

CHAPTER 3

ASEAN–Japan Cooperation in the New Emerging Agenda

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3.1 Introduction

This chapter reviews the achievements of cooperation between the Association of Southeast Asian Nations (ASEAN) and Japan and studies potential benefits and opportunities in the new emerging agenda, including supply chain resilience, digitalisation, smart cities, the circular economy, agriculture, health care, sustainable energy, sustainable tourism, and human capital development. It is organised as follows. In Section 2, Keita Oikawa writes about the importance of building an end-to-end supply chain data ecosystem to strengthen supply chain resilience in East Asia. In Section 3, with the new ASEAN–Japan Comprehensive Economic Partnership (AJCEP), Lurong Chen emphasises the importance of improving connectivity, facilitating trade liberalisation in services, and fostering regulatory harmonisation between ASEAN and Japan. In Section 4, Venkatachalam Anbumozhi and Fumitaka Machida review the ASEAN Smart Cities Network (ASCN) and a smart city supported by Japan and ASEAN, stressing the importance of a human-centric perspective in the future collaboration of ASEAN and Japan in such initiatives. In Section 5, Masanori Kozono summarises the history of ASEAN–Japan cooperation in the food and agriculture sectors and suggests a future direction for the cooperation. In Section 6, Christopher L. Hardesty, Asuka Nagatani, and Takuma Kato detail the collaboration between ASEAN and Japan regarding developing universal health coverage (UHC) in ASEAN and introduce efforts of the Economic Research Institute for ASEAN and East Asia (ERIA) towards building a health care ecosystem in Asia for UHC.

In Section 7, Kei Sudo and Han Phoumin evaluate recent ASEAN–Japan collaboration on energy, highlighting the range of cooperation that encompasses financial, technological, and human resources development towards a sustainable energy future in the ASEAN region. In Section 8, Aladdin D. Rillo and Melanie S. Milo examine sustainable tourism in ASEAN, while drawing on the experience of Japan to offer valuable insights. In Section 9, Fusanori Iwasaki and Michikazu Kozima propose policy recommendations for building a circular economy with ASEAN–Japan cooperation. Their recommendations draw on Japan’s experience in waste management and aim to foster sustainable and efficient use of resources. Finally, in Section 10, Rashesh Shrestha notes the lack of a skilled workforce in the ASEAN region and advocates for a collaborative effort between ASEAN and Japan in the field of secondary and post-secondary education, leveraging Japan’s advanced educational resources.

3.2. Supply Chain Resilience: Building an End-to-End Supply Chain Data Ecosystem

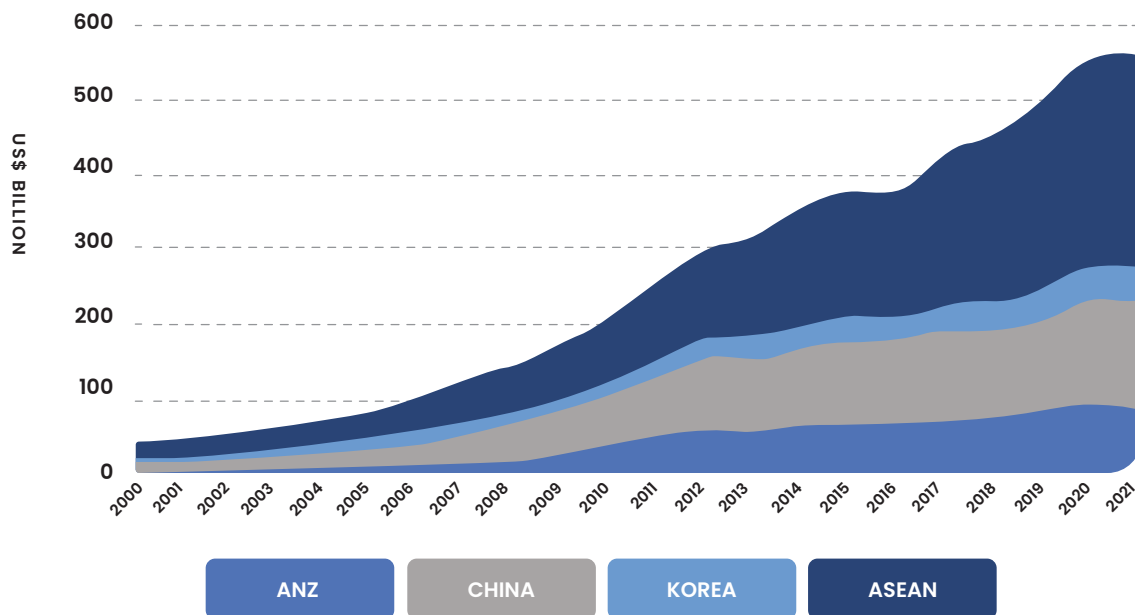
3.2.1. Competitive International Production Networks in East Asia

East Asia has used globalisation extensively in its development strategy during the last 3 decades. Since the 1990s, ‘Factory Asia’ – international production networks (IPNs) constructed in East Asia – has led the world in the development of competitive and resilient production networks and has weathered several economic crises and natural catastrophes. In 2008–2009, the Asian financial crisis caused a trade collapse, but the sophisticated IPNs in East Asia have since recovered (Ando and Kimura, 2012; Okubo, Kimura, Teshima, 2014). Then, during the sluggish trade period of 2011–2016, the growth of international trade slowed relative to the growth of the global gross domestic product (GDP), but IPNs in East Asia continued to expand (Obashi and Kimura, 2018). Moreover, Factory Asia’s proportional relevance to the world has increased over time, notably in the production of general and electrical machinery.

IPNs in East Asia have most recently shown their robustness and resilience during the COVID-19 pandemic. For example, although the pandemic originally brought about negative impacts on machinery exports, by October 2020, these had recovered to 2019 levels (Ando and Hayakawa, 2021). The decline in exports in East Asia was substantially less severe than in North America or Europe; notably, East Asian exports of general and electrical equipment stayed almost at 2019 levels in April and May 2020 (Ando and Hayakawa, 2021). ERIA studied enterprises in ASEAN Member States (AMS) and India, discovering that many Asian firms responded swiftly and actively to pandemic shocks, frequently earning a profit during the pandemic’s height (Oikawa et al., 2021).

Japan has been key to building these competitive, robust, and resilient IPNs in East Asia. In fact, Japan’s outward foreign direct investment (FDI) to ASEAN accounted for the largest share of Japan’s FDI in Asia and the Pacific (Figure 3.1)

Figure 3.1: Japan’s Outward Foreign Direct Investment in Asia and the Pacific (FDI Stock in US\$ billion)



ANZ = Australia and New Zealand, ASEAN = Association of Southeast Asian Nations.

Sources: Bank of Japan, Direct Investment Position, https://www.boj.or.jp/en/statistics/br/bop_06/bpdata/index.htm, and author.

Maintaining and strengthening the competitiveness of IPNs in East Asia is an essential part of development strategy, including that of ASEAN and Japan (Han, 2022). To do so, current global trends around supply chain issues must be identified.

3.2.2. Major Trends Affecting the Competitiveness of Supply Chains in East Asia

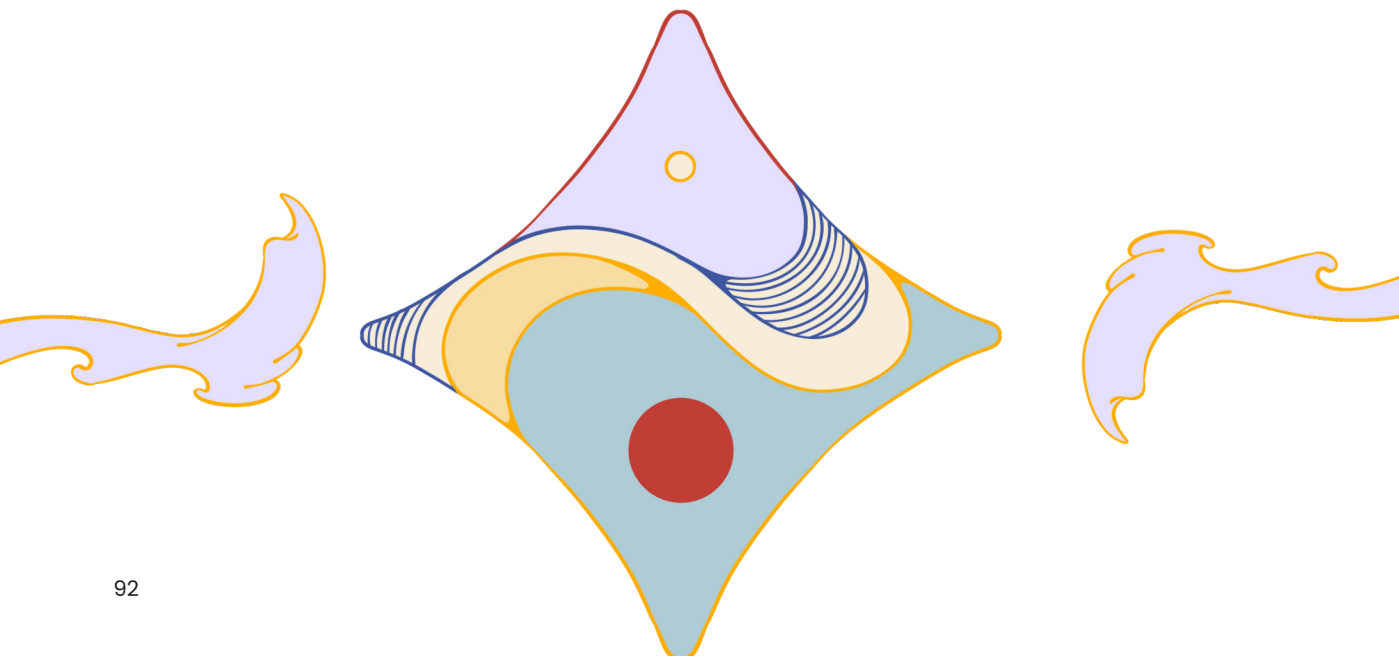
Supply chains are becoming much more complicated and are confronting various challenges because of three trends. The first trend is the rising diversity of consumers and the technological advancement of industry. With diversification of customer preferences, supply chains have become more intricate with the customisation of goods and services and recognition of digital-purchasing patterns. In addition, as product life cycles become shorter and products more technologically advanced, distinct supply chain models are necessary. The second trend is a rise in supply chain risks. Companies are more concerned about supply chain disruptions caused by, for example, global pandemics, large-scale

earthquakes, and the Russian invasion of Ukraine. Moreover, disputes between economic giants, such as that between the United States and China, are extending a destabilising element to supply chains. The third trend is the emergence of new social values, as governments and consumers are becoming more aware of social concerns, such as the environment and human rights. Thus, environmental regulations, human rights measures, and climate change now all have an impact on business activity.

In particular, the issue of carbon neutrality will shape future supply chains. Initiatives to achieve carbon neutrality have been strengthened in various countries, such as through the European Green Deal. Also, the Government of Japan announced a decarbonisation policy, aiming for zero greenhouse gas emissions by 2050 (Prime Minister's Office of Japan, 2020). As many companies are now monitoring carbon emissions across the entire supply chain, they must reconfigure all business activities towards decarbonisation.

Indeed, environmental regulations are another important issue for future supply chains. Regulations on chemicals contained in products have been strengthened in various countries, such as the Restriction of Hazardous Substances Directive and the Regulation for the Registration, Evaluation, Authorisation and Restriction of Chemicals in Europe. Regulations regarding water and air pollution have also been strengthened, and companies now must comply with green procurement standards.

The United Nations approved Guiding Principles on Business and Human Rights in 2011. Successively, principles and various associated legislation have been implemented around the world, especially in Europe. Confirmation of human rights protections in business partners are increasingly required through corporate social responsibility (CSR) questionnaires, voluntary audits, and external audits. Unjust treatment of immigrant workers and use of child labour often lead to boycotts all over the world.



3.3 Digitalisation: A New ASEAN–Japan Comprehensive Economic Partnership (AJCEP)

This section details ideas to upgrade the current AJCEP regarding digitalisation.

3.3.1. Improving Connectivity

The new AJCEP should aim to improve connectivity between ASEAN and Japan. It should facilitate investment in physical infrastructure in the ASEAN region, as improvement in the quality of services is directly linked to the quality of overall connectivity. Japan has set aside \$110 billion for infrastructure improvement in ASEAN (MOFA, 2015); it should also continue to provide low interest rate loans or other forms of financial assistance to AMS in support of infrastructure projects. In many AMS, capacity and resources are limited, but enhancing regional cooperation will provide a solution for better connectivity.

3.3.2. Trade Liberalisation in Services

Trade liberalisation in services should be another focus of the new AJCEP. Services have extensive implications on digital transformation in Asia. First, development of the services sector will create more jobs to absorb labour. Second, services efficiency will save trade costs, increase product and trade reliability, and promote e-commerce activities. Third, the resulting increase in government revenue will provide additional resources to further improve infrastructure and thus connectivity.

Emerging services intermediaries can lead this trade liberalisation. Digitalisation will generate more business opportunities for downstream companies in materials suppliers, market investigations, software development, shipment and delivery, agency operations, search for key words, and optimisation. As production network clustering around upstream core e-commerce actors begins to deepen and to spread, this will lead to a finer division of labour and therefore a higher degree of specialisation. With such market segmentation, demand will be more precisely identified; thus, more services activities will find space for expansion. Enhancing ASEAN–Japan relations will fuel the market engine to foster the growth of trade in services.

3.3.3. Promoting Regulatory Harmonisation

The online marketplace needs rules and regulations to ensure free data flow as well as fair play, competition, and security. Internationally, digital trade has promoted the formation of global governance on digital trade. These new rules and regulations then influence the development of the digital economy. However, current progress in multilateral trade negotiations cannot catch up to the radical growth of the digital economy. The new AJCEP should therefore pilot new rules making.

The growth of ASEAN has proven the importance of adopting policies in favour of globalisation and trade facilitation. Actions to remove tariff or non-tariff barriers and to simplify customs, inspection, and taxation procedures will promote digitalisation and expand global value chains. Moreover, Japan has been active in international rules setting on trade and investment. Enhancing bilateral relations between AMS and Japan can help both sides learn from each other and jointly resolve difficulties in customs clearance, exchange settlements, and tax reimbursements that create barriers to trade. Reaching region-wide regulatory harmonisation on digital trade will also help ASEAN ensure that its voice is heard.

3.4. Smart Cities: An ASEAN–Japan Innovation Partnership

At the 32nd ASEAN Summit in 2018, ASEAN leaders established the ASCN, a collaborative platform where cities from the 10 AMS work towards the common goal of smart and sustainable urban development. The 26 ASCN pilot cities selected are Bandar Seri Begawan, Bangkok, Banyuwangi, Battambang, Cebu City, Chonburi, Da Nang, Davao City, DKI Jakarta, Ha Noi, Ho Chi Minh City, Johor Bahru, Kota Kinabalu, Kuala Lumpur, Kuching, Luang Prabang, Makassar, Mandalay, Manila, Nay Pyi Taw, Phnom Penh, Phuket, Singapore, Siem Reap, Vientiane, and Yangon.

Considering the opportunities and challenges posed by rapid urbanisation and digitalisation in Asia, the primary goal of the ASCN is to improve lives, using technology as an enabler. By focussing on people, the ASCN adopts an inclusive approach to smart city development that is respectful of human rights and fundamental freedoms as inscribed in the ASEAN Charter. The networking of smart cities across ASEAN also contributes to enhancing mutual understanding across cultures. The ASCN aims to facilitate cooperation on smart city development, catalyse bankable projects with the private sector, and secure funding and support from ASEAN external partners such as Japan. To this end, 33 partnerships have been established thus far.

Japan's commitment to the ASCN has been outstanding; since 2019, Japan has been hosting the ASCN High-Level Meeting and supporting collaboration and partnerships amongst the 26 cities. In addition, based on the Smart City Supported by Japan ASEAN Mutual Partnership (Smart JAMP) programme launched at the ASCN High-Level Meeting in 2020, the Government of Japan is supporting smart

city projects in the region by soliciting proposals for project formation studies from the 26 pilot cities. With AMS pushing ahead, the Smart JAMP could help guide the ASCN throughout its lifespan.

Below, the six action clusters of the ASCN are explored: (i) sustainable cities and smart built environments; (ii) integrated technology infrastructure and process for smart services delivery; (iii) smart urban mobility; (iv) sustainable business/extended enterprise models; (v) smart people; and (vi) integrated planning, policy, standards, and regulations. Through these six action clusters, the ASCN aims to improve the quality of life of ASEAN citizens; reach an environmental, low-carbon energy transition and climate targets; make cities more competitive and better places to live; increase the competitiveness of ASEAN and Japanese industries and innovative small and medium-sized enterprises (SMEs); hear knowledge to replicate success and to prevent mistakes from being repeated; and support cities in finding the right partners and investment solutions for digital technologies.

3.4.1. Sustainable Cities and Smart Built Environments

The main challenges in creating a sustainable and smart environment at the city level is to reduce energy use, environmental impacts, and carbon footprints; foster competitive industries for jobs and growth; and ensure societal and social development and the well-being of citizens. The investment needed to improve energy efficiency, generate low-carbon energy, modernise infrastructure, and create high-quality living environments is enormous in ASEAN. Cities have limited access to planned financial resources for systemic change, which requires the activation of private capital combined with public investment. The ASEAN–Japan partnership will recognise that every city is unique and give stakeholders the tools needed to make appropriate systemic or individual decisions and to facilitate solutions. It will also provide a large-scale launching ground for new Japanese concepts to test in and to unleash onto the ASEAN markets and to test and to implement new financial products and models.

3.4.2. Integrated Technology Infrastructure and Process for Smart Services Delivery

Significant – and yet insufficiently tapped – value is offered by integrating various existing social and new digital infrastructure networks within and across cities (i.e. energy, transport, or communications) rather than duplicating these needlessly. This point applies to both active and passive infrastructure. Ageing budgets to replace them are stretched beyond capacity, and projects are procured and managed in silos. The potential afforded to cities through new joined-up approaches, exploiting modern digital technologies, is substantial. However, it will take sustained commitment from multiple parties to access value. The ASEAN–Japan partnership will search out smaller, innovative cities within the ASCN that can rapidly advance and ‘design for small’ rather than accept designs made for

large. The target and focus for this initiative are still in formation; however, the initially agreed action is around circular cities and low-carbon cities, engaging a group of 10 ASEAN 'small giants'.

3.4.3. Smart Urban Mobility

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3.4.4. Sustainable Business and Extended Enterprise Models

To become 'smart', the ASCN needs responsive business models and adaptive funding. The new challenges facing cities require new business models, finance and funding instruments, and procurement schemes. This means establishing a dialogue between the public and private sectors to identify and to remove any obstacles in the way of the smart city market. This action cluster will provide a platform where local authorities, financial institutions, businesses, SMEs, and other relevant actors can work together. The ASCN will use this platform as a focal point for the gathering and sharing of information about innovative business and procurement models. The platform will give future smart city aspirants better access to financial instruments, providing invaluable knowledge about financing and funding opportunities by directly engaging the financial community.

3.4.5. Smart People

In a time of urban transformation and the digitalisation of smart cities, too little attention is sometimes given to citizens. A people-focussed strategy and partnership strongly believes in citizens as the fundamental actors for the regeneration and development of smart cities. Civic engagement, empowerment, participation, and co-creation are at the basis of the ASEAN–Japan partnership, since ASEAN and Japan acknowledge that citizen voices are pivotal in providing demand-side pressure on the government, service providers, and organisations to encourage a full response to actual citizen needs. Empowerment also ensures the establishment of a trusted relationship with local governments and is a source of democratic legitimacy and transparency.

3.4.6. Integrated Planning, Policy, Standards, and Regulations

Innovative forms of smart city policies, standards, and regulations are needed to enable the large-scale implementation and roll-out of smart cities. New governance concepts are required to coordinate and to integrate smart city stakeholders – cities, businesses, and various organisations – within the change process to identify strengths, weaknesses, opportunities, and threats. The ASEAN–Japan partnership will identify new forms of governance and policy concepts to further the process of becoming a sustainable, inclusive smart city. Under this action cluster, the ASCN will work with Japanese cities, businesses, research institutes, and academia to build smart, inclusive, and sustainable cities. Partnership efforts towards the implementation and design of smart city strategies will include making the best use of various capacities, monitoring tools, and measuring tools and enabling knowledge sharing and replication of successful smart cities.

3.4.7. Conclusion

One of the most important concepts in a smart city is social inclusion and a citizen-driven approach. If a technology-driven smart city is the main goal, communities may end up being controlled by surveillance, for example. A citizen-driven approach, in general, refers to social capital that enhances trust, concern for one's associates, and cooperation. Discussing the concept of a citizen-driven approach for smart cities in this way will contribute towards the continuous enhancement of the smartness of communities in Asia.

Indeed, the global trend in smart cities is shifting from a technology- to a people-driven approach, and democratic, inclusive, and resident-centred urban development is now required. Advanced efforts in Japan are being made to realise not only liveability but also the well-being of a diverse range of people. As cities in ASEAN still face many challenges – such as the need for basic infrastructure development and an insufficient response to digitalisation, they have tended to lean towards technology-led urban development. However, the unique people-centred social characteristics of ASEAN itself have increased interest in citizen-driven city planning; Japan has also embraced this ideal through the concept of Society 5.0, a human-centered, 'super smart' society that balances economic advancement with the resolution of social issues through a system that integrates cyberspace and physical space.

The challenge of realising democratic, inclusive, and resident-centred urban development unique to Asia has begun. ERIA, in collaboration with Kyoto University and various universities in AMS, has organised the Asian Inclusive Smart Cities (AISC) conference to discuss related issues. Now is the time to showcase city planning projects that respect

Asian values and involve the business community, including the development of new city evaluation indicators and standardisation.

3.5. Food and Agriculture: ASEAN–Japan Cooperation

ASEAN–Japan cooperation in the food and agriculture sector occurs through the ASEAN ministers of agriculture and forestry and the ministers of agriculture and forestry of China, Japan, and Korea, known as AMAF+3. The framework for AMAF+3 was established in 2001, and the first AMAF+3 meeting was held in 2001 in Indonesia (ASEAN, 2001). Since then, the AMAF+3 meeting has been held annually.

Before the establishment of the AMAF+3 framework, Japan’s agricultural cooperation in AMS was mostly implemented in the form of bilateral cooperation between each AMS and Japan. For example, in Indonesia, Japan’s bilateral cooperation in the agriculture sector there had been conducted since the 1960s, which focussed on growing agricultural production through support for irrigation.

At the first AMAF+3 meeting in 2001, the criteria for ASEAN regional projects were adopted. Projects should be regional in nature and of benefit to AMS, and projects should be implemented with the participation of as many AMS as possible, but these projects should involve, at a minimum, participation by any two AMS and China, Japan, or Korea. These criteria remain valid.

Areas of cooperation have changed, however. At the first AMAF+3 meeting, there were six areas of cooperation: regional food security, research and development, human resources development, coordination and cooperation in international and regional issues, agriculture information network, and trade facilitation. Since then, the areas of cooperation have been updated to nine within the framework of the *ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry (APTCS) 2016–2025* (ASEAN Secretariat, 2017). The current strategic areas of cooperation are in Table 3.1.

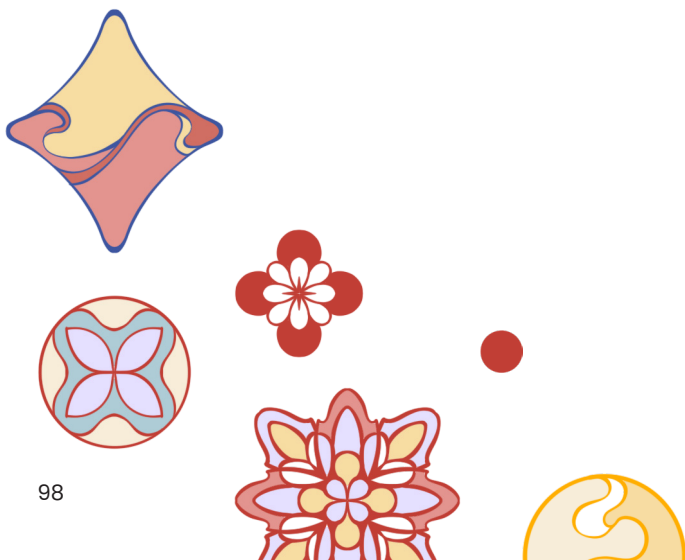


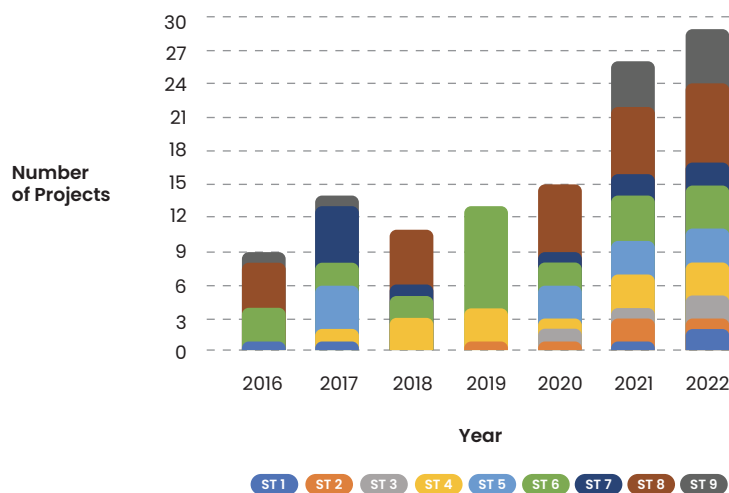
Table 3.1: Strategic Areas of Cooperation, ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry, 2016–2025

Area	Area of cooperation
1	Strengthening Food Security
2	Biomass Energy Development
3	Sustainable Forest Management
4	Climate Change Mitigation and Adaptation
5	Management of Animal Diseases and Plant Pests
6	Enhancement of Capacity-Building and Human Resources Development
7	Enhancement of Productivity, Quality, and Marketability of Agriculture Products
8	Strengthening of Information and Knowledge Networking and Exchange
9	Strengthening Collaboration on Research and Development

ASEAN = Association of Southeast Asian Nations.
Source: ASEAN Secretariat (2017).

Some features of ASEAN–Japan cooperation in food, agriculture, and forestry can be identified through a comparative analysis based on information collected from each year’s summary record of the Special Senior Officials Meeting of the AMAF+3 (Figure 3.2).

Figure 3.2: ASEAN–Japan Cooperation Projects on Food, Agriculture, and Forestry



ASEAN = Association of Southeast Asian Nations.
Source: ASEAN Secretariat (2017).

In 2016, the first year of the APTCS 2016–2025, ASEAN–Japan cooperation projects only numbered 9, but this drastically increased to 29 in 2022. Furthermore, capacity-building and human resources development, as well as information and knowledge networking and exchange, have consistently been the focus of cooperation. Collaboration on research and development is rising. This move is consistent with the focus of Japan's recent cooperation strategy with ASEAN that emphasises innovation.

Two other important initiatives have been undertaken to strengthen regional food security since the establishment of AMAF+3. The first is the ASEAN+3 Emergency Rice Reserve (APTERR) and its preparatory stage, including the East Asian Emergency Rice Reserve pilot project. The APTERR was established in 2013 as a permanent mechanism and aims to strengthen food security, alleviate poverty, and eradicate malnourishment amongst its members (i.e. AMS plus China, Japan, and Korea) without distorting normal trade. Under the APTERR, the rice reserve is available through a three-tier programme; the last tier is designed for acute emergencies and other humanitarian responses. The second initiative is the ASEAN Food Security Information System (AFSIS), which began in 2003 and has been implementing projects to strengthen food security in the region through the systematic collection, analysis, and dissemination of data related to food security in the ASEAN region. Japan has been continuously supporting these two key initiatives with Thailand.

3.5.1. Direction of Policy and Strategy towards Sustainable Agriculture and Food Systems

In Japan, to realise both an increase in productivity and sustainability in the food, agriculture, forestry, and fishery industries through innovation, *Measures for the Achievement of Decarbonization and Resilience with Innovation (MeaDRI)*, which is a medium- to long-term strategy, was developed in 2021 (MAFF, 2021). The MeaDRI is expected to pave the way towards the development of a resilient and sustainable food system, more specifically by increasing the productivity of food and agriculture while reducing the environmental load by promoting innovation.

In ASEAN, *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN: Developing Food Security and Food Productivity in ASEAN with Sustainable and Circular Agriculture*¹ was adopted in 2022. The guidelines address the challenges that agriculture is facing and raises 28 key strategies to address them, including improving soil health, valorising agricultural waste biomass and food waste, reducing greenhouse gases from agriculture-related activities, promoting the use of smart and precision agriculture systems, and reducing reliance on agrochemicals. The guidelines are expected to facilitate the transformation of ASEAN agriculture into a highly productive, economically viable, and environmentally sound system.

¹ The document is available at the ASEAN Secretariat.

These policy and strategy directions of Japan and ASEAN indicate a similarity of focus, such as the promotion of sustainable agriculture and food systems. More specifically, they both aim to improve agricultural production and productivity while reducing the environmental load.

3.5.2. Priority Areas for Food and Agriculture Cooperation

At the latest AMAF+3 meeting held on 26 October 2022, Japan proposed new initiatives for ASEAN–Japan cooperation in the food and agriculture sector, known as the Midori Cooperation Plan (MAFF, 2022). Japan will focus on building a resilient and sustainable agricultural production system through innovation towards ensuring regional food security. Specific areas of cooperation are the (i) development, demonstration, and dissemination of technologies for building a resilient and sustainable production system through innovation, such as technologies enhancing smart/digital agriculture, the circular economy, and biomass energy; (ii) human resources development for building resilient and sustainable agriculture and food systems; and (iii) other support for the implementation of the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN*. Also, the Midori Cooperation Plan emphasises public–private partnerships to utilise the technical and financial capabilities of the private sector. AMS expressed their support for Japan’s proposal, with the expectation for the implementation of specific projects.

In the joint press statement of this latest AMAF+3 meeting, the following cooperation areas were highlighted: promoting green, sustainable, and circular agriculture and sustainable forest management; reducing the use of harmful agrochemicals in the agriculture sector; promoting nature–based solutions, decarbonisation efforts, and digital technology application in agriculture and forestry; and promoting biological control agents in animal husbandry and aquaculture (ASEAN, 2022). There are many similarities in terms of possible cooperation areas between Japan’s Midori Cooperation Plan and key priority areas for ASEAN cooperation stated in the joint press statement.

3.5.3. Enhancing ASEAN–Japan Cooperation for Food and Agriculture

Towards the realisation of more resilient and sustainable agriculture and food systems in AMS, development and dissemination of innovative technologies should be prioritised as indicated in the Midori Cooperation Plan. Indeed, ongoing projects, such as the Greenhouse Gas Mitigation in Irrigated Rice System in Asia (MIRSA) initiative, Accelerating Application of Agricultural Technologies That Enhance Resilient and Sustainable Agriculture and Food Systems in the Asia Monsoon Region programme, and a smart agriculture pilot project, are expected to facilitate the dissemination of innovative technologies and to be scaled up in the future. As each AMS’s priorities – as well as policy and technical circumstances for application of innovative technologies – differ, however, it must be recognised that there is no ‘one-size-fits-all’ solution for the entire ASEAN region.

In addition, human resources development for those engaged in activities to realise resilient and sustainable agriculture is essential. Current projects, such as one focussed on farmer organisations to support the development of food value chains in AMS (i.e. the CBF Project), a human resources development project in food-related areas through partnership programmes with universities in ASEAN (i.e. the HRD Project), and a project for enhancing the understanding of good agricultural practices (i.e. the GAP project), do feature ASEAN–Japan cooperation. Many ASEAN officials and stakeholders have already been trained thanks to these projects, which have, in turn, been highly evaluated. These projects should be continued.

ASEAN–Japan cooperation on facilitating the implementation of the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN* needs to be intensified; the Green Asia Project, newly initiated by the Japan International Research Center for Agricultural Sciences (JIRCAS), could support such implementation. This project focusses on sharing information on basic agricultural technologies for sustainable agricultural efforts in the Asia monsoon region. Additionally, ERIA began a new research project on building and enhancing sustainable agriculture and food systems in AMS with contributions from Japan. Through a scoping study, key priority issues and strategies in each AMS will be identified, as well as readiness for implementing the *ASEAN Regional Guidelines for Sustainable Agriculture in ASEAN*. Findings should be reported to related ASEAN sectoral bodies, which will then help formulate accurate action plans for implementation of the guidelines in each AMS.

Recent external shocks, such as the COVID-19 pandemic and escalation of various geopolitical tensions, have adversely affected food security globally and regionally, resulting in food price hikes. The APTERR has been key to ensuring regional food security against a short-term crisis in terms of rice supply. It released 7,138 metric tonnes of rice from Japan and Korea to address the emergency, including the pandemic, in Cambodia, Lao People’s Democratic Republic (Lao PDR), Myanmar, and the Philippines. As the APTERR mechanism functioned well during this short-term crisis, expansion of its target commodity to another key crops – other than rice – should be discussed.

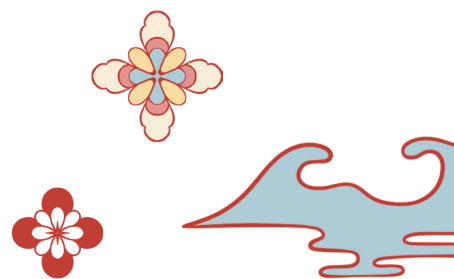
Finally, as the number of ASEAN–Japan cooperation projects has been increasing and areas of cooperation are becoming diversified, the establishment of a new framework for the AMAF+Japan should be considered to enhance food and agriculture cooperation, apart from the current AMAF+3 framework. As ASEAN–Japan cooperation will celebrate its 50th anniversary in 2023, the first meeting of AMAF+Japan should be held during this year.

3.6. Health Care: Towards Achieving the Universal Health Coverage Vision in ASEAN²

3.6.1. Less than 10 Years Remaining to Achieve the Vision

UHC means that all individuals and communities receive health care services and associated products that they need, without suffering financial hardship. UHC includes the full spectrum of essential, quality health care, ranging from prevention to treatment, rehabilitation, and palliative care across the life cycle. Importantly, UHC emphasises not only what services are covered but also how they are funded, managed, and delivered (WHO, 2021). Achieving UHC became a global priority when all nations committed to the Sustainable Development Goals (SDGs) in 2015, of which SDG 3 specifically pertains to UHC. Led by the World Health Organization (WHO), various initiatives have been established to see this vision achieved by the 2030 deadline, including UHC2030, P4H Network, and UHC Partnership (World Bank, 2022). Household health care expenditures continue to impoverish an estimated 90 million people globally every year, a situation which was further highlighted by the COVID-19 pandemic (Tediosi et al., 2020).

There is no single template for achieving UHC. WHO set out 16 essential topics across 4 categories as leading indicators: maternal and child health, infectious diseases, non-communicable diseases, and broader capacity and access schemes such as health care worker density. The key metrics aligned to the SDGs pertain to population access to essential, quality health care services, and household expenditures required for the same. Ultimately, however, stakeholders agree that every country's culture is unique; therefore, UHC practices need to be tailored to each.



² This section was made possible through collaboration with and reporting of the ASEAN Secretariat, particularly the Health Division Team under Cluster 3. The authors wish to thank the Secretariat, AMS, and other public-private stakeholders for their contributions: Eduardo Banzon, health specialist, Asian Development Bank; Edward Booty, chief executive officer, Reach52; Probir Das, group executive officer, Terumo Corporation; Brent Denning, ASEAN regional head, Docquity; Hinoshita Eiji, assistant minister for global health and welfare, Ministry of Health, Labour and Welfare, Government of Japan; Steven Graaff, founder, Good Practice; Chris Humphrey, executive director, EU-ASEAN Business Council; Dennis Jacobus, managing director, Diagnos Laboratorium; Shige Kanao, health care and medical business unit leader, Marubeni; Daniel Kastner, chief transformation officer, Bumrungrad International Hospital; Nikki Kitikiti, vaccines policy lead for emerging markets, Takeda; Feisal Mustapha, Disease Control Division, Ministry of Health, Government of Malaysia; Minh Nguyen, Viet Nam senior country lead, Allianz Partners; Clive Tan, integrated care, Singapore National Healthcare Group; and Itani Tetsuya, director, Office of Global Health Cooperation, Ministry of Health, Labour and Welfare, Government of Japan.

That said, as countries around the world are in varying stages of UHC maturity, there is a great opportunity to learn from one another. For example, Japan has achieved excellent health care outcomes since its focus on UHC, which dates to the implementation of social insurance in 1961. This effort was decades in the making, evolving out of revisions to community-based health care programmes and encouragement of employers to take more accountability for protecting their workers. Importantly, Japan demonstrated stable leadership for UHC and timed the inputs and outputs for its health care reform with broader socio-economic planning. Indeed, investment in health is an investment in wealth; it is no coincidence that Japan's UHC achievement coincided with the Japanese Economic Miracle.

3.6.2. ASEAN's March towards Providing Health for All

ASEAN's growth and size outpace much of the rest of the world, with the 10 AMS representing nearly 10% of the global population; the ASEAN economy is projected to be the fourth largest in the world by 2050. The region is facing several demographic and epidemiological headwinds, however. AMS will officially become aged societies within the next decades, and they will lose 9 million lives annually due to chronic diseases while also representing 27% of such cases around the globe (Humphrey et al., 2020).

Despite the 250% increase in public health care expenditures in AMS, government strategies across ASEAN remain varied, and outcome measures like life expectancy and UHC index scores are low. Other indicators – such as insufficient child immunisation rates, limited preventative health budgets, and more generally, a focus on low-cost measures rather than on rewarding innovation – are symptomatic of the low 5% GDP allocation that goes to health care (i.e. about half of the global average) in the region. There are infrastructure challenges as well, such as the lack of about 5 million requisite health care workers, revenues well below the 15% tax-GDP target, and largely informally employed populations. Ultimately, this has led to out-of-pocket (OOP) expenditures on health care to be 30% or more of total (Table 3.2), which is working against UHC and broader socioeconomic development ambitions (Humphrey et al., 2020).



Table 3.2: ASEAN Member States and Others, Health Statistics

Country	Health Expenditure (% of GDP)	Average Life Expectancy (years)	Out-of-Pocket Costs (% of total health care expenditures)
Indonesia	2.90	72	34.76
Malaysia	3.83	76	34.57
Philippines	4.08	71	48.56
Singapore	4.08	84	30.15
Thailand	3.79	77	8.67
Viet Nam	5.25	75	42.95
Germany	11.70	81	12.82
Japan	10.74	85	12.91
United Kingdom	10.15	81	17.07

ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product.
Source: Humphrey et al. (2020).

AMS have stepped up over the past few years to tackle these challenges. The *ASEAN Declaration on Strengthening Social Protection* was established in 2015 (ASEAN Secretariat, 2013) in line with the SDGs, which was then elaborated by a regional framework and action plan with the goal of improving the quality of life by 2025 (ASEAN Secretariat, 2015). ASEAN, moreover, created the *ASEAN Post-2015 Health Development Agenda, 2021–2025*, under which the Cluster 3 team is specifically targeting progress in strengthening health systems and access to care (i.e. UHC). Areas of focus within Cluster 3 include reproductive health, migrant health, pharmaceuticals, human resources, financing, and, increasingly, digital health (ASEAN Secretariat, 2021).

The past few decades have indeed witnessed a decline in poverty, emergence of a middle class, and a welcome increase in government health care investment. Particularly strong investment increases (in double digits) have been observed in Indonesia, Viet Nam, and the Philippines, where very large population sizes – impacted by the aforementioned demographic and epidemiological challenges – necessitate a greater focus on health care. These emerging countries are taking lessons from the long-established UHC scheme in Thailand, where OOP expenditures dropped from more than 20% to 8% or less (Cui, Cassidy, Hendrajaya, 2017). While Indonesia, Viet Nam, and the Philippines still see 30% OOP expenditures, expectations are for a dramatic decline with their rollouts of UHC (Cui, Cassidy, Hendrajaya, 2017).

UHC penetration rates elsewhere in AMS are much lower (Table 3.3), the UHC service coverage index scores still remain closer to 50%. However, initiatives such as *Myanmar Health Vision 2030* are bringing associated discussions to the

forefront. Towards this, the ASEAN Secretariat has documented UHC best practices from across the region thus far, providing practical solutions for such countries in areas such as health care facility infrastructure (urban as well as rural), health care worker upskilling and task-shifting, and service package strategies that encourage both integration and accountability of health care (Cui, Cassidy, Hendrajaya, 2017; ASEAN Secretariat, 2019a).

Table 3.3: Breakdown of Indicators and Universal Health Coverage Efforts in ASEAN

Country	Population (million, 2018)	GNI per Capita (\$, 2018)	UHC Service Coverage Index (out of 100, 2015)	Insurance Coverage (% of total population, 2019)	Summary of UHC Commitment
Brunei Darussalam	0.4	31,020	>80	100.0	National welfare
Cambodia	16.1	1,380	55	37.5	Commitment to move towards UHC
Indonesia	267.7	3,840	49	84.0	UHC began in 2014
Lao PDR	7.1	2,460	48	94.0	Commitment by 2020
Malaysia	31.5	10,460	70	100.0	UHC using single public provider and general government budget since 1980s
Myanmar	53.7	1,310	59	2.0	Commitment to strengthen health system to support UHC
Philippines	106.7	3,830	58	78.0	Expansion of national health insurance by national/local government and PhilHealth benefits package
Singapore	5.6	58,770	>80	93.0	UHC through national programmes of MediSave, MediShield, and MediFund since 1980s
Thailand	69.4	6,610	75	100.0	UHC since 2002
Viet Nam	94.7	2,590	73	89.9	Resolution of Central Committee of the Communist Party of Viet Nam has committed to move towards UHC. Social health insurance is targeted at 95% coverage by 2015.

ASEAN = Association of Southeast Asian Nations, GNI = gross national income, Lao PDR = Lao People's Democratic Republic, UHC = universal health coverage.
 Note: These figures are in process of being refreshed for the current decade.
 Source: ASEAN Secretariat (2019b).

According to various public and private stakeholders who are actively involved in UHC efforts in the region, a few challenges still stand out:

- (i) Foundational elements are lacking that inhibit the progress of health care. Examples include internet access and modernised payment systems, especially for the rising middle class.
- (ii) Financing is a resounding theme across a range of dimensions, from medicine reimbursement to furnishing of health care commodities to even health care worker salaries. Stakeholders are calling for more sustainable and efficient financing models – which are seen as an investment akin to that in the education sector – to maximise resources. These improvements must also be clearly communicated and understood by the population.
- (iii) At the same time, health care needs to continue to evolve. There must be increasing focus on harnessing the momentum of improved health care literacy following the COVID-19 pandemic as well as on broader well-being initiatives, necessitating a whole-of-government approach. Of particular importance is overcoming the inequities that exist in accessing high-quality health care, such as in rural and low-income areas.
- (iv) Countries that have been successful with achieving UHC have done so by executing a stable, long-term vision. Despite political uncertainties in AMS, UHC requires leadership that remains committed to the cause over the next decade to see the ambition realised.
- (v) The private sector stands ready to support AMS governments. UHC may be difficult to achieve without public-private partnerships, which means more collaboration from the beginning to the end of key programmes, as well as transparency along the way. There is a shared vision to reduce burdens on health care settings and to improve affordability for UHC.

3.6.3. Recommendations

Despite the challenges, a spirit of progress remains towards achieving UHC in AMS, and the public as well as private stakeholders are aligned in their views about opportunities for collaboration. The ASEAN Secretariat has been proactive in reaching out to and learning from other regions that have achieved UHC. Japan, for instance, is a UHC model that demonstrates a manageable GDP allocation to health care of about 11%, OOP expenditures of about 13%, a UHC coverage index score of 83 out of 100, and average life expectancy of 85 years (Hardesty et al. 2021).

ASEAN and Japan are celebrating 50 years of collaboration in 2023, including through the Japan-ASEAN Health Initiative, which aims to support AMS in creating vibrant and healthy societies (ASEAN Secretariat, 2022). In 2014, at the 17th Japan-ASEAN Summit, an agreement was made to jointly train 8,000 new health care workers in topics like disease prevention and quality standards. Then, at the 2015 forum, the Japan-ASEAN Integration Fund was established as a platform for sharing of experiences, such as those tackling the rise in lifestyle-related disease

patterns. Ageing societies are another commonality, given that Japan became an aged society over a 24-year period, while ASEAN is on track to become the same in only 15 years (Mission of Japan to ASEAN, 2016).

Once the SDGs were established, ASEAN and Japan committed to the ASEAN–Japan UHC Initiative to jointly achieve the 2030 UHC objective (MHLW, 2017). At the ASEAN–Japan Health Ministers’ Meeting on UHC held in 2017, topics included the impacts of population ageing, as connected to the new United Nations Decade of Healthy Ageing framework and involving a site visit to Kanagawa Prefecture’s Life Innovation Centre, as well as strategies for diversifying UHC funding streams, which are used to reduce OOP expenditures (WHO, 2017). More recently, Japan contributed \$50 million to the ASEAN Centre for Public Health Emergencies and Emerging Diseases associated with the efforts to combat the COVID-19 pandemic (MOFA, 2020).

To continue to drive progress forward on UHC, opportunities in AMS can be prioritised into five high-level areas:

- (i) Improve health care coverage rates of the population, while maintaining administrative efficiencies and preparing for mandatory premium contributions.
- (ii) Commit to a dual, long-term strategy of developing the health care workforce, including cross-border, while also digitalising patient-facing and back-office infrastructure.
- (iii) Explore alternative and more sustainable financing arrangements for ASEAN populations, leveraging best practices (as well as investments) from abroad and from other sectors.
- (iv) Build consolidated health care data flows across ASEAN, allowing stakeholders better insights to work together to tackle non-communicable as well as infectious disease challenges.
- (v) Achieve the above through public–private collaborations, embracing elements of choice for the emerging middle class and harnessing the trust developed (e.g. in supply chains).

Beyond the above, all ecosystem stakeholders must support ongoing research endeavours for UHC in AMS. A prior call for research themes for AMS, as led by the WHO Centre for Health Development in Japan (also known as the WHO Kobe Centre), highlighted areas such as new services delivery configurations, alternative funding models, healthy ageing, task shifting of human resources, and evaluation techniques for innovation. This research spans governments, the private sector, and academia, from Japan to ASEAN, towards the UHC 2030 ambition.

Given the situations in Japan and the ASEAN region, the following themes and viewpoints could be raised for further collaboration on UHC.

- (i) For the short- to long-term, data must be collected regularly and shared with the public so that every stakeholder can review progress. As some health

data are also useful for the research and development of medicines and medical devices, they can likewise be considered part of the collaboration amongst governments, academia, and the private sector. Japan could support these data collection and sharing activities in the ASEAN region with ERIA.

- (ii) In addition to UHC, Japanese initiatives are expected on the topics of ageing, antimicrobial resistance, and the ASEAN Centre for Public Health Emergency and Emerging Diseases. To strengthen these three pillars, the Japan and ASEAN health ministers' meetings should resume. Discussions on the centre would be a welcome agenda item for the Government of Japan, since the rough framework of support from Japan has been already determined, although its operation scheme is still unclear.
- (iii) Building the collaboration scheme between the public and private sector is necessary. To provide long-term care for as many people as possible, for example, the private sector must be utilised. Research and development on antimicrobials and to ensure supply chain of medical devices or medicine are additional significant topics for collaboration.

Table 3.4: Recommendations for Government

No	Recommendation	Details
1	Evolve UHC schemes to align to modernised demographic and epidemiological needs. For example, Japan deployed a composite approach, in a stepwise manner, while keeping premiums low for those who were socio-economically disadvantaged. The key was keeping eligibility and collections data current, while taking a long-term yet agile view in seeking inputs.	<ul style="list-style-type: none"> • Consider a composite approach of existing UHC scheme options available. • Ramp up coverage penetration, including for the informal sector and for primary/outpatient care. • Aim for administrative efficiencies. • Start preparing for the shift towards mandatory UHC enrolments.
2	Focus on boosting the health care workforce while embracing a technology strategy. Regional disparities, within and across AMS, affect patient outcomes, and often a bottleneck is the shortage of health care workers. Cloud technology, for example, is projected to derive significant savings for AMS over the next 5 years (ACCESS Health International, 2022).	<ul style="list-style-type: none"> • Set up or promote a regional talent exchange programme (including Japan and ASEAN) to offer training opportunities. • Leapfrog the UHC model through technology, including base enablers such as internet access and mobile wallets. • Continue digitalisation in areas like cloud, electronic medical records, and low-bandwidth health care apps (e.g. for

No	Recommendation	Details
3	Tackle lifestyle and chronic diseases, an inevitable need for AMS as their economies develop.	<p>telehealth, decentralised patient education, even social media).</p> <ul style="list-style-type: none"> • Take an example from Viet Nam, which issued 97 million digitalised social security numbers through the VssID mobile app, positioning the country to revolutionise the insurance process under UHC design. • Leverage benefits of these programmes in the form of data collection, helping provide the insights and investment cases needed to construct policies and to monitor implementation outcomes more effectively. • Consider how to equip more institutions with faculty to boost the number of available physicians. • Prepare the primary care community for more specialty training, a proven technique in Japan. For example, for diabetes, this means providing educational materials and incentivising wearable technologies for improved data sharing. • In more niche domains like rare diseases and cancers, consider increasing screening and establishing cross-border specialist-to-specialist networks.
4	Step up preventative efforts for infectious diseases, which will continue to be a challenge for AMS.	<ul style="list-style-type: none"> • Increase the availability and access to immunisation programmes, one of the most cost-effective public health interventions available. For example, in Japan, the Ministry of Health, Labour, and Welfare collaborates with the Ministry of Education on vaccine awareness programmes. • Ensure that vaccine records become digitised over time, helping governments track and manage future outbreak scenarios.

No	Recommendation	Details
5	Utilise public–private partnerships to achieve the UHC commitment. In Japan, for example, a UHC success factor was the government working with private primary care providers, such as small hospitals, to manage the demand on the system.	<ul style="list-style-type: none"> • Lean on the private sector for global best practices, including in areas such as supply chains and logistics (as observed during the COVID-19 pandemic). • Align models for privatised provision of health care services, which ASEAN populations will begin to seek out as the middle class develops. • See the private sector as a source of innovation and a financial contributor, in terms of taxation, employment, and other joint investment schemes. • Undertake a new flagship programme, such as establishing a national preventative care centre, to share lessons beyond AMS and to train the next generation of leaders.

AMS = ASEAN Member States, ASEAN = Association for Southeast Asian Nations, UHC = universal health coverage.
Source: Authors.

Table 3.5: Recommendations for the Private Sector and Academic Collaboration on Universal Health Coverage

No	Recommendation	Details
1	Bring creativity to financing solutions, given the UHC resourcing challenges faced by AMS governments.	<ul style="list-style-type: none"> • Consider how to utilise private insurance, traditionally under-penetrated, as a form of financial security to the populations on the basis that necessary medical care is publicly provided. • Consider social impact bonds. For example, in Hiroshima Prefecture in Japan, these bonds were used to increase the rate of colorectal cancer screenings, leading to savings in downstream medical expenses and ultimately a return to private investors.

No	Recommendation	Details
2	Invest beyond health care into wider GDP and socioeconomic development.	<ul style="list-style-type: none"> • Leverage public-private financial schemes from abroad, which could be tailored to the UHC context in AMS. • Seek, where possible, to localise research, production, and employment activities. • Partner with international development agencies and non-traditional new entrants who have like-minded UHC goals. • Leverage the public-private trust that developed during the COVID-19 pandemic, for example, on supply chains. • Deploy business models that can develop and harness an emerging middle class expected to have greater demands on the health care system.
3	Align to health system reforms.	<ul style="list-style-type: none"> • Topics include ongoing campaigns in AMS for increasing health care literacy, encouraging preventative health behaviours, and enabling capabilities like self-care. • Bring technology expertise to areas such as internet penetration and health care infrastructure, like cloud and digitised patient recordkeeping. • Lead by example to help UHC programmes achieve scale. For example, in Japan, employers are obliged to provide annual medical check-ups for employees.
4	Construct and contribute to consolidated health care database initiatives. AMS are expected to move quickly on this topic as a UHC leapfrogging imperative.	<ul style="list-style-type: none"> • Bring best practices to digital transformation, such as harnessing data repositories for use in policy design and evaluation. • Other examples include integration of vaccine records, new-born screening to triage abnormalities earlier in life, and algorithms for data generated from wearable technologies (e.g. identification of disease risk factors).

No	Recommendation	Details
5	Maximise available resources and enable health system efficiency to overcome workforce deficiencies.	<ul style="list-style-type: none"> • Provide administrative support in areas such as maintaining population eligibility information, collecting coverage premiums, and potentially serving as an intermediary reimbursement vehicle. • Establish close relationships between payer and provider organisations, which enable the public sector to prevent overtreatment and rehospitalisation and the private sector to provide managed services across the patient life cycle as additional value through consolidation. • Iterate programme improvements with the public sector by ramping up monitoring and evaluation efforts.

AMS = ASEAN Member States, ASEAN = Association of Southeast Asian Nations, UHC = universal health coverage.
Source: Authors.

ERIA Activities to Accomplish the Universal Health Coverage Vision

Fumitaka Machida and Takuma Kato, ERIA

Japan has strong research capability, universal access to quality health care services, personnel with high morale, and industries such as pharmaceutical companies that rank third globally in originating top-selling drugs. Japan was, in fact, one of the first countries to achieve universal health coverage, which developed even under the economic slowdown of the past 30 years. This has been made possible by the strong ecosystem of collaboration amongst industry, government, academia, and medicine.

Yet it has also proven difficult to create the synergy that allows stakeholders in the sector to work together for more efficient and effective health services delivery, research and development, regulation, production, national economy, and health diplomacy, which are all interlinked under

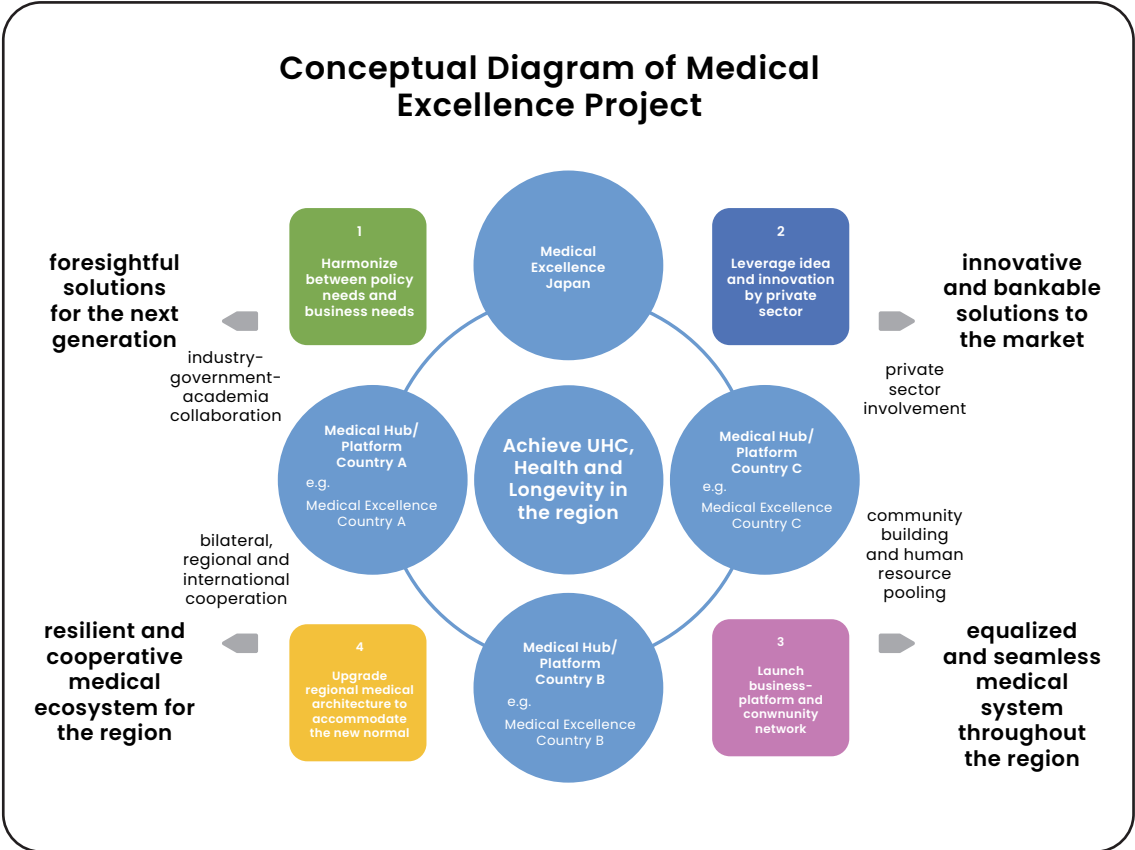
the situation where the perspectives and mind-sets of the major actors and relevant ministries differ. Regarding pharmaceuticals, for example, there are various steps before they are widely used as medicines or vaccines, including basic research, verification of safety and efficacy, approval through legal procedures, protection of intellectual property rights, business planning and pricing to meet market demand, and production and sales.

Accordingly, Japan decided to strengthen its coordination function in the government. To have a more organised ecosystem, Medical Excellence JAPAN (MEJ) was established in 2011 as a general incorporated association and hub platform to promote cooperation with foreign countries through connecting the Japanese ecosystem with overseas ecosystems. Subsequently, the government approved the Basic Principles of the Asia Health and Wellbeing Initiative in 2016 (revised in 2018). Under this initiative, the exchange of long-term care-related personnel and collaboration of long-term care services with other countries have expanded, and MEJ is currently serving as the secretariat.

Neither Japan nor ASEAN Member States have complete health care ecosystems. What each country lacks, like-minded countries can fill in the gaps; only when the ecosystems of like-minded countries are linked together can a resilient ecosystem be created in a specific country and in the region.

In the region where the perspectives, mind-sets, interests, and priorities of major stakeholders are diverse, comprehensive coordination is essential and a common challenge. One possible measure to alleviate these bottlenecks is to create MEJ-like institutions or fora in each country. In the future, when these fora collaborate mutually, health improvement and the competitiveness of the Asian health care industry can improve. Against this background, ERIA set up a special team for coordination, and full-scale activities began in 2021 to realise mutually beneficial cooperation of Asian countries through formulating an industry-government-academia-medicine collaboration mechanism by referencing the MEJ model (Figure). In response to these efforts, the MEV-MEJ Forum was established in Viet Nam. In India, efforts are underway to establish Medical Excellence India.

Medical innovation can emerge in any country. No country can build and maintain an adequate health care ecosystem in a closed form on its own. It is necessary for technology, human resources, and experience to circulate together and complement each other throughout the region.



Source: Authors.

3.7. Sustainable Energy

3.7.1. Past ASEAN–Japan Energy Cooperation

Japan possesses high-quality energy technology, especially in the areas of power transport systems, energy conservation, highly efficient fossil fuel-fired power generation, and fossil fuel stockpiling, and has long supported the ASEAN region in these fields. Japan’s support has been presented at meetings such as the ASEAN Ministers on Energy Meeting Plus Three, which has been held annually since 2004, and the East Asia Summit Energy Ministers Meeting, which has been held annually since 2007. Human resources development; knowledge sharing; and research cooperation on energy security, including oil stockpiling, high-efficiency coal-fired power, and energy conservation have been ongoing. In addition to these initiatives, recent trends have been marked by new initiatives related to renewable energy; carbon dioxide capture, utilisation, and storage (CCUS); and hydrogen in the transition to a low-carbon society.

In the field of energy conservation, ASEAN–Japan cooperation was initiated in 2000, with the implementation of the project for Promotion of Energy Efficiency

and Conservation (PROMEEC) and the Multi-Country Training Programme on Energy Conservation for ASEAN Countries. In 2012, the PROMEEC project was replaced by the ASEAN–Japan Energy Efficiency Partnership (AJEEP), which is implemented by the ASEAN Centre for Energy and the Energy Conservation Center, Japan in cooperation with the ASEAN Energy Efficiency and Conservation Sub-Sector Network. Under the AJEEP, starting with consulting support on policies and legal systems in AMS with advanced energy efficiency and conservation promotion infrastructure (i.e. policies and legal systems), projects were formed to help develop energy efficiency and conservation businesses. The AJEEP has also contributed to human resources development to narrow country-specific gaps in energy conservation infrastructure.

In the field of energy security, energy supply security planning for ASEAN was initiated in conjunction with the ASEAN Senior Officials' Meeting on Energy (SOME)–Ministry of Economy, Trade and Industry of Japan (METI) cooperation programme in 2000. The programme also aims to strengthen energy security through the development and improvement of policies related to the stable supply of energy, especially oil, in AMS. After recognising the importance of energy supply security through information exchange and seminars for energy policy experts from ASEAN and Japan, Japan helped organise data and prepare an energy demand outlook (ACE, 2011), which are key elements in assessing energy security in the recent.

3.7.2. Recent World Energy Situation

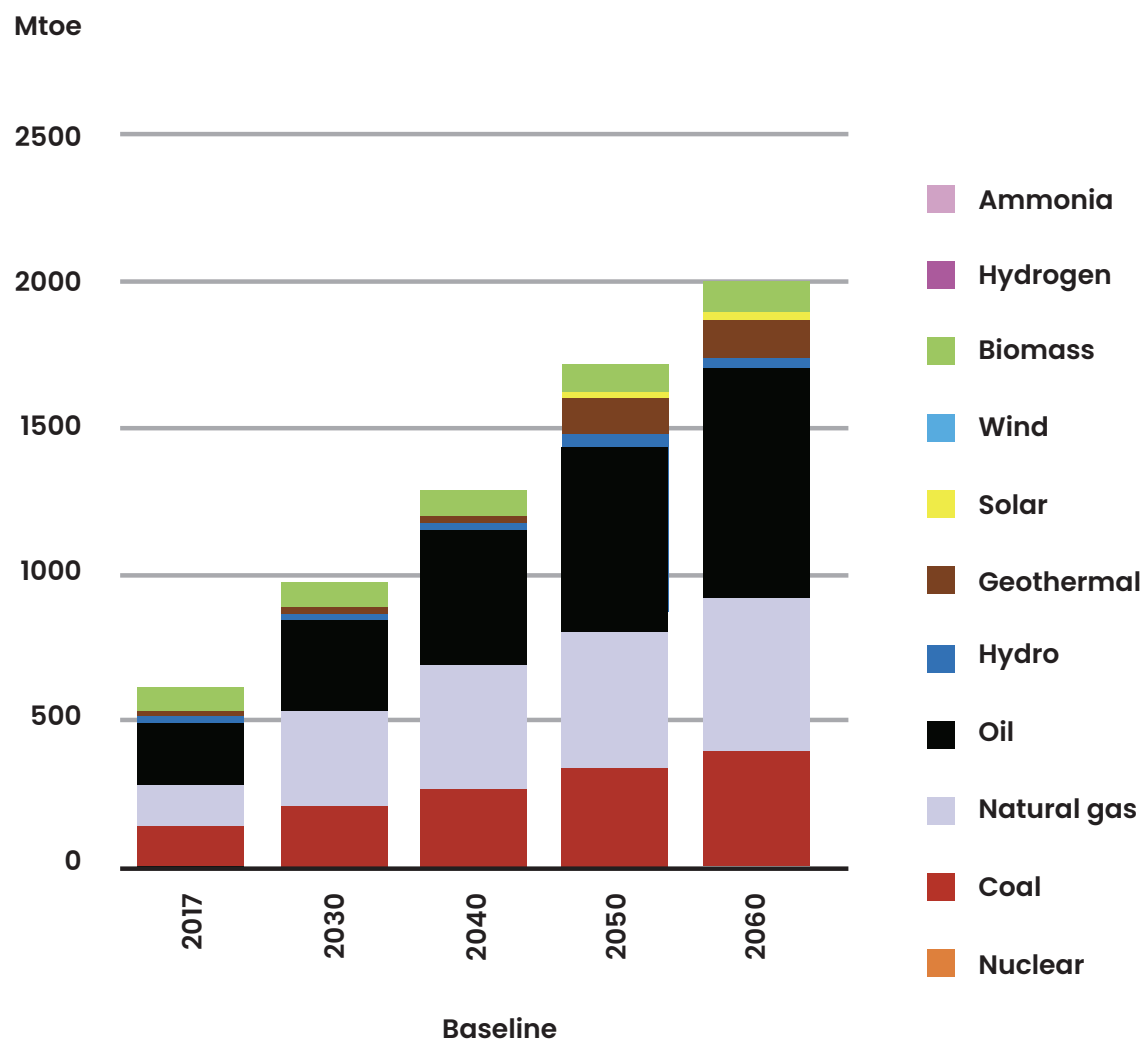
Currently, the discussion on climate change is becoming more active around the world. All countries, including AMS, that participated in the 2021 United Nations Climate Change Conference in Glasgow, United Kingdom announced their carbon-neutral scenarios to 2050 or 2060. In addition, the World Bank and various European financial institutions have announced that they will take tougher stances on financing fossil fuels. The Asian Development Bank (2021) also announced that it will not support coal mining, processing, storage, and transport nor new coal-fired power generation as a new policy of lending to the energy sector in 2021. Its energy policy also states that there will be no support for natural gas exploration and mining and only limited support for midstream and downstream natural gas that meets conditions such as cost, decarbonisation, and operation period guidelines.

The Russian invasion of Ukraine has further exacerbated imbalances of global fossil fuel demand and supply, stoking inflationary pressures and slowing pandemic recovery. The immediate reduction of the oil supply due to the collective efforts of Western-led sanctions on Russia has recast the global energy trade and made the oil market vulnerable, putting pressure on global fossil fuel supply security. This is causing an increase in overall energy costs and deepening energy security concerns around the world.

3.7.3. Energy Situation in ASEAN

ASEAN's primary energy supply in 2060 is estimated to substantially increase to about 3.3 times the 2017 level (Kimura et al., 2022). In addition, fossil fuels such as coal, natural gas, and oil will continue to increase in 2060, and their share in the energy mix in 2060 is expected to be more than 80% (Figure 3.3).

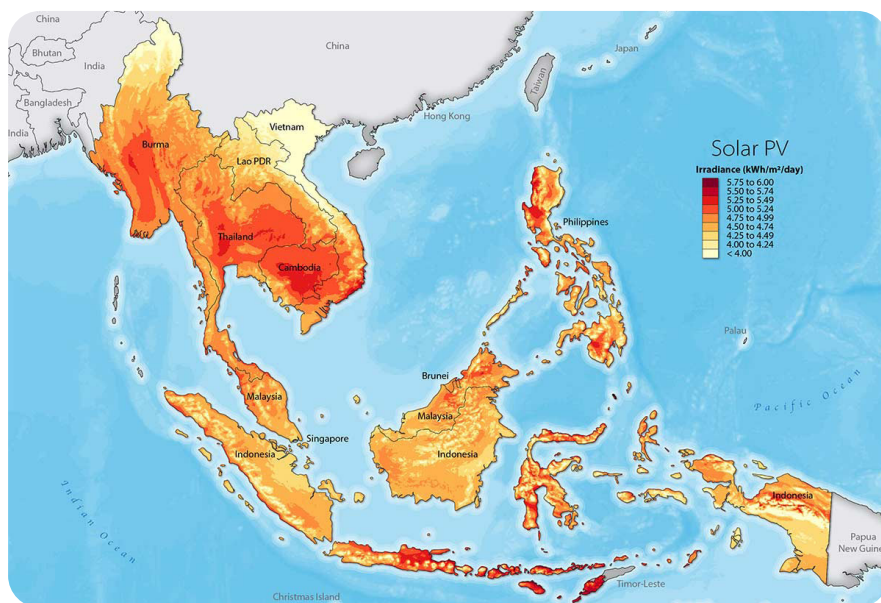
Figure 3.3: Primary Energy Supply in ASEAN



Mtoe = million tonnes of oil equivalent.
Source: Kimura et al. (2022).

Renewable energy development in the ASEAN region is currently on pace, but these figures reveal that the potential of these renewable energies differs from region to region, and this tendency is particularly pronounced for wind power generation. Therefore, the areas where renewable energy can be introduced at a low cost are few, and fossil fuels remain an important source of electricity. This renewable energy situation differs from that of Europe, where renewable energy resources are abundant, especially wind. In addition, the ASEAN region has distinctive energy landscapes compared to North America and Europe in terms of stage of economic development, current energy mix, resources endowments, and cross-country interconnection.

Figure 3.4: Solar Resource Potential across ASEAN



Source: Lee et al. (2020).

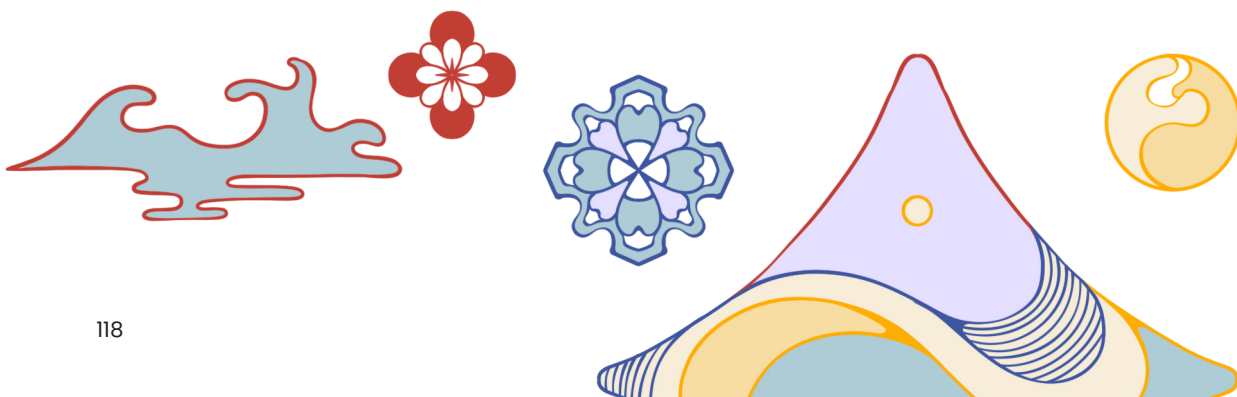
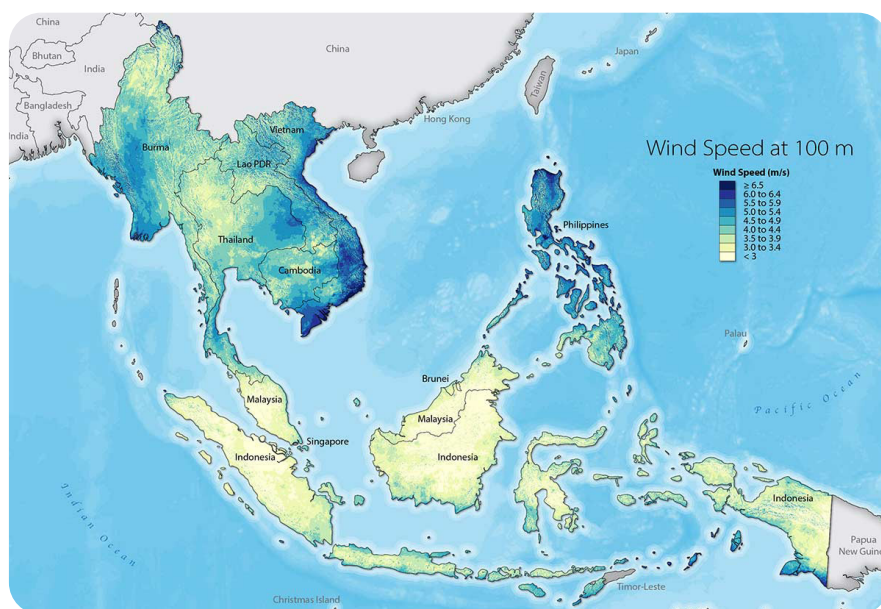


Figure 3.5: Wind Resource Potential across ASEAN



m/s = metre per second.
Source: Lee et al. (2020).

3.7.4. Ongoing and Future ASEAN–Japan Energy Cooperation

Future ASEAN–Japan energy cooperation will occur in the areas of carbon neutrality, energy security, and human resources development. Japan has provided support for these efforts in the past.

Regarding carbon neutrality, METI (2020) stated that energy cooperation with AMS will become increasingly important. METI announced the Asia Energy Transition Initiative (AETI) in 2019, which is a comprehensive support measure for the energy transition in Asia. The AETI consists of the following five foundations:

- (i) support for formulating energy transition road maps towards implementing carbon neutrality;
- (ii) presentation and promotion of the Asian version of energy transition finance;
- (iii) \$10 billion in financing support for renewable energy, energy efficiency, LNG, and other projects;
- (iv) support for the development and deployment of technology, utilising a ¥2 trillion fund; and
- (v) human resources development, knowledge sharing, and rules-making on decarbonisation technologies.

Based on the AETI, ERIA has conducted studies on energy transition scenarios and transition technologies in the ASEAN region, emphasising the importance of a diversity of mitigation pathways towards carbon neutrality, including highly efficient combined-cycle gas turbine, coal and ammonia co-combustion, gas and hydrogen co-combustion, coal and biomass co-combustion in power generation with the possibility of CCUS, and financing for related technologies (Kimura et al., 2022; Han, 2022).

In line with the AETI, Japan also aims to realise the Asia Zero Emission Community (AZEC) with like-minded Asian countries. The AZEC consists of four frameworks: zero-emissions technology development, international joint investment and co-financing towards this goal, standardisation of technologies, and a carbon credit market. Strengthening energy security to support zero emissions in Asia will also be promoted. The AZEC intends to help build decarbonised supply chains, such as hydrogen and ammonia, as well as technology development and deployment, with the support of and through coordination amongst relevant parties.

Although the AETI and AZEC are comprehensive, well-designed frameworks of ASEAN-Japan energy cooperation, many details remain unresolved. The following recommendations are designed to help create a more specific action plan to achieve the goals of both frameworks.

First, technology development, demonstration, and supply chain development must be actively promoted. As stated previously, based on the AETI, Kimura et al. (2022) conducted a study on energy transition scenarios and stated that achieving carbon neutrality in ASEAN will require a combination of various low-carbon technologies in addition to renewable energy installations. However, many of these technologies are currently too expensive for most AMS. Therefore, the key is not to pursue any particular technology but to identify cost-effective technologies. Japan therefore must actively develop and demonstrate these technologies and then provide them to ASEAN. Furthermore, ASEAN and Japan should promote the development of supply chains towards this objective.

Second, appropriate financial support for energy transition technologies is key. As the European Union and Singapore are focussed on green technology, some of the phased transition technologies needed in ASEAN – such as ammonia co-firing – have not been financially supported. Therefore, it is necessary to establish a common taxonomy for the ASEAN region to ensure that the technologies needed for its energy transition are appropriately funded. As part of the AETI, the Asia Transition Finance Study Group published the first version of such taxonomy in 2022, and ERIA published the first version of the transition technical list in 2022. Facilitation of such transition financing should continue by updating these documents and expanding stakeholder relationships into the future.

Third, support and cooperation are needed for the effective use of energy resources. Specifically, these include improvements in energy efficiency and

energy connectivity. Cooperation between Japan and ASEAN in these areas has taken place, but it is becoming even more important as energy security has become a top priority for most countries – including AMS – due to unstable energy prices. Improvements in energy efficiency and energy connectivity also are helpful in achieving carbon neutrality affordably.

Indeed, energy efficiency has great potential in ASEAN, especially in the industrial, transport, and building sectors. However, there are few managers and experts capable of forming and managing such projects. Therefore, for energy efficiency knowledge and skills to spread widely throughout the ASEAN region, it is important to support capacity building continuously, as is occurring through the AJEEP.

In terms of enhancing energy connectivity, regional cooperation contributes to more efficient deployment of low-carbon technologies, including renewable energy. The ASEAN Power Grid initiative is seeking to optimise investments on a regional scale rather than individually in each AMS, help balance excess supply and demand, reduce the costs of developing energy infrastructure, and accelerate development of renewable power generation into the regional grid. This initiative is first occurring on cross-border bilateral terms, then expanded sub-regionally, and finally to a totally integrated regional system.

ASEAN successfully launched sub-regional power trade in the Lao PDR–Thailand–Malaysia–Singapore Power Integration Project, the first pilot project for multilateral power trade in ASEAN. The knowledge gained, such as wheeling methodology and development processes, can be used in the ASEAN Power Grid and further stimulate discussions. However, the ASEAN Power Grid has issues that more complex than those in the above project, such as consensus building amongst stakeholders, establishment of a power-trading institution, market design, and infrastructure development. ASEAN must be sure to engage in steady discussions from a long-term perspective while involving countries with knowledge in these fields, such as Japan, those in Europe, and the United States.

It must also be noted that Japan will benefit greatly from the ASEAN Power Grid. The efficient supply of renewable energy will enable many Japanese companies in ASEAN to conduct their business activities using green energy. This will improve their social reliability and brands. In addition, the ability to connect large amounts of renewable energy to the grid will create more opportunities for Japanese companies to penetrate ASEAN as a power producer.

Lastly, human resources development for associated policy design and implementation is essential. The pace of low-carbon technology diffusion is strongly influenced by the ability of individuals and institutions to make informed and effective decisions. Yet in many AMS, the institutional capacities of energy, environment, and economic ministries remain weak; some do not have even basic statistical data. Japan has focussed on developing human resources in ASEAN

capable of developing energy outlooks as the bases for policy design in past projects. However, continuous support to increase the number of people who can update energy outlooks and formulate policies, including manage basic statistical data, is crucial.

3.8. Lessons and Areas for Cooperation to Support Sustainable Tourism in ASEAN

3.8.1. Introduction

The vision for ASEAN tourism, as articulated in the *ASEAN Economic Community Blueprint 2025*, is to make the region a quality tourism destination, which offers a unique and diverse experience and is committed to sustainable tourism development (ASEAN Secretariat, 2015a). In realising this vision, the *ASEAN Tourism Strategic Plan, 2016–2025* details two strategic directions: (i) enhance the competitiveness of ASEAN as a single tourism destination, and (ii) ensure that ASEAN tourism is sustainable and inclusive (ASEAN Secretariat, 2015b). Sustainable and inclusive tourism is to be promoted through upgrading communities and private sector participation in the tourism value chain; ensuring the safety, security, and protection of tourism and heritage assets; and increasing responsiveness to the environment and climate change.

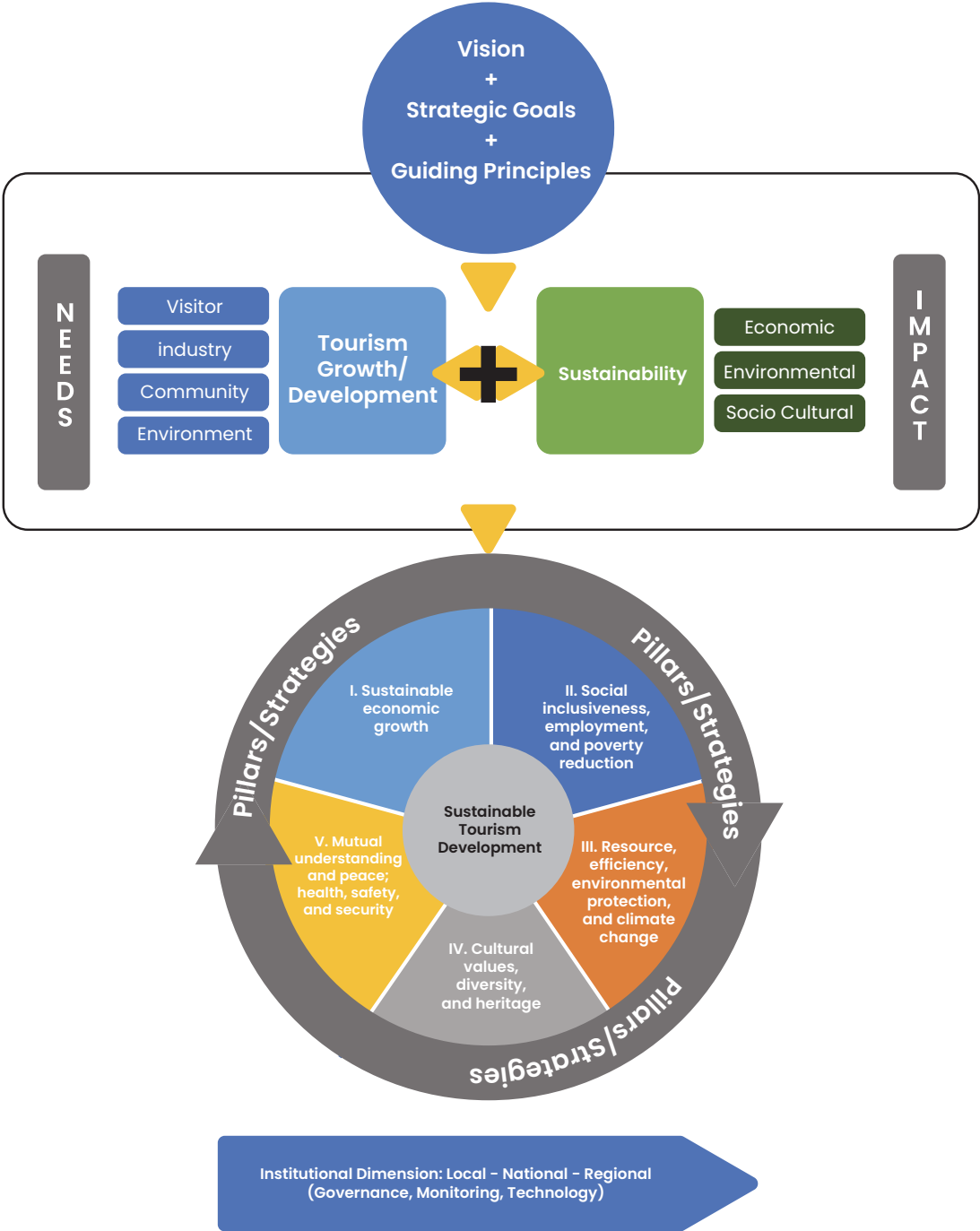
Following the mid-term review of the plan in 2020, an updated plan was released in January 2021, which recognises the need to encourage more programmes and activities that promote sustainable and responsible tourism development in ASEAN to balance the previous focus on marketing and promotional efforts. Furthermore, the *Phnom Penh Declaration on More Sustainable, Inclusive and Resilient ASEAN Tourism* was adopted in February 2021, which called for closer collaboration amongst AMS as well as with relevant international organisations and tourism stakeholders; expeditious development of a post-COVID-19 recovery plan for ASEAN tourism; promotion of opportunities, especially for micro and SMEs, vulnerable groups, and other affected communities; and enhanced capacity building towards these goals (ASEAN, 2021c).

In addition, the COVID-19 pandemic required ASEAN to revisit its tourism strategy as it prepared for the recovery and long-term resilience of the region. While offsetting the devastating impacts of the pandemic on the tourism sector, the pandemic should also serve as an impetus for the sector to 'build back better' by designing a more sustainable tourism sector that underpins its resilience.

Recognising the important role of sustainability in the recovery of the tourism sector, the *ASEAN Framework on Sustainable Tourism Development in the Post-COVID 19 Era* was developed by ERIA and endorsed by ASEAN tourism ministers in February 2023 (ASEAN, 2023). The framework provides a multi-sector approach to sustainable tourism development by leveraging the work that is already being

undertaken by relevant sectors in the ASEAN community that have direct relevance to and impact on the pursuit of sustainable tourism development in the region (Figure 3.6).

Figure 3.6: ASEAN Framework on Sustainable Tourism Development in the Post-COVID 19 Era



Source: ASEAN (2023).

Going forward, developing an action plan on how sustainable tourism can be more explicitly incorporated in their agendas – and how the tourism sectors can incorporate related initiatives into their sustainable agendas – needs to be analysed and explicated, together with identifying appropriate modalities for cooperation, coordination, and/or collaboration. Doing so requires comprehensive planning and adequate resources for effective development and implementation. The support of ASEAN’s dialogue partners, including Japan, is essential in this endeavour.

3.8.2. ASEAN–Japan Cooperation in Tourism and Sustainable Tourism

Japan supports ASEAN tourism primarily through the ASEAN Promotion Centre on Trade, Investment and Tourism – also known as the ASEAN–Japan Centre – an intergovernmental organisation established by AMS and Japan in 1981 in Tokyo, through the conduct of seminars, workshops, capacity-building programmes, research and policy analysis, cross-cultural events, and publication and information dissemination services. Over the years, the ASEAN–Japan Centre has promoted ASEAN tourism through the production and dissemination of promotional videos and other materials; youth and other cultural exchanges; and provision of training and other technical assistance to enhance ASEAN tourism stakeholders’ capacity to better cater to Japanese tourists, promote ASEAN tourism to the Japanese market, and strengthen product development. The ASEAN–Japan Centre also promotes investment in the ASEAN tourism sector through investment seminars.

The nature of the assistance provided by Japan to ASEAN tourism is largely determined under the ASEAN Tourism Strategic Plan, 2016–2025, which identified ASEAN–Japan cooperation under Strategic Direction 1 through diversification of tourism products; raising capacity and capability of human capital; implementation and expansion of connectivity and destination infrastructure, particularly the air services agreement and the ASEAN–Japan Cruise Promotion Strategy; and digital tourism.

There is no explicit role for ASEAN–Japan cooperation under Strategic Direction 2, which includes priority initiatives related to upgrading local communities and public–private sector participation in the tourism value chain, ensuring safety and security, prioritising protection and management of heritage sites, and increasing responsiveness to environmental protection and climate change. However, Japan has indeed provided support for sustainable tourism in ASEAN. In particular, some key Japanese initiatives for other sectors impact sustainable and inclusive tourism in ASEAN, such as initiatives related to connectivity; smart cities; energy; resilient and sustainable agriculture and food systems; the environment; climate change; people-to-people, sports, and cultural exchanges; protection of heritage sites; and peace and security.

The Meeting of ASEAN Plus Three Tourism Ministers (M–ATM+3) also serves as a platform for Japan’s support of tourism and sustainable tourism in ASEAN. Main

areas of collaboration to promote quality tourism over the years have included cruise tourism, cultural and eco-tourism, youth exchanges, human resources development, joint tourism marketing and promotion, quality assurance, safety measures for tourists, tourism crisis communications, and tourism statistics. In 2017 – which the United Nations General Assembly declared the International Year of Sustainable Tourism for Development – the 16th M-ATM+3 called for the promotion of sustainable tourism cooperation in the region. The 19th M-ATM+3, held in January 2020, endorsed environmental management standards and encouraged all ASEAN+3 countries to use these as their guidelines in implementing more sustainable tourism. Most recently, the 22nd M-ATM+3, held in February 2023, encouraged ASEAN+3 national tourism organisations to focus on capacity building, sustainable tourism, digital transformation, tourism marketing, strengthening the role of micro and SMEs, and identifying new initiatives to be implemented.

3.8.3. Some Lessons and Potential Areas for Cooperation with ASEAN

In terms of tourism policy in Japan, the focus during the 1970s and 1980s was primarily to support and to develop domestic and outbound tourism. The focus on national tourism and natural conservation aimed to encourage local and regional economic development and revitalisation. Outbound tourism aimed to support the economies of destination countries as well as to enhance the mutual understanding between nations, which has been an important aspect of Japan's tourism policy. The focus of its tourism policy shifted in 1997 towards increasing inbound tourism to both enhance international relations (i.e. encouraging more people to visit Japan to promote understanding of the country and people) and to stimulate economic growth, particularly in regional economies and industries challenged by an ageing and decreasing population, urbanisation, and rural decline. Thus, an initial goal was set in 2003 of increasing international arrivals to 10 million by 2010; this rose to a target set in 2012 of 25 million international arrivals by 2020, and later to increased targets of an ambitious 40 million international arrivals by 2020 and 60 million by 2030. While the domestic tourism market remained bigger than the international market, remarkable growth has been achieved, with the 10 million mark being exceeded in 2013, the 20 million mark in 2015, and the 30 million mark in in 2018 (Sharpley and Kato, 2021).

Not surprisingly, the rapid growth in and concentration of tourism in a few well-known destinations in Japan also led to increased concern for and initiatives related to the sustainability of tourism in recent years. Amongst the concerns were overcrowding and pollution at the country's major attractions and the resulting burden on residents and communities. The COVID-19 pandemic likewise called for a reassessment of Japan's policies and targets for international tourism, such as a move towards alternative qualitative growth-based or even non-growth-based tourism policies that would address the wider socioeconomic challenges faced by the country.

The concept and practice of sustainability have deep roots in Japanese culture. A recent demonstration of this is the global attention received by some Japanese football fans for cleaning up trash at the 2022 FIFA World Cup in Qatar. More generally, concern for sustainability and environmental issues – and the welfare of local communities – formed part of Japan’s historical tourism development policy, and environment and development were not seen as mutually exclusive. Rather, the view was that reinforcing efforts for environmental protection by the tourism industry and tourist destinations would increase the attraction of tourist destinations, thereby contributing to their sustainable development and the creation of tourist destinations that are nice to live in and visit. While more recent policies focus on transforming Japan into a ‘tourism nation’ (MLIT, 2012:2) to support national economic growth and regional revitalisation through increasing international arrivals (MLIT, 2016), the goals of enhancing local community well-being and international understanding continue to be highlighted (Sharpley and Telfer, 2015; Sharpley and Kato, 2021). The need to build cooperative arrangements involving various stakeholders in Japan’s tourism sector, including local public bodies, residents, and the tourism industry, is also recognised to ensure that environmental protection forms the core of sustainable growth for the tourism sector (Alduais, 2009).

In 2022, Japan ranked 19 out of 163 countries in terms of achievement of the SDGs, with an average achievement score of 79.6%.³ Remaining challenges were identified in the areas of gender equality, responsible consumption and production, climate action, life below water, life on land, and partnerships, although moderate improvements were also noted in some of these areas. While not yet perfect, there are some lessons to be learned from Japan’s pursuit of sustainable development in general – and sustainable tourism in particular – that could be useful for ASEAN and provide inputs in developing additional areas for tourism cooperation between ASEAN and Japan.

Some key lessons from Japan’s pursuit of sustainable tourism are discussed below, together with a brief discussion of how they relate to the ASEAN framework’s pillars and strategic areas for intervention and the potential role of ASEAN–Japan cooperation to support those areas.

3.8.3.1. Promote and Manage Tourism as a Tool for Regional or Local Development and Revitalisation

Historically, Japan has promoted domestic tourism coupled with natural conservation as a means of promoting local and regional development and revitalisation, which was facilitated by the development of transport infrastructure, particularly extensive road and rail networks. More recent policies to promote inbound tourism aim to utilise the country’s abundant natural and cultural

³ Sustainable Development Report, Sustainable Development Report 2022, <https://dashboards.sdgindex.org/>

resources, such as spiritual sites, spas, traditional lifestyles and cuisines, arts, crafts, and skills deeply rooted in the environment and traditions that hold natural sustainability as their core.

In an extensive review of the literature on Japanese tourism, Horita and Kato (2018) noted that two key terms are typically used. *Kankō* refers to the specific role of tourism in region/local destination development. *Machizukuri*, which is one of the most prominent concepts in the Japanese approach to tourism as community and regional development or revitalisation, may be defined as sustainable community development, with a focus on social capital, community unity, and resilience based on regional knowledge, wisdom, and sense of place. Such community-based and people-focussed tourism needs to be more strongly highlighted in ASEAN as a means of achieving sustainable economic growth, especially at the local level and in rural areas, as well as promoting and protecting the environment and cultural heritage.

3.8.3.2. Engage Local Communities

Local communities have been actively engaged in the development and use of spaces for tourism and leisure in Japan. Oura (2018) examined the historical development of national forest management and policy and its relationship to tourism policy in Japan, noting that transformations in national forest administration policy since the 1990s have brought about collaborative forest management under the new concept of 'forests for people'. She concluded that wider implementation of such initiatives, including public participation in management, is needed to promote the further development of forest tourism in Japan.

Horita (2018) highlighted the engagement of local communities in the development and use of urban spaces for tourism and leisure in larger metropolises and small and medium cities in Japan. However, tensions remain between a development-oriented focus based on economic growth and collaborative management based on valuing the locality with the prospect of active citizen participation in local management. The ASEAN framework also calls for greater focus on people's engagement and empowerment in the pursuit of sustainable tourism development.

3.8.3.3. Tourism and Natural Catastrophes

Many AMS are prone to natural catastrophes, as is Japan. The importance of tourism development in the early stages of a recovery process following a natural disaster is highlighted by Kato (2018) in the context of the 2011 Tōhoku earthquake and tsunami, particularly by helping communities maintain their connection to their place. In particular, tourism that built on traditional ecological knowledge helped affected communities maintain their connection with the land, which is argued to be the core of resilience.

The COVID-19 pandemic devastated local economies and rural communities in Japan that are reliant on inbound tourism. The immediate challenge facing them is the opposite of overtourism, as local customers are not enough to sustain their operations. While the effects of the pandemic linger, it is an opportune time for rural destinations to consider developing more sustainable forms of tourism.

Another important aspect is the vulnerability of international visitors and tourists. Looking at how national and local governments – as well as the tourism industry – in Japan have helped reduce international visitors' vulnerability to disasters such as earthquakes, tsunamis, typhoons, and floods is instructive. In particular, the role of digital technologies, such as mobile safety apps and social media, to disseminate up-to-date and accurate multi-lingual information needs to be highlighted. The ASEAN framework assigns a critical enabling role to digital technologies to promote sustainable tourism development.

3.8.3.4. Measuring Sustainable Tourism

Establishing necessary governance structures and generating the relevant information to support the design of appropriate tourism policies have been crucial in Japan. The need to build cooperative arrangements involving the various stakeholders in Japan's tourism sector, including local public bodies, residents, and the tourism industry, ensured that environmental protection formed the core of sustainable growth for the tourism sector. Increasing the numbers of destination management organisations have also created more effective management and promotion of regional tourism. In December 2007, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) conducted a survey of awareness on tourism and the environment, which targeted travel agents, hoteliers, and event organisers, to determine (i) the status of efforts for environmental protection, (ii) effects of efforts for environmental protection, (iii) problems related to efforts for environmental protection, and (iv) the support and systems sought to tackle environmental protection (MLIT, 2008).

The Japan Tourism Agency (JTA) was set up in 2008 under MLIT to enhance tourism-related measures to achieve the goal of transforming Japan into a tourism nation. In June 2018, JTA established the Sustainable Tourism Promotion Office as well as conducted a national survey amongst Japan's 1,765 local governments to benchmark the state of sustainability nationally, focussing on key elements including transport, accommodations, and infrastructure. Following the results of the survey, developing a set of internationally recognised sustainable tourism indicators to serve as national guidelines and facilitating local implementation were deemed necessary (JTA, 2019).

JTA then joined the Global Sustainable Tourism Council (GSTC) in 2019, expressing its commitment to adopt GSTC criteria as part of its tourism policy for destination management. A national set of guidelines, Japan Sustainable Tourism Standard

for Destinations (JSTS-D), which was based on the global GSTC standards adapted to the Japanese context, was issued (JTA, 2019). The JSTS-D is the criteria by which industry operators in Japan can seek certification as being sustainable to an international standard. The JSTS-D was developed by a committee composed of representatives from academia, World Tourism Organization, Japan National Tourism Office, JICA, Japan Association of Travel Agents, local governments, and JTA. JTA has selected 5 areas in 2020 and 15 areas in 2021 as model areas for the introduction of sustainable tourism destination management using the JSTS-D. Establishing appropriate governance structures and monitoring mechanisms to support sustainable tourism development is a challenge in most AMS. The ASEAN framework recognises that partnerships formed amongst intergovernmental departments, tourism businesses, civil society, local communities, tourists, international organisations, and other stakeholders are the building blocks for harnessing the full potential of sustainable tourism development. Timely, accurate, and comprehensive data to measure and to monitor tourism performance, impact, and sustainability is also critical. This area needs to be prioritised and will require significant resources, time, and expertise. The Japanese experience in developing and implementing its version of the GSTC criteria may yield helpful insights on whether and how AMS can adapt the criteria to their particular contexts.

3.8.4. Conclusion

The preceding discussion cites some key lessons that ASEAN may glean from Japan's sustainable tourism development, which may be further developed as areas of cooperation. There are also lessons that relate to sustainable tourism in other areas such as Japan's pursuit of a decarbonised society, community building in an era of climate change, cultural heritage and sustainable tourism, integrated innovation strategies, and unlocking SME potential for sustainability. The support of Japan in promoting ASEAN tourism to the Japanese market, providing training and other technical assistance to enhance ASEAN tourism stakeholders' capacity to better cater to Japanese tourists and to strengthen product development, and promoting investment in the ASEAN tourism sector will continue to be vital. A stronger focus, however, is needed on the sustainability aspects of the tourism industry and sustainably minded tourists.



3.9. The Circular Economy

The following policy recommendations are proposed to help develop a circular economy in the ASEAN–Japan context.

Recognise that the circular economy has become an important factor in the growth of the overall economy by capturing changes in society. ASEAN adopted the *Framework for Circular Economy for the ASEAN Economic Community* in 2021 (ASEAN, 2021a). The framework identifies three strategic goals, six guiding principles, and five strategic priorities. Although Japan has used a sound material cycle society instead of a circular economy, it has conducted various policies towards a circular economy, such as a waste source separation programme by local governments; establishment of recycling industrial parks; development of standards for goods made from recycled materials; and development of various recycling laws on packaging containers, large home appliances, small electronic waste, vehicles, food waste, and construction waste. In the process of developing and implementing these acts, the Ministry of the Environment (MOE), METI, and other ministries work together to enforce these circular economy regulations.

Support policies to promote investment in physical infrastructure related to the circular economy. In ASEAN, where green urbanisation is not progressing, infrastructure for waste collection and recycling – such as volume reduction technologies for transport – is lacking. Most of the recycling industry is located near large cities, where it can secure recyclable waste for the recycling process. In areas far from recyclers or where transport costs are high, recyclable waste is not collected.

In Japan, METI collaborated with local governments to start the eco-town programme in 1997. Local governments thus secured areas for the recycling industry. In addition, companies located in recycling industrial parks were able to lower transport costs. For example, companies dismantling e-waste send steel scraps to metal recyclers, plastic waste to plastic recyclers, and non-recyclable waste to waste energy plants.

In Japan's experience, in addition to the investment by recyclers, efforts by existing industries – such as steel, nonferrous metals, and chemicals – have been key, as they can accept various waste for some chemical processes. It is also important to invest in infrastructure for transport through official development assistance (ODA). In addition, the government must also prevent a monopoly or oligopoly of the shipping industry, because these increase the transport cost of recyclable waste.

Develop support for the circular economy. Market-based recycling based on incentives – such as those from Bank Sampah in Indonesia and Wongpanit, a junk shop chain in Thailand – have potential in ASEAN. Both advertise payments for various recyclable waste to encourage people to bring it to the bank or to

the shop. Such a collection mechanism works if recyclable waste is valuable. Institutional support or regulatory guidance for waste in each country that promotes such incentives is needed. Introducing extended producer responsibility is an option when the market-based collection system is ineffective. Moreover, some recycled products may not satisfy conventional industrial standards. It is therefore important to introduce industrial standards for recycled products. Such standards can be utilised in government initiatives for green procurement.

Support people related to the circular economy. During the period of high economic growth in Japan during the 1950s and 1960s, the waste collection system was very limited, and people's motivations were also low. A turning point in changing this behaviour was the Tokyo Olympic Games in 1964. Before the Olympics, the Tokyo metropolitan government removed communal waste bins from the streets and asked citizens to put their own plastic waste bins out for garbage trucks to pick up the waste.

3.10 ASEAN–Japan Cooperation on Human Capital Development

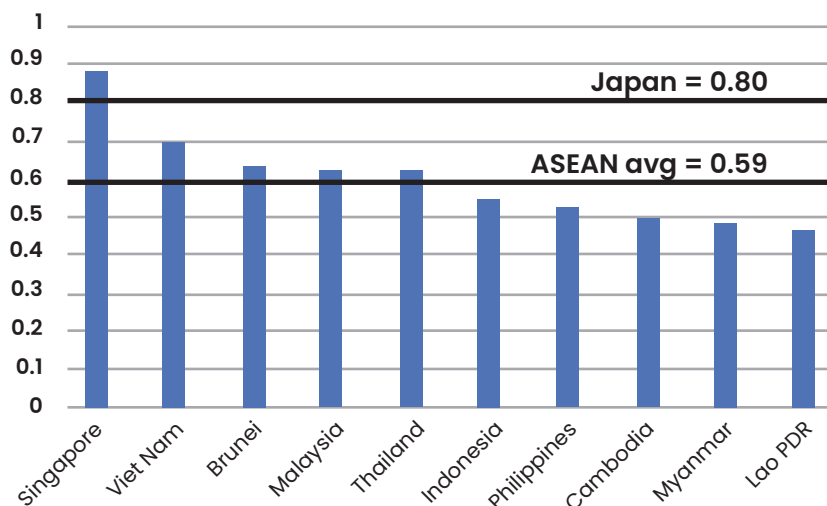
3.10.1 Rationale for Cooperation

ASEAN–Japan cooperation on human capital development can enhance deep economic cooperation. Japan is an important player in the ASEAN economy. Indeed, Japan's share of total inward FDI flow to ASEAN was around 12% during 2015–2021.⁴ Over one-third of Japanese investment in ASEAN went to manufacturing, followed by financial and insurance activities (25%), and wholesale and retail trade (11%). Over 70% of Japanese inflow into ASEAN went to sectors where technological disruption is likely to be the greatest in the form of automation, blockchain and digital finance, and e-commerce. As a result, the human capital needs of these sectors will increase, with greater demand for digital skills and the ability to perform non-routine and cognitive tasks. Thus, the level of skills of ASEAN workforce will determine the productivity of Japanese investments in the region.

However, many AMS lack such a skilled workforce. One summary of the level of human capital is provided by the World Bank Human Capital Index (World Bank, 2020). According to this index, compared to Japan's Human Capital Index (HCI) of 0.80, AMS had an average HCI of 0.59 (Figure 3.7). Only Singapore, with an HCI of 0.88, exceeded that of Japan. This lack of a skilled workforce has indeed been felt by Japanese companies in the region. A survey of Japanese affiliates by the Japan External Trade Organization reported a shortage of digital-related human resources as a barrier to the utilisation of digital technologies (JETRO, 2021).

⁴ASEAN, ASEANStats Data Portal, <https://data.aseanstats.org/fdi-by-hosts-and-sources> (accessed 30 November 2022).

Figure 3.7: Human Capital Index in ASEAN Member States



ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: World Bank, Human Capital Index, Data, <https://data.worldbank.org/indicator/HD.HCI.OVRL> (accessed 30 November 2022).

A deeper partnership between ASEAN and Japan in human capital development is necessary for a long-term economic partnership. Despite the current shortage of skills, ASEAN will continue to be an important economic partner for Japan due to its natural resources, deep economic integration, and relatively young population. Japan's working-age population is expected to shrink by 28% by 2050, while that of ASEAN will increase by 13% (Table 3.6). A skilled workforce in ASEAN can support the Japanese economy through labour migration in the future. By working together to upgrade ASEAN's human capital, ASEAN and Japan can continue to foster mutually beneficial economic partnership for years to come.

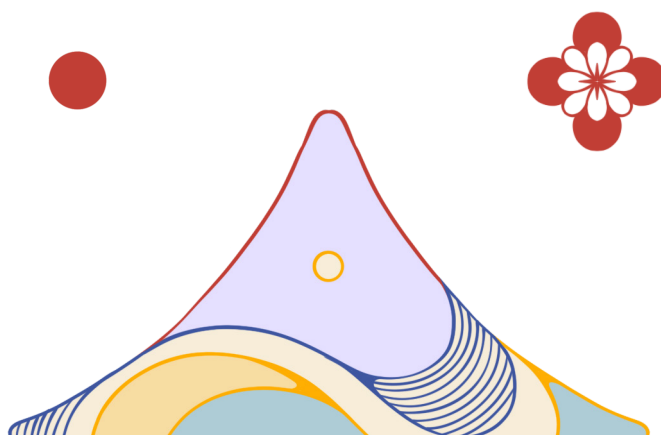


Table 3.6: Working-Age Population (ages 15–65 years), ASEAN Member States

Country	2020	2050 (projected)	Projected Change (%)
Indonesia	185.0	214.0	15.7
Philippines	71.0	96.0	35.2
Viet Nam	67.0	68.0	1.5
Japan	75.0	54.0	(28.0)
Myanmar	37.0	42.0	13.5
Thailand	49.0	38.0	(22.4)
Malaysia	22.0	27.0	22.7
Cambodia	11.0	14.0	27.3
Lao PDR	5.0	7.0	40.0
Singapore	4.0	4.0	0.0
Brunei Darussalam	0.3	0.3	0.0
ASEAN total	451.0	510.0	13.1

() = negative, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: Lemahieu and Leng (2021).

Japan has a strong record of human capital development and thus much to offer ASEAN. Miyazawa (2011) concluded that the increase in human capital could explain much of Japan's economic growth during the 1950s and 1960s. At present, Japan has a strong ecosystem for producing a skilled workforce, with universal basic education, a high tertiary completion rate, and a high level of government spending on education. In 2019, Japan spent 4% of its GDP on primary to tertiary educational institutions. The level of tertiary attainment amongst 25–34-year-olds was 65% in 2021, one of the highest amongst Organisation for Economic Co-operation and Development (OECD) and partner countries with available data.

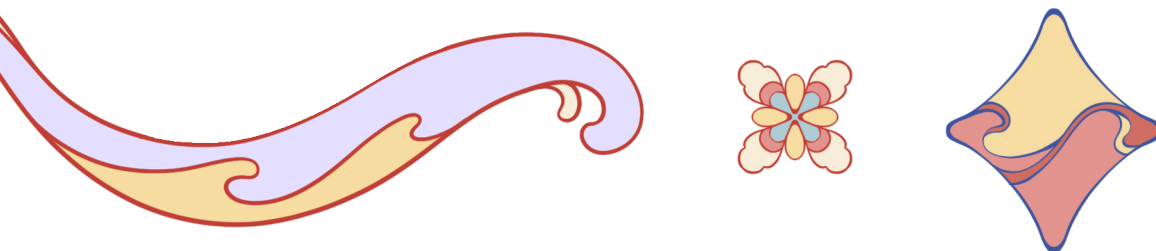
Five of its universities rank amongst the top 100 global universities.⁵ Amongst universities in ASEAN, two universities in Singapore rank within top 20, and one from Malaysia ranks within top 70. Through systematic cooperation, Japan's experience in human capital development can support rapid upgrading of skills development systems in ASEAN.

3.10.2. Types of Cooperation

ASEAN–Japan cooperation on human capital development could take both financial and non-financial forms. On the financial side, Japan can set up dedicated funds to support human capital development in ASEAN through loans and grants focussed on infrastructure development – most importantly on the digital capabilities of educational institutions – and incentive programmes for skills development. Financing to upgrade the digital capability of education institutions in ASEAN can be another key priority area. With a relatively young population, the demand for quality education in ASEAN is only going to rise.

Disruptions due to the COVID-19 pandemic has made it necessary to come up with new ways of providing quality education, requiring large investments by AMS. On 15 October 2020, ASEAN education ministers issued a statement that envisioned collaboration with ASEAN partners for digital transformation of education systems throughout ASEAN (ASEAN, 2020). ASEAN's desire to improve its education sector is also envisaged in the *ASEAN Work Plan on Education 2020–2025* (ASEAN Secretariat, 2020). Japan can be an important partner in fulfilling this goal by financially supporting key activities.

Japan is already active in the ASEAN education sector through ODA (Table 3.7). Most of Japan's assistance is disbursed bilaterally, but disbursing support at the ASEAN level would have the added benefit of supporting ASEAN's integration efforts and people-to-people connectivity.



⁵ QS Top Universities, QS World University Rankings 2023: Top Global Universities, <https://www.topuniversities.com/university-rankings/world-university-rankings/2023> (accessed 29 November 2022).

Table 3.7: Japan’s Official Development Assistance to Selected ASEAN Member States, 2021

Recipient	All Sectors (\$ million)	Education (\$ million)	Education Share (%)
Cambodia	470	18	3.9
Indonesia	1,033	30	3.0
Lao PDR	55	7	13.5
Malaysia	20	2	11.3
Philippines	1,175	4	0.3
Thailand	215	8	3.9
Viet Nam	440	28	6.3

Lao PDR = Lao People’s Democratic Republic.

Note: Data pertain to gross disbursements expressed in current prices.

Source: OECD, Creditor Reporting System (CRS), OECD.Stat, <https://stats.oecd.org/Index.aspx?DataSetCode=crs1#> (accessed 21 March 2023).

ASEAN and Japan could also work together to foster greater private sector investment in the education sector. According to ASEANStats data, net inward FDI in education in ASEAN in 2019 totalled \$306 million, out of which Japan’s contribution was \$15 million (5%).⁶ ASEAN and Japan could work together to further liberalise the education sector to FDI and to attract investments from Japanese academic institutions and training providers. Particularly in the technical and vocational education and training sector and education technology sector, investment from Japanese firms could help make them more responsive to the needs of the industry. Some estimates suggest that there were 318 ed-tech start-ups in Japan.⁷

Non-financial cooperation between ASEAN and Japan can occur between governmental agencies tasked with human resources development, between skills development institutions in ASEAN and Japan, and businesses. Cooperation

⁶ASEAN, ASEANStats Data Portal, <https://data.aseanstats.org/fdi-by-hosts-and-sources> (accessed 30 November 2022).

⁷Tracxn, EdTech Startups in Japan, <https://tracxn.com/explore/EdTech-Startups-in-Japan> (accessed 30 November 2022).

can occur in various forms, such as memoranda of understanding, training and capacity building, twinning and dual-degree programmes, and student exchanges. ASEAN and Japan can also work to provide institutional support for private sector cooperation. Training SMEs in ASEAN in Kaizen management practices could help improve their productivity.

Labour migration is another way for ASEAN and Japan to cooperate. Research has shown that immigration to high-wage, developed countries encourages human capital investment in origin countries. ASEAN will benefit if highly skilled nationals gather experience in developed countries and return to utilise those skills in their native countries. Increasing opportunities for the migration of ASEAN workers to Japan will not only help address the worker shortage in Japan but also improve the human capital situation in ASEAN.

One concern with labour migration from developing countries is the drain of human resources from the origin countries, which can hamper the origin country's development. One recommendation is to form a skills partnership between host and origin countries (Clemons, 2015). Under such an agreement, the host country funds training programmes in sending regions, training a larger number of workers than the number of eventual migrants. Such an arrangement ensures that there is adequate supply of skilled workers in both the host and origin countries.



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