitation measures are well under way, with the live implementation of the ASEAN Single Window since 1 January 2018 in five AMS with at least three more expected to join soon after, the national trade repositories being set up and populated with the information set out in the ASEAN Trade in Goods Agreement, and the self-certification schemes now past the pilot stage toward full implementation. ASEAN services liberalisation commitments have been WTO General Agreement on Trade in Services (GATS)–Plus, albeit with a significant percentage in the flexibility clause. Similarly, investment liberalisation has deepened under the ASEAN Comprehensive Investment Agreement. There have been mutual recognition arrangements on professional services as well as on priority goods, although implementation leaves much to be desired. A wide range of cooperation initiatives exist in so many economic sectors (especially agriculture, forestry, fishery, finance, and transport) and on a number of critical economic issues such as competition policy and intellectual property. The explosion of ASEAN-related meetings over the past decade and earlier reflects the expansion in coverage and depth of cooperation amongst AMS.

ASEAN’s remarkable achievements are not only in the political-security and economic arenas but also in social development and culture. Covering more than 20 sectors, the ASEAN Socio-Cultural Community

² For in-depth discussion of ASEAN’s remarkable economic progress, see Ponciano Intal Jr et al. (2014), *ASEAN Rising: ASEAN and AEC Beyond 2015*. Jakarta: ERIA, chapter 1; Ponciano Intal Jr and Lurong Chen (2017), *ASEAN and Member States: Transformation and Integration*. Jakarta: ERIA, chapters 1–3; and Kaushik Das et al. (2018), *Outperformers: Maintaining ASEAN Countries’ Exceptional Growth*. McKinsey Global Institute.

(ASCC) has seen a rich and diverse range of initiatives involving a widening network of experts, non-state actors such as non-governmental organisations, government officials, and ASEAN's dialogue partners. An example of the ASCC outcomes is the ASEAN Agreement on Disaster Management and Emergency Response and the consequent establishment of the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management. ASEAN's regional cooperation in disaster management has enabled the region to be active in international negotiations on the Sendai Framework for Disaster Risk Reduction.

Initially less emphasised in the early decades of ASEAN than the other two pillars (the APSC and the AEC), the ASSC could have the most impact because it is the people pillar and inherently more cross-sectoral and multidimensional and may largely determine how effectively benefits can be delivered. Former Prime Minister Abhisit Vejjajiva of Thailand avers that the AEC would find its progress difficult without the ASEAN peoples becoming closer socially and culturally (Vejjajiva, 2017). Former President Fidel Ramos of the Philippines emphasises that for the ASEAN people to consider ASEAN as their community in all its dimensions, they need to see it as having a pervading beneficial influence on their lives and to regard the ASEAN vision as their own (Ramos, 2017).

Community building in ASEAN has been fruitful: 37% of the student respondents of Singapore's Institute of Southeast Asian Studies (ISEAS) survey in 2014 considered themselves to be 'ASEAN citizens'. A similar study by the Economic Research Institute for ASEAN and East Asia (ERIA) in 2017, asking a similar question but involving a wider range of respondents, shows that one-half of the student respondents in all AMS consider themselves 'ASEAN citizens'. This is significant considering that when ASEAN was established, the ASEAN peoples hardly knew one another or viewed each other with suspicion and mistrust.

Still, a large percentage of students in ASEAN do not consider themselves ASEAN citizens. Those who do appear to do so, consider themselves as such because of geographic proximity of ASEAN countries and ease of travelling within the region. The ERIA survey also suggests that knowledge of ASEAN is primarily that of AEC. (The ERIA survey was

undertaken just over 1 year after AEC's establishment in 2015, which received much media attention.) Thus, there remains a huge challenge to deepening the sense of ASEAN belonging and shared ASEAN identity.

ASEAN: Considerable gap between aspirations and expectations

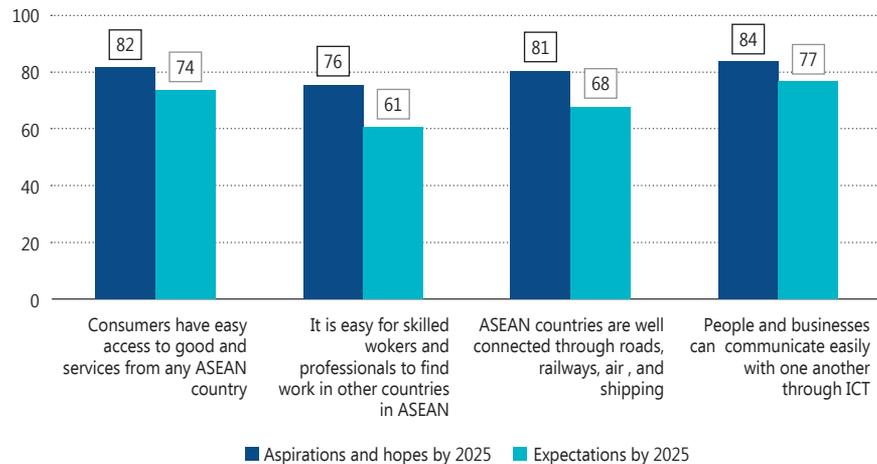
The ERIA survey asked 2,322 respondents from 10 AMS from various walks of life (students, government officials, academics, etc.) about their aspirations (what they would like to happen) and expectations (what they think would likely happen) of ASEAN and their own countries for 2025. The results are instructive because they provide some indication of overall support for the key goals of ASEAN as well as its future if it were to be more responsive to the aspirations of the ASEAN peoples for 2025 and beyond³ (See **Figures 2 to 5** below.):

- More than 80% of the survey respondents aspire to have easy access to goods and services from any AMS by 2025. About three-fourths of them consider it likely that such easy access will happen by 2025. This is a vote of confidence for trade liberalisation.
- More than 80% of the respondents also aspire to a physically and digitally connected ASEAN, while at least two-thirds expect that by 2025, AMS will be physically well connected through roads, railways, air, and sea, and be able to communicate easily with one another through information and communications technology (ICT).
- A lower percentage – three-fourths – of respondents aspire to have easy mobility of skilled labour and professionals within ASEAN, with three-fifths expecting this will be possible by 2025. Focus group discussions indicate that some worry that the domestic workforce will not be able to compete with skilled workers and professionals from other AMS.

³ The results summarised below are discussed in greater detail in Ponciano Intal Jr and Lydia Ruddy (eds.), (2017), *Voices of ASEAN: What Does ASEAN Mean to ASEAN Peoples?* Jakarta: ERIA.

- Three-fourths of the respondents would like to see ASEAN deeply engage the powers in the region and the world (e.g. China, the US) to ensure peace. The same percentage of respondents would like to see ASEAN have a strong voice and be an important player in global negotiations and forums. Expectations are more subdued, however, with about three-fifths expecting it will happen by 2025.
- Three questions on urban pollution, biodiversity, and resilience to natural disasters were used as indicators of resiliency and sustainable development. About three-fourths of the respondents aspire for major ASEAN cities to be less polluted in 2025; the region’s biodiversity and natural resources to be sustainably managed and conserved; and ASEAN to be able to anticipate, respond, and recover faster together from natural disasters and health hazards.

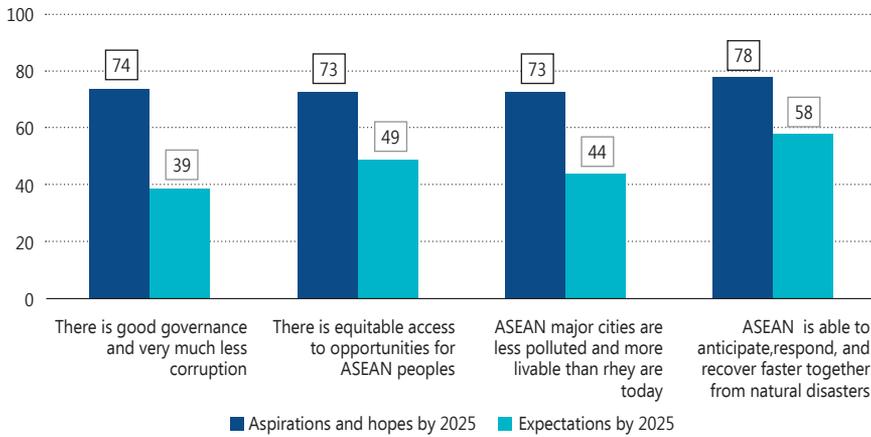
Figure 2: Integrated and Connected ASEAN
(%)



ASEAN = Association of Southeast Asian Nations, ICT = information and communication technology.

Source: Intal and Ruddy (eds., 2017).

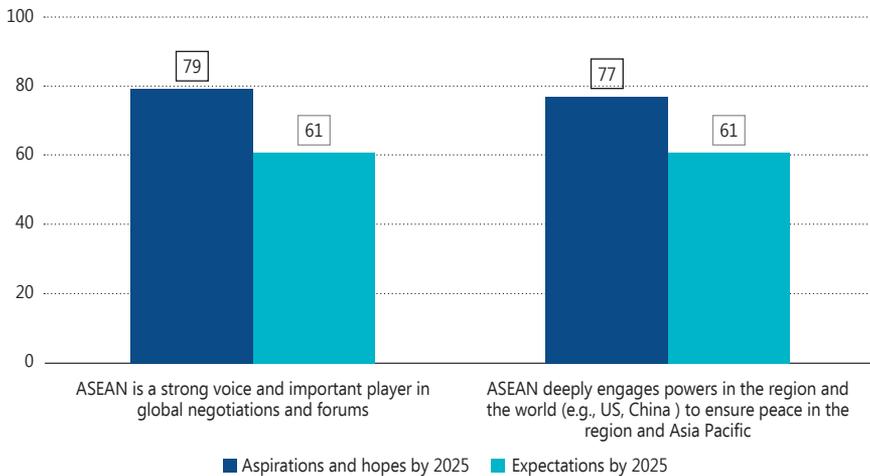
Figure 3: Governance, Equity, Resilience and Sustainability
(%)



ASEAN = Association of Southeast Asian Nations.

Source: Intal and Ruddy (eds., 2017).

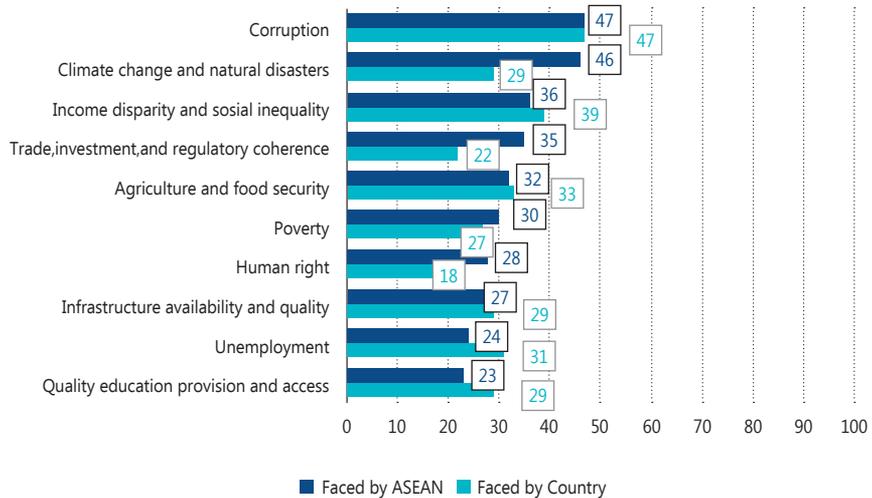
Figure 4: Regional and Global Engagement and Voice
(%)



ASEAN = Association of Southeast Asian Nations, US = United States.

Source: Intal and Ruddy (eds., 2017).

Figure 5: Pressing Problems in AMS and ASEAN
(%)



ASEAN = Association of Southeast Asian Nations.
Source: Intal and Ruddy (eds, 2017).

Expectations for 2025, however, are far more subdued. Just a little over two-fifths are optimistic about pollution, less than half are positive about biodiversity and sustainable management of natural resources, and slightly more than half expect ASEAN to be resilient to natural disasters and health hazards.

- Given that the ASCC gives a human face to ASEAN integration and is central to ASEAN community building, the ERIA survey put forth six questions to gauge aspirations and expectations related to basic social protection of migrant workers, good governance, access to opportunities, human rights, and awareness of and engagement with ASEAN. Overall, between seven-tenths and three-fourths of the respondents have high aspirations that by 2025 the following will happen:
 - o There is good governance and very much less corruption.
 - o There is equitable access to opportunities for the people of ASEAN.
 - o Basic social protection and health services are provided to migrants and temporary workers from other countries.
 - o Human rights and minorities are protected.

- o ASEAN people are aware of the ASEAN community and its programmes.
- o The ASEAN community strongly engages and benefits its people.

Expectations, however, are far more subdued:

- Only half of the respondents think that ASEAN people will be aware of the ASEAN community and its programmes, and that ASEAN will strongly engage and benefit the people.
- Only half feel that there will be equitable access to opportunities, or that migrants will be accorded basic social protection and health services.
- Less than half think that human rights and minorities will be protected.
- The largest gap relates to good governance and much less corruption – only about two-fifths have positive expectations while three-fourths aspire for it by 2025.

It is worth noting that respondents put corruption at the top of the list of concerns at the regional level and, on average, the national level. Income disparity and social inequality rank as the second most pressing problem at the national level and the third at the regional level. At the regional level, the second most pressing concern is climate change and natural disasters. Food security and unemployment are the third and fourth most pressing problems at the national level; food security ranks fifth at the regional level. There is significant congruence between the most pressing concerns indicated by the respondents and the aspirations–expectations gap. The largest gaps between aspirations and expectations relate to corruption and income inequality.

The survey results suggest that ASEAN people aspire to an integrated and connected ASEAN that is inclusive and resilient, with good governance and with much less corruption, and much less pollution and more sustainable management of its natural resources. Finally, they also aspire to an ASEAN that has a significant voice globally and is a critical facilitator for peace in the wider region.

In short, there is concordance between the leaders' and officials' goals and the peoples' aspirations for ASEAN. The challenge is in the considerable gap between the peoples' aspirations and what they expect is likely to happen. The subdued expectations, except for regional integration and connectivity, suggest less optimism that ASEAN will deliver, and deliver well, for the benefit of the people.

The nature of the concerns raised and the magnitude of the aspirations–expectations gap indicates that compelling challenges are likely to remain well beyond 2025 and into 2040. The significant changes in the global and regional environments as well as on the technological front indicate that ASEAN faces an even greater challenge of navigating the changing global, regional, and technological environments, while achieving the aspirations of the ASEAN people.

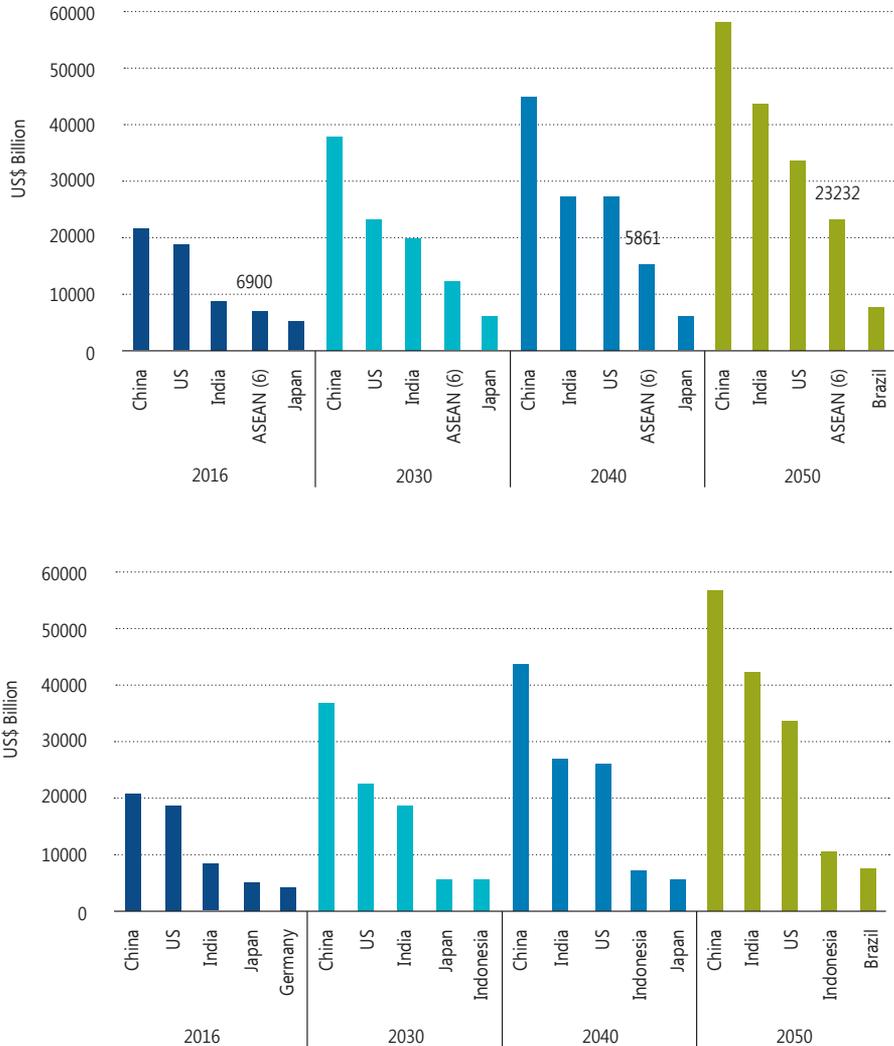
Key global and regional developments

Rise of Asia–Pacific as a global economic powerhouse. China is expected to be a high-income country by around 2030 and have a population of about 1.42 billion in 2040. Almost all AMS will be at least upper-middle-income countries, with three or four being high-income countries, by 2040. ASEAN's population is expected to be 0.77 billion by 2040. India is expected to be the fastest-growing large economy in the next 2 decades and the most populous country in the world, with about 1.61 billion people, by 2040. ASEAN, China, and India will account for 29% of the world's population in 2040, making the region the most populous in the world. China, India, and ASEAN (viewed as a single entity) will be amongst the top-four economies in the world in terms of GDP in PPP terms by 2040 (see Figure 6). The China–ASEAN–India corridor will see the largest increase in the middle class in the world in the next 2 decades. As a result, the centre of gravity of the world's middle class will shift inexorably from North America and Europe to Asia–Pacific (including India), and much of that shift will be because of the surge in the middle class in the China–ASEAN–India corridor, arguably the world's 'golden arc of opportunity' being the world's largest fast-growing market.

For ASEAN, which is at the geographic centre of the 'world's golden arc of opportunity', the next 2 decades offer tremendous opportunities for trade, investment, and growth. ASEAN needs to be well positioned to take on the huge challenges that such opportunities offer. Benefiting more from the growth corridor entails deeper economic integration and, therefore, openness of ASEAN to China and India. However, ASEAN has far less technological capability, skilled manpower, and scientific and engineering talent than China and India. ASEAN has to markedly improve its technological capability, human capital, and even institutions and infrastructure to compete under more liberalised trade and investment environments in the China–ASEAN–India growth corridor. Equally important, the great challenge for ASEAN is to become, as much as possible, a single economy to compete with China and India. More than ever, AMS must urgently create an integrated and cohesive ASEAN single market.

Trump and Brexit phenomena and the importance of inclusive growth and integration. One key lesson of the Trump and Brexit phenomena is that globalisation and economic integration can leave some segments of the population behind, thereby fomenting dissatisfaction with globalisation and an open economy, which results in calls for greater protectionism. This underlines the importance of focusing on inclusivity in integration and growth through complementary policies to manage adjustment.

Figure 6: Top 5 Economies in The World
 (GDP Long-term Projections at PPP)
 (constant 2016 \$ billion)



ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product, PPP = purchasing power parity, US = United States.

Note:

ASEAN (6) consists of Indonesia, Thailand, Malaysia, the Philippines, Viet Nam, and Singapore. Data for Singapore taken from Pardee Center International Futures, with GDP at PPP in constant 2011 \$ billion. 2040 forecasts are author's own calculation based on data provided by sources.

Source of Basic Data: PricewaterhouseCoopers (2017). The projection model includes 32 countries, which together account for around 85% of world GDP.

Accelerating digital transformation and Industry 4.0 in the region and the world. Revolution means abrupt and radical economic and social change. ASEAN greatly benefited from the agrarian and industrial revolutions from the 1960s to the 1980s, with the rise of value-added agricultural production and production networks. Today, the Fourth Industrial Revolution is powered by a wider range of new technology breakthroughs,⁴ not only in the digital realm such as artificial intelligence (AI) and the Internet of things, amongst others, but also in the physical realm (new materials, bioengineering, etc.). The digital transformation and Industry 4.0 are revolutionary due to the breadth of technologies, speed of change, and extent of anticipated benefits.

The digital transformation and Industry 4.0 offer many opportunities for AMS and ASEAN: (a) increase industrial productivity; (b) empower micro, small, and medium-sized enterprises with access to markets (e.g. e-commerce), finance (e.g. fintech) and technology; (c) powerful force for inclusion (e.g. online courses, new sources of information, access to services not available before because of difficult physical distance); (d) transform agriculture (e.g. better access of farmers to market prices, weather, knowledge on soil, seeds, etc.) (e) improve natural resource management through drones, remote sensing, and artificial intelligence that allow better monitoring of resources; and (f) improve resilience to natural disasters; e.g. better early warning systems from use of remote sensing, ICT and big data analytics.

But the digital economy and Industry 4.0 also pose large risks and challenges:

⁴ The following are generally considered to be part of Industry 4.0 technologies: AI, advanced robotics, mobile Internet, sensors and the Internet of things, blockchain and distributed ledgers, 3D printing, autonomous vehicles, new nanomaterials, genetic and bioengineering, new energy and storage technologies, big data and quantum computing (Anbumozhi and Kimura (eds.), 2018).

- Technologies such as artificial intelligence and robotics will make low-cost and low-skilled labour less competitive. 3D printing could transform manufacturing. Service jobs are also at risk, and regional success stories such as business-process outsourcing could be undermined. Digitisation and automation could lead to the reshoring of manufacturing back to high-labour-cost countries and reduce the attractiveness of ASEAN for FDI in manufacturing.
- Industry 4.0 technologies are doing more jobs better and faster than people can. While this may reduce costs and raise productivity, it will also threaten jobs, and some ASEAN members will be more affected than others.
- The digital economy and Industry 4.0 may create difficulties for larger businesses, especially companies that require scale to be competitive.
- Industry 4.0 could widen inequality within and between ASEAN Member States.

In view of the tremendous opportunities and risks, ASEAN must innovate. Embracing digital transformation and Industry 4.0 and countering job losses and disruptions from the digital economy will require transformative education, lifelong skills development, and innovative enterprises and start-ups. AMS that cannot keep up may be unlikely to cope with the negative consequences of the digital economy. The impact of the new industrial economy is far more uncertain because it depends largely on how successfully AMS can adjust.

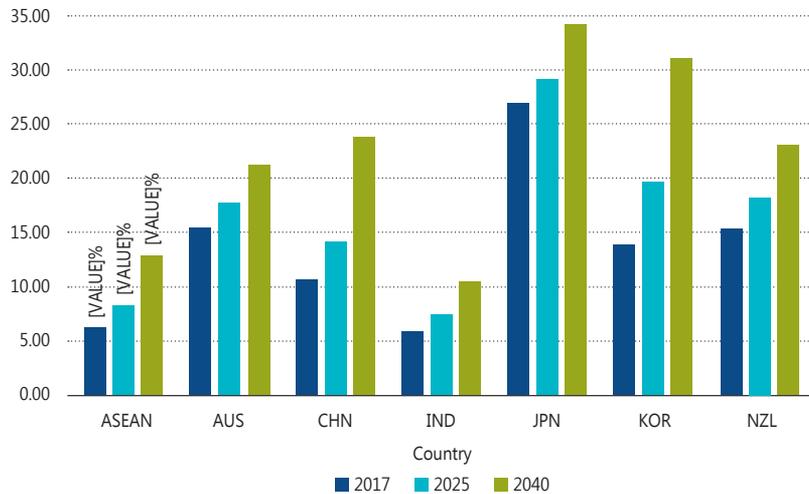
ASEAN centrality in a rapidly changing geopolitical landscape in East Asia. The geopolitics of East Asia has been changing dramatically with China's economic, military, and diplomatic rise. A fast-rising India can be expected to flex its diplomatic muscles much more, especially as it becomes the world's most populous country. Pax Americana is giving way to a multipolar world.

Since the end of the Second World War, the US has been the stabilising power and the guarantor of peace and stability in East Asia and Southeast Asia. US President Donald Trump has signalled a major global and regional strategic foreign policy shift. Whether it is temporary or permanent will have far-reaching implications for peace and stability in East Asia and Southeast Asia and, implicitly, for the viability of ASEAN centrality. ASEAN centrality has been tested greatly in recent years and must, more than ever, be strengthened.

ASEAN has been able to uphold and strengthen its unity, cohesiveness, and centrality in the evolving regional architecture built upon ASEAN-led mechanisms. In this landscape, ASEAN must be competitive, integrated, sustainable, and inclusive as envisioned by the ASEAN Economic Community (AEC), the ASEAN Political–Security Community (APSC), and the ASEAN Socio-Cultural Community (ASCC). It is important to deepen cooperation with dialogue partners, develop and maintain effective partnerships with external parties to support the ASEAN community and to enhance ASEAN capacity to contribute and respond to key international issues of common interest and concern. Equally important is to recognise that the APSC Blueprint is strategically linked with the AEC Blueprint and ASCC Blueprint as security resiliency and sustainability are intimately linked to economic prosperity, harmony, and inclusiveness.

Changing demographics in Asia. Asia is bifurcated by an increasingly aged Northeast Asia and a more youthful India and ASEAN (see **Figure 7**). Even in ASEAN, ageing is a growing concern in Singapore, Thailand, and Viet Nam while countries like Cambodia, Indonesia, and the Philippines have much younger populations on average. This bifurcation has implications for the shifts of comparative advantage and the shape of adoption of industry 4.0 in the region. It also has implications for services and labour flows. If managed well, some relaxation in labour flows that take into account the bifurcation of ageing populations in the region is supportive of inclusive growth and integration in the region.

Figure 7. Projected share of population aged 65+ to total population (%)
 Projected Ageing Population Relative Population (%)



Source: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision–Special Aggregate.

Energy, resilience, and sustainability vulnerability of ASEAN. ASEAN is under resilience and sustainability stress. For example, ASEAN, which has the second richest biodiversity in the world, is rapidly losing its biodiversity so much so that 40% of its genetic biodiversity has already become extinct. Similarly, ASEAN’s water bodies are facing severe impacts from over-extraction of ground water and pollution of surface water such that it may face a 30% shortfall in freshwater needed to support the economy by the 2030s. The region’s tropical forests are also vulnerable to the growing demand in the region for land, wood, minerals, and other resources. The region’s solid and industrial waste is also worrying, especially because the economies grow and individuals become richer, meaning they also consume and discard more. ASEAN, which accounts for 4% of the world’s total population accounts for 9% of the world’s rubbish; this share is expected to double by 2050. Three ASEAN countries follow China in terms of the top plastic marine polluters in the world at present. ASEAN is one of the world’s regions most prone to natural disasters including floods and typhoons. Thus, ASEAN is particularly vulnerable to the negative effects of climate change expected in the future in terms of worse flooding and more intense storms and typhoons for example.

The demographic transformation of towns and cities was as uneven as it was rapid, especially living conditions. With the projected 84% of ASEAN GDP generated in towns and cities by 2050 (ADB, 2011), a successful and sustainable economy is intimately linked to successful and resilient urbanisation.

The Economic Research Institute for ASEAN and East Asia (ERIA) Energy Outlook and Saving Potentials in East Asia Summit⁵ (ERIA, 2018a) forecasts rapid growth in energy demand, higher oil import dependence, and a still dominant share of fossil fuels, notably coal and higher carbon dioxide (CO₂) emissions, towards 2040. This could threaten a stable supply of affordable energy and the national, regional, and global environment.

ASEAN member countries have a lot to do to change this pathway. They need to be well prepared for possible oil supply disruption; to enhance energy efficiency; reduce oil demand, particularly in the transport sector; clean the use of fossil fuels; promote energy diversification to such sources as natural gas and renewable energy; alleviate local air pollution; and minimise the growth of CO₂ emissions. Most fundamentally, as a basic input for economic and human activities, energy needs to be accessible to all at affordable prices while at the same time its reliability is enhanced. Given multiple uncertainties between now and 2040, strategies should be pursued with a plan-do-check-act cycle with sufficient flexibility and multiple pathways. Also, it is imperative to build national frameworks that enable local governments to implement market-based smart solutions.

That is, ASEAN's growth trajectory under the business-as-usual scenario would lead to serious energy, resilience, and sustainability vulnerability by 2040. This makes the call for a more sustainable, resilient, and energy-efficient development trajectory more compelling. This is what is called for in support of the aspirations of the people of ASEAN to have less

⁵ The East Asia Summit (EAS) is a meeting of 18 regional leaders for strategic dialogue and cooperation on the key political, security, and economic challenges facing the Indo-Pacific region. The EAS comprises the 10 member states of ASEAN along with Australia, China, India, Japan, the Republic of Korea, New Zealand, the Russian Federation, and the United States.

polluted cities and be more resilient to natural disasters, as indicated by the ERIA survey results of the aspirations and expectations of the people of ASEAN for 2025.

III. ASEAN Vision 2040: Key Themes

All these developments bring tremendous challenges and offer huge opportunities to ASEAN, as member states work in ASEAN to achieve the aspirations of their peoples. More than ever, bold steps forward are needed to secure inclusive and sustainable ASEAN growth, ASEAN's centrality in regional affairs, and its new position in the world.

The Vision is of ASEAN stepping boldly forward towards the year 2040 transforming the ASEAN Community and securing its position in the region and globally. The ASEAN Community transformed is

- a nimble, pro-active ASEAN with a common diplomatic stance and driver of the principle of collective leadership (***ensuring ASEAN Centrality***);
- an adaptive and innovative ASEAN successfully adjusting to and growing in the digital and fourth industrial revolution and engendering technopreneurship (***a Digital ASEAN***);
- harnessing the new technologies and best-practice policies to achieve a resilient and energy-secure ***Sustainable ASEAN***;
- an integrated and connected ***Seamless ASEAN***, underpinned by good regulatory practice and governance;
- focused on people empowerment and inclusion (***Inclusive ASEAN***);
- harnessing people engagement, networks, and new technologies to build a deep sense of ***ASEAN belonging and identity***, and
- supported by a strong and effective ASEAN institutional ecosystem for the ASEAN Community.

Specifically, the vision emphasises:

- the imperative of collective and cooperative leadership and ASEAN Centrality for peace, security, and prosperity in East Asia and the Indo–Pacific region that engenders open regionalism, integration, and connectivity in the wider region;
- the embrace, adapting to, and harnessing of the digital revolution and Industry 4.0 which, together with good policies and strengthened institutions, could drive Digital ASEAN forward in upgrading and transforming the ASEAN economies, enhancing ASEAN resilience, strengthening the drive for sustainable development embodying the complementarities of people-centred development and responsible use of natural resources and the environment, engendering people empowerment, strengthening people engagement and connectivity, improving governance, and strengthening and reframing the innovation ecosystem in ASEAN;
- stepping up boldly, with a strong emphasis on implementation of blueprint measures, realising the integrated and connected Seamless ASEAN underpinned by good governance into a single market and production base to get the most of being at the geographic heart of the ‘golden arc of opportunity’ in the world;
- emphasis on people empowerment and ‘leaving no one behind’ that define Inclusive ASEAN;
- the flowering of a people-centred ASEAN through stronger people’s voices, engagement and networks deepening the peoples’ sense of ASEAN community and identity; and
- the consequent reframing of the ASEAN institutional eco-system.

The rest of the report elaborates on the key themes and corresponding strategies of the ASEAN Vision 2040.

IV. The Imperatives of Collective Leadership and ASEAN Centrality

Economic power in the East Asia and Indo–Pacific region has shifted greatly. Adjusting to the major shift has been made harder by the rise of US protectionism and Europe’s fracture. The multilateral economic regime is also under threat and with it Asia’s – and ASEAN’s – economic and political security. Countries must work together to preserve the open system upon which ASEAN and many in the wider region rely. Although consumption in East Asia is rising, the region still relies on open markets elsewhere and an open global system for its prosperity. The weight and importance that Asia now has in the multilateral system suggest that leadership must come from the region to preserve and strengthen that global system. No one country can lead in Asia, which includes several large powers and divergent interests. Asia’s collective leadership is now critical to global economic policy outcomes at the core of ASEAN’s interests. (See Armstrong, Tay and Drysdale, 2019.)⁶

The increased strategic competition between the US and China, as well as the other difficult relationships in the region, could destabilise the region. Despite being highly economically interdependent, and notwithstanding their continuing trilateral process, China, Japan, and the Republic of Korea have a history of fraught political ties.

Amidst these major economic and geopolitical transitions and challenges, ASEAN is central to mobilising the collective leadership needed for stability and progress. ASEAN’s most important asset for shaping external powers’ engagement with Southeast Asia is through its position as the hub of the broader region’s political-security forums, principally the East Asia Summit, the ASEAN Regional Forum, and the ASEAN Defence Ministers Meeting Plus. ASEAN has facilitated the agenda of regionalism and persuaded its dialogue partners of its norms, including the principles embodied in the Treaty of Amity and Cooperation (TAC) in Southeast Asia, and the concept of centrality. It is through these platforms and mechanisms that AMS play their roles in the geopolitics of Southeast

⁶ This paragraph and the next four paragraphs were based on Armstrong, Tay, and Drysdale, 2019.

Asia, East Asia, and wider Asia–Pacific. The networks that have been built around ASEAN have created a region of peace that has achieved remarkable development, reduced poverty, and brought prosperity to millions.

The strength, cohesion, and sustainability of ASEAN now depend not only on its relevance but also on how it can manage relationships with and between the major powers and mediate the increasing great-power competition. The great powers say that their policies continue to support ASEAN centrality in managing their interests. Yet, it appears that ASEAN is being bypassed by the great powers and to a large extent being pulled apart by their contending interests.

The question ASEAN now confronts is how the world – which has benefited so much from the certainties of economic openness that the WTO and other global institutions have provided – can protect its strategic economic and political interests in the face of the change in policy direction of the current world’s largest economy. The challenge for ASEAN and the middle powers is how to search for ‘win–win’ solutions and temper the destabilising strategic competition between the two biggest economies in the world. The challenge for ASEAN is how to engage all Asian economies in the same endeavour, strengthen ASEAN centrality at the centre of Asian institution building and cooperation, and thereby further collective and cooperative leadership in East Asia.

Collective leadership in East Asia and ASEAN centrality

No one country can lead in a region or global system with several large powers or divergent interests unless it possesses dominant or hegemonic power. Given the scale of countries in Asia–Pacific and across Asia, and the diversity in their interests, stages of development, and structure of endowments, it is increasingly difficult for any one country to lead in trade, economic, security, or any other domain. There is no hegemonic leadership in Asia and that is likely to remain the case for the foreseeable future. Hegemonic leadership from within East Asia is unlikely to succeed. Too many large countries will not accept being price-takers and having the region shaped without their input. The ASEAN principle of non-

interference in other countries' domestic affairs applies de facto to the broader region.

As Asia continues to increase its share of global output and trade to possibly account for nearly half of global output by 2040, according to the *ADB 2050 Report* (ADB, 2011), East Asia's collective leadership provides an alternative model to Pax Americana. Asian collective economic cooperation has been an important complement to US leadership in providing political stability in Asia and the Pacific. Asian collective leadership is now critical to global economic policy outcomes as the US retreats from support for the global multilateral economic system. Collective leadership in Asia is required to navigate this huge regional transition and is a core ingredient essential to preserve and strengthen the global rules-based system.

Three principles need to guide collective leadership and East Asian community building:

1. **Shared commitment to multilateral principles and processes.** This principle of cooperation has allowed the region to develop and prosper while managing inter-state relationships. It has also resulted in open regionalism.
2. **Consensus decision-making based on equality and shared partnership.** Forging consensus takes time and requires compromise, cooperation, and building trust. This decision-making mode is based on the principle of shared and equal partnership.
3. **International rules and norms built on regional cooperation.**

ASEAN is central to collective and cooperative leadership in East Asia. ASEAN centrality is beneficial to East Asia because '...only ASEAN can be accepted by all other parties. ASEAN with successful experience in community building will play a leading role in the community building for East Asia. No big power can be expected to play such a leading role' (Zhang, 2019, pp.1–2). The ASEAN-Plus arrangements – the East

Asia Summit and ASEAN's role in Asia-Pacific Economic Cooperation, especially – are core building blocks. These ASEAN-centred initiatives are key to setting Northeast Asian cooperation within a larger regional dynamic.

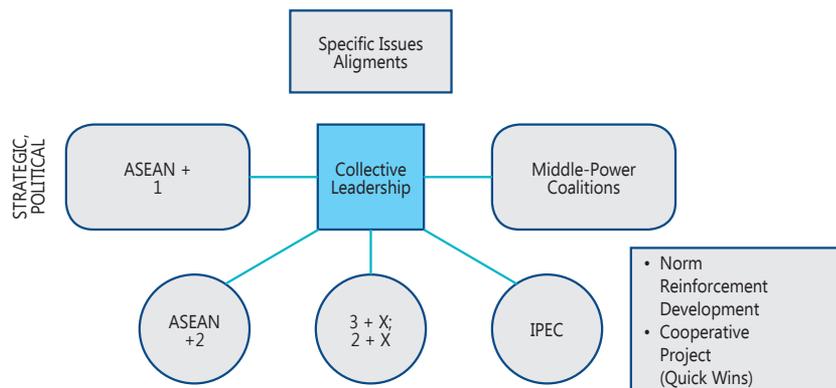
The ASEAN-Plus arrangements, most importantly the East Asia Summit, are more important than ever, given the rivalry between the US and China (and the Russian Federation). This opens up a new chapter in China-US relations with significant consequences for East Asia. There are various conceptions of Indo-Pacific. ASEAN may well explore the commonalities of the various conceptions of Indo-Pacific as the way forward to generating consensus in the region, which points to regional cooperation, inclusion, and connectivity as core elements.

The Regional Comprehensive Economic Partnership (RCEP) negotiations demonstrate the importance of ASEAN centrality. RCEP members can promote bilateral economic relations under a regional cooperation framework that will promote economic prosperity and political stability and is large enough to be globally significant. As an ASEAN-centred and ASEAN-inspired initiative, the successful completion of RCEP is critical to ASEAN's anchor role in the region as well as how it elevates the defence of its strategic interests in the global system. Failure to deliver a substantial RCEP outcome would seriously damage both these strategic ASEAN objectives. While individual ASEAN members might under these circumstances protect themselves against the narrowly trade limiting effects of this negative outcome to some extent through their participation in other trade arrangements, the crucial aspect of RCEP is that it provides a framework for furthering multilateral-based economic and political cooperation with China. That framework would be difficult or even impossible to achieve in other ways at this time.

Regional cooperation succeeded when Asia’s diverse group of countries built consensus and shared leadership to achieve shared interests.⁷ In the next stage, ASEAN must engage each major power in new and deeper ways, while maintaining an open and inclusive framework and deepening internal integration and unity amongst its member states. In the face of the rising US–China strategic competition, for example, ASEAN needs to not merely stay neutral but instead be ‘more active in containing the rising competition and playing the crucial role to lead to dialogue and cooperation. As a collective entity, only ASEAN can play such special role and ASEAN should do so for itself and for the region’ (Zhang, 2019).

Figure 8 illustrates collective leadership in East Asia as actively shaped by the expansion of ASEAN processes as well as cooperative arrangements amongst ASEAN dialogue partners. ASEAN Plus One, for example, can be expanded to ASEAN Plus Two on specific issues. ASEAN mechanisms can also be used to encourage greater collaboration amongst dialogue partners on issues of interest to the whole region. Collective leadership emerges from reinforcement of norms for peace and security as exemplified by the Treaty of Amity and Cooperation in Southeast Asia, as well as by regional cooperation initiatives that address common concerns, build trust amongst the participating countries, and engender a sense of community.

Figure 8. Illustration of Collective Leadership and ASEAN Centrality



IPEC = Indo Pacific Economic Cooperation.

Source: Authors.

⁷ IPEC = Indo–Pacific Economic Cooperation.

Collective leadership is anchored to the coalition of 'middle powers' in the region, centred on ASEAN, but even the major powers in East Asia – China, Japan, and India – support collective leadership and ASEAN centrality. Collective leadership in East Asia anchored to ASEAN centrality and supported by the whole region is the model of leadership for peace, security, and prosperity in East Asia as an alternative to the hegemonic leadership exercised under Pax Americana.

Strengthening collective leadership in East Asia and ASEAN centrality: Contributions from ASEAN Plus Six countries and the United States

While ASEAN has been central in promoting dialogue and cooperation in East Asia, the progress of regional cooperation is based on collective inputs and a 'shared' or collective leadership. East Asia cooperation is multi-layered and progress is made through different institutions and drivers. With collective efforts and collective leadership, all parties can equally participate and share the benefits of cooperation (Zhang, 2019).

Each country in the region has a role to play in strengthening collective and cooperative leadership in East Asia and at the same time enhance ASEAN centrality in the region's political-security and economic architecture.

China's rise brings many opportunities and challenges for all countries and for China itself. ASEAN and China have developed strong and layered links. A stable and cooperative relationship with ASEAN will help vastly in managing China's relations with the rest of Asia and with the US. China is the first ASEAN dialogue partner to join the Treaty of Amity and Cooperation, the first to forge a strategic partnership with ASEAN, the first to sign the Protocol to the Treaty on the Southeast Asia Nuclear Weapon-Free Zone, and the first to propose and negotiate a free trade agreement with ASEAN. China has played a constructive role in the face of changing relationships, firmly supporting ASEAN centrality in leading and coordinating regional dialogue and cooperation frameworks (Zhang,

2019). A successful conclusion of the Code of Conduct on the South China Sea would further strengthen the ASEAN–China partnership.

China has signed up to and benefited greatly from the global rules-based system, and ASEAN and its partners in Asia have an abiding interest in China continuing to be embedded in that global system. ASEAN, China, and other like-minded countries across the region should work for that system to continue and improve it.

China’s Belt and Road Initiative (BRI) is economically and politically important. The BRI can help lift growth potential in ASEAN and Asia by bringing much-needed connectivity, capital, and investment, and should be welcomed, especially where infrastructure is guided by the goals and plans for ASEAN connectivity. But there are risks and challenges. The more ASEAN and other countries can work collectively, the more the BRI becomes multilateral; and the more host countries strengthen their capacity to prioritise, evaluate, and implement projects, the less chance of failure there is for China and the countries hosting BRI projects.

China and Japan are on the verge of deploying joint infrastructure investment projects that diversify economic and political risk. Some ASEAN countries are also setting up outward-facing infrastructure initiatives such as Singapore’s Asia Infrastructure Office and Thailand’s effort with its Greater Mekong neighbours. The consortium approach will become more important. Communication amongst ASEAN members will also be vital in aligning the BRI and other infrastructure projects with regional connectivity.

The BRI’s doctrine of ‘joint consultation, joint construction, and joint benefit’ (Zhang, 2018: 12), together with China’s openness to joint funding, suggests that such multilateralisation of the BRI is feasible and needs to be pursued more actively by ASEAN with the support of its dialogue partners. Multilateralisation can involve ensuring greater coherence with other connectivity initiatives, especially the Master Plan on ASEAN Connectivity, and greater convergence on loan and transparency practices, amongst others. As the BRI aims for institutional

connectivity, ASEAN, China, and other RCEP members can also cooperate on tapping the BRI to support capacity building and cooperation under RCEP when it is signed and implemented. Making the BRI work more for ASEAN and AMS calls for attracting more public–private sector partnerships to develop infrastructure in ASEAN in view of the region’s huge infrastructure needs. It also calls for improved capacity of some AMS to develop and prioritise projects, effective management of financial risks of infrastructure projects, greater alignment of connectivity and the socio-development needs of AMS, and even the management of cultural and political sensitivities in implementing BRI projects (Chen Lee, Kirupalli, and Chen, 2018).

With the rise of China, many talk about the Sino–Japanese rivalry in ASEAN and Japan’s continuing reliance on the US security alliance. **Japan**, however, remains an economic giant with an advanced economy that will continue to be an important source of technology and capital for ASEAN and Asia. The ASEAN–Japan relationship continues to deepen, with Japanese investment and economic engagement that help ASEAN become more integrated and more competitive.

Japan has emerged as an important and independent partner, as seen in the conclusion of the Trans-Pacific Partnership into the Comprehensive and Progressive Agreement on Trans-Pacific Partnership (CPTPP) even after it was abandoned by the Trump administration. Japan’s relationship with ASEAN has also broadened with political and security engagement, as well as more people-to-people exchange, including increasing opportunities for ASEAN people to find work in Japan.

The digital revolution and Industry 4.0, where Japan is a leader, can provide a mechanism to deepen ASEAN–Japan relations. Partnerships in applying new technologies to solve ASEAN social, resource, and environmental concerns are key to deepening ASEAN–Japan relations, from a preponderance of ‘industrial cooperation’ to ‘socio-economic (industrial) cooperation’ (Nishimura, Ambashi, and Iwasaki, 2019). By helping ASEAN grow more robustly, resiliently, and sustainably, relations with Japan will strengthen ASEAN centrality in the wider region.

Japan will need to work closely with ASEAN and other middle powers in Asia to support collective leadership that can better navigate the challenges. Although differences will remain between China and Japan, the signs are that the two giants are more willing to work together, bilaterally and in different settings. ASEAN should welcome and support this in areas such as BRI infrastructure development and economic agreements such as RCEP.

For **the Republic of Korea**, a settlement with North Korea is the priority, which requires working for economic integration and mutual security. ASEAN's regional role and processes can be of assistance at a secondary level. With a new policy emerging, the Republic of Korea is interested in working more closely with ASEAN with deeper links amongst firms and on social development strategies (Kwon and Choi, 2019).

While economic investment and trade have been sizeable, the Republic of Korea and ASEAN must engage each other consistently to develop not only their bilateral ties but also a deeper dialogue on and common understanding of regional concerns. The Republic of Korea and ASEAN have recognised their common status as middle powers. Closer consultation is required to develop this understanding so that the Republic of Korea can better support ASEAN centrality and forge partnerships with ASEAN and other middle powers in the region to strengthen the global trading system.

India–ASEAN partnership can also help drive collective leadership for peace and prosperity. Both are natural drivers in shaping the blue-economy discourse and planning for sustainability, good governance, connectivity, and rule of law in managing and utilising the eastern Indian Ocean and western Pacific Ocean. India and ASEAN have complementarity in the services sector in light of the fast-evolving technological landscape. ASEAN provides the vital gateway for India's Act East policy. ASEAN and RCEP provide a key platform for India's engagement with China, essential for India's economic development and emerging political standing as a major power. India is a potential manufacturing powerhouse that can absorb the industrial capacity leaving China as it seeks lower production costs elsewhere. Much of that

will be absorbed by Southeast Asia and other parts of South Asia, but India is large enough to become central to Asian value chains.

With the prospect that India will become an even more important part of the Asian and global economies, ASEAN and its partners should help shape and strengthen India's engagement with the rest of the region. In addition to working through RCEP, ASEAN may engage India more deeply in the connectivity agenda (which has a strong cooperation dimension) and thereby strengthen trust between the two. ASEAN must proactively rebalance its forums and processes to develop an inclusive, rules-based, and development-oriented India-inclusive framework that is consistent with ASEAN centrality. ASEAN and India can also deepen cooperation where there is an overlap between South Asia and Southeast Asia, by land and by sea, with countries such as Indonesia, Thailand, Viet Nam, Singapore, and Myanmar. (See Prakash, 2019.)

Australia and **New Zealand** are important to ASEAN and Asia in mobilising collective leadership to fight for open global markets. Australia is the most Asia-oriented trading nation in the world, and its economic and political interests are bound closely to the rules-based global trading system, notwithstanding its strong economic, political, and security links to the US. Australia and New Zealand share many commonalities with ASEAN in trying to balance relations with the major powers, especially given growing Sino–American competition. Deepening cooperation and coordination with Australia and New Zealand can give ASEAN greater heft in the collective leadership (Armstrong, 2019).

The Trump administration speaks of how the US has suffered from unfair Asian practices at the same time as it adopts more protectionist policies. Together with increasing strategic Sino–American competition, these developments threaten confidence in the deepening economic integration and political stability and security that have largely marked the region since ASEAN's formation. Nonetheless, even as ASEAN and its regional partners take steps to ensure positive intra-regional relations, keeping the **United States** constructively engaged in the long term must remain a primary objective of their collective leadership. Open regionalism has served ASEAN and Asia well. It has benefited key players

in the global economy, including the US. US economic and political links in Asia should be strengthened so that any efforts to decouple the centre of the Asian and global economy would be most costly. Priorities for strengthening the links between the US and ASEAN may include the continuation of US investments in the region as well as the business sector's promotion of growing US–ASEAN trade, support for an open and free ASEAN, and the backing of an evolving architecture in the region that promotes collective leadership driven by ASEAN centrality (Ruddy, 2019).

An agenda for **ASEAN** and its partners across the region that serves to build collective leadership will help secure prosperity and stability in East Asia and resolve these global problems. As the ASEAN economy develops and continues to play a central role in a region that is of global importance, ASEAN should develop a 'global voice' with perspectives and increasing commitments on key global issues, and engagement with global institutions, including the G20 and United Nations.

An agenda for ASEAN and its partners to build collective leadership and ASEAN centrality calls for a strong and actively engaged ASEAN. Challenges must be met within ASEAN if it is to successfully engage the major powers and other partners. One challenge relates to ASEAN unity. To grow its centrality and relevance, ASEAN must manage consensus and other decision-making and agenda-setting processes. ASEAN's relevance to its own members must also be enhanced by a continued and deepening commitment to the ASEAN community and a regional perspective. ASEAN needs more streamlined and consistent working processes that balance the role of its rotational chair with the roles of other members and the support of the ASEAN Secretariat. The issues of consolidating internal reforms, deepening the overall ASEAN community, and strengthening ASEAN's institutional ecosystem are discussed further in the sections below.

ASEAN centrality and collective leadership: Integration, 'connecting the connectivities', and reinvigorating multilateralism

In an age of trade policy uncertainty, Asia – with ASEAN playing a central role – would have to take the global lead on how to move forward given that Asia is increasingly the economic centre of the world and that Asia relies heavily on a stable, predictable, and open global trading environment for its growth. ASEAN and East Asia are already building two key pathways for the way forward – RCEP and the earlier signed CPTPP, and the connectivity initiatives. If done well and successful, they can help reinvigorate multilateralism.

RCEP is the latest most significant effort in the evolving regional integration architecture in the region. ASEAN, with the ASEAN Free Trade Area (AFTA), took the lead in the region to form the free trade area in the 1990s, (second after that of Australia and New Zealand formed in the 1980s) although the germ of the FTA idea can arguably be set in December 1989 during the ASEAN Economic Ministers Meeting in Bandar Seri Begawan, just a few weeks after the launching of the Asia Pacific Economic Cooperation (APEC) and the fall of the Berlin Wall. ASEAN would also play a huge role in the formation and shaping of the APEC. When the Northeast Asian countries became interested in FTAs after the Asian financial crisis, the ASEAN + 1 FTAs came in succession, started by the ASEAN–China FTA as this provided the competitive pressure for Japan, the Republic of Korea, Australia, New Zealand, and India to do the same. AFTA gave rise to the ASEAN Economic Community (AEC) with its more ambitious and wide-ranging measures within ASEAN. The ASEAN + 1 FTAs is giving rise to the RCEP that is currently under negotiations.

In a related development, the P4 was negotiated by the like-minded, small, and very open economies of Brunei, Chile, New Zealand, and Singapore as a high-level FTA in response to the slow progress of liberalisation under APEC. The P4 gathered momentum into the Trans Pacific Partnership (TPP) with the inclusion of Australia, Canada, Japan, Malaysia, the United States, and Viet Nam. The withdrawal of the United States from TPP led Japan to take the leadership in concluding the CPTPP agreement that is basically a modified TPP without the United States.

Thus, with CPTPP concluded and RCEP soon to be concluded, Asia is taking the lead globally in economic integration, pushing back against rising protectionism, and furthering the maintenance of the open trading environment. There is complementarity between CPTPP and RCEP. CPTPP pushes the envelope in terms of the areas and degree of commitment in regional integration. RCEP is a process, similar to AEC, with more manageable but credible scope and commitments at the start and then expected to be expanded and deepened over time. Moreover, economic cooperation is embedded much more in RCEP (where memberships run a wide range of levels of development) and far less so in CPTPP (whose members are mainly upper-middle- and high-income countries).

It is worth noting that the withdrawal of the United States from Trans-Pacific Partnership that gave rise to the conclusion of the CPTPP has contributed to the greater complementarity between RCEP and CPTPP. Specifically, the remaining members of CPTPP which are not members of RCEP have relatively small trade linkages with ASEAN countries; hence, the danger of trade diversion from being a non-member of CPTPP would be relatively manageable for AMS. Trade (and investment) diversion amongst members of the CPTPP and RCEP could in principle be virtually eliminated if the trade (and investment) commitments amongst members of both CPTPP and RCEP were the same. Thus, the more ambitious the commitments in RCEP that make them closer to the CPTPP commitments, the lower the risk of trade diversion. Herein lies the challenge for a credible RCEP, with AMS non-members of CPTPP ensuring that commitments in the RCEP and/or the ASEAN + 1 FTAs would not lead to significant trade and investment diversion away from them.

Economies which belong to both RCEP and CPTPP will consider which, if either, of the two agreements has more to offer for their profitability. Business will complain about the cost of meeting the requirements of any agreement; this cost looms larger for MSMEs. The outcome is likely to depend as much as on the organisation of the production networks as on the precise terms of the CPTPP and RCEP.

Firms will continually compare the terms of RCEP and CPTPP and ask why particular aspects in one they find congenial cannot be found in the other. Some provisions of CPTPP will become aspirations for interests in RCEP. The likely RCEP rules of origin would generate pressure on the restrictive provisions of CPTPP. The CPTPP rules on state-owned

enterprises (SOEs) would be seen (especially through the experience of Viet Nam) as experiments with formulating rules on acceptable interactions between government and business. Both RCEP and CPTPP would be seen as possible places for developing understanding and agreement on the technological issues which are becoming much more prominent in economic diplomacy. Both would be vehicles for reconsideration of the way TRIPs turned the discussion of IP – the balance between rewarding innovation and benefitting from the public good nature of new knowledge – into a formulaic extension of traditional law about property. Both RCEP and CPTPP would be seen as opportunities to develop rules about accession of new members to regional agreements, to get away from the consequences of all existing members having a veto on new members.

Some years ago, Zoellick popularised the term ‘competitive liberalisation’. The coexistence of RCEP and CPTPP could generate renewed emphasis on competitive liberalisation but focused on the area of developing international rules rather than on tariff reduction.

Some years ago, Zoellick popularised the term ‘competitive liberalisation’. The coexistence of RCEP and CPTPP could generate renewed emphasis on competitive liberalisation but focused on the area of developing international rules rather than on tariff reduction.

Given that it is increasingly difficult for the World Trade Organization (WTO) to undertake trade negotiation encompassing ‘Rounds’ in view of the failure of the Doha Round, one key way of moving is precisely the RCEP model (and implicitly, the ASEAN model) of a process of gradually expanding and deepening the integration process, coupled with a degree of economic cooperation, and which follows the ethos of open regionalism. This model of deepening regional integration through open regionalism and consistent with WTO rules complements the WTO’s global initiatives at the sectoral level, such as the WTO Trade Facilitation Agreement. Thus, the successful conclusion of RCEP, expected in 2019, strengthens ASEAN centrality and credibility as a platform for pushing forward the open and predictable multilateral trading environment upon which ASEAN’s progress depends.

ASEAN and East Asia are also at the forefront globally of regional and pan-regional connectivity initiatives. These initiatives complement the regional integration initiatives by emphasising the other side of integration, which is connectivity. The connectivity initiatives have had a strong ASEAN imprint: connectivity encompasses physical connectivity, institutional, and people-to-people connectivity even if the connectivity initiatives have different connectivity emphases and perspectives.

The Master Plan on ASEAN Connectivity (MPAC) covers the three connectivity pathways in as much as it is meant to be an instrument of ASEAN community building with a goal of a seamless connected ASEAN. MPAC originated and popularised the conception of connectivity in terms of the three pathways. The Asia Africa Growth Corridor, presented in 2017 and covering also the three pathways, puts greater emphasis on capacity building; brings the development experience of East Asia, Southeast Asia, and South Asia closer to Africa; and makes a case for greater economic connectivity and cooperation for development between the two regions. The Asia Europe Meeting (ASEM) connectivity, the latest of the pan-regional connectivity frameworks in 2018, puts more emphasis on institutional connectivity and people-to-people connectivity in support of the global sustainability, disaster prevention, and climate change agenda and agreements.

The most consequential connectivity initiative, however, is the Belt and Road Initiative (BRI), unveiled in 2015, in large part due to the huge amount of financial resources put into it by China supporting primarily physical connectivity projects, and the subsequent backlash in some host countries. The backlash brings out the usefulness of multilateralising the BRI and strengthening it and its governance in order to be a robust partner for infrastructural development and connectivity, especially in developing Asia and Africa. Equally important, BRI can also be a significant catalyst for institutional capacity building and reforms in developing Asia and Africa countries involved in BRI.

ASEAN and the other middle powers in the region can help facilitate the multilateralisation of BRI and strengthen its complementarity with other

connectivity initiatives, especially MPAC. In the process, the ensuing synergy between the integration and reform agenda of RCEP and the connectivity and institutional capacity building and reforms under the connectivity initiatives – ‘connecting the connectivities’ – can provide a compelling case for pursuing further openness, integration, internal reforms, institution building, and international cooperation as the preferable way forward to grow and develop instead of protectionism.

The importance of East Asian collective leadership and ASEAN centrality for the world does not rest only on deepening and widening regional integration and regional and pan-regional connectivity initiatives. As increasingly the centre of the global economy, East Asia and ASEAN will need to play a significant leadership role in addressing the weaknesses of the WTO and make the rules governing the international trading system more attuned to the changing global technological and economic environments. In the absence of traditional ‘Rounds’, the rules are most likely to be developed in plurilateral and multilateral groupings, whether regional or sectoral. Moreover, the process would likely be one of trial and evaluation, with successful innovations being copied everywhere.

In short, ASEAN and East Asia could use or complement the integration and connectivity initiatives by innovating on new rules on issues and areas that may impact on international trade and linkages. Issues requiring innovations in rules include clarification of the status the position of state-owned enterprises (SOEs) in international commerce from the perspective of competitive neutrality. There is also a need to clarify international rules around intellectual property, with a stronger focus on exploring ways of balancing rewards to innovators with the desirability of making knowledge available to all, especially to potential further innovators. The successful implementation of such innovations in such regional initiatives like RCEP and copied by other regions would, in the process, reframe and improve the international trading rules and system. There are other areas to consider, including rules relevant to the new technological revolution. ASEAN will contribute to the development of the international community by joining with like-minded partners to develop and exhibit rules for international commerce.

Action Points

A nimble, pro-active, and coherent ASEAN diplomacy is thus critical for furthering collective leadership and ASEAN centrality in East Asia. The following are some key responses for the ASEAN agenda moving forward into 2040 (see Armstrong, Tay, and Drysdale, 2019):

- **Complete RCEP stage 1.** RCEP is a process, with commitments and action areas that can be scheduled for deepening and widening in RCEP stage 2, RCEP3, and subsequent stages on an agreed schedule. The completion of RCEP stage 1 is important for ASEAN's credibility and for furthering economic openness and regional cooperation and integration in the face of rising protectionism in the West.
- **Facilitate the development of common principles, norms, practices, governance, and coordination arrangements of connectivity projects** in the region to enhance trust and shared leadership in East Asia. This includes the encouragement of the multilateralisation of the Belt and Road Initiative (BRI), China–Japan cooperation with ASEAN and other countries amidst competition in infrastructure investment in the region that is complementary to ASEAN's development, and integration and connectivity. Thus, for example, ASEAN may initiate high-level regional dialogue on infrastructure cooperation and the development of multi-country infrastructure and connectivity projects for possible funding under BRI or jointly by BRI and Japan and other infrastructure investment funds for the region. The latest memorandum of understanding between China and Japan on private economic cooperation in third countries must be encouraged. The memorandum of understanding is pivotal for further multilateralisation of infrastructure projects under BRI and ASEAN connectivity. Good cooperation between China and Japan in all dimensions is a pillar of ASEAN well-being and prosperity.

- **Deepen dialogues and cooperation with the region's middle powers**, including Australia, India, Japan, and the Republic of Korea. The dialogues and cooperation can be ASEAN plus one or ASEAN plus two or other configurations depending on the cooperation initiative or dialogue issue at hand. With deeper dialogues and cooperation, ASEAN can harness the complementarity of the unique strengths of its partners and thereby help ASEAN drive collective and cooperative leadership for peace and prosperity in the region.
- **Pro-actively guide the development of the Indo-Pacific concept** to focus on inclusion, cooperation, and connectivity around ASEAN centrality. A united ASEAN voice on this issue helps ASEAN strengthen its role as the centre of regional architecture in the wider region.
- In East Asia and the Indo-Pacific region, reinforce norms for peace and security as exemplified by the **Treaty of Amity and Cooperation in Southeast Asia**, and strengthen regional cooperation initiatives that address common concerns, build trust amongst the participating countries, and engender a sense of community.
- **Step up ASEAN diplomacy** from convening to agenda setting, from passive to active building trust amongst partners, as well as from neutral or divided diplomacy to a united, nimble, and engaged diplomacy fastening a 'chorus of concerns' together with other middle powers with respect to issues between the two superpowers (China and the United States) in the region. Within ASEAN this would call for the stepping up of ASEAN leadership, especially for the Leaders to understand the issues and decide accordingly in principle, to be implemented by the foreign ministers (and other relevant ministers) with the ASEAN Secretary General and supported by the ASEAN Secretariat. This may call for the ASEAN Secretary General to work with the foreign minister of the ASEAN Chair to facilitate consensus making within ASEAN towards the establishment of a common ASEAN voice.

- **Strengthen ASEAN’s global voice** by joining like-minded countries in the region to develop and exhibit successful (new) rules for international commerce, in areas of significant interest to ASEAN and the rest of the region. Such areas include how state-owned enterprises should be treated in international commerce in view of their wide variation in terms of state control and motivation. Another concern is the balancing of the rewards to innovators with the desirability of making available the new knowledge to all, especially the future innovators. As RCEP and the connectivity initiatives move forward, they can be the venue for discussions and test beds for the new rules being considered for international commerce.

V. Embracing and Adapting to the Digital Revolution and Industry 4.0 to Transform ASEAN Community

During the 32nd ASEAN Summit in Singapore on 28 April 2018, the ASEAN heads of state stated the following:

We noted the expansive and transformative changes brought about by the Fourth Industrial Revolution. We recognized the need for ASEAN to take a holistic and long-term perspective in assessing and building its readiness for the new era, by addressing related challenges and developing capabilities to capitalize on the new opportunities presented.⁸

The statement leaves no doubt about the importance the ASEAN leaders put on embracing and adapting to digital transformation and the Fourth Industrial Revolution. The leaders recognise their transformative potential. They also emphasise the need for ASEAN to adopt a long-term and holistic perspective, address constraints, and raise capabilities in the region to utilise the technological revolution for the benefit of the people of ASEAN.

⁸ For further reference see, ASEAN Secretariat, 32nd ASEAN Summit (2018), Chairman’s Statement of the 32nd ASEAN Summit [Data file]. Retrieved from ASEAN: <https://asean.org/storage/2018/04/Chairmans-Statement-of-the-32nd-ASEAN-Summit.pdf>

The technological revolution has been transforming the economic landscape and brings with it substantial opportunities as well as significant risks. The challenge for AMS and ASEAN is how to utilise the new technologies for economic development and for accelerated technological and economic catch-up with developed countries. The way forward for ASEAN and AMS is a purposeful adoption of and adaptation and adjustment to the new technologies, consistent with the evolving comparative advantage of each AMS.

Information technology versus communication technology

The new technological revolution, anchored to ICT, has two faces: information technology (IT) and communication technology (CT), which have significantly different impacts, especially on employment. IT includes AI, robotics, data processing, and machine learning, which can be applied to produce goods and services. IT permeates all aspects of production, from marketing, research, and design to industrial processing to inventory management. IT can improve existing production processes by reducing the number of tasks and substituting human labour in conducting many routine non-cognitive tasks. Lower cost of production will make firms more competitive and lower the price of goods, but some jobs may become obsolete. IT also enables the creation of new products and services in data-driven analytics and management.

There has been much discussion about the ‘future of work’ in light of current technological changes.⁹ The McKinsey Global Institute (2017) estimated that as many as 50% of jobs could technically be automated, but only 15% of jobs might feasibly be replaced. The same report said that overall unemployment need not increase if the economy grows robustly and if the population is young, because there will be more jobs to move to and younger workers are more willing and able to move to other jobs. Given that AMS are expected to post high growth rates, the issue is less of increased overall unemployment and more of the need to ensure a smooth transition to the new job environment.

⁹ Two examples are Asian Development Bank (2018) and World Bank (2018).

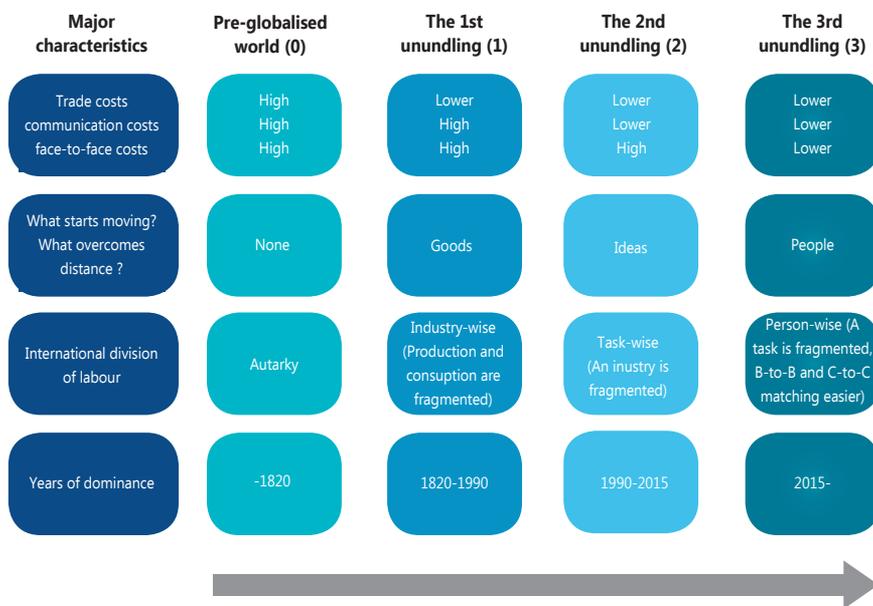
The new IT technologies have big potentials in agriculture, natural resource management, disaster management, traffic management, and other societal concerns. IT development is costly and highly human-capital intensive and requires the accumulation of research and development (R&D). It is likely that much of ASEAN will not be at the forefront of IT development but rather in IT applications, including customisation of new technologies to diverse environments and challenges.

CT such as the Internet, smartphones, and 5G connect people and overcome distance. Face-to-face interaction, usually requiring physical movement, can now be done virtually due to expanding broadband connectivity and availability of low-cost smartphones, allowing ideas to be shared over longer distances in real time.

The ability to coordinate tasks from afar allows production to be further subdivided and distributed across space, creating opportunities for finer degrees of specialisation. CT encourages the division of labour, domestically and internationally, and generates dispersion forces in economic activities. Matching costs in business-to-consumer and consumer-to-consumer transactions or communications would be drastically reduced primarily via virtual face-to-face transactions across borders, generating new businesses in developed and developing countries. Domestic and global value chains of production and consumption can be further expanded and deepened with CT. Once matching costs in service outsourcing are further reduced due to efficient platform services, translation software, and e-payments, the international division of labour at the individual level may develop as a major form of international transaction. Services will be detached from a firm and outsourced, which may lead to the third unbundling or cross-border service outsourcing. That is, tasks that comprise a smaller part of production may be performed in different locations, i.e. task fragmentation across borders. Differences in economic conditions such as wage levels and specialised skills may be further exploited in the international division of labour. (See Kimura, Wong, and Ambashi, 2019.) The third unbundling is the ongoing phase of articulation of the process of globalisation since the transport revolution (see **Figure 9**).

These technologies will continue to become cheaper for producers and consumers, leading to greater proliferation. Which will be dominant – concentration forces from IT or dispersion forces from CT? We cannot be sure right now, but what the AMS should do is obvious: develop IT applications while aggressively utilising CT to generate new businesses. As with any new technology, IT and CT create opportunities for innovation that lead to creation of new goods and services, new markets, new methods of production, new combinations of factors of production, and new industries and jobs. At the same time, existing industries will transform to become more productive.

Figure 9: Overcoming Distance and the Evolution of Unbundlings



B to B = business to business, C to C = consumer to customer.

Source: Kimura (2018).

The potential impact of the digital transformation and the fourth industrial revolution on the economy and society is huge, including (see Intal, Anbumozhi, and Lim, 2019):

- **Increase industrial productivity.** This will arise from (a) costs reduced by increasing automation and efficiency; (b) increased flexibility that allows companies to react quickly to changes in orders and capacities, and to respond to increasingly individualised customer demands; (c) increased stability and improved quality arising from intelligent maintenance concepts (e.g. predictive maintenance); and (d) an increase in turnover through incremental efficiency in business and manufacturing processes and entry to new markets.
- **Empower micro, small, and medium-sized enterprises (MSMEs) with access to technology, finance, and markets.** MSMEs are the backbones of AMS economies, accounting for more than 95% of total enterprise population, albeit contributing about two-fifths of the region's GDP. The rise of digital technology, markets, and online services can empower SMEs to trade in ways once unimaginable, connecting them to regional and global markets, not just local consumers. Technologies such as blockchain promise to unleash microtransactions and will revitalise SME financing and bank logistics.
- **Leave no one behind.** The digital economy and Industry 4.0 will create new ways for the people of ASEAN to connect with each other, trade with each other, and access services not currently available. Some AMS are archipelagic and physical connectivity has long constrained their economic development. Investments in high-speed broadband, 3D printers, and local electricity hubs provide a faster way to connect isolated people than roads, railways, and electricity grids. Telemedicine coupled with drone delivery can improve remote areas' access to healthcare. Under Industry 4.0, ASEAN people will gain access to new sources of information, e.g. market prices, online education, and financial services. The result could be more inclusive forms of growth, given the high cost of moving goods and services around disadvantaged, isolated communities.
- **Transform agriculture.** Many AMS have large agriculture sectors and Industry 4.0 is likely to benefit farming, fisheries, and forestry. For example, smartphones give farmers better access to market and weather information, and knowledge about soil, seeds, and fertiliser.

- **Improve natural resource management.** A recent Asian Development Outlook (ADB, 2014) suggests that 40% of the land in six AMS is suffering from severe human-induced degradation. AI, remote sensing, and drones can improve monitoring of natural resources, forests, and fisheries. Irrigation systems and land-use practices can be planned and operated more efficiently through blockchain and automated systems.
- **Improve resilience.** ASEAN is vulnerable to climate change and disasters given its heavily populated coastlines, continued reliance on agriculture, and poverty. ICT and remote-sensing technologies combined with big data can provide effective early-warning systems and new ways of preparing for disasters and delivering recovery and aid services. Collecting location-specific data will enable identification of adaptive actions, but also potentially lower the costs of providing services by reducing money spent on inappropriate and duplicative projects and programmes.
- improving the quality of government services arising from extensive use of e-governance;
- enhancing people-to-people connectivity amongst ASEAN people through technologies like block chain; and
- improving the quality of the urban environment where most ASEAN people would be living by 2040; this is best reflected in the drive towards smart cities such as ASEAN's Smart Cities Network.

The new technological revolution and ASEAN economic transformation

As technology changes, the ASEAN economy continues to grow and evolve. With higher incomes, consumers demand greater variety and higher-quality goods and services. Modern technology, coupled with greater connectivity, will enable consumers to source these goods from anywhere in the world. The challenge will be to ensure that ASEAN producers are positioned to meet these demands cost-effectively by producing innovative products and adding greater value. Micro, small, and medium-sized enterprises, the mainstay of the ASEAN economy, will

need to adopt new technology to improve their productivity and remain competitive. This will require concerted efforts to counteract increased competition from early adopters of modern technology.

These new technologies will impact all aspects of ASEAN's vision articulated in the AEC Blueprint 2025. It foresees a 'highly integrated and cohesive economy' characterised by a 'seamless movement of goods, services, investment, capital, and skilled labour', with the goal to 'enhance ASEAN's trade and production networks' and 'establish a more unified market for its firms and consumers'. As technology makes geographic proximity less relevant in many areas of trade and production, institutional coordination and collaboration across AMS will be crucial to maintain a cohesive economy. ASEAN will need to move strategically to harness the opportunities afforded by new technology while meeting its challenges.

Technology will directly challenge a key pillar of the ASEAN community: leaving no one behind. While the fear of widespread job losses may be exaggerated, the future economy will inevitably require greater human capital. Demand for skilled workers will increase their wages, encouraging skill acquisition. But the region needs concrete steps to increase access to skill training for everyone within ASEAN by developing modern educational and training infrastructure. Some low-skilled people may be unable to survive slower growth in low-skilled jobs, which will require social protection policies.

The new industrial revolution requires developing a fresh outlook on what policies are effective. High tariffs on imports made logical sense during the first unbundling, where the entire production process took place within the same country (Baldwin, 2016). But the second unbundling rendered this counterproductive as parts and components had to be sourced from other countries. Policymakers now embrace trade liberalisation to make their own economies more competitive. But they are still reluctant to liberalise services or reduce barriers to movement of skills, which could prove anachronistic in a world defined by widespread access to technology and deep people-to-people connectivity.

It will be difficult to identify globalisation's winners and losers, and even harder to adopt economic policies that purport to protect specific groups. The third unbundling reduces the government's ability to target specific sectors or groups with industrial policy. History suggests that, at best, industrial policy leads to more innovation and growth if the policy is implemented in competitive sectors or aims to promote competition (Aghion et al., 2018). However, those experiences occurred during the first and second unbundling, when the institutional requirements of a successful industrial policy were daunting. The new and 'milder' industrial policy will be less about picking winners and more about across-the-board or general incentives such as for research, or activities addressing market failures such as incomplete information. The more fruitful course of action is to improve the overall ease of doing business and the investment environment.

A whole-of-economy approach to make the country business friendly is necessary. Under the third unbundling, competitiveness will be determined preponderantly by crosscutting economic and policy environment fundamentals rather than incentives provided in certain sectors. As businesses look to lower costs by allocating tasks across countries, greater connectivity (physical, institutional, and people-to-people); cooperation; and coordination will be necessary. Another important requirement is upgrading of and continuous investment in human capital, including improving the quantity and quality of general and higher education, because the new technologies, especially IT, are skill-biased and CT promotes intense competition domestically and abroad. With job destruction and job creation as inherent in a technology revolution, investment in skill upgrading and worker retraining is also important.

Investing in education and skill upgrading and/or retraining is one key means of ensuring that the impact of the new technologies is inclusive and will not lead to greater inequality. Three other strategies that engender inclusive growth are building infrastructure for digital connectivity, promoting the gig economy, and supporting dynamic SMEs. The worry about the digital divide between urban and rural areas and between the rich and the poor may not be as compelling, because access to mobile phones or increasingly cheap smartphones has been expanding

tremendously, as has access to the Internet. A large percentage of ASEAN, however, remains without access to the Internet, and a much larger percentage is without access to reliable and fast Internet service. As service upgrading is primarily a private sector decision, the government can improve the regulatory environment to encourage investment in infrastructure for better and more equitable digital connectivity within and amongst AMS.

By 2040, the coverage of 5G is expected to be roughly similar to basic (2G or 3G) mobile coverage today. In other words, all of ASEAN is expected to have the necessary networks to exploit industry 4.0 applications. Thus, more than ever, there is a need to address the digital divide through appropriate regulatory environment and private sector or joint private–public sector investments in the needed infrastructure to ensure an inclusive Digital ASEAN by 2040.

An important benefit of CT is the much greater opportunity for the more progressive and efficient SMEs to reach a wider market domestically and globally. At the same time, changing patterns of consumer demand and increased competition in an integrated global economy will make technology adoption indispensable if small firms are to thrive.

Related to the challenge of ensuring dynamic SMEs is the growth of the gig economy, arising from improved CT, which has enabled the proliferation of new forms of employment. Ride-hailing services such as Uber, Go-Jek, and Grab are popular examples. They provide a platform for customers and service providers to interact over the Internet and perform specific tasks. The workers are essentially freelancers. These types of task-based hiring are appealing because they are flexible, easy to use, and likely to expand.

While the gig economy allows for more flexibility, it also brings challenges. It is harder to enforce labour laws as workers are classified as contractors rather than employees. The security and pension that come with traditional employment are no longer available. Governments need

creative solutions to ensure that vulnerable employees are protected and their future secured, without stifling innovation.

Embracing and adapting to the digital revolution and the Fourth Industrial Revolution lead to the vision for ASEAN 2040:

The vision for ASEAN economy in 2040 is one of competitive, integrated, and digitally interconnected ASEAN characterised by (1) widespread adoption of modern technologies, including by micro, small, and medium enterprises; (2) cross-border collaborative production networks supplying goods and services globally; (3) productive, innovative, and modernised agriculture, manufacturing, and services sector; (4) a high-skilled and adaptable workforce; and (5) a flexible labour market, all of which is enabled by advanced infrastructure and smart regulations.

Innovation and entrepreneurship in ASEAN 2040

New technologies and innovations are critical for ASEAN'S development. Opportunities for innovation may be enhanced in all countries regardless of their level of development, but the mix of innovation policies needs to be adapted differently in AMS that are at different development levels.

Policies need to reflect innovation developments and trends. The rapid development of ICT and the emerging third unbundling will involve reframing the innovation ecosystem relevant to AMS, which will be substantially different to the ones pursued by East Asia's early industrialisers such as Japan and the Republic of Korea. They emphasised using domestic industrial resources for innovation (e.g. importing technologies via licensing agreements and alliances with Western companies, inventing through reverse engineering, using restrictive industrial and trade policies to promote home-grown innovation), which was efficient because trade and investment were not as globalised. The WTO agreement regarding trade and investment restrictions, subsidies, and intellectual property rights also makes it difficult for AMS to adopt the same industrial policies as developed Asian countries did.

The innovation ecosystem relevant to AMS under advanced ICT (e.g. 5G) and the third unbundling need to exploit business innovation opportunities that reduce virtual face-to-face costs between people in various parts of the world. Frontier innovation seems to be increasingly dominated and monopolised by existing big-platform firms that can afford to continue to invest huge amounts in R&D and take over innovative start-ups in related spaces. Consequently, the gap in innovation capabilities between developed and less-developed economies may widen.

However, frontier innovations mainly in developed countries can be the foundation of business innovations in ASEAN as Go-Jek, Grab, and Lazada show. The new technologies provided by firms of developed economies are indispensable for business-model innovation in emerging economies. This calls for physical and virtual interactions between, say, the engineers, scientists, and entrepreneurs in ASEAN and the engineers, scientists, specialist service providers, and entrepreneurs from the rest of the world, especially the developed-country innovation hubs. It is notable that ASEAN home-grown Internet-platform providers such as Go-Jek, Grab, and Lazada supply new, relevant services (e.g. e-payment systems) to their core business models in combination with ICT, finance, and other services, offered initially by foreign professionals or by local professionals who studied science and engineering in developed economies.

The AMS' national innovation systems will need to emphasise (1) inviting innovation service outsourcing in cooperation with developed economies, (2) implementing local (and global) applications of technologies for innovative business models, and (3) attracting indigenous and foreign human capital. The last point is the most important in facing the first two challenges. AMS may need to start competing to attract well-educated people and to prepare comfortable urban amenities for them, which can be improved easily if good infrastructure in the second unbundling has already been established (Glaeser, Kolko, and Saiz, 2001).¹⁰

¹⁰ Glaeser, Kolko, and Saiz (2001) listed four elements of urban amenities: (i) the presence of a rich variety of services and consumer goods, (ii) aesthetics and physical setting, (iii) good public services, and (iv) speed.

There is also a need for conceptual reframing of innovation beyond R&D and patenting outputs and for a more holistic view of the innovation ecosystem. Specifically, many innovation efforts made by latecomer economies frequently take the form of 'creative imitation', whereby they seek to part-imitate and part-adapt new products and services from overseas to better meet local market needs, or to produce the lower-cost versions to compete in more price-sensitive lower-end markets (Wong, 2018). This creative imitation is what China (and the Republic of Korea earlier) did in much of their catch-up phase, although observers from developed economies have sometimes called these indigenous products copycats or intellectual property piracy. However, they are not always 100% so and include some degree of innovation.¹¹ These part-imitative and part-creative activities involve little R&D and patent granting. We can argue that the innovative part compared with the imitative part increases as less-developed economies move up the technology ladder.

Reframing of innovation underlines the growing role of technology entrepreneurship in AMS innovation systems. Recent entrepreneurship and innovation literature state that young technology start-ups, not large established firms, have been the main driver of innovations, especially those associated with digital technologies and business models enabled by digitisation and mobile Internet (e.g. e-commerce mobile apps, fintech, the Internet of things). Such entrepreneurial exploitation of the latest technologies is not confined to developed economies but can often allow less-developed economies to leapfrog.¹² Public policies that encourage the development of the entrepreneurship ecosystem may be just as significant as traditional policies to encourage technology transfer from public research institutes. Recent research has also shown that injecting entrepreneurship education into university curriculums can increase the supply of entrepreneurs in AMS (Low et al., 2014; Wong, 2018). Many AMS such as Indonesia, the Philippines, and Viet Nam, which

¹¹ Baidu in China, for example, did not just copy Google by providing better search engines in Chinese language but by adapting them to search in Chinese chat sites, not just web pages. Go-Jek in Indonesia is not a mere copy of Uber as it also introduced motorcycle ride-hailing and women drivers for women passengers (important in Islamic culture) and delivery services 2 years before Uber did.

¹² Mobile payment penetration in China is now the highest in the world, and it is high even in many ASEAN developing economies partly because traditional banking services do not exist in many rural areas.

are still reaping the 'demographic bonus' of relatively young populations, could supply a large number of young IT talents and entrepreneurs,¹³ provided their education systems can scale up quickly in quality and quantity.

The above-mentioned innovation ecosystem seems to be reinforced by ASEAN's advantages: emerging global middle classes that demand common product categories but differentiated local ones, and more opportunities to meet indigenous social needs and to fit with local cultural contexts, which implies more inclusiveness in impact. ASEAN has a rising number of upper classes who are connected globally but face different cultural, physical, and social contexts simply because the region is more diverse than a single country. The ecosystem associated with these advantages can serve as a good foundation for innovation that involves creative imitation. The success of creative imitation and innovation policies in Asian newly industrialised economies and China should be more broadly recognised amongst AMS policymakers.

Building an adaptive, inclusive, and innovative Digital ASEAN into 2040

Building *an adaptive, inclusive, and innovative Digital ASEAN into 2040* to harness the new technologies to further inclusive growth and ASEAN's economic and societal transformation entails a much greater focus on harnessing the beneficial potentials of ICT innovations and big data analytics, more judicious application of Industry 4.0 technologies at the production level, and greater encouragement in the application of both ICT and IT technologies to address societal concerns (environment, disaster resilience). This entails (business) innovations and applications of the frontier technologies mainly from developed countries that are customised to the unique characteristics and environments of each of the member states. That is, innovation strategy and the ecosystem need to be geared for the new technological revolution and facilitate dynamic creative imitation that is part imitation and part innovation to adapt to the domestic or foreign markets.

¹³ In the case of the National University of Singapore (NUS), where one of the authors oversees the university's tech start-up support system, digital technology start-ups established by alumni and students do not draw on patent invention granted from the NUS lab.

The emergence of the fourth industrial revolution and the third unbundling does not mean the end of the second unbundling industries or sectors like agriculture. There remains large scope in ASEAN for the deepening of regional production networks in manufacturing that is the hallmark of the second unbundling. Many of the measures in the AEC Blueprint are supportive of the deepening of the second unbundling in the region. Digital ASEAN enhances the second unbundling industries through the adaptation, application, and development of new technologies that upgrade the industries and make them more competitive in the fast changing local, regional, and international markets.

Amongst the key policy strategies for an adaptive, innovative, and inclusive Digital ASEAN by 2040 to benefit more from the emerging third unbundling and Industry 4.0 are:

- **Aggressively build the digital service ecosystem for MSMEs affordably, reliably, and ubiquitously.** The digital revolution addresses at least two critical bottlenecks to MSMEs' dynamic growth and transformation – access to finance through fintech and access to markets (both domestic and foreign) through e-commerce. This calls for efficient digital connectivity and affordable access anywhere within and amongst AMS, prudential expansion of fintech including digital payments within and amongst AMS, efficient logistics and seamless trade facilitation for e-commerce within the region, and training of MSMEs on effective management of firms in the digital integration in ASEAN that characterises Digital ASEAN. Given that MSMEs are the preponderant establishments in all member states accounting for more than 95% of the total enterprise population in the region, digitising MSMEs and their business ecosystems in all ASEAN is one of the most powerful means towards Inclusive ASEAN while at the same ensuring a more competitive and dynamic Digital ASEAN.
- **Improve the quality of and access to education across the different education levels. Institutionalise continuous and life-long learning and skills upgrading.** Industry 4.0 technologies appear to be more skilled labour-intensive and at the same time they tend to make people doing repetitive, low skilled tasks redundant. The third

unbundling is expectedly more skilled labour-intensive. Thailand's planned guidelines on skilled labour and professional services development in response to the fourth industrial revolution is a very good start at strengthening the human capital in ASEAN to better prepare for the new technological revolutions. Skills development is discussed further in the section on Seamless ASEAN.

- **Liberalise the service sector and reduce the barriers to the movement of skilled labour and professionals.** Service sector liberalisation and skilled labour mobility are sensitive policy areas in virtually all AMS. However, the adaptation, customisation, and expansion of new technologies may call for intensive interaction of specialised technical and support skills from anywhere including the rest of ASEAN and the source countries of frontier technologies. The issues of service sector liberalisation and movement of skilled labour are discussed further in the section on Seamless ASEAN.
- **Complete digital connectivity within and amongst ASEAN Member States.** This supports inclusive growth. This is the basic foundation of an inclusive Digital ASEAN.
- **Harmonise the approach to data protection at the same time that there is freer flow of data and payments in ASEAN.** Data is the new 'oil' in the digital transformation and fourth industrial revolution. At the same time, there are significant policy and regulatory issues to be addressed. The issue of freer flow of data and payments and data protection is discussed in the section on Seamless ASEAN.
- **Support the development of innovation ecosystems and technological entrepreneurship** in AMS. This includes the formation of industrial clusters promoting technological spillovers, innovation facilitation institutions such as incubators and technology license offices, incentives such as research and development investment tax credits including research and development to adapt the new technologies to upgrade industries and sectors like agriculture, and technology entrepreneurship education. Develop ASEAN-wide innovation performance benchmarking and platforms for sharing best practices in innovation policy.

- **Deepen participation in international production networks and form industrial agglomerations within AMS and ASEAN.** For all the excitement and anxiety about the digital transformation and the fourth industrial revolution, much of the ASEAN economy will remain in the world of second and first unbundling. There is so much more scope in many member states especially the more labour abundant and less advanced AMS for deeper participation in production networks regionally and globally. Equally, there is so much more to be done to have competitive and dynamic industrial agglomerations in many member states. Implementing the AEC and Master Plan on ASEAN Connectivity (MPAC) measures would go a long way to providing the conducive environment for growing industrial agglomerations and deepening production networks in ASEAN that are linked to the wider East Asia region and indeed the world.
- **Focus on improving the overall business and investment climate and less on sectoral incentives.** It is more difficult to pick and choose sectors under Industry 4.0. Moreover, MSMEs benefit more from general improvement in the ease of doing business than from fiscal incentives geared to sectors that tend to go to large enterprises anyway. Incentives and grants would have to be more functional, not sectoral, such as support for technopreneurship or skills development.

The ASEAN Smart Cities Framework (ASEAN Secretariat, 2018), though it is non-binding at present, exemplifies the coming together of new technologies, good governance, stakeholder engagement, and infrastructure towards sustainable development and living environment in urban areas where most of the people in the region would live by 2040. Good urban amenities and livability as well as ease of doing business are expected to turn the smart cities into innovation hubs in the region. Moving towards 2040, the articulation and implementation of the Framework, together with forward-looking leadership, partnerships, and investment fostered by the ASEAN Smart Cities Network will have significant impact on ASEAN, on the shape of the ASEAN economy and society.

Thailand's planned priority economic deliverables for 2019 underline the ASEAN Leaders' call during the 32nd Summit to build ASEAN's readiness for the digital revolution and Industry 4.0. These include the development of the concrete action plan of the ASEAN digital integration framework, setting up of a roadmap and an expert group to implement the ASEAN declaration on innovation, preparation of the guideline on skilled labour and professional services development for the fourth industrial revolution, preparation of a declaration for cooperation amongst member states in common targeted industries to prepare readiness for Industry 4.0, and develop policy directions for the formalisation and promotion of digitised MSMEs. Full ASEAN participation in the ASEAN Single Window and implementation of ASEAN wide self-certification, ASEAN agreement on electronic commerce, ASEAN trade repository, and ASEAN trade in services agreement will also contribute to a more conducive environment for MSME development and readiness for Industry 4.0 as well as facilitate deeper participation of ASEAN firms in regional production networks (Iemsawasdikul, 2018).

VI. Towards Sustainable, Resilient, and Energy-Secure ASEAN 2040

Almost all of the ASEAN countries are vulnerable to natural disasters, having long experienced a disproportionate share of global floods with high fatalities and economic damage. Future climate change will cause more intense typhoons, coastal floods, droughts, heatwaves, and landslides. The region has seen during the past 50 years worsening air pollution, degradation of land and water resources, and rising greenhouse gas emissions. The region is under sustainability stress, with substantial loss in biodiversity, pressures on forest areas in a number of AMS, stress on fresh water supplies from pollution and over-extraction of ground water, doubling to tripling in material footprint per capita during the past 2 decades in most AMS, etc. The region's energy demand and the energy related CO₂ emissions will nearly double by 2040 compared to 2011, heightening concerns on energy security and environmental sustainability in the region.

What makes the ASEAN scenario more worrying is that a number of the member states are still in the rising portion of the so-called Kuznets inverted U-curve where per unit environmental pollution and degradation will continue to rise as per capita national income rises. The material footprint per capita data are indicative of the challenge: the sharpest rise occurred amongst AMS with low per capita footprint, and at the same time, there remains a huge gap between Myanmar's 1.5 metric ton per capita and Malaysia's 22.6 tons per capita let alone Singapore's 73 tons per capita.

Thus, it is important that by 2040, countries must find innovative ways to reduce the vulnerability and increase the resilience. The challenge is to reduce the negative impact on the environment – and climate change – of the expected robust growth of the ASEAN economies and thereby ensure a more sustainable development path for the region. ASEAN and the member states are aware of the importance of resiliency and sustainability. Indeed, resiliency and environmental sustainability are identified as imperatives in the ASEAN community building process and highlighted in the 2015 and 2025 ASEAN blueprints. AMS have also adopted the Sustainable Development Goals (SDGs) and Sendai Framework for Disaster Risk Reduction as well as ratified the Paris Agreement under the United Nations Framework Convention on Climate Change. ASEAN and its member countries have a clear vision and ambitious targets which are covered in the ASEAN ASCC 2025 Blueprint, the SDGs, and the Paris Agreement. Actions towards the vision have also been identified in the blueprint and other documents.

However, the success of current approaches faces many implementation challenges. Current agreements, commitments, declarations, and decrees often focus on specific environmental problems and cannot tackle the different issues of sustainability and resilience as a whole. Countries tend to free-ride on regional issues, as they are rarely in a position to coordinate action across the sectors. As a result, progress has been mixed. Most of the indicators related to environmental sustainability show that the current rate of progress is not sufficient to achieve the SDGs in 2030.

Pathway for disaster risk reduction, climate change adaptation, and sustainability

The ASCC blueprint identified climate change and variability as a driver of disaster risk, along with uncontrolled urbanisation and poor land management. Tackling these by 2040 is expected to lead to a sizable reduction in disaster risk and increases resilience.

Countries can reduce disaster, environmental, and climate risks by developing and periodically updating systematic risk management plans to minimise the economic impact of and vulnerability to climate-induced disasters. One important means is much improved risk assessment. Risk assessments can further be improved through the results of new ICT and high-performance computing, a new generation of early warning systems and disaster loss models, and increased availability of high-resolution exposure datasets, as well as an improved stakeholder engagement and knowledge synthesis process. As shown in **Figure 10**, using drought as an example, a comprehensive multi-hazard risk and vulnerability assessment framework can support evidence-based robust decision-making. The process involves harmonised data collection, analysis of risks, understanding the risks, developing systems for disasters and climate change management, and finally strengthening and enhancing risk management plan. As the figure indicates, building such a robust decision-making system for disaster risk reduction and climate change adaptation is a long process of over 2 decades. By 2040, it is expected that a real-time forecasting and early warning system has been developed and an integrated multi-hazard detection system established.

In addition to the technical developments indicated in **Figure 10** are the building of the institutional arrangements for effective multilevel governance by local, provincial, and central governments, stakeholder engagement with key actors especially at the local level, and partnerships towards adequate funding. Public–private partnerships could be conceptualised and promoted aimed at increasing insurance coverage and market penetration, while ensuring strong financial backing for low probability high impact risks. National level indicators could be developed for monitoring actions towards improved resilience, including progress in implementing the Sendai Framework for Disaster Risk Reduction.

AMS' adoption of the SDGs, ratification of the Paris Agreement, and the signing of the ASCC Blueprint 2025 represent a new level of engagement towards green growth. Achieving these visions and goals will require accelerated investments in infrastructure for reducing risks caused by disasters, constructing low-carbon energy infrastructure, formulating a circular economy, and protecting natural resources. A key challenge, however, is how the large FDI into ASEAN can be encouraged towards cleaner production systems to meet AMS' green growth commitments. Green financing carries high risks. Perceived risks in ASEAN countries are also high, where market-based mechanisms to finance green initiatives are in the early stage of development. Producer and consumer responsibilities are low, with subsidies remaining, and they do not reflect full costs including environment externalities. Regulatory regimes are also complicated, creating additional uncertainties. This includes amongst others that financial institutions operate in an environment where prices for ecosystem-based natural resources management are very low and volatile and that delays can be lengthy where delays and approvals are required to implement the green economy. These conditions do not provide adequate incentives for private investment. ASEAN Member States can work together in improving the regulatory environment and regulatory capacity to support market development, innovation, and environmental sustainability. In addition, AMS can also work together in harmonising standards for environmental goods as part of the drive towards an ASEAN single market to reduce the cost of production and testing.

Most ASEAN countries continue to face environmental issues in land use, air pollution, municipal waste, and climate change. All need to be tackled as they become progressively serious. However, institutions of energy and environmental governance are on the whole weak and often understaffed, a reason often cited for underperformance and poor implementation of even the best regulations and standards. AMS need to strengthen social capacity and human and organisational resources, as well as technological benchmarking.

Figure 10: Application of ICT in Disaster Resilience – A 2040 Roadmap

Resilience Options	Drought	Current and Short-term (Present – 2020)	Mid-term (2021 – 2030)	Mid-term (2026 – 2040)
Climate and siasters Risk	Step I Harmonized Data collection	<ul style="list-style-type: none"> Meteorological data (i.e. hazard) Socioeconomic data (i.e. exposure) Climate change scenarios Projections of socioeconomic conditions 	<ul style="list-style-type: none"> Updating meteorological data and improving data quality Expanding data categories relevant to climate risk conditions Updating socioeconomic and climate change scenarios 	<ul style="list-style-type: none"> Updating database and advancing quality control procedure Real-time collection of meteorological data and R/S data
	Step II Risk Analysis	<ul style="list-style-type: none"> Analysis of extreme occurrence and severity w/ meteorological data Assessing spatial extent of hazards Inventory resources and identify groups at risk 	<ul style="list-style-type: none"> Updating climate and disaster risk properties (e.g spatial extent, occurrence) Assessing further impacts of climate induced disaster on societies Assessing social resilience to expected impacts of droughts 	<ul style="list-style-type: none"> Establishing forecast based climate and disaster risk analysis framework
Risk Assessment	Step III Understanding the risks	<ul style="list-style-type: none"> Mapping hazard risks in term of hazard, exposure, and vulnerability Assessing risk of climate change on weather events with scenarios Assessing risk of changing socioeconomic conditions 	<ul style="list-style-type: none"> Developing mitigation plans for reducing climate risk under cahanging adaptive conditions Finding and assessing adaption strategies 	<ul style="list-style-type: none"> Assessing drought hazard and vulnerability under forecastedclimatic conditions
	Step IV Developing System for disasters and climate risk management	<ul style="list-style-type: none"> Developing hazard monitoring system Archiving past drought events and their consequences 	<ul style="list-style-type: none"> Finding predictors for early warning Improving social communication system (Mass media, Telecommunication) 	<ul style="list-style-type: none"> Developing real-time forecasting and early warning-system Integrated multi-hazard detection system
Risk Management	Step V Strengthening and enhancing risk manaeement plan	<ul style="list-style-type: none"> Review on existing strategies, policy, plans, laws and regulations Developing climate risk education and training program Policy for emergency response and relief Establishing local climate adaption and resilience policy framework 	<ul style="list-style-type: none"> Improving governance and stakeholder's cooperation Regional resilience policy framework Developing risk mitigation and control plan Identifying and fill institutional gaps 	<ul style="list-style-type: none"> Developing and publicizing national resilience policy framework Evaluating and revising adaption and resilience plans

ICT = information and communication technology.
Source: Adapted from Anbumozhi et al. (2012).

Harnessing the new technologies for enhanced resilience and sustainability

The potential to harness the Fourth Industrial Revolution to achieve sustainability and resilience or, more fundamentally, to redesign how human, technological, and economic systems might interact with the natural environment – through cities, transport and energy networks, agricultural production systems, industrial value chains, waste management, disaster preparedness – appears to be boundless (Anbumozhi and Kojima, 2018; Arima et al., 2018; Nishimura et al., 2018).

Examples of how the digital revolution and Industry 4.0 technologies can enhance resilience, sustainability, and productivity are as follows:

- Robots can be used to develop and maintain infrastructure and aid in disaster recovery, e.g. checkout and repair works at dangerous disaster sites using robot arms.
- ICTs can help develop early warning and hazard risk information, map vulnerable areas, and transmit adaptation choices and availability of financial resources.
- AI, drones, and remote sensing can help monitor agriculture, forestry, and fishery activities much more effectively.
- Irrigation systems can be automated and blockchain used to manage water allocation amongst farmers.

Many contributions of industrial-level digital technologies are centred on fostering productivity, efficiency, and growth. Digital e-commerce platforms may be supported by data-mining tools and AI, which can be useful for identifying behavioural patterns and understanding consumers' profiles. This will encourage the supply of a broader variety of environmental goods and green services such as disaster-related information, which are individually tailored to lower costs, benefitting consumers around the region and across AMS boundaries. However, the net costs and benefits depend on a number of factors. If societies

are not prepared to cope with these technological systems, inequality could increase, environmental benefits cancelled, and achievement of the Sustainable Development Goals hampered.

Different innovation contexts shape options for Industry 4.0 technology and operational choices just as much as the availability of resources. For example, real-time pollution monitoring with advanced sensors in combination with smart metres can enable market-based demand responses and engender novel ICT-based services for independent renewable power producers, consumers, utilities, and business. This will allow a systemic transformation with less need for physical monitoring but more for planning and management.

In exploring this transformation, however, the debate needs to focus not just on technological application but also on reshaping mindsets, incentives, policies, and institutions. Without adequate governance, the practical applications of Industry 4.0 technologies will most likely respond to market needs and not necessarily to broader sustainability and resilience goals.

There are challenges in adopting these technologies and leapfrogging. Markets need to evolve to meet the specific needs of these new technologies. Leapfrogging implies jumping to a new set of highly efficient technologies and services, skipping the old, inefficient, and polluting ones. But if leapfrogging is to become a dominant pattern, rapid institutional innovations are needed to create the business practices and policy frameworks to make that happen, both at the systemic level (new business models, market design, regulation and policy instruments, and financing) and at the operational level (consumer engagement, supply-side management, and demand response). Flexibility is needed in policy design as the end points of absorbing these technologies and the pathways to get there will vary amongst AMS.

Building the right enabling policy framework conditions. Realising the opportunities available while also effectively managing the risks will not happen automatically. A proactive, collaborative process amongst

AMS policymakers, technology champions, academia, and international institutions will be required at the ASEAN level so that commonly agreed upon national policies and regional protocols are developed to maximise sustainability benefits and strengthen resilience.

The following kinds of collaborative frameworks will be particularly important:

- Dialogues and partnerships that bring Industry 4.0 technology developers and providers together with environmental experts to co-develop these innovations and ensure they are developed for the public good – for sustainability and resilience – while minimising the risks of coordinated cybersecurity attacks.
- Innovative investment platforms, financing structures, and business models that can accelerate the scaling of promising eco-innovations can be supported by a combination of Industry 4.0 technologies, whether or not they have clear commercial potential but have profitable sustainability and resilience benefits.
- Partnership with other and international institutions to enable the development of common and agile institutions and governance systems, including the championing of common policy principles for managing new technologies and specific data protocols, and transparency mechanisms.
- Regular review and, where appropriate, revision of emerging legislative and regulatory frameworks to clarify and explicitly articulate the roles of new technologies in increasing environmental benefits as well as in strengthening the resilience of households and vulnerable communities.

Achieving the core agenda outlined above depends on successfully devising national action plans, identifying the application of frontier technologies (e.g. industry 4.0) where AMS can work together and setting new cooperation agenda to accelerate the transformation of the ASEAN Community (e.g. Seamless and Digital ASEAN) into a resilient and sustainable community.

Given its diversity and heterogeneity, ASEAN will need to take into account the differences in national circumstances and differences in level of development in the implementation of the cooperation agenda.

Both innovative education and education for technological innovation can make strong contributions to building the enabling environment. Sustainability knowledge and innovative thinking should, therefore, be organised in the context of Industry 4.0. Education must benefit from an innovative industry, developing resources that improve the effectiveness and efficiency of education. National innovation systems should offer the education sector the means to adopt new practices, organisations, and technology by improving standards, quality, and access by all. Some of the technologies such as AI, Internet of things, augmented reality, and drones have an important role to play in expanding access to technical education and improving the quality and sustainability of education. Proper application of these digital technologies can solve issues such as the lack of physical infrastructure and the lack of trained teachers from the primary to tertiary levels. It will also require ministries to engage many actors in a multi-stakeholder agenda to help manage regional sustainability and resilience tasks. This may be challenging in the short term but, given the pressure on the environment, ASEAN cannot afford not to work on harnessing new technologies to reverse the worrying environmental, sustainability, and resilience trajectory.

Secure, Modern, Reliable, Affordable, and Sustainable Energy for All¹⁴

Secure, modern, reliable, affordable, and sustainable energy supply for all is the lifeline of modern technology-driven ASEAN towards 2040. This cannot be taken for granted. The business-as-usual scenario indicates that ASEAN will become far more dependent on imported oil and natural gas. While China will see slower growth of net oil import after 2030, net oil import of ASEAN and India will more than quadruple between now and 2050. With regard to the power sector shaping the economic and environmental outlook, electricity demand will almost triple through

¹⁴ This section draws heavily on Arima et al., 2019.

2040, with a continuing and dominant role for coal, resulting in critical environmental challenges. Indeed, there would be a rapid increase in CO₂ emissions in ASEAN, with India and ASEAN accounting for the bulk of incremental CO₂ emissions in Asia over the next 2 to 3 decades.

At the same time, affordability needs to be ensured to avoid the situation that the poorer population has to pay higher energy cost than the richer population in a country. Also, about 10% of ASEAN's total population still do not have access to electricity as of 2016; however, there is significant variation amongst the member states from virtual complete electricity coverage in Brunei Darussalam, Malaysia, Singapore, Thailand, and Viet Nam to around 9%–10% in Indonesia, Lao PDR, and the Philippines, and about 40% for Cambodia and Myanmar.

Hence, increased effort must be made within the ASEAN Member States to change the current pathway. Member states need to be prepared for possible oil supply disruption; enhance energy efficiency; reduce oil demand, particularly in the transport sector; clean use of fossil fuels, most notably coal; and promote energy diversification to such sources as natural gas and renewable energy. These actions need to be pursued in tandem with robust economic growth, ensuring that energy is accessible to all at affordable prices while at the same time enhancing energy reliability. Universal electricity access if it were to be achieved by the early 2030s would call for the use of a wide range of fuels and technologies as well as both centralised and decentralised solutions. Given the many uncertainties between now and 2040, strategies should be pursued with a plan-do-check-act cycle with sufficient flexibility and multiple pathways.

The ways forward for ASEAN to secure an affordable and sustainable energy system include the following:

- A measured and well-targeted **cross-subsidy approach** to improve the affordability and reliability of energy infrastructure development (for example, differentiated electricity prices between rich and poor regions). Note that the cross-subsidy be measured, tempered, and targeted because significant subsidies distort pricing signals for both consumers and producers as well as environmental sustainability goals.
- **Distributed energy systems with micro-grid system** to provide an effective approach to enhance reliability of energy supply systems and the inclusiveness of serving remote, rural, and poor areas.
- **Enhance emergency preparedness** through development of early warning systems, oil stockpiling, measures for demand restraint and fuel switching, and oil sharing scheme by countries willing to do so.
- **Enhance energy efficiency**, as the most cost-effective way to simultaneously achieve energy security, climate mitigation, and economic growth, through cost-reflecting prices, minimum efficiency standards, full utilisation of ICT, IoT, artificial intelligence, etc. Urbanisation is an unparalleled opportunity to increase energy efficiency and improve the quality of life of citizens. Better financing and smart management of cities will require governments to further decentralise responsibility to local levels. Timely action will require visionary leadership and public–private partnerships.
- **Regulatory and institutional reforms** to encourage private sector investment and incentivise pro energy-efficiency energy users' behaviour; for example, energy and environment performance standards, electricity and gas market liberalisation, phasing out energy price subsidies, etc. It must be emphasised that huge energy related investments are needed between now and 2040, amounting to about US\$2.1 trillion according to the IEA Outlook 2017, with 60% of it going to the power sector. Thus, a conducive regulatory and institutional framework is critical to encourage private sector investments in the sector in AMS.

- **Enhance ASEAN-wide energy-related collaboration** in emergency preparedness, regional interconnection, regulatory harmonisation, technology collaboration, peer review process, sharing long-term vision, etc. Better gas and electricity interconnection amongst AMS will serve multiple objectives including enhanced use of natural gas and its supply security, expanded use of renewables, and the saving of investments in each country. To enhance regional gas and electricity networks in the region, harmonised regulation towards flexible and transparent markets as well as clear agreement on cost sharing are essential.
- **Capacity building** in energy related policy, regulations, technologies, technical standards, environmental regulation, etc. needed especially in light of the emerging information technology, artificial intelligence, and IoT for energy. The capacity building is for both government and industry officials in the region.
- **Public awareness, education, and information on new technologies** and their benefits for facilitating uptake of such technologies, improving financial risks, and strengthening people's willingness to pay for the energy and environment agenda.
- **Research, development, demonstration, and deployment (RDD&D)** of more cost-effective low and zero emission technologies as the key to ultimate energy transition and decarbonisation. Given its low abundance, low cost, and widespread global distribution which contribute to better energy access with affordable cost, coal cannot just be dismissed despite the Paris Agreement. What is important is to explore how to use coal in an environmentally sustainable manner as a bridge to a carbon-free energy future; HELE technologies and CCS technologies would play a vital role. For the long term, it is more sensible to invest in a wide range of technologies including cleaner use of fossil fuels, CCUS, renewable energy, battery, hydrogen, energy efficiency, smart grids, and next generation nuclear energy depending on each country's competence. Since climate change is a global agenda, greater international collaboration should be promoted in developing, sharing and applying best available technologies. In addition, multilateral development banks and finance institutions should be encouraged to facilitate investment and technology transfer.

Sustainable Development and the Complementarities Initiative

The ASEAN Heads of State and Government underlined in the ASEAN Community Vision 2025 the complementarity of the United Nations 2030 Agenda for Sustainable Development with ASEAN Community building efforts that raise the quality of life of the people of ASEAN. The Leaders' acknowledgement of complementarity is actually beyond 'complementarity' but one of synchronicity, synergy, and alignment in the implementation of the AMS commitments to the UN Agenda and of their commitments to the ASEAN Community building initiatives. At their core, there is tremendous overlap between the 2030 Agenda for Sustainable Development and the ASEAN Blueprint measures. At the same time, 'sustainable development' in the 2030 UN agenda is a deeply holistic concept beyond merely taking into consideration the environment; i.e. it is ensuring the development and well-being of everyone now and in the future. It is fundamentally inclusive and people-centred. In addition, it forces the framing of the ASEAN initiatives from the lens of the welfare of the people now and in the future, which necessarily calls for ensuring the harnessing and strengthening of the complementarity amongst the measures in the ASEAN blueprints in addition to ensuring coherence and consistency in the national implementation of UN 2030 and ASEAN commitments. Viewed from this perspective, much of what is proposed in the ASEAN Vision 2040 is in support of the attainment of the Sustainable Development Goals.

As ASEAN coordinator on Sustainable Development Cooperation, Thailand initiated in 2016 a joint effort with the UN Economic and Social Commission for Asia and the Pacific (UNESCAP) on identifying and enhancing complementarities between the ASEAN Community Vision 2025 and the UN Agenda for Sustainable Development; i.e. the 'Complementarities Initiative'. The Initiative has resulted in the joint development in 2017 by Thailand, UNESCAP, and the ASEAN Secretariat of a report entitled 'Complementarities between the ASEAN Community Vision 2025 and the United Nations 2030 Agenda for Sustainable Development: A Framework for Action', or known as the Complementarities Report, which also supports the 2016–2020 ASEAN UN Plan of Action. The Report is based on the values and principles of putting people first (people-centred), inclusivity leaving no one behind, sustainability (multidimensional and integrated), resilience,

dynamism, innovation, and partnership. The report also identifies five priority areas that ASEAN should pursue in the implementation of the Complementarities Initiative: (1) poverty eradication, (2) infrastructure and connectivity, (3) sustainable management of natural resources, (4) sustainable consumption and production, and (5) resilience. It is apparent that most elements in the report are very similar to the ASEAN Vision 2040.

The discussion in the previous sections however suggests that the drive for sustainable development – viewed here broadly and holistically – is easier said than done. This is best exemplified by the Kuznets inverted U-curve describing the relationship between the level of development (or per capita income) and environmental degradation (e.g. pollution). The Kuznets curve is affected by the structure of an economy, policies and their implementation, and technology. The digital and fourth industrial revolution offer technological opportunities to flatten out the Kuznets curve and, together with good policies and institutions, shift down the Kuznets curve. However, the drive for sustainable development goes beyond the income–environment nexus to include at least the inclusivity dimension; i.e. the income–environment–poverty and income inequality nexus. It is apparent that examining ASEAN measures and/or initiatives from a three-nexus perspective rather than a two-nexus perspective substantially complicates the analysis of ASEAN measures in terms of their complementarities towards sustainable development.

- Given the cogency of the need for inclusivity and people-centredness as well as environmental regeneration and/or protection in tandem with robust growth and competitiveness of AMS – and the complexity of determining let alone enhancing the complementarity of ASEAN measures along the three dimensions if not more dimensions – it is worthwhile considering the proposal of the UN Complementarities Report to establish an **ASEAN Centre for Sustainable Development Studies and Dialogue (ACSDD)**. As is implied by the title of the centre, the institution will not only undertake studies but also serve as a platform for policy dialogue amongst AMS and between ASEAN and its external partners.

VII. Integrated and connected Seamless ASEAN: Consolidating internal reforms and realising an ASEAN Single Market and Production Base underpinned by Good Regulatory Practice

Vision

The vision of an ASEAN single market and production base is well articulated in the AEC Blueprint 2015: 'An ASEAN single market and production base shall comprise five core elements: (i) free flow of goods; (ii) free flow of services; (iii) free flow of investment; (iv) freer flow of capital; and (v) free flow of skilled labour.' (ASEAN Secretariat, 2008) With the emergence of the digital economy, a sixth element should be added: freer flow of data and payments.

The operational and closest approximation of the ASEAN single market stated above is in the AEC Blueprint 2025: 'seamless movement of goods, services, investment, capital, skilled labour [and data and payments] within ASEAN...as well as...a more unified market for [ASEAN's] firms and consumers' (ASEAN Secretariat, 2016). Seamless movement means minimised border and behind-the-border regulatory barriers to and transaction costs for the movement of goods, services, data, skilled labour, investment, and financial capital. A unified market, the antithesis of a fragmented one, implies strong competitive pressures from domestic and other ASEAN suppliers and investors within the ASEAN region.

In both blueprints, a key goal of the drive for a single market and production base is to facilitate the development of production networks, enhance the region's capacity as a global production network, and strengthen the region's participation in global value chains. The deeper regional integration that such a single market embodies does not only lead to better economies of scale and collective efficiency but also encourages the organic growth of innovation and development of innovation systems. Strong domestic competition is the key foundation of robust innovation.

Moving towards 2040, an integrated and connected Seamless ASEAN enables ASEAN to benefit the most from being at the geographic heart of the Golden Arc of Opportunity in the world (that is, the India–ASEAN–China corridor). It will enable ASEAN to compete better with China and India, especially as the growth corridor can be expected to liberalise further under RCEP and future regionalisation agreements. The measures needed to achieve an integrated and connected Seamless ASEAN engender good governance, which is a major aspiration of the ASEAN peoples. They also support ASEAN centrality because East Asia’s economic integration rests importantly on the success of ASEAN economic integration.

Key strategies

ASEAN is clear on how to realise an ASEAN single market in the AEC Blueprint 2015 and AEC Blueprint 2025. The key strategies below largely echo the measures in both blueprints and expand, deepen, and clarify pathways for implementing them. **The fundamental challenge is ultimately about implementing the measures.**

1. Seamless trade facilitation ‘plus’¹⁵

ASEAN’s trade facilitation regime and logistics performance ranges widely, from one of the world’s best to one of the world’s worse. At the national level, the vision of seamless trade facilitation for 2040 is to achieve at least the average of the current performance of Singapore and Thailand or, better still, Singapore’s current TradeNet® (Singapore’s National Single Window). This means that all trade-related agencies will employ a single form, single submission, single interface, and a single process – almost paperless – with a processing time for permits of, at most, 10 minutes for at least 90% of all applications. The system should work 24/7. Achieving TradeNet® standards requires an integrated risk management system, coordinated border management, and a whole-of-government mindset.

¹⁵ This subsection draws heavily on Intal, P. Jr. et al. (2019).

At the regional level, seamless trade facilitation entails a fully operational ASEAN single window involving the exchange not only of ASEAN Trade in Goods Agreement (ATIGA) Form D but also other documents such as sanitary and phytosanitary (SPS) and other certificates. There should also be a well-performing, fully operational ASEAN customs transit system (ACTS) with a single electronic goods declaration from departure through transit to destination, a single guarantee valid for the entire journey, free movement of a generous number of permitted trucks and drivers, full end-to-end computerisation of operations linking all customs offices and traders along the transit route, and privileges for authorised transit traders. As transparency is critical in seamless trade facilitation, the national and ASEAN trade repositories (NTRs and ATR) should be fully operational and always up to date with all the information needed by the ATIGA, including non-tariff measures (NTMs). Finally, self-certification should be fully operational and extensively used, reducing the burden on the private sector for getting the tariff and related privileges that the integrated ASEAN community provides.

The 'plus' part is also important for even more efficient, safe, and seamless trade facilitation, closely interlinked with other aspects of the logistics system and with extensive mutual recognition agreements with other customs administrations around the world, allowing for even faster clearance and simpler documentation amongst partner countries. The emerging model of trade facilitation plus is Singapore's National Trade Platform (NTP), a new trade and logistics IT business-to-government and business-to-business ecosystem that connects importers, exporters, logistics providers, trade financiers, insurers, etc., and innovators of value-added services for the trading community. The emerging customs operations of trade facilitation plus follows a customs-accounts-officer approach similar to that of Thailand's Customs 4.0 and Singapore's NTP. Trade facilitation plus includes a great number of mutual recognition arrangements and agreements with other customs jurisdictions of partner countries, allowing for faster customs processes and less documentation for shipments amongst partner countries.

The future of trade facilitation is no longer just trade facilitation but also an ecosystem that connects trade, logistics, business and innovation communities, and government to better support fast-evolving business and meet its needs.

2. Improved management of non-tariff measures: transparency, streamlining, institutional improvement, and good regulatory practice

With the near-elimination of tariffs between AMS, the number of NTMs has increased markedly in a number of AMS during 2015–2018 (Doan, 2019). The surge of NTMs during the first 3 years of the AEC is worrisome because NTMs can be substitutes for eliminated tariffs. The rise in NTMs in tandem with the decline in tariffs is a global, not just an ASEAN, phenomenon. It suggests the need for an in-depth study to clear AMS of the suspicion that they are replacing tariffs with NTMs for trade protection. NTMs are opaque, more complex, and less efficient than tariffs as means of trade protection. The ad valorem estimates (AVEs) of NTMs in Ing, Cadot, and Prasetya (2019) show substantial variations amongst AMS for a given commodity group for SPS measures and technical barriers to trade (TBTs). The authors found that higher AVEs are positively related to the number of documents and cost to import, so the substantial variation in AVEs may be indicative of protectionist bias in selected commodity groups and sectors. This is because exporters tend to pass on the cost of dealing with NTMs to importers, thereby raising import prices relative to domestic prices (of substitutes) in the importing country.

NTMs, however, are generally legitimate policy instruments to deal with concerns about product quality and impact on health and the environment. NTMs are expected to rise in ASEAN as per capita incomes and standards of living rise because people and governments will become more concerned about product quality, product safety, health, and the environment. Developed countries have many more NTMs than ASEAN. Most NTMs are TBTs and SPS measures. The key issue, therefore, is one of managing NTMs to make them more effective and efficient while minimising potential adverse effects on trade and allocation of resources.

Managing NTMs in ASEAN to make them effective, efficient, non-trade restrictive, and non-distortive will entail improving transparency of existing NTMs through constant updating of the NTM section of national trade repositories and the ASEAN Trade Repository; simplifying and eliminating redundant NTMs and streamlining NTM procedures; using good regulatory practice (GRP) principles (including regulatory impact analysis and extensive consultations with stakeholders) in introducing new NTMs (the ASEAN Trade Facilitation Joint Consultative Committee has approved the ASEAN NTM Guidelines, which draw from GRP principles); and using a trigger mechanism to review NTMs in response to legitimate complaints from stakeholders. Because a substantial portion of NTMs is TBTs, managing NTMs will need much more effective and wide-ranging standards and conformity assessment systems and institutions in each AMS and in ASEAN (see succeeding section below).

3. Strengthened regional and national quality infrastructure (standards and conformance system)¹⁶

A key means of reducing the burden of the rising incidence of TBTs on business and consumers is to strengthen regional and national quality (standards and conformance) infrastructure. ASEAN is aware of the importance of standards and conformance in regional integration because they were in fact one of its first initiatives at the start of the ASEAN Free Trade Area in the early 1990s.

Investing in robust quality infrastructure is compelling and strategic at the national level. Robust quality infrastructure balances the increased societal concerns about product quality and safety, health, and the environment on the one hand, and the need to minimise the burden of TBTs on business on the other. Robust quality infrastructure is an important part of a competitiveness strategy because access to export markets and global value chains is increasingly dependent on local firms being able to meet international standards or private standards set by leaders or end buyers in the global value chain.

¹⁶ This subsection draws heavily on Ramesh, Intal, and Lim (2019).

The experiences of Asia–Pacific Economic Cooperation (APEC) countries (see Shepherd et al., 2018) suggest ways of how to establish a robust national QI (standards and conformance) system:

- Have a policy of increasingly and preponderantly aligning old and new national standards to international standards (e.g. Viet Nam). For some APEC countries, the policy is adopting international standards wherever possible, which is a 'quality signal' that increases consumer confidence in the export market for those brands that are not yet known internationally. Adopting international standards facilitates trade with the rest of the world, overcomes artificial barriers, encourages a drive for higher productivity and product quality, and makes it easier for domestic firms to link up with other firms internationally and join global value chains.
- Regularly review national standards to ensure they are up to date and still relevant to changing economic and technological developments, e.g. Australia's 'aged standards review'.
- Establish 'world class' conformity assessment and certification (e.g. testing centres and laboratories) and accreditation bodies that meet international requirements and are accepted by export markets. Corollary to this is training – in universities, technical and vocational institutions, and other science and technology institutions – related to standards, technical regulations, and quality control.
- Involve the private sector in standards development so that local firms do not need to send their products abroad to be tested and certified.
- Establish extensive mutual recognition arrangements with other countries on accepting conformity assessments results and certifications, thereby helping local firms.
- Become extensively involved in international standard-setting bodies. This applies even to emerging ASEAN countries (e.g. Viet Nam).

ASEAN has the prerequisite components of regional quality (standards and conformance) infrastructure, including the guiding principles consistent with GRP and with the WTO TBT Agreement to which all AMS are signatories. What will be needed is accelerated implementation of standards and technical regulations; enhanced information exchange on laws, rules, and regulatory regimes on standards and conformity assessment procedures; and strengthened regional cooperation and agreements to facilitate upgrading of micro, small, and medium-sized enterprises to regionally or internationally agreed standards to facilitate exports. Capacity-building programmes, especially for Cambodia, Lao PDR, and Myanmar, should be strengthened.

Given the availability of new information on NTMs, the standards and conformance system should increasingly focus on addressing them, with the most significant burden on the private sector (e.g. high ad valorem equivalents) rather than on prioritised sectors. This will better synchronise the standards and conformance work programme with ASEAN's NTM agenda.

4. Strong services sector and an open investment environment¹⁷

To move up the value chain and raise income levels, ASEAN must strengthen the services sector which would then raise its contribution to GDP, including manufacturing. As an important destination for FDI, ASEAN should focus on the quality and sustainability of FDI.

A number of major trends and factors have significant bearing on the interplay of investments and services. The most important are the servification of manufacturing, the growing digitisation of the economies, and the ageing of a large swathe of the East Asian population. Other factors that have a potentially large impact on investments and the service sector are infrastructure investments of a robustly growing region with several countries having large infrastructure deficits; climate change, with the attendant greater focus on renewable energy; and the rise of

¹⁷ This subsection draws heavily on Jusoh, Hamanaka, and Ramli (2019).

the middle class in East Asia, which demands greater product quality, variety, and convenience, and which is more open to new approaches of connecting with them, e.g. via e-commerce. All offer potentially large opportunities as well as large risks. A more open services sector and investment environment will be needed to reap the benefits and ride out the challenges. Several complementary measures would need to be employed to strengthen the services sector and make ASEAN even more attractive as an investment destination:

- Reduce restrictions on investments in services and other sectors by drawing up a short national consolidated negative list that covers high-risk sectors related to national security; plant, animal, and human health; the environment; and sustainability.
- Besides opening sectors, liberalise admission rules by reducing the need to screen investors and their investments at the pre-establishment stage, facilitating investment, and reducing unnecessary regulatory burdens.
- Increase links between foreign and domestic investors in niche investment sectors identified for promotion and liberalisation to accelerate technological diffusion and absorption in key areas with large spillover effects.
- Implement ASEAN trade and investment agreements as a package. Link the ASEAN Comprehensive Investment Agreement with ATIGA and the ASEAN Framework Agreement on Services instead of using stand-alone agreements.
- Develop an integrated investor after-care and investor-retention mechanism.
- Consider producing a single ASEAN common investment policy framework to harmonise investment policies.
- Encourage investments that develop seamless connectivity to facilitate investment and growth in the services sector.

5. Regulatory coherence in competition law and intellectual property¹⁸

Intellectual property (IP) rights and competition policy are important to position ASEAN as a competitive single-production base. As ASEAN is not a supra-national organisation, AMS will have to rely on certain tools of regulatory cooperation and coordination to deal with fragmented laws, policies, and regulations relating to IP and competition. Specifically, ASEAN should complete harmonisation and standardisation in the above areas, with a compliance mechanism using a carrot-and-stick approach, which must be enforced.

The following are recommended:

- ASEAN should harmonise the substantive laws and procedures relating to patents, copyrights and trademarks, and other IP by way of a model law, based on the minimum standards adopted in the region. By 2040, most AMS will have reached a certain level of development homogenous enough to allow substantive harmonisation. Most of the common standards are already being promoted through individual AMS free trade agreements with more developed countries, such as those between Viet Nam and the European Union and between Singapore and the US.
- If AMS are not willing to change their IP laws, they can consider recognising IP issued by another AMS without having to go through national substantive formalities and procedures again. This can be done either by harmonising rules or mutually recognising the IP registration and can be applied not just to patents and trademarks but also to all registrable IP such as geographical indications.

¹⁸ This subsection draws heavily on Jusoh, Ramli, and Damuri (2019).

- To facilitate cross-border IP protections in ASEAN, all ASEAN IP offices can introduce an ASEAN IP single window in each AMS, where one applicant may file only one application in one AMS, designating as many AMS for protection. The application can be examined and awarded in a single examination office, which will then issue an ASEAN IP.
- In addition to recognising IP rights issued in another AMS, AMS need to facilitate cross-border enforcement of court awards. This will involve mutual recognition of IP court awards in ASEAN. There are cross-border professional IP infringers who infringe directly or are conduits for IP infringements across AMS. ASEAN may want to introduce a cross-border IP enforcement system such as the mutual recognition of decisions by courts or authorities of IP infringements.

As ASEAN lacks a harmonised competition law, ASEAN has two options: use a bilateral approach to recognise the competition law of each AMS or assist in cross-border enforcement.

- ASEAN may harmonise competition policies and laws by establishing model laws that impose minimum standards for rules or principles. AMS may assist each other in implementing the model law through capacity building and experience sharing.
- AMS may work on recognising cross-border anti-competition enforcement by applying positive comity (Ahamat and Rahman, 2013) whereby ASEAN may introduce an agreement providing for an AMS to notify another AMS about a particular anti-competitive conduct in the jurisdiction of the requested AMS, which has effect in the requesting jurisdiction. It allows the requesting AMS to request the host state to launch investigations, remedy anti-competitive conduct, and notify the requesting state of its decision. This involves recognition of decisions and awards and standardisation or harmonisation of substantive procedural rules.

- Another important mode of harmonising competition law is reciprocal recognition and enforcement of judgement or awards. The mechanism is to enforce decisions made by one AMS in another AMS. The latter will not be required to investigate the same anti-competitive behaviour. A model for this type of co-operation is included in the Australia–New Zealand Closer Economic Relations Trade Agreement (ANZCERTA).

It is also important to have a robust pro-competition policy regime in each AMS, especially for producer services, which have large economic impact and tend to engender large firms with monopoly power, particularly in public utilities such as power, ports, telecommunications, and shipping. These sectors tend to have a large presence of state-owned enterprises. A privatisation and pro-competition regulatory regime may be needed to ensure that the domestic economy is efficient and competitive. Similarly, underpinning regional cooperation on IP rights is a greater appreciation of the importance of IP protection for engendering greater innovation in the country and strengthened capacity to address IP infractions. At the same time, IP protection should not too restrictive to unnecessarily hamstring one key reason for IP protection; i.e. the desirability of making knowledge available to all including potential inventors.

6. Engender skills mobility and development in ASEAN¹⁹

Skill mobility is essential for ASEAN's continued dynamism in an increasingly service-oriented and globalised world. Skills mobility and development is central to effective application of Industry 4.0 and third unbundling. Current economic and demographic trends mean that by 2040 AMS economies will achieve high- and upper-middle-income status, and enjoy a growing labour force, with the declining working-age population in ageing societies more than offset by countries experiencing demographic dividend. Continuing rapid economic growth will require tapping skills and talent from everywhere. Fostering a freer flow of skills from one AMS to another will not only provide the region with a

¹⁹ This subsection draws heavily on Chia, Kimura, Rashesh, and Doan (2019).

competitive edge in 2040 but also contribute towards a cohesive ASEAN society.

ASEAN needs to put strong emphasis on and elevate regional cooperation in skills development in the region. One example is effective implementation and further development of ASEAN Qualifications Reference Framework. There needs to be an ASEAN-wide accreditation system for universities and training institutions. Another example is the development and expansion of ASEAN schemes similar to the Erasmus and Bologna processes in the European Union. Third, allow the setting up of foreign (majority) owned specialised training institutions in the region, especially those that are linked to the digital revolution and Industry 4.0. The new technologies like EdTech can be used to institutionalise continuous skills development of workers and would be workers. Providing opportunities for life long skills development is important to ensure inclusivity effect and greater flexibility to the changing labour skills need of the digital transformation and fourth industrial revolution.

As the free flow of skilled labour is politically sensitive in virtually all member states, a measured and gradual approach towards greater skilled labour mobility within the region is sensible. An initial approach would be to have bilateral agreements to standardise and facilitate labour market access requirements and gradually extend to an ASEAN-wide basis. Give priority to the liberalisation of the mobility within ASEAN of highly specialised skills especially those supportive of innovation hubs in the region.

Nonetheless, by 2040, ASEAN should strive for a seamlessly connected albeit regulated labour market where skills needed in an AMS can be fulfilled by qualified talents from any AMS. The elements of such a regulated but seamless connected labour market in ASEAN will include (1) a comprehensive opportunity to develop skills; (2) an ASEAN-wide accreditation system for universities and training centres; (3) a minimal list of restricted or prohibited occupations for foreigners in private businesses; (4) simplified employment authorisation and temporary residency permit process for workers as well as his or her spouse and children; (5) regulatory coordination to avoid double income taxation;

(6) provision of a low-cost remittance facility; and (7) portable social protection (retirement plans, unemployment insurance, etc.). ASEAN can accomplish an integrated skilled-labour market through mutual recognition of licenses, qualifications, and work experience; a preferential employment of ASEAN nationals where labour market tests are deemed necessary; and use of modern technology to widely disseminate information on job availability and terms and conditions in each AMS.

Liberalisation of virtual migration can be prioritised. In the digital age, many more services are delivered online with short visits by service suppliers, and do not require the physical movement of service suppliers. This will remove some of the concerns of overcrowding or socio-cultural disruptions by an influx of in-migrants (although the same is being felt because of the large influx of tourists) and the concerns of brain drain by large flows of out-migrants.

7. Freer flow of data and payments²⁰

As e-commerce and the digital economy increasingly subsume every aspect of commercial and societal transactions, ASEAN integration now includes the challenge to create a digital market. Data flows and online payments are the 'glue' that integrates all the other freedoms. Digitisation needs freedom of data flows that allow for seamless communications without regulatory frictions, and thereby create new and innovative services which may occasionally make existing regulatory systems obsolete.

Rather than resisting such changes, the path forward means managing tensions within numerous policy disciplines – security, privacy, disruption, competition, taxation, and regulatory agency capacity. Interoperability and standards of technologies and regulations within a country and between countries are essential. As the trade in traditional goods and services moves online, existing intra-ASEAN commitments (as well as ASEAN free trade agreements) are rolled back unless they are supported by commitments to keep the digital economy open.

²⁰ This subsection draws heavily on Pangestu and Lee-Makiyama (2019).

Data flows, innovative applications, and new high-speed networks underpin Industry 4.0 and much broader societal concepts such as Society 5.0.²¹ These industrial and societal ideas should be fulfilled by 2040 through national policy initiatives, private investments, and open market demand. Upgrading national digital economies will enable regional cooperation in many areas.

Innovative use of data and payments systems will bring new products and services to more people and allow them to trade more efficiently within the region and globally. Freer flow of data and payments can harness social benefits for SMEs, expand the fiscal base, and help the region's migrants through low-cost processing of remittances. However, such benefits are hinged on justice and home affairs cooperation (especially in the area of privacy), service liberalisation, cybersecurity standards, review of fiscal policy, and a multitude of other policy areas.

APEC and its Cross-Border Privacy Rules (CBPR) have guidelines for privacy legislation and international transfers on how member governments can implement their laws on a strictly opt-in basis (APEC, 2015). The countries opting into the system de facto recognise each other as essentially equivalent, while private entities from other areas can obtain a certification of compliance under which they may transfer data. By July 2018, only the US, Japan, the Republic of Korea, and Singapore had opted to recognise CBPR certification. It is possible for a similar normative guideline and model law system to be supplemented by a certification system within the ASEAN framework, or for ASEAN members to incorporate the CBPR outright.

On cross-border data flows, the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) binds Singapore, Viet Nam, and Malaysia. It updates existing WTO rules by protecting data flows, and considering data localisation measures as barriers. The parties shall allow for 'cross-border transfer of information by electronic means'.²² The CPTPP bans

²¹ Cabinet Office of the Government of Japan, Society 5.0, accessed at: http://www8.cao.go.jp/cstp/english/society5_0/index.html

²² CPTPP Article 14.11.

its parties from imposing data localisation requirements that 'require a covered person to use or locate computing facilities in that Party's territory'.²³

This pair of provisions exempt domestic regulations that serve a *legitimate public policy objective*, given that the restrictions pass a two-tier test through *legitimacy* (no 'arbitrary or unjustifiable discrimination', or 'disguised restriction')²⁴ and *proportionality* (not 'greater than are required to achieve the objective').²⁵ The US–Mexico–Canada Agreement removes the exceptions for legitimate policy objections for data localisation: there may be legitimate reasons to limit data flowing in and out of a country (including privacy protection), but no justifications to force businesses to use local ICT infrastructure to conduct business in a country.

The region has competing frameworks, e.g. APEC CBPR and trade disciplines under the CPTPP. In the absence of its own certification framework for privacy and data flows within ASEAN (e.g. in the 2018 E-Commerce Agreement or the 2025 Work Programme), an AMS may instead adopt unilateral policies (similar to the EU's or China's on data privacy, or the EU's on international taxation), forfeiting a digital ASEAN single market.

8. Engender deeper connectivity and efficient logistics

Seamless ASEAN absolutely demands efficient logistics and deeper physical and institutional connectivity within and amongst AMS. On land connectivity, the results of logistics flow studies in ASEAN indicate that the costs and time for border-crossing for trucks in ASEAN are very substantial; **Figure 10** provides an indication of the cost although the data is somewhat dated. A connected ASEAN also requires very good air connectivity because ASEAN is a region that is geographically spread with

²³ CPTPP Article 14.13.

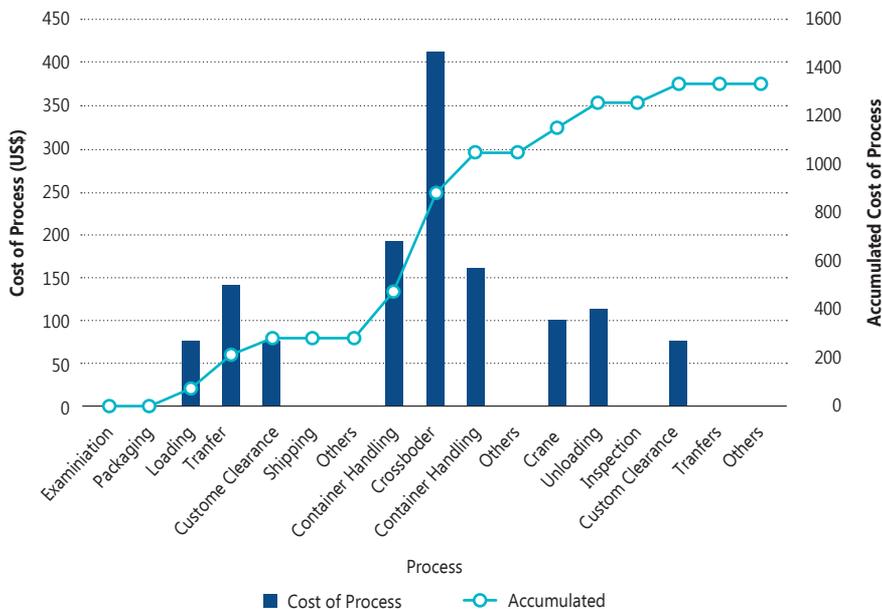
²⁴ CPTPP Article 14.11 para (a), which paraphrases the WTO two-tier test under General Agreement on Trade in Services, article 14, and General Agreement on Tariffs and Trade, article 21.

²⁵ Ibid.

a continental ASEAN and thousands of islands in maritime ASEAN. With two of the world’s largest archipelagos, ASEAN clearly requires also an integrated, efficient, competitive and safe maritime transport system in order to have a truly connected ASEAN. In short, ASEAN faces formidable challenges to be truly connected.

Figure 11 suggests that the bulk of land transportation costs is at the border. While that includes formal customs processes, a substantial proportion is related to container handling at both sides of the border. This is where the implementation of the AFAFGIT and AFAFIST and AFAMT protocols become very important in order to achieve a more seamless transport and goods flow across the borders in continental ASEAN (and Borneo). What will make this even more seamless is the operationalisation of the ASEAN Customs Transit System (ACTS) which has been piloted in the Singapore–Malaysia-Corridor. Thus, apart from ensuring good roads and wider bays at the border (queues can sometimes be long), it is the implementation of the ASEAN transport facilitation agreements and ACTS that will ensure seamless connectivity by land in ASEAN.

Figure 11. Cost of Cross-border Transportation by Trucks



Source: JETRO, ASEAN Logistic Network Map (2008) as reprinted in P. Intal et al. (2014).

Like in land transport, ASEAN has signed agreements designed to facilitate air connectivity within the region; i.e. Multilateral Agreement on Air Services (MAAS), Multilateral Agreement for Full Liberalization of Passenger Air Services (MAFLPAS), and Multilateral Agreement for Full Liberalization of Air Freight Services (MAFLAFS). They are in effect meant to create an open skies regime in ASEAN. They are in force, albeit in an ASEAN minus X approach. Nonetheless, the explosion in budget travel and budget air services in the region shows the overall success wherein the policy reforms coincided with the sharp rise in demand for tourism and business travel in the region. The success in air travel in terms of passenger volume and frequency of flights has led to the emergence of an increasingly binding constraint; i.e. sheer inadequacy in the capacity of airports especially the main airport in the Philippines and the secondary major airports of Indonesia, the two countries that are most in need of efficient air connectivity because their major economic and tourism centres are all geographically spread over many islands. Most member states are now in the thick of airport expansions as well as the expansion of the number of night rated airports which help in decongesting the hub airports during the peak hours of the day. The other constraint arising from the sharp rise in air travel in the region is the adequacy of air control and flight safety infrastructure and competent personnel.

Moving towards 2040, beside the needed investments in facilities and competent personnel, the most important issue relates to 'seventh freedom' which would allow an airline of country A to fly from country B to country C without stopping by country A (Zen et al., 2018). This would allow greater connectivity and competition especially involving secondary and tertiary airports in the region. Seventh freedom is a way of easing up on cabotage restrictions but more importantly it can be a good way of addressing the expected further surge in air travel and tourism especially outside of the capital cities of the region. In the interim to 2040, seventh freedom can be 'sandboxed' or implemented in selected sub-regions like BIMP-EAGA. The seventh freedom if found beneficial after the regulatory sandbox could pave the way to a true single aviation market in ASEAN.

Much of international trade is via the sea, and deeper integration in the region would entail greater maritime connectivity especially involving the archipelagic countries in ASEAN. ASEAN has a roadmap towards

an integrated and competitive maritime transport in the region. The key elements involve capacity and efficiency improvements in the designated ports, establishment of efficient and reliable maritime routes, enhancement of search and rescue operations and improvement in human resources in the maritime industry. The key elements necessarily involve continuing efforts, including the improvements and expansions in ports in many member states such as Indonesia, Singapore, Malaysia, Philippines, and Myanmar, in line with the rising volume of trade. Liner connectivity of ASEAN countries is more geared with countries outside ASEAN than within ASEAN, a reflection of the fact that much of foreign trade of AMS is with non-ASEAN countries.

The major challenge of maritime connectivity in ASEAN involves more maritime connectivity with the hinterland, especially for Indonesia and the Philippines. There is the oft repeated lament that domestic shipping costs within Indonesia or the Philippines is significantly higher than international shipping costs between the two countries' main ports and the main ports in other ASEAN or neighbouring non-ASEAN countries. This potentially has an adverse impact on inequality in the two countries especially because as trade facilitation improves much more in the main port, producers in the hinterland would be at a disadvantage compared to exporters from other countries with respect to the access to the main domestic market which is usually the capital market or region which is where the main port is located. Thus, Indonesia and the Philippines would need to focus much more on markedly improving the domestic shipping sector. This would involve improvements in the ports in the hinterland, easing up on cabotage restrictions to strengthen competition pressures in the shipping market, improvements in the efficiency of port management through greater competition within and across ports and their operators, and addressing the unbalanced flows of goods that effectively taxes the producers in the hinterland due to the imposition of fees for the empty containers from the hinterland.

Logistics and trade facilitation are highly uneven in ASEAN, with one of the world's best in Singapore and a few AMS trailing far behind. Implementation of the seamless trade facilitation plus measures discussed earlier in the Report would go a long way in reducing the gap amongst the member states and make all of them move closer to the world's best

practices or trade facilitation regimes, together with the improvements in facilities and infrastructure such as ports. An important complementary measure is the liberalisation of the logistics services sector to engender greater competition and efficiency in the operations of the logistics providers, especially the domestic logistics providers.

The new technological revolution, the increasing power of data analytics, and social media can be harnessed to improve the operations and efficiency of shipping lines (e.g. more efficient and responsive routing, better tracking and safety of cargoes, etc.) and encourage more maritime based tourism especially between islands of neighbouring countries. Finally, the congestion in the Straits of Malacca can be expected to get worse as the trade volume between East Asia and the fast-growing India, Middle East, and East Africa surges in the future. Thus, there is a need to consider developing an alternative route through the Indian Ocean, Indonesia, and thence the BIMP–EAGA area onwards to Northeast Asia (Zen et al., 2019).

Action Points. From the discussion above, key action points moving forward to have seamless transportation and logistics towards 2040 include the following:

- Implement fully the ASEAN transport facilitation agreements.
- Implement fully the ASEAN Customs Transit System.
- Implement fully ASEAN agreements in air transport in all AMS.
- Agree on and implement 7th Freedom in ASEAN.
- Ease cabotage restrictions in maritime transport.
- Liberalise further logistics service sector to foreign equity and competition.
- Continue investing in port and airport and logistics infrastructures, and also in human resource development.

9. Facilitate capital market deepening and prudential management of financial integration²⁶

The 1997–1998 East Asian financial crisis and the Great Recession a decade ago illustrate that serious macroeconomic imbalance and poor regulatory oversight of the financial sector can wreak havoc on the economy. Yet an efficient and stable financial system is a central enabling condition for the investments needed to be mobilised for the ASEAN economic transformation, innovation, and productivity growth into 2040.

The challenge for ASEAN is to develop an effective, efficient, and stable financial system at the same time that there is deepening financial integration with macroeconomic stability. This means that the system offers a variety of financial products that allow hedging across a variety of risks through diversification and pooling of assets and hedging instruments. It also means an efficient intermediation between savers and investors requiring greater competition in the system and robust oversight of the financial sector. It also implies prudent macroeconomic management as well as the holding of adequate national, regional, and international buffers and buffer arrangements against shocks to the financial system and the macro-economy.

Complete, efficient, and stable financial development in ASEAN would call for greater autonomy, accountability, and access across financial firms and their users. Autonomy can be enhanced through the promotion of greater competition in the financial sector induced in large part by liberalisation of the sector to foreign equity and openness to foreign competition, digitalisation of finance (fintech), and more extensive and intensive use of technologies and data to minimise the problem of asymmetric information that has tempered MSMEs access to formal financial sector.

²⁶ This subsection draws heavily on Hanna et al. (2019).

Accountability can be enhanced by reducing government ownership of financial institutions with its implicit guarantee on deposits. Greater privatisation would encourage stronger monitoring by the large depositors and private owners of the credit portfolios of the banks. Accountability is also enhanced by establishing a legal framework for contract resolution that combines fairness with speed and low cost.

Accessibility can be enhanced significantly with the prudent adoption of the new technologies embodied in fintech. There have been benefits already from the new technologies in terms of low cost of, and greater access through, mobile payments. Consumer and mobile customer data is increasingly being used for credit risk analysis, and not only financial capital of the borrowers. Capturing further the benefits from fintech would require the rollout of 5G mobile networks to enable better data capture and analytics which are critical for robust credit analysis, strengthening data security without hurting robust data availability, and clearer rules on ownership and use of data drawn from the mobile services. There is also a need to refine the regulatory regime to balance the concerns of existing financial institutions facing disruptions and the new fintech services. Such balancing is important in light of the critical functions of the existing financial institutions for the overall economy and society, and the financial inclusion impact of fintech that is most relevant for MSMEs and people empowerment.

The measured approach to managing the new financial technologies unleashed by the new technologies in digital revolution is also evident in the financial integration approach of ASEAN primarily under ASEAN's banking integration framework. The framework provides equal access, equal treatment, and an equal environment for Qualified ASEAN Banks (QABs) similar to domestic banks. In addition, the framework includes regional cooperation in prudential management of the banking sector in view of the diversity of AMS in terms of level of development, regulatory infrastructure, and human resource capacity. Financial integration is not only deliberately measured in approach but also faces other constraints including limitations in the use of local currencies and restrictions on overseas borrowing and lending denominated in local currencies, aggravated by the differing currency regimes amongst the member states.

The measured and cautious approach to financial integration, while tempering the benefits to the member states from international financial intermediation and pooling of resources, is borne from the 1997–1998 East Asian financial crisis. That crisis caused AMS and their East Asia dialogue partners (China, Japan, and Republic of Korea) to markedly improve their buffers against future shocks through the Chiang Mai Initiative (CMI, later called CMIM with its multilateralisation), heavy emphasis at markedly raising the international reserves of AMS, expansion of bilateral swaps amongst the central banks, and the institution of the macroeconomic and financial monitoring institution called ASEAN + 3 Macroeconomic Research Office (AMRO). The CMIM together with the network of bilateral swaps are at the centre of East Asia’s financial safety net. In view of the external risks the region faces, enhancing the CMIM and strengthening the monitoring and policy advice roles of AMRO are important moving towards 2040.

Thus, in summary:

- Greater autonomy, accountability, and access across financial firms and users are needed to foster complete, efficient, and stable financial development.
- Engender financial inclusion through prudential adoption of fintech with key enabling government steps.
- Implement the QAB approach more fully in the region.
- Strengthen financial resilience through CMIM, robust forex reserves, bilateral swaps, macroeconomic surveillance together with AMRO frequent dialogue, plus adoption of Basel standards to improve the management of individual banks in the region.

Good Regulatory Practice

The drive towards a Seamless ASEAN is best underpinned by the promotion of the principles of good governance, transparency, and responsive regulatory regime, well expressed in the AEC Blueprint 2025. As indicated above, the ERIA survey results suggest that ASEAN peoples aspire to a region of good governance given that their primary pressing concern is corruption in the region. World Bank governance perception

indicators show a huge gap amongst AMS on the regulatory quality, government effectiveness, control of corruption, extent of stakeholder engagement, and transparency amongst AMS.

The AEC Blueprint 2025 points to the ASEAN commitment to furthering good regulatory practice in the region, which itself contributes to the effective implementation of AEC measures. At the same time, the implementation of many AEC measures will improve governance in the region. There is thus significant symbiosis between the drive towards a Seamless ASEAN and the furthering of good governance in the region. ASEAN has agreed on the ASEAN Guiding Principles on new non-tariff measures (NTMs) which are the distillation of good regulatory practice principles. ASEAN has also agreed on the ASEAN Core Good Regulatory Practice (GRP) Principles. The ASEAN High Level Task Force on Economic Integration has recently mandated the ASEAN Secretariat and ERIA to undertake a baseline study on the regulatory management systems (RMS) in each member state. Moving towards 2040, the current ASEAN initiatives are stepping stones towards the institutionalisation of Good Regulatory Practice (GRP) and good Regulatory Management System (RMS) complemented by International Regulatory Cooperation (IRC) within ASEAN. The institutionalisation of GRP and good RMS begins at the national level because they need to be adapted to the individual circumstances of each member. An **ASEAN Policy Review and Analysis Mechanism** that undertakes reviews and assesses the impact of policies that impact on policy efficiency and performance across member states is recommended to enhance the momentum and credibility of ASEAN economic and regulatory reform.

The experience of East Asian countries in the development of their regulatory management systems (RMS) suggest that the following are important factors in establishing well performing good RMS (Intal and Gill, 2016):

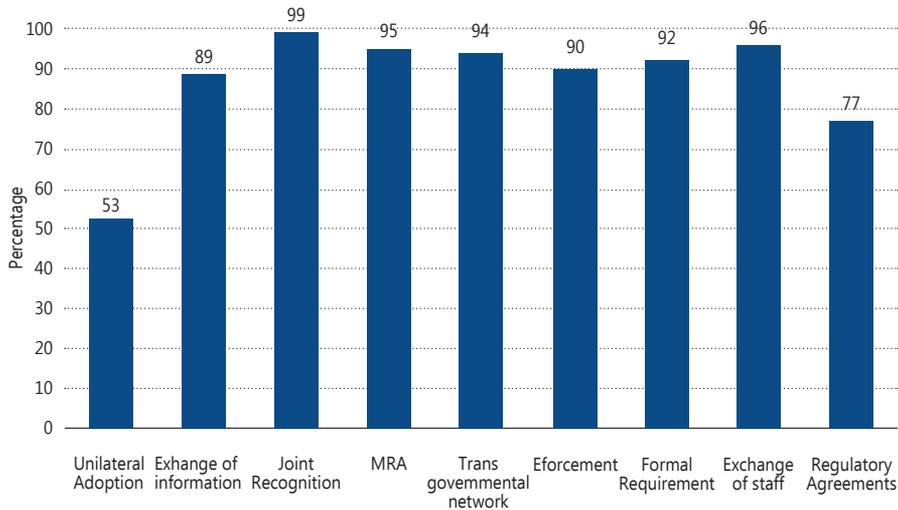
- Strong and continuing political commitment from the top leadership. The experiences of Malaysia, the Republic of Korea, and Viet Nam illustrate perfectly the importance of the highest leader of the country driving the reform process towards the establishment of a good regulatory management system.
- Importance of a lead institution driving accountability for regulatory quality, as shown quite well by the experiences of Australia and New Zealand, and to some extent Malaysia.
- Importance of the use of international benchmarks and measurement, and thereby set national targets. Malaysia and especially Viet Nam have made this a key element in driving their major regulatory improvement programmes, e.g. Resolution 19 for Viet Nam and Malaysia's PEMUDAH task force to modernise business regulations have intensively used the World Bank Ease of Doing Business indicators. Related to this is a mindset of a keen sense of market and international competition, which largely characterises the ethos of Singapore's regulatory institutions and system.
- Good RMS embeds Good Regulatory Practice (GRP) principles and mindset, together with the use of regulatory instruments like regulatory impact analysis (RIA) and reducing unnecessary regulatory burden (RURB). This is central to a well performing good RMS.
- Jumpstarting GRP and the drive towards good RMS through regulatory guillotine, simplification of administrative procedures, or modernisation of business regulations. In all of them, they are similar to 'low hanging fruits' which engender greater buy-in from the public and the stakeholders because they clearly address concerns of the public or the business sector. The Republic of Korea provides a good example of regulatory guillotine (as a key government initiative in response to the 1997–1998 East Asian financial crisis) which jumpstarted the development of its RMS throughout the 2000s and 2010s over succeeding administrations. Singapore also started its major regulatory overhaul with a regulatory guillotine. Viet Nam used the simplification and guillotine of administrative procedures to jumpstart its road to the institutionalisation of GRP (Project 30). Malaysia's PEMUDAH is a continuing review, revision, and elimination of unnecessary or redundant laws and processes. Thailand is now in

the process of mapping and reviewing (undertaken with Thailand Development Research Institute and faculty from Chulalongkorn University) its laws and regulations for a regulatory guillotine.

- The importance of an institution that is credible to all the parties concerned, technically competent, and relatively unbiased and independent. The role of such an institution is for consensus building, review, and possibly also training. The Malaysia Productivity Corporation (MPC) is one example. The Central Institute of Economic Management (CIEM) of Viet Nam provides analytical support and review. The Australian Productivity Commission is probably the best known and respected in the East Asia region, providing incisive analysis and review. This kind of institution becomes more important when there is a need to tackle issues of policy trade-offs and competing bureaucratic perspectives, which is expectedly more acute in large economies such as Malaysia and Viet Nam as compared to small and open economies like Singapore.

At the regional level, ASEAN would need to strengthen IRC within the region in part to address regulatory divergences across member states and thereby engender seamless trade flows and more competitive supply and value chains; improve the investment environment; and achieve deeper economic integration in the region. The results of an ERIA survey on IRC in ASEAN indicates that most ASEAN officials have a favourable view of international regulatory cooperation: they consider IRC as engendering transparency and predictability as well as trust and mutual understanding amongst regulators within the region, as it facilitates exports and reduces regulatory divergences amongst member states. The officials are supportive of undertaking a wide range of IRC initiatives in ASEAN, especially exchange of information, joint recognition of standards, exchange of staff, mutual recognition arrangements (MRAs), and trans-governmental networks of regulators (**Figure 12**).

Figure 12. AMS Officials' Willingness on International Regulatory Cooperation



Source: P. Intal (2018).

VIII. People empowerment, people engagement, and ASEAN belonging and identity

ASEAN Summit statements in the past decade have invariably covered initiatives for a people-oriented ASEAN or people-centred ASEAN or both. This reflects the commitment of ASEAN Leaders to bring the people dimension into the regional community building agenda. As former Pres. Ramos emphasised, the people of ASEAN need to see ASEAN as a pervading beneficial influence on their lives for them to embrace it as their Community. In addition, they need to view ASEAN's vision as their own; this means that they have a voice in the making of ASEAN. Thus, people empowerment and people engagement are critical to engendering the sense of ASEAN belonging and building the ASEAN community of the ASEAN Community.

Inclusive ASEAN: inclusive growth, people empowerment, and leave no one behind

People empowerment is about giving people the opportunity and the capability to improve their living standards. Inclusive growth enables more people, if not all people, to improve their lives. Central to people empowerment is enhancing people's capacity to cope and advance in the fast changing economic and technological environments they are in. 'Leave no one behind' provides the complementary principle that supports and protects the more vulnerable in society. Thus, the pursuit of inclusive growth, the centrality of people empowerment, and embedding the 'leave no one behind' principle provide the critical anchors of an inclusive ASEAN society.

Inclusive growth. The pursuit of inclusivity and social equity in an open economy and of regional integration involves eliminating absolute poverty and reducing social inequality. Inclusivity is best achieved through long-term robust economic growth that eliminates absolute poverty. As shown earlier in this Integrative Report, ASEAN Member States have been stellar in growth performance during different periods over the past several decades, which has resulted in a sharp reduction (and in a few AMS, elimination) in the incidence of abject poverty. Investment is a key growth driver, and many regional integration initiatives in ASEAN (e.g. trade facilitation, connectivity, good regulatory practice) make investing in ASEAN more attractive. In this sense, regional integration supports inclusivity.

Counterintuitively, the pursuit of inclusive growth and integration in the face of the digital revolution and Industry 4.0 calls for deeper integration. This is because a way to counteract disruption of employment by technology is by ensuring robust economic growth that will increase demand for labour even in traditional labour-intensive industries such as construction. Deeper integration – and the policy and institutional changes and reforms in AMS needed to effect it – can be expected to make investing in AMS and the region more attractive, thereby leading to robust-to-high economic growth. Thus, for example, success in adapting to Industry 4.0 and the digital revolution entails greater mobility of

services and labour regionally and internationally – two key elements in the regional integration agenda outlined in the AEC Blueprint.

Making growth and integration inclusive, however, is much more than reducing and eliminating poverty. Widening inequality tends to feed disaffection about globalisation and economic openness. Stagnant incomes and widening inequality appear to have provided the animus that led to calls for protectionism in the US. The digital revolution and Industry 4.0, if not adapted to well, could harm many in the region because they make some skills and jobs redundant, require more skills, and significantly disrupt labour markets. Appropriate policies and structural reforms are needed to reduce social inequality. Sharpening further the inclusivity of economic growth and integration would add to a further reduction of the poor and a further rise of the middle class in the member states.

The pursuit of inclusive growth in ASEAN moving into 2040 would entail an increase in agricultural (including fishery) productivity and farmers' incomes, enhancing the link of the peripheral areas to the growth centres, expansion in remunerative employment, and perhaps most importantly, growing micro, small, and medium-sized enterprises (MSMEs) in the face of the digital and fourth industrialisation and stiffer competition in an increasingly integrating wider region in East Asia.

The agricultural sector (crops, livestock, fisheries) remains an important sector in terms of output and employment in many ASEAN Member States. Raising substantially the productivity in the agricultural sector while at the same time opening up to foreign competition in an integrating ASEAN raises agricultural growth, raises farmers' incomes, expands exports, allows the migration of workers from the agricultural sector to other sectors of the economy, and raises the overall welfare of the country (Intal et al., 2011; Warr, 2011). The digital and fourth industrial revolutions provide opportunities to modernise agriculture and improve productivity. For example, a new app developed by Thai scientists, engineers, and entrepreneurs enable Thai corn farmers to decide on the appropriate time (day) to plant based on the forecast weather pattern over a number of weeks and months; the result has been higher yield

and incomes for farmers.²⁷ A number of the needed actions are more prosaic; i.e. investment in irrigation and roads for better connectivity with the market and growth centres, expansion in commercial production in countries like Lao PDR and Myanmar, and investment in agricultural research and development. The improvement in agricultural productivity also entails improvement in the efficiency of agricultural support services and industries, including domestic logistics and cold chain (for fishery and vegetables), food processing, and domestic shipping (for archipelagic ASEAN). It also demands improved government support services such as elimination of informal taxation along the way from the farm to the market or the port (still a problem in at least one AMS) and much improved laboratory testing and certification services near the key production areas.

The growth of MSMEs is a major channel of inclusiveness and robust growth as MSMEs account for more than 90% of all establishments and more than half of total employment in many member states. The digital revolution is significantly changing the ecosystem for MSMEs in the region. Specifically, the digital revolution addresses the two most critical bottlenecks to MSME growth – access to markets and access to finance. E-commerce, together with the support services provided by the e-commerce platformers to MSMEs, enable MSMEs to expand their market reach to a bigger area within a city (e.g. Go Food serviced through Go-Jek in Jakarta), to the whole country or to the world (e.g. many start-ups in the developing world have foreign customers from the start). Similarly, digitisation and mobile payments allow innovative approaches in developing credit information and risk analysis and thereby provide fintech solutions to MSMEs.

Digitisation, e-commerce, and financial inclusion are the key way forward to upgrade, modernise, and grow the MSMEs in the region. Thus, AMS would need to develop robust policy environments for the effective use of the digital revolution, e-commerce, and fintech for MSMEs. In addition, the 'last mile' in e-commerce – bringing the goods to the customer –

²⁷ This case was presented by Mr Aukrit Unahalekhaka, co-founder and CEO of Social Enterprise Ricult (Thailand) , during the public round table on the ASEAN Vision 2040, held in Chulalongkorn University, Bangkok on 16 December 2018.

still requires efficient logistics, seamless trade facilitation, etc., which are the focus of the measures in the section under Seamless ASEAN. Thus, the Seamless ASEAN measures contribute to inclusive growth and integration, especially where the measures are implemented with a special consideration of the needs of the MSMEs; e.g. special MSME support desks or programmes to help MSMEs understand rules and regulations on import or export.

People empowerment and remunerative employment. Good health, good education, and life-long skills development are at the heart of people empowerment and remunerative employment. Despite significant improvements in health outcomes in ASEAN as based on the millennium development goals, much remains to be done. Perhaps of particular worry is the percentage of under-5 year olds who are stunted as they are the cohort of children who will be the key cohort in the region by 2040. The percentage of stunted children below 5 years of age ranges from less than 4% in Singapore to 10% in Thailand, around 20% in Brunei Darussalam and Malaysia, to the 30s in Cambodia, Indonesia, and the Philippines, and rising to 44% in Lao PDR. Given that malnutrition in childhood has adverse effect on learning capabilities in the future, such considerable percentages of stunted children would temper the human capital potential of the region's labour force by 2040 at the time when the new industrial revolution is expected to demand more skilled workers and can make unskilled workers redundant.

In addition to childhood malnutrition, the ASEAN Member States would need to develop universal health care systems by 2040 to provide basic health care for all. There are significant challenges in ensuring universal health care, including fiscal capability, inadequacy of health facilities, lack of competent health personnel, and uneven distribution in health personnel and facilities in favour of urban areas. Given such constraints, and the long time to build up competent personnel and large investments in health facilities needed, a gradual process of building up the system towards 2040 is what is feasible. The Thailand universal health care system is considered to be one of the more successful cases, with uncovered citizens at around 0.12% only, which is remarkable given the size of the population. Although there has been criticism of its duplicative administration and management (as the system consists of three separate

schemes and each has distinct clientele, it is a possible approach to consider for adaptation by other AMS that still do not have universal health care (see Intal et al., 2015).²⁸

Given that human capital is the most important asset of the poor, education and opportunity for skills development are the key interventions for people empowerment enhancing their employability and human capability in the face of the changing skill requirements of the new technological revolution. For a number of AMS, improving the education outcomes starts with addressing the considerable attrition rates at the elementary (primary) and secondary levels. The attrition or dropout rates are worrying because the people with only very few years of education would be at a disadvantage in the more skill-intensive new technological revolution. As the dropouts tend to be poor, the result is more entrenched disadvantage hurting their chances for upward social mobility. In addition to addressing the dropout rates, the quality of education needs to be strengthened especially in Science, Technology, Engineering, and Mathematics (STEM). The Pisa results indicate that excluding Singapore and Viet Nam, AMS would need to focus more on quality of basic education, which includes investment in facilities and improvement of the quality of teachers.

The fast and disruptive changes to be wrought by the digital transformation and fourth industrial revolution would call for ASEAN Member States to institute mechanisms and institutions that provide workers opportunities to develop their skills and skill up consistent with the demands of new technologies and the market. ASEAN Member States may consider emulating the lifelong learning concept as practiced in Singapore. This policy could also help to increase labour productivity, reduce the incidence of vulnerable employment and informal employment, and support remunerative employment. An education and training system should also be designed to prepare the work force for industrial upgrading and entering high productivity economic sectors. The following can be considered towards the institutionalisation of

²⁸ This paragraph is based on Intal et al., eds. (2015), *Framing the ASEAN Socio-Cultural Community Post 2015*. Jakarta: ERIA.

lifelong skills development and investing in workers and firms as learning centres for industrial upgrading (Lim, 2015).²⁹

- a. AMS need to develop a Continuing Education and Training (CET) Master Plan. The CET infrastructures need to be enhanced and connected to pre-employment education institutions. As part of the master plan, the government and firms could set up: (a) Adult Education Network to provide a pool of CET practitioners; (b) Industry-Based Training, whereby the company training centres which meet the specific requirements can apply to be Approved Training Centers (ATC) authorised to provide training to workers in the industry. These companies can have access to a publicly funded Skills Development Fund (SDF) and Workforce Development Fund (WDF); (c) Customized Skills Training provided by an institution such as Institute of Technical Education; (d) Certified On-the-Job-Training (OJT) Training Centre (COJTC) Scheme to encourage and upgrade the quality of OJT; and (e) National Trade Certification and public trade tests.
- b. Develop and improve the quality of the vocational and technical training system as part of the national education system.
- c. The government should also commit resources for the workers, for instance through the Skills Development Fund (SDF) model in Singapore. Employers have to pay for the fund which then could be used as grants for companies that send their workers for training.
- d. Promote SMEs as learning and training centres for growth and industrial upgrading through: (a) Facilitating networking and clustering of learning and training amongst SMEs, especially amongst SMEs that are located in certain geographical areas and share the same product categories; (b) Fostering collaboration between large firms and small firms as suppliers (sub-contractors), especially when embedding the small firms into the production network; (c) Establishing partnerships between government and firms to provide training, for example through tax benefits, subsidised training, and public investment in the human and physical resources of the business community.

²⁹ This paragraph and succeeding list is taken from Intal et al. (2015).

- e. In the regional context, AMS could set up an ASEAN Academy or a network of regional academies to promote workers' skills training and upgrading; and an ASEAN Labor Exchange initiative for skills training.

Harnessing the new technologies will strengthen the connection between inclusiveness strategies and the robustness of economic growth. Online training programmes through EdTEch raise workers skills which help them adapt to the rising skills demands of the new technologies and thereby prevent structural unemployment and ensure AMS benefit from the digital transformation and fourth industrial revolution. Improved connectivity between the peripheries and growth centres facilitates the growth of production networks and expands the consumer markets in the region. Raising productivity and improving access to markets and financing of MSMEs through innovative applications of new technologies are key means of ensuring robust growth in the region.

It must be emphasised that setting up a system of remunerative employment remains a big challenge in a number of ASEAN Member States. The proportion of workers in vulnerable employment (i.e. own-account workers and contributing family workers) in 2016 was about 80% in Lao PDR and about 60% or more in Myanmar, Cambodia, Indonesia, and Viet Nam (UNESCAP, 2016). Vulnerable employment is often associated with inadequate earnings, low productivity, and hazardous working conditions. While the high percentages may also reflect robust family-based entrepreneurship in these countries, perhaps best exemplified by informal sidewalk restaurants and night markets in tourist heavy areas, they nonetheless bring out the challenge to the government of providing basic support services like health services to all citizens regardless of work status. In the light of the new technological revolution, the high rates also present the challenge to the government of providing the opportunities for skills upgrading to all through mechanisms and institutions for life-long skills development discussed above.

Leave no one behind. Embedding the 'leave no one behind' principle is central to the drive for Inclusive ASEAN. The principle calls for all people to have sufficient access to the resources needed to generate an income, make a contribution to society, and live with dignity. An inclusive ASEAN

Community is very much in the ASEAN community Vision 2025. The AMS have also adopted the Complementarities Initiative which is a collective effort to promote an ASEAN Community that is inclusive, people-centred, and leaves no one behind while assisting AMS to achieve their international commitments to attaining the UN Sustainable Development Goals (SDGs).

The implementation of the 'leave no one behind' principle includes all people having equal access to basic services like (basic) education, (basic) healthcare, and basic social infrastructure like access to clean water, sanitation, and electricity. Thus, for example, the percentage of population with access to improved drinking water is less than 80% in Cambodia, Lao PDR, and Myanmar in 2015; in the case of Cambodia, much of the inadequacy is in the rural areas because there is almost complete coverage in the urban areas. Access to electricity was even lower at less than 50% in Cambodia and Myanmar in 2014, with Cambodia showing the largest gap between rural and urban areas. It is worth noting that Viet Nam performs very well in these social infrastructure indicators, with nearly complete coverage of the whole population. (See UNESCAP, 2017.) Arguably, this is one facilitating factor behind the robust and equitable growth performance of Viet Nam over the past 3 decades.

The inequality in attendance rates in secondary education between rural and urban and between the poorest and the richest households is also an indication of the challenges towards the 'leave no one behind' principle in ASEAN. Malaysia and Viet Nam have at least about 90% attendance rates, with the attendance rates of the richest almost 100% and those of the poorest at about 80% and 75%, respectively. On the other hand, the overall attendance rate is less than 50% in Cambodia and Lao PDR, with the attendance rates of the poorest households at only about 10% and 20%, respectively, and those of the richest at 70% and more than 80%, respectively. The attendance gap is also huge in the Philippines, with an attendance rate of about 33% for the poorest households and about 80% amongst the richest households. (See UNESCAP, 2017.) With income inequality in the Philippines and Lao PDR amongst the highest in ASEAN, the huge difference in the attendance rates at secondary schools between the poorest and the richest households can potentially perpetuate

the inequality over time in light of the increasingly skill intensive technological revolution.

The discussion above suggests that much remains to be done to achieve equitable access to such basic social services and investments as basic education, social infrastructure, and health in some of the member states. Basic education, basic health, and basic social infrastructure can be seen as foundations of an inclusive society. It is clear that addressing the large disparities within the societies in some AMS is a top priority for the countries moving towards 2040. The greater success of Viet Nam in providing the basic services despite fiscal constraints, which have likely contributed to a more equitable economic growth than in most AMS, is worth emulating by some AMS.

The 'leave no one behind' principle is well expressed in terms of the need for adequate social assistance and protection for the more vulnerable populations like children, persons with disabilities, undocumented persons, people living in remote places, indigenous people, and the elderly. This also entails consideration of social insurance, regulatory regimes for migrant workers, emergency assistance during disasters, and (pension) support for the elderly.

The challenge for member states is considerable. If data for Cambodia and Viet Nam are any indication, the unemployment rates amongst persons with disabilities is at least three times higher than that for the whole population. The proportion of people aged 65 years and older relative to the people between 15–64 years of age (i.e. old age dependency ratio) is expected to rise significantly in a number of member states – Brunei Darussalam would see the fastest increase in the ratio from 6% in 2015 to 39% in 2050. Singapore (at more than 60%) and Thailand (at more than 50%) join Japan and the Republic of Korea with the highest old age dependency ratios in Asia by 2050. (See UNESCAP, 2017.) Countries with large remote areas or many islands such as Indonesia, Myanmar, and the Philippines face problems of economies of scale, and poor and costly connectivity which lead to lower welfare and income security than those in the more densely populated areas and economic centres.

The gender gap in ASEAN may not be serious as compared to other regions in Asia; e.g. South Asia. In fact, six ASEAN countries rank very high globally in the Economic Participation and Opportunity Sub-index in the 2017 World Economic Forum (WEF) Global Gender Gap Index. Lao PDR ranks highest (22nd), followed by Thailand (24th), the Philippines (25th), Myanmar (26th), Singapore (27th), Viet Nam (33rd), and middle-ranked Cambodia (56th) and Brunei (61st), with Malaysia and Indonesia at the rear of ASEAN. Nonetheless, ASEAN has yet to unlock much more the potentials of women in ASEAN. For example, girls have lower expectations of securing a career in STEM in some ASEAN countries where such a survey was undertaken. ASEAN women are still constrained in terms of access to leadership positions in the private sector, wage parity, and in balancing work and family responsibilities. Women own between one third to two thirds of SMEs in Cambodia, Indonesia, the Philippines, and Viet Nam but access to finance is very limited at just 3%–21%. Giving women equal opportunities in the work place and in entrepreneurship could provide a more solid foundation for robust growth in the region. (See EY, 2018.)

With Singapore, Thailand, Viet Nam, and Brunei becoming considerably aged by 2040, the issue of social protection of the elderly looms increasingly large as an important policy and societal concern in a number of AMS. The challenge is how to have programmes that are fiscally viable in the longer term and yet provide an adequate level of benefits to all. Inevitably, financing of social protection may involve voluntary financing using the pension system which tends to cover only the formal sector and a tax financed component of social assistance (or social pension) for the poor elderly. Improving the efficiency of the management of the pension systems or more broadly the social security systems and more effective targeting of the beneficiaries of social assistance or social pensions are key means of reducing the financial and fiscal burden of the social protection systems for the elderly.

A related but very important issue in an increasingly elderly society is healthcare for the elderly. Generally, older people have more ailments which require the elderly, their families and relatives, communities and societies to cover the cost of medical treatment or care provision. If the public support system is not well established, more elderly people are

financially disadvantaged. One way of reducing the burden of population ageing is the promotion of active ageing so much so that more of the elderly can continue to participate in social activities. Nonetheless, there will be a considerable percentage of the elderly who need long-term care, based on the experience of China, Japan, and the Republic of Korea. ASEAN Member States may need to study policy options on how to address the financial dimensions of long-term care. Some countries like Germany, Japan, and the Republic of Korea have introduced a compulsory long-term care insurance, where everybody is required to pay premiums. In many AMS, the long-term care of the elderly relies on the services of lower paid domestic help from the poorer areas within the country or neighbouring countries. However, as the labour markets get tighter and wages keep rising in the region in the next 2 decades attendant to the robust growth of the economy, it is worth examining whether a compulsory long-term care insurance may be an appropriate and feasible option to be imposed in the future, and if so, when to impose it.

As a final note, the digital revolution and new technologies offer substantial opportunities to improve the reach and coverage of public services, thereby ensuring that no one is left behind. ICT can be leveraged for the provision of health services, long-distance education, market information and access, and financial inclusion. It can also strengthen public services by improving transparency and reliability, reducing administration costs and time, and improving database systems.

At the action level, the AMS would need to firstly identify the number, location, and status of vulnerable groups, and determine the issues they face. This process must involve civil society and organisations that have been working with such vulnerable groups. Such stock taking will provide governments with a comprehensive map of the situation and provide an analytical basis for policy formulation and decision-making, with the best ways to tackle these issues possibly differing from one country to another.

Action Points. Moving up to 2040, inclusive growth and people empowerment can be pursued through a number of avenues, including:

- Provide support to MSMEs in digitisation and navigating the digital ASEAN so that they grow with greater access to markets, finance, and even technology.
- Give special consideration to MSMEs in the implementation of many AEC measures; e.g. regular MSME training and even an MSME desk on export and import policies, procedures, non-tariff measures, etc. at home and abroad.
- Pursue a programme of agricultural modernisation and productivity improvement through the promotion of the application of new technologies to agriculture, investment in infrastructures, and policy improvements in the related and support industries like logistics, transportation, and food processing industries.
- Improve connectivity of the peripheries with growth centres.
- Invest in institutionalised mechanisms and new technologies for improving human skills, especially human capital from outside AMS capital cities.
- Address malnutrition of children below 5 years of age in AMS as those below 5 at present would be the key cohort of workers by 2040. Without proper nutrition and education now and in the near future they would not be able to reap benefits of the digital age.
- Institute lifelong learning and training for flexible and applicable skilled manpower. With the onset of the digital economy and Industry 4.0, skills and training would quickly become obsolete and unmarketable unless ASEAN workers are provided with lifelong learning and training facilities that are available to all levels of skill categories.
- Provide vocational and technical training to 18–35 year olds, especially in skills related to the fourth industrial revolution.
- Provide universal health care to ensure every citizen is sufficiently protected.

- Use ICT and new technologies to widen coverage and improve the quality of services especially in remote areas.
- Ensure basic education and basic social infrastructure (safe drinking water, sanitation, electricity) as well as robust social assistance for vulnerable groups.
- Examine options for long-term care provision and financing.
- Involve civil society in stocktaking and regular monitoring of the status of vulnerable groups and analysis of the issues they face.

Harnessing new technologies, networks, and people engagement to deepen the sense of ASEAN belonging and identity

The ASEAN Leaders have repeatedly confirmed their resolve to deepen the sense of belonging, connectedness, and ASEAN identity in their Summit statements. In fact, item 8 of the Declaration of ASEAN Concord adopted at the first ASEAN Summit in Bali in February 1976 states that ASEAN Member States shall vigorously develop an awareness of regional identity and exert all efforts to create a strong ASEAN community.

ASEAN has succeeded in developing an ASEAN identity, but primarily as an institutional identity, as reflected in the ASEAN institutions, processes, and initiatives, most prominently the ASEAN Summits and numerous ministerial and senior officials meetings. To a large extent, ownership of ASEAN has been with the governments of the region. It is the ASEAN Leaders who feel the responsibility for maintaining and strengthening the sense of ASEAN identity. There is a deep camaraderie and community that has developed amongst the ASEAN officials over the course of ASEAN meetings.

By 2040, the ownership of ASEAN has to be inclusive and include the people. It is building the communal identity, the 'we feeling', the 'ours feeling' and the 'we are together feeling' that have to be cultivated. There is a special challenge in fostering ASEAN identity amongst the people of ASEAN because the region is one of the world's richest in

terms of cultural, religious, linguistic, and ethnic diversity. That is, growing from ASEAN Community (big C) to an ASEAN community (small c). A 'community' entails the sharing of values, norms, and symbols that give identity or a sense of 'we-ness', with community members coming from a variety of identities, values, and ideas, who have direct relationships with each other in a variety of circumstances, and have a certain degree of reciprocity that expresses long-term interests (Moenir, 2014).

In many ways, the ASEAN Community initiatives are efforts to build the ASEAN community. And in many ways, the ASEAN Community is a facilitated trip to a shared, hybrid, but structured future, aiming to some extent for the return to the borderless communities of former times interacting with one another resulting in people with fluid, multilayered identities. The difference is that the process is structured and facilitated given the realities of nation states. Thus, for example, the full implementation of the varied measures towards free flows of goods and services, investment, and skilled labour logically ends up with a borderless ASEAN and at the same time creates opportunities to build greater direct relationships and long-term interests amongst the people and firms of ASEAN – the critical elements of community building. They also engender greater interconnectedness as a result of intra-ASEAN investment, deepening of supply chain networks within the region, and the greater mobility of people and skills amongst the ASEAN Member States. Similarly, the vast number of regional cooperation initiatives and other initiatives in AEC, APSC, and ASCC build further the shared values, norms, and ideas. They also strengthen long-term interests amongst AMS and their peoples, with the deeper appreciation of shared problems, public space (environment), externalities (e.g. health epidemics, pollution), experiences, and many others, again deepening the sense of community in the region. In short, the success of the ASEAN **Community** must be underpinned by the building of an ASEAN **community**. (See Intal et al., 2015.)

Equally important to the ASEAN Community is the deepening of people's engagement with ASEAN as well as with one another as a key means of building the sense of ASEAN belongingness, community, and identity. The results of the surveys of ERIA and ISEAS suggest that awareness of ASEAN and the sense of common cause and affinity amongst the

people of ASEAN is growing. Nevertheless, both surveys involve the more educated people – university students, government officials, academics, and the like. Outside of the capitals and the more educated parts of the population, ASEAN is barely known. Thus, there is so much more that needs to be done to make ASEAN deeply felt by the people of ASEAN, not only in the capitals but also in the rest of the countries.

Amongst the pathways are the following (Chongkittavorn et al., 2019; Intal et al., 2015):

- Embed ASEAN into the curricula of national educational systems, but less in terms of historical conflicts and colonisation and more in terms of understanding the shared history (including the pre-colonial period), geographic proximity, and shared interests. As Noor (2015) highlighted, a fuller picture of Southeast Asian history goes beyond the rivalries in the pre-modern era and includes the picture of the region as ‘.. a network of inter-related and mutually dependent communities that also worked together’ (p.5). This means that Southeast Asian history was shaped also by the activities of merchants, migrants, settlers, and other non-state actors with the attendant development of trade and mutual exchange. This stronger articulation of the ASEAN history and identity would help create greater communal identity amongst the people of ASEAN.
- Enable greater mobility amongst the region’s youth as they shape the future of the ASEAN community by 2040 – through for example an internship visa free scheme, student scholarships, and student exchanges. Greater interaction amongst the different nationalities of youth in the region certainly builds strong connections and through the sharing of knowledge can spark a robust exchange of ideas that can lead to greater collaboration to grow their countries and ASEAN as a region.
- There is so much that the digital revolution and new technologies can provide to develop a better understanding of ASEAN and instill a communal identity amongst the people of ASEAN. Interactive mobile apps about ASEAN with more engaging content can reach millions of people and help them understand what ASEAN is and does and

more importantly, that it matters to their lives. New technologies like block chain allow for direct peer-to-peer communication between individuals and groups from different AMS and build partnerships. More powerful broadband capabilities would allow for the development of engaging special and general interest ‘virtual galleries’, ‘virtual museums’, etc. by ASEAN governments, the private sector, etc. and allow millions to have a deeper understanding of unique aspects of the member states’ cultures, societies, and economies, as well as shared cultures, values, and beliefs. As digital connectivity becomes more and more widespread, diverse fora for sharing common interests are flourishing in the region.

- The private sector can promote platforms for best practices on issues reflecting concerns and aspirations of ASEAN citizens as well as in the communication and discussions on ASEAN. Three of the key aspirations from ASEAN drawn from the ERIA survey for ASEAN@50 in 2017 are the ease of communication amongst AMS, easy access to goods and services from anywhere in ASEAN, and good physical connectivity via land, air, and water. These aspirations have potential for action through ASEAN-level platforms that involve the private sector (e.g. ABAC, chambers of commerce, individual firms).
- Work with ASEAN Foundation and similar institutions to encourage more and more networks to grow and channel part of their energies towards building the ASEAN regional community, understanding and belonging, and identity. Such networks can lead to cooperation and public–private partnerships in support of ASEAN initiatives such as the ASEAN Heritage Parks system, ASEAN Smart Cities Network, or the ASEAN Mayors Forum.
- The media has a vital role to play in shaping peoples’ perception and feelings about ASEAN and fellow ASEAN people and countries. However, ASEAN media reports on ASEAN’s initiatives on an ad hoc basis. A key means of encouraging the ASEAN media to report on ASEAN events and issues more cohesively, cogently, and informatively is for the ASEAN Secretariat and the Secretary General to adopt an open house policy, similar to the International Monetary Fund, the World Bank, and the Asian Development Bank, so that the media can access materials related to ASEAN more easily.

- A key theme of ASCC is to engage the people. Deeper engagement means that the people have greater opportunities to participate in shaping the ASEAN and corresponding national agendas. Have more working groups composed of the private sector and the civil society linked to the formal ASEAN processes similar to ASEAN Women Entrepreneurs Network (AWEN). Strengthen collaboration with the private sector and the civil society in monitoring ASEAN and corresponding national policies and programmes and their impacts on communities. Deep engagement of the private business sector is especially important to ensure the effectiveness and efficiency of many ASEAN initiatives primarily in the economic arena. Deep engagement of civil society is important in ensuring that the ASEAN integration process benefits all, thus making ASEAN people-centred while at the same time help strengthening the bedrock of an ASEAN community which is the people's sense of ownership of ASEAN and its initiatives.

There are many possibilities for tapping other stakeholders to help the people of ASEAN get to know one another better and make ASEAN more people-driven. The above-mentioned strategies are not new in ASEAN. Stepping up is really one of expansion, implementation, wider reach, and deeper engagements like letting and facilitating 'a thousand flowers bloom'. As former Pres. Fidel Ramos said, 'if the Southeast Asian peoples are to embrace ASEAN as their "Community" they must see it as pervading, beneficial influence on their lives. They must regard the ASEAN vision and mission as their own, being its most important stakeholders'.³⁰

IX. Strong, effective, and responsive ASEAN institutional ecosystem

ASEAN has to step boldly forward transforming the ASEAN Community to adapt to and prosper in the very challenging geopolitical, geo-economic, and technological environments the region will be facing, while at the same time realise the aspirations of the people of ASEAN. There is much work to be done to realise a nimble, pro-active, and united diplomacy for collective leadership in East Asia (**ASEAN Centrality**); build an adaptive

³⁰ Address at the ASEAN Executive Management Programme for High Level Executives of Public and Private Sectors of Thailand, Bangkok, 8 August 2013. In Ramos (2017).

and innovative **Digital ASEAN**; harness the new technologies and good policies towards a resilient and energy-secure **Sustainable ASEAN**; realise an integrated and connected **Seamless ASEAN** underpinned by good regulatory practice and governance; engender an **Inclusive ASEAN** focused on people empowerment and inclusion; and harness new technologies, networks, and people engagement to build a deep sense of **ASEAN belonging and identity**, and thereby grow and transform the ASEAN Community. The huge undertaking outlined in Vision 2040 calls for a strong, effective, and responsive ASEAN institutional ecosystem for the ASEAN Community.

The ASEAN institutional eco-system is a complex one requiring effective coordination and collaboration to function well. The institutional eco-system consists of the national ASEAN body (ies), ASEAN bodies, the ASEAN Secretariat, the Committee of Permanent Representatives (CPRs), and the regional ASEAN-linked and ASEAN supportive institutions. They all have to step up to ensure a strong and effective ASEAN institutional ecosystem (Sta. Maria et al., 2019):

- **National ASEAN institutions.** The wide range of ASEAN initiatives covering the three ASEAN Communities makes it difficult for the national ASEAN secretariat, usually a sub-ministerial office in an AMS, to coordinate effectively all the national dimensions of the ASEAN agreements and blueprints. What may be needed is a **ministerial-level interagency coordination council or committee**, perhaps with the national ASEAN secretariat serving as secretariat to the council or committee, in the government in order for the country to have a whole-of-government approach, cohere national programmes with regional problems and mandates, and review implementation at the national level of the ASEAN measures and agreements. A ministerial level interagency body is preferable because many of the deepening blueprint measures are expected to deal more with behind-the-border policies and issues.
- **Regional ASEAN bodies.** The ever-expanding areas being covered by the ASEAN bodies have made the three Communities of ASEAN work largely in silos. The challenge is to build greater coordination amongst the three Communities not just at the Council level but also at the

sub-Council levels. More than ever, the ASEAN committees and high-level task forces would need to work across the three Communities where warranted because of the increasing interrelatedness of the measures and initiatives to have beneficial impacts on the people.

- **ASEAN Secretariat.** More than ever, the Secretariat would need to be far less of a secretariat and much more of a forward-looking technical resource and a fair and robust monitor of the implementation and impacts of the ASEAN measures agreed upon by the AMS with their individual commitments and action plans. More than ever the Secretariat would need to determine, and advise the AMS accordingly of, the interrelationships of the various ASEAN measures and examine the impact of the totality of the interrelated measures on the agreed upon objective and the impact on the people of ASEAN. Clearly, the ASEAN Secretariat has to be strengthened in its technical resource role. At the same time, the ASEAN Secretariat can work with regional institutions focused on ASEAN to strengthen the analysis of options and impacts of ASEAN measures. Additionally, the ASEAN Secretariat would be the first institution to institute amongst its offices and staff tight cross-Community coordination, analyses, and reviews to inform the ASEAN bodies on the cross-Community considerations.
- **Policy Review and Analysis.** ASEAN will fail to achieve its development potential and bring little credibility to its international agendas unless it strengthens the momentum of structural reform across the ASEAN economy as it moves to consolidate the ASEAN single market. Structural reform is essential to lifting incomes through middle to high income and to the creation of a modern digital economy. It is unwise to create supra-national regulatory systems or policy approaches. Each ASEAN Member State must weigh its choices in pressing ahead with structural reform according to its own circumstances. The momentum of reform and the efficiency of policy development will be strengthened, however, if there is commitment to review of the performance and analysis of the impact of policies in key areas across all ASEAN economies. An ASEAN Policy Review and Analysis Mechanism that is owned by ASEAN and undertakes rigorous reviews and analysis for the information and consideration of member governments and the broader ASEAN community would serve that purpose. It would also significantly enhance international perceptions of ASEAN's commitment to policy development and reform.

- **Committee of Permanent Representatives (CPR) to ASEAN.** What is called for is more effective oversight and coordination of ASEAN initiatives. The recent decision to second officials on the economic and socio-cultural fronts to the CPR would enable the CPRs to be more strategic and forward-looking in their oversight function.
- **ASEAN Secretary General.** The SG would have to play bigger role in the 'bigger and better' ASEAN as a 'first voice' for ASEAN, working quietly with the ASEAN Chair on the regional and global agendas and to generate an ASEAN voice.
- **Parliaments.** There is a need for parliaments to decide and support political cooperation that is critical to answer the new strategic challenges for ASEAN. The parliamentarians have an important role to play in aligning legislations with the regional agenda, agreements, and commitments under ASEAN in challenging times.

An effective ASEAN institutional ecosystem would entail harnessing the potentials of the varied networks in the region and beyond, not only amongst the private sector and the civil society but also of the research and academic institutions, think tanks, and the like. That is, an effective ASEAN institutional eco-system is akin to a networked system.

- **Research institutions, think tanks, etc.** Work closely with the ASEAN Secretariat and with the ASEAN bodies on the analysis of ASEAN wide policies, initiatives, impacts, and options, as well as on the changing international environments. Examples of think tanks networks and research institutions that have provided significant support to ASEAN include the ASEAN Institutions for Strategic and International Studies, ERIA, and ERIA Research Institutions Network.
- **Networks, private sector, civil society.** To some extent, a strong ASEAN Secretariat and ASEAN bodies would call for the engagement and support of the networks of the private sector and civil society to effectively monitor the implementation and impact of ASEAN programmes and initiatives.

Conclusion

While many of the elements of the ASEAN Vision 2040 are not new, the circumstances that ASEAN faces now are fundamentally different from those in which it has evolved in the past. They require a much more proactive international and integration agenda and strategies over the next 2 decades. At the same time, ASEAN Vision 2040 is about ASEAN becoming a 'pervading beneficial influence on the daily lives' of the people of ASEAN, as President Ramos put it, measures that can contribute significantly to the realisation of their aspirations on their countries and ASEAN.

Realising the ASEAN Vision 2040 would call, more than ever, for ASEAN to step boldly forward – with greater coherence and nimbleness in diplomacy, more focused on people empowerment and engagement, and forward looking in its initiatives. More than ever, for ASEAN to strengthen centrality and community, it will need greater creativity, connectivity, continuity, and complementarity. More than ever, this will need strong political will, to keep and grow ASEAN together and make it work better for the benefit of the people of ASEAN.

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Appendix

Table A1: Gross Capital Formation as Percentage of Gross Domestic Product (%)

	1990–1992	2000–2002	2010–2012	2015–2017
Brunei Darussalam	20.9	16.2	27.5	34.9
Cambodia	-	18.1	17.7	22.7
Indonesia	31.6	22.1	33.6	33.8
Lao PDR	-	18.7	29.3	29.9
Myanmar	-	-	27.8	33.9*
Malaysia	35.2	25.3	24.1	25.5
Philippines	21.9	21.7	19.7	23.5
Singapore	35.0	29.4	28.4	27.3
Thailand	41.4	22.7	26.7	21.9*
Viet Nam	15.1	31.3	30.9	26.7
China	36.8	36.0	47.5	44.4
India	26.3	27.2	39.5	31.0

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.

* Data for Myanmar and Thailand only available from 2015 to 2016

Source: World Bank (<https://data.worldbank.org/indicator/NE.GDI.TOTL.ZS?view=chart>).

Table A2: Gross Domestic Saving as Percentage of Gross Domestic Product (%)

	1990–1992	2000–2002	2010–2012	2015–2017
Brunei Darussalam	49.3	46.9	66.5	53.6
Cambodia	-	8.3	12.5	19.3
Indonesia	27.1	29.0	34.9	33.0
Lao PDR	-	9.5	15.4	18.6
Myanmar	-	-	35.4	30.9*
Malaysia	35.1	43.3	38.2	32.6
Philippines	16.8	15.7	16.8	15.4
Singapore	46.9	44.1	54.3	53.2
Thailand	35.1	31.3	31.2	32.3*
Viet Nam	8.9	28.2	28.3	25.4
China	38.3	37.9	50.8	47.0
India	22.2	24.5	33.1	30.2

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.

* Data for Myanmar and Thailand only available from 2015 to 2016

Source: World Bank (<https://data.worldbank.org/indicator/NE.GDI.TOTL.ZS?view=chart>).

Table A3: Inward FDI Flows as Percentage of Gross Fixed Capital Formation (%)

	1990–1995	1996–2001	2002–2007	2008–2013	2014–2016
Brunei Darussalam	3.8	32.6	52.6	12.7	4.1
Cambodia	24.0	42.0	26.3	67.0	52.3
Indonesia	4.8	-2.2	4.3	5.8	4.9
Lao PDR	12.8	22.5	7.9	12.6	24.0
Myanmar	19.4	14.4	15.1	13.1	13.4
Malaysia	23.2	43.3	46.3	16.3	10.5
Philippines	6.4	7.1	7.7	4.6	8.4
Singapore	31.3	44.0	72.5	58.4	91.7
Thailand	4.3	15.9	13.8	10.2	4.2
ASEAN	33.5	23.1	13.8	22.9	23.8
Viet Nam	10.9	16.5	19.1	15.2	17.6
China	9.8	12.3	7.7	4.0	2.8
India	0.8	3.0	4.1	6.0	6.3

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: UNCTAD Stat 2018.

Table A4: Foreign Trade as Percentage of Gross Domestic Product (%)

	1990–1992	2000–2002	2010–2012	2015–2017
Brunei Darussalam	103.9	106.9	100.2	85.8
Cambodia	-	114.8	115.9	126.6
Indonesia	55.1	66.8	48.8	39.6
Lao PDR	39.4	67.3	91.5	78.9
Myanmar	-	0.9	7.6	43.2*
Malaysia	152.3	207.7	153.6	132.7
Philippines	62.0	102.0	68.0	66.1
Singapore	326.4	357.7	374.6	320.6
Thailand	77.4	118.8	135.1	123.8*
Viet Nam	73.9	113.4	157.2	187.9
China	26.8	40.2	49.2	38.1
India	17.2	27.8	53.7	41.0

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.

* Data for Myanmar and Thailand only available from 2015 to 2016

Source: World Bank (Export: <https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?view=chart>; Import: <https://data.worldbank.org/indicator/NE.IMP.GNFS.CD?view=chart>; GDP: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart>).

Table A5: ASEAN, China, and India Human Development Index (HDI):
1990, 2000, 2010, 2012, 2017

	1990	2000	2010	2012	2017
Brunei Darussalam	0.782	0.819	0.842	0.852	0.853
Cambodia	0.364	0.420	0.537	0.553	0.582
Indonesia	0.528	0.606	0.661	0.675	0.694
Lao PDR	0.400	0.466	0.546	0.569	0.601
Malaysia	0.643	0.725	0.772	0.781	0.802
Myanmar	0.358	0.431	0.530	0.549	0.578
Philippines	0.586	0.624	0.665	0.677	0.699
Singapore	0.718	0.819	0.909	0.920	0.932
Thailand	0.574	0.649	0.724	0.731	0.755
Viet Nam	0.475	0.579	0.654	0.670	0.694
China	0.502	0.594	0.706	0.722	0.752
India	0.427	0.493	0.581	0.600	0.640

Lao PDR = Lao People's Democratic Republic.

Source: Human Development Report 2018.