

ALMIR LIMA NASCIMENTO
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(EDITORS)

BRAZIL AND ASEAN: PARTNERS FOR PEACE AND DEVELOPMENT



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Brazil and ASEAN: A New Partnership

Piragibe S. Tarragô

The Alexandre de Gusmão Foundation and its Institute for Research on International Relations, in collaboration with the Ministry of Foreign Affairs of Brazil and its Department for India, South and Southeast Asia, proudly present "Brazil and ASEAN: Partners for Peace and Development". The volume features contributions from Brazilian and Asian scholars and policymakers, addressing a broad spectrum of topics such as economic and diplomatic strategies, industrialization, agriculture, environmental issues, and energy transition. The chapters navigate the intricacies of international relations and global challenges providing not only a current snapshot of Brazil and ASEAN relations but also a blueprint for their collaborative potential ahead.



Fundação Alexandre de Gusmão
Brasil

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AND DEVELOPMENT

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**BRAZIL AND ASEAN:
PARTNERS FOR PEACE AND
DEVELOPMENT**

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Presentation

The Alexandre de Gusmão Foundation and its Institute for Research on International Relations, in collaboration with the Ministry of Foreign Affairs of Brazil and its Department for India, South and Southeast Asia, proudly present *Brazil and ASEAN: Partners for Peace and Development*. The publication opens up with a foreword by the Minister of Foreign Affairs of Brazil, Ambassador Mauro Vieira, followed by a chapter signed by the Secretary-General of ASEAN, Dr. Kao Kim Hourn, entitled “ASEAN-Brazil: A Partnership for the Future”. The volume features contributions from Brazilian and Asian scholars and policymakers, addressing a broad spectrum of topics such as economic and diplomatic strategies, industrialization, agriculture, environmental issues, and energy transition.

In “What is Malaysia’s Growth Strategy for the Next 50 Years?”, Dr. Rafizi Ramli, the Minister of Economy of Malaysia, examines the semiconductor industry’s role in the nation’s long-term economic development strategy. He posits that Malaysia stands at the cusp of becoming a regional upstream powerhouse by embracing technological innovation and leveraging its strategic advantages, despite global uncertainties and significant investment requirements in the value chain.

The chapters “Understanding ASEAN Centrality” by Dewi Anwar and “The Centrality of ASEAN in Economic and Diplomatic Architecture in the Indo-Pacific: an Extra-Regional Perspective” by Letícia Simões offer local and external insights into ASEAN’s role in Asia’s contemporary landscape. Both perspectives highlight the Association’s significant influence, mainly derived from its economic weight and its ability to engage with regional and international players, in shaping the trajectory of international relations in this vital part of the world.

Addressing the challenges of industrialization for emerging economies, “Fostering Open Regionalism and Shaping Sustainable Industrialization: Experiences from ASEAN”, by Venkatachalam Anbumozhi, and “Industrial Development in ASEAN Countries: Lessons for Developing Economies” by André Pineli *et al.*, explore the intricacies of industrialization in the ASEAN region. The authors examine the impact of public policies, open regionalism, foreign direct investment, and integration of countries into global value chains. While Anbumozhi focuses on the sustainable aspects and the policy frameworks enabling industrialization, Pineli and his co-authors delve into the historical evolution and the diverse approaches chosen by ASEAN countries, offering insights for other emerging economies on how these strategies can inform the elaboration of their own development policies.

The article “Bioenergy in energy transition in ASEAN” by Ambiyah Abdullah *et al.*, and “Energy transition: The Brazilian experience and the potential for joint solutions”, by Evandro Gussi, discuss the pivotal role of bioenergy in the energy transition, key agendas for both promoting sustainable development and tackling climate change. They underscore the need for global collaboration and the sharing of expertise to effectively harness bioenergy potential as a valid path and a possible country’s choice for transitioning to low-carbon economies.

The topic of agriculture and food security is addressed in the articles “Brazilian Agribusiness and ASEAN” by Marco Guimarães, João de Souza Trigo, and Marcos Sawaya Jank, and “Public Policies, Family Farming and Food (In)Security in Times of Pandemic” by Maria Laís dos Santos Leite and Jäder Ferreira Leite. The articles offer distinct yet complementary perspectives. While Brazilian agribusiness plays a crucial role in enhancing trade flows with ASEAN and contributes to the bloc’s food and nutritional security, Brazil’s experience in public policies supporting family farming could provide a model for enacting similar policies within ASEAN countries.

In the concluding chapter, “Brazil and ASEAN: A New Partnership”, Ambassador Piragibe Tarragô underscores the optimistic facets of our relations and foresees a future marked by enhanced cooperation and

mutual support for development. The chapters navigate the intricacies of international relations and global challenges providing not only a current snapshot of Brazil and ASEAN relations but also a blueprint for their collaborative potential ahead.

Almir Lima Nascimento
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Foreword

Mauro Vieira*

Since undertaking the position of Minister of Foreign Affairs of Brazil, in January 2023, I have had the privilege of witnessing the deepening relationship between Brazil and ASEAN firsthand, including during my visit to Jakarta and Phnom Penh in October 2023. In my interactions with authorities from Southeast Asian countries, two particular observations have drawn my attention: the centrality that all of them attribute to the Association of Southeast Asian Nations (ASEAN) and the importance they place on developing relations between Brazil and ASEAN.

This book aims to do exactly that: explore ways to broaden and strengthen our bonds of friendship with ASEAN. Strengthening ties with ASEAN underscores Brazil's commitment to diversifying our global partnerships, reaffirming our universalist foreign policy, and amplifying the voices of the Global South. We are forging a diplomacy that shapes our present and, more importantly, prepares Brazil for the emerging future.

Brazil recognizes ASEAN's centrality in promoting dialogue in the Asia-Pacific region through its commitment to multilateralism and international law. Brazil and ASEAN share a broad spectrum of common values and interests. We both seek to foster peace and stability in our respective regions and beyond, valuing the importance of non-interference while also championing non-indifference. As members of nuclear-weapon-free zones, we have a common interest in advancing the cause of global disarmament. In this era of global political transformations, strengthening ties between Brazil and ASEAN contributes to the formation of a coalition of like-minded actors who prioritize their political autonomy and the right to development.

* Brazilian Minister of Foreign Affairs.

The story of Brazil's engagement with Southeast Asia traces back at least to 1946, when Brazil established diplomatic relations with the Philippines shortly after its independence. The establishment of diplomatic relations with Indonesia, in 1953, and with Malaysia and Thailand in 1959 soon followed. In 1955, Brazil sent an observer, Adolpho Justo Bezerra de Menezes, to the Bandung Conference in Indonesia. In the following decades, Brazil progressively sought to cultivate closer relations with its partners in the region.

A significant leap in relations occurred in 2011, when Brazil appointed its first Ambassador accredited to the ASEAN Secretariat, subsequently becoming the first Latin American country to accede to the Treaty of Amity and Cooperation in Southeast Asia in 2012. A decade later, the establishment of the ASEAN-Brazil Sectorial Dialogue Partnership paved the way for enhanced collaboration. Today, Brazil and ASEAN are working ever more closely for the benefit of our respective peoples. Brazil maintains diplomatic relations with all ASEAN member states and operates eight resident embassies in Southeast Asia, including Dili. Furthermore, the Brazilian government started the process of opening an Embassy in Phnom Penh, which will bring our network of diplomatic posts in Southeast Asia to nine resident Embassies.

The year 2023 has proven especially auspicious for Brazil-ASEAN relations. During my visit to Jakarta on October 9 of this year, I had the honor of participating in the first ASEAN-Brazil Trilateral Meeting, alongside Indonesia's Minister for Foreign Affairs, Retno Marsudi, and the Secretary-General of ASEAN, Dr. Kao Kim Hourn. Additionally, I inaugurated Brazil's Mission to ASEAN in Jakarta, thereby expanding Brazil's diplomatic reach to support closer cooperation with our Southeast Asian partners. Our aim is to construct an ambitious agenda with ASEAN that reflects the interests of our societies, the rapid modernization of our economies, and the increasing influence of our nations on the international stage.

In terms of trade, this agenda is already in motion. Today, ASEAN ranks as Brazil's third-largest trading partner worldwide. Over two decades, our bilateral trade has surged from US\$ 3.1 billion in 2003 to

US\$ 33.7 billion in 2023 – an impressive eleven-fold increase. While trade has witnessed substantial growth, the potential for collaboration between Brazil and ASEAN extends far beyond commerce, as this book aptly demonstrates.

This potential extends, for example, to the realm of bioenergy, within the broader context of energy transition. Brazil has the cleanest energy matrix among G20 economies. Our extensive experience in biofuels attests to the feasibility of a prosperous and low-carbon energy future. Together, we can champion a green future for humanity and help achieve one of the key goals of the 2030 Agenda for Sustainable Development.

Another promising domain for collaboration is industrialization. Both Brazil and ASEAN countries have implemented successful policies in this area, and fostering connections between Brazilian and Southeast Asian industrial bases can significantly benefit our future industrial strategies, including Brazil's strategy for neo-industrialization. The fields of startups, semiconductors, and energy technologies also offer favorable prospects. Brazil and ASEAN countries share a mutual interest in consolidating and enhancing their positions within global supply chains, thereby creating the potential for synergies and collaborative technological ventures. Brazil, as the ninth-largest economy in the world, and ASEAN, as the fifth-largest economy as a bloc, have much to contribute to these fields.

Food security is now at the forefront of the global agenda, given the challenges posed by the COVID-19 pandemic and the resurgence of conflicts worldwide. Over five decades, Brazil has undergone a steep transformation from a net food importer to one of the world's largest food exporters. Brazilian policies have potential for application in ASEAN countries, and vice versa.

All of this marks only the beginning of our journey. With shared determination and vision, Brazil and ASEAN position themselves to make meaningful contributions to the global stage, addressing challenges such as the climate crisis, food insecurity, and geopolitical instability. In an increasingly intricate and turbulent international

landscape, the collaborative journey between Brazil and ASEAN holds the promise of a better future.

ASEAN-Brazil: A Partnership for the Future

Kao Kim Hourn*

The connection between ASEAN and Brazil can be traced to the bilateral relations formed between individual ASEAN Member States and Brazil since the inception of ASEAN in 1967, the Philippines (1946), Indonesia (1953), Malaysia (1959), Thailand (1959), Singapore (1967), Myanmar (1982), Brunei Darussalam (1984), Vietnam (1989), Cambodia (1994), and Lao PDR (1995). Over the decades, the bilateral relations were strengthened through various cooperation and collaboration enterprises, ranging from technical cooperation to people-to-people exchanges.

Within the ambit of the business environment, prominent private sector players such as Vale, BRF, JBS, Group Jacto, Petrobras and Embraer have a strong presence in the region, operating in the individual Member States. Similarly, the presence of major ASEAN companies from Member States, such as PETRONAS (Malaysia), Minor Group (Thailand) and International Container Terminal Services Inc (The Philippines) in Brazil echoes the importance of the latter as an investment destination. These vibrant economic exchanges between both regions are captured by the gradual increase of our two-way trade volume from US\$ 16.7 billion in 2011 to US\$ 33.51 billion in 2022. ASEAN, with a population of almost 672 million people, a rapidly growing middle class and more than half of its population under the age of 35, is still a very attractive market. With this potential, ASEAN has become among the world's top investment destination, and we hope that it will continue to be so.

ASEAN's achievements thus far in shaping and promoting norms that govern inter-state relations and behaviour in the region have been duly acknowledged and recognised. ASEAN has been able to bring into its established rules and norms external powers, including through

* Secretary-General of ASEAN.

their accession to the Treaty of Amity and Cooperation in Southeast Asia (TAC), respect for the ASEAN Way and ASEAN Centrality, as well as abiding by ASEAN's rules in their participation in ASEAN-led mechanisms.

Keeping our region peaceful and stable has enabled ASEAN to reap the peace dividend, so to speak. With a combined GDP of US\$ 3 trillion, ASEAN is the 5th largest economy in the world, accounting for 3.5% of the global economy in nominal terms, and as high as 6.5% in purchasing power parity (PPP) terms. For almost two decades, ASEAN has been growing at an average annual rate of more than 5% consistently above the global average. ASEAN is now a global trade powerhouse, the 4th largest trader in the world, accounting for more than 6% of global trade.

Recognising the importance attached to ASEAN and to capture the potential the region is able to offer, Brazil appointed its first Ambassador to ASEAN in 2011. Subsequently, in 2012 Brazil acceded to the TAC, making it the first in Latin America to do so. These motivations exemplify Brazil's recognition of the importance of ASEAN in forging the principles of peace, stability and prosperity.

To further expound on the existing strength and potential, the formal partnership with Brazil was institutionalised with the conferment of Sectoral Dialogue Partner of ASEAN in 2022. This unlocked a new pathway for both parties to work in close tandem in areas of mutual concern and interest for the benefit of all stakeholders from both regions. Consequently, to translate this aspiration, both sides agreed to codify the identified areas into a framework entitled Practical Cooperation Areas (PCA) for a period of a five-year cycle.

The framework will provide a stepping stone for a multitude of stakeholders from ASEAN and Brazil to cooperate and collaborate on a number of areas that each side has the capacity and expertise to allot. It will provide a platform to not only participate but also contribute to the development and sharing of tangible and intangible resources for the benefit of the people from both regions.

On the other hand, our region also has to deal with issues that have suddenly emerged, foremost of which is the COVID-19 pandemic

as well as the increasing digitalization of our economic and social lives, something which was already gaining momentum but was further accelerated by the pandemic. While ASEAN has been taking steps towards preparing itself for the Fourth Industrial Revolution (FIR), the need to adapt to technological changes became more urgent as a result of the pandemic. Cybersecurity threats, which in previous years, were then emerging as a key challenge all the more became more difficult to address, given the increasing digitalization that the world and our region have been experiencing as a result of the pandemic.

On that note, I would like to highlight several key areas in which ASEAN and Brazil should work together to bolster the partnership:

- (i) *Peace and Stability*: Work towards the continued maintenance of peace and stability of the region. The peace dividend that the region has enjoyed cannot be taken for granted as the geo-political landscape of the region is increasingly becoming polarised and challenging. To address these challenges, we encourage Brazil to support the ASEAN Centrality and ASEAN's efforts to promote peace and stability. In addition, Brazil may wish to consider working through concrete initiatives with ASEAN in the areas outlined in the ASEAN Outlook on the Indo-Pacific, which stresses, amongst others, ASEAN Centrality, openness, transparency, and inclusivity, by engaging with all external partners.
- (ii) *Economic Partnership*: On the economic front, ASEAN and Brazil have enjoyed significant trade and investment relations, despite the recent fluctuations. The total two-way trade between ASEAN and Brazil increased from US\$ 27 billion in 2021 to US\$ 33.51 billion in 2022. In view of this positive development, our partnership should exert efforts towards capitalising on the untapped potential to boost the volume of trade, investment and tourism by opening the doors for our business community by bringing together a multitude of stakeholders, ranging from Micro, Small and Medium Enterprises (MSMEs) to the key

industry players from both sides through a structured tangible platform.

To propel collaboration in this sphere, there are four key economic partnership priorities that ASEAN would like to advance further with Brazil through meaningful cooperation and integration efforts that are fit-for-purpose for the 21st-century environment, namely: (a) strengthening ASEAN's market integration; (b) sustainability and decarbonization; (c) digital transformation; and (d) inclusivity, involving MSMEs, public-private sector engagement, and people-to-people contacts.

- (iii) *Climate*: Both ASEAN and Brazil should make joint efforts to tackle the climate change and environmental crisis, particularly the urgent goal of limiting global warming to 1.5 degrees Celsius within reach through the regional and existing multilateral forums.
- (iv) *Sustainable Development Goals (SDG)*: We can also work in partnership towards achieving the UN SDGs through the ASEAN-Brazil programmes and projects.
- (v) *Socio-Cultural Partnership*: ASEAN and Brazil could work through a range of areas related to public health and health security, food security as well as supporting sustainable development by making effective and efficient use of the resources and energy as the region moves towards a low-carbon circular economy. Equally important is the need to promote human capital development through the continuation of expanded scholarships and the creation of sports scholarships, particularly in football and coaching, among others.

There is much potential to be explored between ASEAN and Brazil and the formalisation of the partnership will certainly serve as a framework for greater cooperation to foster peace, stability and development for both regions. Conversely, a strong, united and cohesive ASEAN is important not only for the region but also for our external partners, including Brazil.

What is Malaysia's growth strategy for the next 50 years?

Rafizi Ramli¹

The relative stability that came with globalisation is at a crossroads. Tradelinks which brought about the diminutive semiconductor chip to Asia is under threat. With the invasion of Ukraine disrupting the global supply chain, many commentators have turned their eyes to China and Taiwan. Malaysia's positioning as an alternative semiconductor hub in the region is crucial not just for domestic prosperity, but even global stability. How then does Malaysia best angle for this opportune moment to generate sustainable, economic growth for the next fifty years?

To that end, this paper will argue for stronger upstream integration in the pursuit of new growth verticals. The first of four sections will provide the historical context of the semiconductor industry in Malaysia, followed by a technical briefing to understand the process of semiconductor manufacturing. After which, section III will put forth the strategy of building the front end. The final section will conclude by looking at policy recommendations to materialise this vision.

Historical Context

A Brief History of the Semiconductor

Before reaching the shores of Malaysia, the origins of the semiconductor can be traced back to just after World War II. In 1948, it was the MIT physicist, William Shockley, who first invented the transistor – an invention that even the brilliant Shockley could not anticipate would redefine the future of innovation and technology (Miller, 2022).

It paved the way for the likes of Bob Noyce of Fairchild Semiconductor to invent the first integrated circuit in 1960. This was a critical

¹ Minister of Economy of Malaysia.

juncture in the history of the semiconductor industry, as it was the first true product that could be brought to the mass market (*Ibid*). This was also when Gordon Moore, of the eponymous Moore's Law, observed that the number of components per chip was doubling year on year. Moore concluded that humanity would witness exponential growth in computing for the next decade – but the semiconductor unlocked growth that instead sustained progress for the next half-century.

Birthplace of the Malaysian Semiconductor

It was not until the 1970s that we could first identify the roots of the semiconductor industry in Malaysia. Taking inspiration from the Free Industrial Zones in Taiwan and Korea, the Penang State Government put forth the idea of establishing a Free Trade Zone (FTZ). The primary function of the FTZ was to aggressively attract foreign direct investment in export-oriented industries thereby generating jobs for the many unemployed Malaysians at the time. With the federal government's support, the Free Trade Zone Act was gazetted in 1971, with the first FTZ being trialled in Bayan Lepas, Penang in 1972 (Yeoh & Ooi, 2009).

Ultimately, it was the confluence of local and foreign interests that engendered the first semiconductor investment. With Malaysia's strategic policy position for trade came the opportune geopolitical competition between the United States and Japan. As tensions built, multinational companies (MNCs) from each country were searching for a base for cheap production and simple assembly. Incentivised by tariff exemptions and cheap labour, MNCs reallocated to Malaysia, thus birthing the thriving semiconductor industry we see today (*Ibid*).

Companies such as Intel opened their first production facility outside the United States in 1972, with the likes of AMD, HP, and Hitachi starting operations in the period 1971-1974 (Abad *et al.*, 2015). By the 1980s, fourteen MNCs had their semiconductor operations based in Malaysia, making it the single largest site for offshore semiconductor firms in the developing world. The net effect of this influx was over 20,000 workers employed by the early 1980s, the ratio of semiconductor

exports to manufacturing totalling 36%, and Penang being dubbed the “Silicon Valley of the East” (Jomo *et al.*, 1999).

Chip Autarky and Opportunity

With rising geopolitical tensions, most pertinently, between the axis of the United States, China, and Taiwan, there is much doubt about the era of globalisation that preceded these past 30 years.

Globalisation enabled Taiwan to achieve a 68% market share in semiconductor manufacturing. More crucially, however, is Taiwan controlling 90% of the world's advanced semiconductor chips used for artificial intelligence and quantum computing (Sacks, 2023). With this Taiwanese lead, the United States reduced their position in fabrication facilities from 37% of global production in 1990 to only 13% by 2010. The conclusion of this, as exposed by the recent chip shortages, is the global reliance on a land that is barely a tenth the size of Malaysia.

Consequently, much of the West has taken a policy shift towards chip autarky. Notably, the Biden administration passed the CHIPS and Science Act in 2022, allocating US\$ 53 billion to reboot the semiconductor manufacturing industry. The EU has set ambitious targets to expand domestic chip manufacturing capacity from 9% to 20% by 2030 (Simons *et al.*, 2023). These unprecedented moves indicate a greater need to diversify the geopolitical risk. With the Pentagon indicating a war on the horizon, at least by 2027, the risk of Taiwan being invaded will cause a global halt in semiconductor manufacturing.

In such events, the need to have other robust manufacturing bases is of increasing global importance. Malaysia's semiconductor manufacturing industry is projected to grow at a CAGR of 7% to US\$ 46 billion by 2028 (Maldonado, 2023). With this growth and over fifty years of experience and its strategic position, areas like Penang can build on its reputation as a major player, and redefine itself as the next crucial base in the global semiconductor network.

Understanding the Semiconductor Value Chain

Before delving into how Malaysia ought to reform its semiconductor policies, one must first understand the fundamentals of the semiconductor value chain. In specific, what are the different stages in building a chip, as well as, what are Malaysia's strengths and weaknesses at each stage? In doing so, we can accurately diagnose where Malaysia can better allocate its resources to create a more sustainable semiconductor ecosystem.

Semiconductor Manufacturing Process

There are effectively two streams in semiconductor manufacturing: upstream and downstream. Within each stream, there are two stages. In the upstream portion, there is research & development and wafer fabrication. Conversely, in the downstream, there is assembly and testing.

In the upstream, the most technologically intensive stage is R&D, whereby iterative improvements are made in circuit design and concept development. In industry speak, this is known as *fabless* as there is no involvement of any fabrication facilities. Where *fab* becomes involved in wafer fabrication; this is a process where the semiconductor is produced on silicon wafers. This is an incredibly precise and capital-intensive process that requires sophisticated machinery and equipment (Jomo, 1999).

Whereas, the downstream, also known as the backend, involves assembly, testing and packaging. This portion is often characterised by being more labour-intensive. Here, the finished wafer is cut up into individual semiconductor devices, otherwise known as dies, and is tested for defects. Once approved for reliability, the dies are then packaged into the according semiconductor devices, which are ready for market. Note, however, that this is a general process, and as such, it is adapted to different company needs with varying business models.

Malaysia's Semiconductor Industry: Bottom Heavy

Within the Malaysian context, the semiconductor industry is disjointed: there is an extreme emphasis towards the backend. Even today, after fifty years of industrial experience, Malaysia remains a destination for foreign firms to outsource assembly and testing. This is largely due to the relatively lower labour cost, English-speaking workforce, and ease of business. This skin in the game has resulted in a sizeable 13% share in the global chip assembly and testing market.

Whilst Malaysia is considered a global backend hub, unfortunately, the same cannot be said about the frontend. As of 2022, there are only 2 two fabrication facilities, with insufficient technology to be considered frontier (The Star, 2022). This is despite interventionist national projects such as SilTerra, which were set up to be a wafer pure-play foundry in the country. For example, one indicator of technological capability is the inverse relationship to the nanometre size of the chip². Where SilTerra is only capable of producing 90nm chips, companies like IBM and TSMC are in the race to create the world's first 1nm chip (Liew, 2020). This glaring upstream gap has made it difficult for Malaysia to have a competitive integrated semiconductor industry.

Strategy: New Growth Verticals

Building the Front End

Given the geopolitical tensions surrounding the South China Sea, the need for a neutral counterbalance for semiconductor investments has never been more urgent. However, such an area must have the necessary infrastructure, as well as the innovative capabilities to even be considered an alternative to Taiwan. Therefore, given the diagnosis of Malaysia's imbalanced semiconductor ecosystem, the solution is clear: achieving a balanced, sustainable semiconductor industry by building the front end.

2 One nanometer is equal to one billionth of a meter. A smaller semiconductor means that more transistors can be placed on a chip, therefore enhancing performance.

Beyond foreign interests, the move towards building a competitive front end is in line with Malaysia's transition towards a high-income country by 2025 (Ariffin, 2023). A characteristic of such countries is the ability to produce high-value goods for exports. It is analogous to the value chain of semiconductors: a set of processes that are performed to transform economic inputs into outputs (Thadani & Allen, 2023). This is of particular importance given the disparity in the value chain, whereby much of the revenue generated is concentrated in the front end. For example, in 2015 alone, the OSAT portion of the semiconductor industry only accounted for approximately 6% of total revenue (SIA, 2016).

If Malaysia is to continue its growth in the semiconductor industry, it has to venture beyond the zero-sum game nature of the downstream. Countries like Vietnam and Thailand are offering even cheaper labour costs, undercutting the market and attracting foreign investments. To continue to compete in this domain will only result in minimal gains from growth to knowledge sharing. A missed opportunity given the decades' worth of accumulated experience in the region³.

Model of Choice: IDM vs. FF

The question naturally arises: what is the best way for Malaysia to build its front end?

Whilst there are many individual methodologies to build the front end, the semiconductor industry has two fundamental operating models. The first is known as the integrated device manufacturer model (IDM), whereas the second is known as the fabless-foundry model (FF).

The IDM model is fully integrated and end-to-end. This means an IDM-adherent company will execute the entire semiconductor process from design and fabrication to assembly and testing. Conversely, the FF model sees the value chain being fragmented into each portion, as a means of specialisation and expertise. Individual companies will focus

3 As a cautionary note, however, it must be said that this strategy does not entail forgoing the difficult work Malaysia has undertaken to build a world-class back-end hub. In pursuing this upstream integration strategy, Malaysia must simultaneously ensure our back-end market share continues to grow through digitalisation efforts.

on design elements, before contracting out to a separate company for fabrication and so on. This is exactly why in Malaysia, many of the local semiconductor firms are pure OSAT players. In this regard, they adhere to the FF model, as MNCs will outsource the assembly and testing portion to focus on higher-value work such as R&D or fabrication (*Ibid*).

IDM models rely on vertical integration for greater efficiency, whereas FF is rooted in the Smithian principle of economies of scale. As semiconductor companies expand, the firms can exploit this to lower production costs and create the opportunity for vertically specialised firms. In recent times, the FF model has had a much greater revenue growth rate, which has dented the market share dominance of IDM companies such as Intel and Texas Instruments (Macher & Mowery, 2004). This has rendered many IDM firms to take a *fab-lite* approach, as the competitiveness of the ecosystem has a costly implication of constantly needing to upgrade manufacturing equipment.

What this means for the Malaysian front-end strategy is unclear. On one hand, the benefit of having companies that adhere to an IDM model is creating an ecosystem that is fully integrated. This will ensure there are ample opportunities for MNCs to partner with local firms to redirect investments away from Taiwan at every stage of the semiconductor process.

However, the feasibility of this is extremely questionable. Allocating resources to every segment of the value chain is suboptimal. Considering that Qualcomm has invested over US\$ 85 billion in R&D since inception, or that as of Q3 2023, TSMC's property, plant, and equipment is valued at US\$ 97 billion, no company, or even country, has sufficient resources for this scale of competitive investment (TSMC, 2023). Moreover, understanding that each segment has different resource requirements to achieve operational efficiency further nudges towards adopting an FF model.

Therefore, the more pragmatic approach is to build the front end through gradual investments in a single segment. Given Malaysia's decades worth of experience in OSAT, the concept of backward linkages – where certain resources overlap in different processes – will be pivotal

in deciding where investments should be redirected. This suggests that processes like wafer fabrication ought to be prioritised, given that the supply of wafers is present in both the upstream and downstream (SIA, 2016). In doing so, Malaysia can finally tap into a higher-value segment of the manufacturing process of semiconductors.

Case Study: South Korea's Leap

The semiconductor industry in early 1980s South Korea was not too dissimilar to what we see in Malaysia today. Both countries were areas in which MNCs would outsource the assembly and testing of semiconductor chips due to the relatively low cost of labour. Both countries had poor national systems of innovation in place. Both countries' semiconductor governance structures were dictated by foreign firms with very few linkages for knowledge transfer (Kim, 1996). Yet, by 1995, in just 12 years of prescient policymaking, South Korea performed a miracle in having 3 semiconductor firms suddenly ranked among the world's 15 top semiconductor producers (Mushkudiani, 2000). In South Korea, we find a model for compelling upstream integration that outleaped not only Malaysia but also the likes of Hong Kong and Singapore⁴.

One explanatory factor for South Korea's success is the increase in private sector-led investment into R&D. This was a turning point as the chaebols in 1983 formed 20% of the entire Korean industrial production⁵. Such dominance, as a consequence of state-led policies in the 70s, enabled an increase in absolute R&D investment by the private sector. This is seen by the increase in R&D as a percentage of GDP from 0.39% to 1.93% between 1970 and 1987. Furthermore, from a chaebol view, Samsung in 1990 was spending US\$ 650 million in R&D – a staggering 30% increase year on year (*Ibid*). When factoring in the state's liberalization policies, the overlapping interests of the state, firms, and the market had a profound leapfrogging effect on the semiconductor industry.

4 This is especially noteworthy given Hong Kong was the first recipient of semiconductor investment in the APAC region by Fairchild Semiconductor in 1962.

5 A chaebol is a large industrial South Korean conglomerate run and controlled by an individual or family.

A second explanatory factor is the distinctly high-skilled nature of the South Korean workforce. To achieve any semblance of robust upstream integration, it is necessary to have a labour force that is competent in the fields of science and technology. In the late 80s, the technical enrolment as a percentage of all South Korean secondary school students was 18.6%. To put this in perspective, Japan scored 28.0%, with countries like Singapore and Malaysia only scoring 5.6% and 2.2% respectively. At the tertiary level, we see 42% of South Korean graduating in science-related fields; a remarkable figure considering Japan and the USA come in at 26% and 15% (Jomo, 1999). Overall, we see the importance of high-skilled TVET education inculcated within the Korean workforce. To pivot towards a build-up of the front end, and potentially access frontier technological capabilities, not having a sufficient base of locally skilled workers will prove detrimental to achieving our goals.

Policy Recommendations

In taking these learnings from the Korean case study, two key policy recommendations can be adapted to the proposed strategy of building up the front end of Malaysia's semiconductor industry today.

Reallocation to Early Stage

Given the (relatively) lengthy history of the semiconductor industry, it is easy to forget that its tenets remain startup in nature. The constant need for innovation and disruption to keep up with the competition is a hallmark of this. This is why there is much correlation between the underinvestment in early-stage funding of our startup ecosystem and the corresponding lag in our low R&D expenditure. Currently, Malaysia's early-stage funding is only US\$ 314 million – much lower than the global average of US\$ 970 million (Startup Genome, 2023). Similarly, in 2019, Malaysia's R&D expenditure as a percentage of GDP was a mere 1.44%. By comparison, South Korea in 1995 was spending 2.68% of their GDP on R&D.

Therefore, for Malaysia to focus its efforts on building the wafer fabrication segment of the value chain, there must be greater allocation to the “early-stage”. In Budget 2024, the government announced the allocation of RM28 million to the MYStartup platform: creating a single window for all stakeholders in the ecosystem. This will streamline and centralise the currently fragmented ecosystem of 14 agencies and 20 funding programmes. The government is also providing tax incentives to angel investors as well as individual investors to encourage local funding through equity crowdfunding platforms. All this is designed to attract private sector investment – both domestic and foreign – to give the necessary jolt required to circumvent the initial high costs of actualising ideas.

By reducing the red tape of our ecosystem, the market liberalization effect will facilitate the entry of more VCs, incubators, and startup founders. The knock-on effect of this increased amount will be some who recognise the profitability of a front-end venture into the already established Malaysian semiconductor industry. So long the government provides the indicative guidelines of policy support – as demonstrated by the Koreans in the 80s – the private-sector-led approach will unlock new high-growth, high-value opportunities.

Prioritising STEM Education

One of the key reasons for Malaysia’s inability to maximise its semiconductor experience was the inability of the labour force to adopt frontier technological advancements. This has been a persistent problem whereby the 1995 tertiary enrolment ratio was lower than regional counterparts such as Singapore (Jomo, 1999). Unfortunately, even today, the World Bank reports that Malaysia’s tertiary enrolment rate is insufficient compared to transitional and aspirational peers (Record, 2021). This has led to a workforce that is largely low or semi-skilled, making it difficult to access the frontier skills necessary for digital transformation and innovation.

Within the context of upstream integration, having a workforce that is competent in science, technology, engineering and mathematics

is crucial. Per the Programme for International Student Assessment tests, Malaysia's maths and science scores ranked below the OECD average (*Ibid*). This performance demonstrates an urgent need to reform education at every level to ensure that future generations are well-equipped to compete at the global level.

One way to achieve this is through technical and vocational education and training (TVET). The government has already rolled out the Academy in Industry, an initiative designed for SPM graduates to upskill themselves. This allows the 70% of SPM graduates, who otherwise would have no tertiary qualifications, to receive industry-specific training. It creates a broader pool of better-skilled workers for employers to tap into, as well as ensuring more of the workforce is adept to the growing needs of technical industries.

However, the long-term view for such initiatives is to have a gradual increase in the ceiling of skill certification being offered. This is especially pertinent given that the front-end deals with frontier technology. In achieving this, the Malaysian workforce will be better able, through STEM education, to respond to the market demands in the semiconductor industry.

Concluding Remarks

With the world as uncertain as it has been for the last three decades, the hesitancy to make generational decisions is costly. However, often, when on the cusp of change, the onus remains on us as policymakers to ensure Malaysia is at its operational best to capitalise on these few opportune moments. Little did the Koreans know in the 70s that the strengthening of the chaebols would drive industry-wide change in the 80s. Similarly, the public-private partnership must be in lockstep towards pushing for greater upstream integration.

Whilst the opportunity cost – both in time and investment – to build up the front end of the value chain is high, failure to take these necessary steps now is, arguably, even higher. Given the inherent strengths of our half-century industry experience, our geographical

position, and our English-speaking workforce, Malaysia already has the right tools at its disposal to scavenge for the next growth verticals.

However, there also must be a mentality shift in the way we work. Our unwillingness to adopt new technologies has hampered our progress for generations. Innovation starts with the desire to embrace something unfamiliar and mould it to society's needs. The unknown knowns of the next few years will force the market to find the next best semiconductor hub in the region. If we can harness this newfound spirit with our indigenous strengths, in line with the strategy outlined in this paper, I am confident that Malaysia can position itself as the next upstream powerhouse in the region.

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Understanding ASEAN Centrality¹

Dewi Fortuna Anwar²

Introduction

From an unpromising beginning the Association of Southeast Asian Nations (ASEAN) has emerged as the primary determinant of regional order in Southeast Asia. Since its establishment on 8 August 1967 ASEAN has succeeded in developing mechanisms as well as regional norms and codes of conduct that promote regional cooperation and peaceful settlement of disputes. Though still far from perfect ASEAN has transformed the formerly conflict-ridden Southeast Asia into a security community in which open warfare between member states is becoming increasingly unlikely (Acharya, 2014). ASEAN has also played an important role in managing Southeast Asia's relations with extra-regional powers, ensuring the region's strategic autonomy, while acting as the main driver in the development of a wider regional architecture. While ASEAN has much to celebrate, looking ahead ASEAN cannot be complacent. ASEAN unity remains a challenge and as in the past ASEAN members can easily be pulled in different directions by competing major powers. ASEAN's institutional capacity remains limited which can challenge its centrality in managing relations with extra-regional powers.

ASEAN sets a great store on its centrality in the development of a wider regional architecture involving countries outside of the ten ASEAN member states. ASEAN centrality is explicitly written in the ASEAN Charter that was signed in Singapore on 20th November, 2007 and came into effect the following year. First, under the heading of "Purposes", Article 1, Point 15 states that one of the purposes of

1 An earlier version of this paper was published as ASEAN Centrality: Opportunities and Challenges. In: CHOUDHURY, Srabani Roy (ed.). *The Indo-Pacific Theatre: Strategic Visions and Frameworks*. New York: Routledge, 2023.

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ASEAN is “to maintain the centrality and proactive role of ASEAN as the primary driving force in its relations and cooperation with its external partners in a regional architecture that is open, transparent and inclusive”. Secondly, Article 41 on “Conduct of External Relations”, Point 3 stipulates that “ASEAN shall be the primary driving force in regional arrangements that it initiates and maintains its centrality in regional cooperation and community building”³.

The emphasis on ASEAN centrality should not be seen as a manifestation of ASEAN’s overweening conceit or highly unrealistic ambition to lead a region in which there are several major powers with much greater resources and capacity present. The ASEAN Charter simply formalises the role that ASEAN has already ably undertaken for decades as the primary convenor of regional forums and meetings, both in bilateral and multilateral settings with its Dialogue Partners. These include the various ASEAN Plus One dialogues, ASEAN Plus Three (with China, Japan and South Korea), the ASEAN Regional Forum (ARF) since 1994 and the East Asia Summit (EAS) since 2005. Nevertheless, ASEAN does want to safeguard its centrality because of its firm belief that only an ASEAN-driven regional architecture would observe the three cardinal conditions that it holds dear. These are first maintaining Southeast Asia’s strategic autonomy, secondly ensuring an inclusive regionalism and thirdly, preventing any one power or a concert of powers from exerting regional hegemony. Given that in the not-too-distant past Southeast Asia had been repeatedly used as the primary theatre of competition and conflicts among the major powers, it has become a credo for ASEAN that the sub-region’s security and stability relies on ASEAN taking a proactive role in managing its relations with external powers.

Notwithstanding its many shortcomings, ASEAN has undoubtedly become the focal point of intra-regional relations in Southeast Asia, and a major determinant in the region’s relations with the rest of the world. For all members of the regional organization, including Indonesia, ASEAN has become the cornerstone of their respective foreign policy (Anwar, 1995). ASEAN is generally recognized as the most successful

3 ASEAN Documents and brief analyses about the various aspects of ASEAN Cooperation can be downloaded from the ASEAN Secretariat website: <www.aseansec.org>.

regional grouping among the developing countries and as the second most successful one after the European Union. As such, despite its lack of real power in terms of military capability or economic clout, ASEAN's voice and role in regional and international fora has been quite significant.

Factors supporting ASEAN Centrality

The Asia-Pacific, now expanded to the Indo-Pacific region, is home to several great and major powers, including the United States, China, Japan, Russia and India, several middle powers and a multitude of security challenges, both traditional and non-traditional. There is an absence of wider regional institutions, among others because of a history of conflicts and mutual suspicions involving major powers, notably between China and the United States as well as between China and Japan, which make it difficult for these countries to collaborate. At the same time, Southeast Asian countries that have suffered from long periods of western colonialism, Japanese military occupation and China's interventions are very jealous of their sovereignty and strategic autonomy and are, therefore, unwilling to cede regional leadership to an external power.

While ASEAN has fundamental weaknesses as a regional organization of mostly developing countries with highly heterogeneous memberships and weak institutionalism, it must be acknowledged that there is no better viable alternative to ensure the development of an open, transparent, inclusive and collaborative regional architecture that would be acceptable to all of the stakeholders. As a regional organization with limited real power capacity that does not threaten anyone, ASEAN's desire to play a role as a primary regional convenor has received wide-ranging support from other countries, a selected few of which have become ASEAN dialogue partners and members of ASEAN-led wider regional mechanisms. In contrast, a regional architecture that is initiated, driven and dominated by one or more major powers and that seek to exclude other rival powers would not be acceptable or sustainable, and may lead to conflicts, if not wars. The history of Southeast Asia that became a

theatre of major power conflicts and proxy wars throughout the 20th century provided valuable lessons about this basic reality. While on the one hand ASEAN's underlying diversity constitutes a weakness, on the other hand ASEAN's openness and its willingness to engage with different external powers has been made possible by its sheer diversity.

ASEAN's desire to play a central role in managing intra-regional relations and relations with external powers has been supported by its well-established norms, values and principles. Among these are the ASEAN value which stresses the importance of dialogues and deliberations to reach consensus, and the Treaty of Amity and Cooperation in Southeast Asia (TAC) which calls for the settlement of disputes through peaceful means and prohibits the use or threat of force to resolve conflicts. ASEAN has opened the TAC for accession to other countries, and has made accession to the TAC as one of the preconditions for membership in the ASEAN-driven East Asia Summit. ASEAN centrality has been made possible by the presence and support of its dialogue partners for the growing array of ASEAN-centric regional mechanisms, with the objectives of promoting regional peace, stability and prosperity through dialogues and various areas of cooperation.

ASEAN Centrality in Action

ASEAN Plus Formula

When it was established on 8 August 1967 in Bangkok by the five non-communist countries in the region, namely Indonesia, Malaysia, the Philippines, Singapore, and Thailand, ASEAN was primarily designed to end conflicts among the regional members and promote peace and stability within the region. The unwritten objective of the grouping was undoubtedly to contain the spread of communism through the development of each member's national resilience and their collective regional resilience (Anwar, 2000). The creation of a friendly and peaceful regional environment enabled the ASEAN members to concentrate on solving their internal problems, particularly on developing their economies. Although ASEAN does not have any official objection to communism, till the end of the Cold War the membership of ASEAN was

restricted to the non-communist countries, and the only new member admitted was Brunei which joined the association in 1984 shortly after achieving its independence from the British.

This anti-communist and development-oriented characteristic of ASEAN helps to explain both the earlier emphasis placed by ASEAN on fostering close cooperation with major industrialised countries and international development agencies on the one hand, and the strong support shown by the latter towards ASEAN on the other.

ASEAN established formal dialogue relations with several industrialised countries which in the beginning mostly took the form of recipient-donor relations. The dialogue relationship, in fact, constitutes a central and indispensable part of ASEAN cooperation and contributes greatly to ASEAN's success, for the dialogue partners not only provide the necessary funding to carry out various ASEAN projects, but of even greater importance their formal recognition of ASEAN gives the association prestige at home and abroad (Nishimura, 2017). The annual gathering of the foreign ministers of the dialogue partners in different ASEAN capitals to attend the ASEAN Post-Ministerial Conference (ASEAN-PMC) not only brings direct economic benefits to ASEAN through various cooperation projects, but it certainly adds lustre and importance to the association as a whole. The expansion of the dialogue relations in recent years shows that to become an ASEAN-Dialogue Partner is a coveted position, not least because the ASEAN-PMC also provides an opportunity for the Dialogue Partners to interact with each other. Consequently, ASEAN has also served as an interlocutor for countries that may not otherwise have relations with each other.

With the end of the Cold War and the settlement of the Cambodian conflict, the ASEAN vision of one Southeast Asia came to be realised. By 1999 all ten Southeast Asian countries have become full members of ASEAN. Although the fight against communism is no longer an issue, the importance of the dialogue-relationship has not diminished for it has developed its own momentum. In fact, the breaking down of ideological barriers has made it possible for ASEAN to expand its dialogue relationships to include The People's Republic of China and

Russia. As of 2023 ASEAN has developed full dialogue partnerships with Australia, Canada, China, European Union, Japan, New Zealand, Russia, South Korea, United Kingdom, United States. These dialogue partners participate in the ASEAN Post Ministerial Conference (ASEAN-PMC), the forum which brings together the foreign ministers of ASEAN and the dialogue countries every year following the ASEAN Ministerial Meeting (ASEAN Secretariat).

In addition, ASEAN also develops sectoral dialogue relationships on certain limited economic and technical issues. To date the ASEAN sectoral dialogue partners are Brazil, Morocco, Norway, Pakistan, South Africa, Switzerland, Turkey and United Arab Emirates. In addition, there are the so-called “development partners” which currently comprise five countries, namely Chile, France, Germany, Italy and the Netherlands. The association has also developed cooperation with other organizations such as the Andean Group, the Southern African Development Community (SADC), the Economic and Social Commissions for Asia and the Pacific (ESCAP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Economic Cooperation Organization (ECO) (ASEAN Secretariat).

There are at least four rationales for ASEAN dialogue partner relations (Hamzah, 1992, p. 69-72). These are: (1) to provide technical and development assistance for common ASEAN projects; (2) to obtain trade and economic concessions through ASEAN collective lobbying for both the group as a collective and the individual members; (3) to strengthen political relations between ASEAN as a group and individual ASEAN members with the dialogue partners; (4) to boost ASEAN economic standing and enhance ASEAN status as a whole. These four rationales were especially true in ASEAN’s dialogue relations with the industrialised partners during the early years of ASEAN. In later years ASEAN-Dialogue Partners’ relations have become more mature and based on relative equality in which cost for common projects are shared and concessions are given and taken by both sides. ASEAN’s dialogue relations with other developing countries further emphasise this equality and reflect ASEAN’s growing confidence and relative prosperity.

ASEAN's economic relations with its industrialised Dialogue Partners have undoubtedly played an important role in promoting both the collective interests of ASEAN as well as the interests of individual members. The ASEAN members have utilised the dialogue relationships to demand economic concessions from the Dialogue Partners, whether on behalf of ASEAN as a whole or in support of one particular member. ASEAN has mostly acted as a cohesive unit which considerably enhances its bargaining position vis-a-vis a third party.

Unlike the European Union, ASEAN does not have a common foreign and security policy. Despite this lack, however, ASEAN has developed well-functioning relations based on the ASEAN+1 formula with its individual dialogue partners, with regular meetings and covering wide-ranging issues at the regional level. The formal forum for ASEAN-Dialogue Partner relations is the ASEAN Post Ministerial Conference (ASEAN-PMC) which follows immediately after the annual ASEAN Ministerial Meeting (AMM) which is represented by the Foreign Ministers of the participating countries. The ASEAN-PMC is the highest decision-making body for the dialogue partnership relations.

The benefits of the ASEAN-Dialogue Partners' relations have clearly not been one-sided in favour of ASEAN. As mentioned at the beginning, the industrialised countries' enthusiastic support for ASEAN was initially heavily influenced by strategic considerations, for ASEAN was regarded as an important shield against communism in Southeast Asia. At the same time, all of the original ASEAN members enjoyed relative political stability and very rapid economic growth, making the ASEAN region a very promising market and investment destination for the Dialogue Partners. ASEAN has also been one of the most successful regional organizations which plays an important role in the wider regional and international fora and whose support can prove to be useful for the various Dialogue Partners. The many benefits of becoming the Dialogue Partners of ASEAN have led to the expansion of the memberships in recent years, though ASEAN tries to keep the numbers to a manageable level.

Promoting Wider Regional Political and Security Cooperation

The establishment of ASEAN-Dialogue Partners' relations has spawned several other ASEAN-centric or ASEAN-related wider regional mechanisms which bring together ASEAN and the Dialogue Partners in different permutations. The first to emerge was the ASEAN Regional Forum (ARF), the first and so far, the only supra-regional forum for holding multilateral political and security dialogues in the Asia Pacific, now widened to include the Indo-Pacific region. Initially the idea was to expand the ASEAN-PMC agenda to include discussions on regional security issues in light of the changing regional dynamics after the end of the Cold War and the collapse of the Soviet Union. The emergence of multi polarity and new threats to regional security due to the increasing fluidity and uncertainty of intra-regional relations, coupled with the new opportunities presented by the breaking down of the ideological barrier that had divided the Asia-Pacific region into two antagonistic blocks, led ASEAN and the Dialogue Partners to the conclusion that regional security must be discussed at the multilateral level. When this idea was first mooted in 1993, neither China nor Russia was a Dialogue Partner, yet it was inconceivable to engage in a multilateral security dialogue in the Asia-Pacific without the participation of these two countries. Finally, it was decided to establish a separate forum in 1994, called the ASEAN Regional Forum (ARF), which would include China and Russia besides ASEAN and the Dialogue Partners as well as North Korea, India and other South Asian countries. The primary objective of the ASEAN Regional Forum is to promote peace and stability in the wider Asia-Pacific region through cooperative security by promoting Confidence Building Measures (CBM) and Preventive Diplomacy (Emmers 2003). The ARF currently has 27 member-states spanning the Indo-Pacific region and is truly inclusive in nature and meets annually at the level of foreign ministers. The current members of the ARF are the ten ASEAN member states, the full dialogue partners plus Mongolia, North Korea, Bangladesh, Pakistan, Sri Lanka, Papua New Guinea and Timor Leste. Timor Leste has been accepted as the 11th member of ASEAN in principle at the ASEAN Summit in Phnom Penh in November 2022.

Concerns about intensifying major power rivalry, marked by the rise of China which is seen to be challenging the status quo and the pre-eminent position of the United States, has pushed ASEAN to intensify regional dialogues on political and security issues at the highest level. The East Asia Summit (EAS), launched in December 2005, was first conceived as the continuation of the ASEAN Plus Three (China, Japan, South Korea), but fear that China would come to dominate such a grouping led to the widening of the EAS memberships to include Australia, India and New Zealand and later the United States as well as Russia, thus broadening the geo-political meaning of East Asia. Indonesia was among the ASEAN countries most opposed to the development of an exclusive or Asian countries only wider regional architecture, preferring instead to engage all of the major powers to ensure the development of a “dynamic equilibrium” among the major powers (Anwar, 2018). The membership of Russia in the EAS had to wait until the U.S. acceded to the TAC so that both countries could join at the same time, which finally took place in November 2011 in Bali, thereby completing the circle of participating powers which can counter-balance each other. There are three criteria for membership in the (EAS) set by ASEAN, namely the country concerned must be a full dialogue partner of ASEAN, has acceded to the TAC and has significant economic relations with the ASEAN countries. The EAS meets annually at the heads of government level following the second ASEAN summit in any given year.

The growing discourse about the Indo-Pacific with the emergence of various initiatives from different countries, such as the concept of a “Free and open Indo-Pacific” put forward separately by Japan and the United States, has also galvanised ASEAN to propose its own concept that will ensure its continuing centrality. Indonesia took the lead in drafting the ASEAN’s concept and pushing for its acceptance by all of the ASEAN member-states as well as in mobilising the support of the dialogue partners. “The ASEAN Outlook on the Indo-Pacific” (AOIP), adopted by ASEAN in 2019, has four key elements: a perspective of viewing the Asia-Pacific and Indian Ocean regions not as contiguous territorial spaces but as a closely integrated and interconnected region, with ASEAN playing a central and strategic role; an Indo-Pacific region

of dialogue and cooperation instead of rivalry; an Indo-Pacific region of development and prosperity for all; and the importance of the maritime domain and perspective in the evolving regional architecture. The principles outline among others the importance of strengthening ASEAN centrality, openness, transparency, inclusivity and a rules-based framework, as well as adherence to international laws. Furthermore, the ASEAN Outlook would be guided by the purposes and principles contained in the Treaty of Amity and Cooperation in Southeast Asia (TAC). There are four broad areas of cooperation, namely maritime cooperation, connectivity, UN Sustainable Development Goals (SDG) 2010 as well as economic and other possible areas of cooperation. For the mechanism, the ASEAN Outlook is to be primarily driven by ASEAN-led mechanisms, especially the EAS and the ARF, while recognizing the potential for cooperation with other regional mechanisms in the Asia-Pacific and the Indian Ocean regions (Anwar, 2020).

In addition to the ASEAN-centric mechanisms mentioned above there have also developed a proliferation of more specific or technical ASEAN-led initiatives, such as the ASEAN Defence Ministers Meeting (ADMM) Plus which was established in 2010. The ADMM Plus brings together the defence ministers of ASEAN member-states and its eight dialogue partners in the East Asia Summit (EAS), seen as a natural expansion of the ADMM that was established in 2006, focusing mostly on non-traditional security issues. The ASEAN Maritime Forum (AMF) which held its first inaugural meeting in 2010, has also spawned the Expanded ASEAN Maritime Forum (EAMF) two years later, comprising the members of the EAS to foster regional cooperation on maritime issues (Muhibat, 2017).

The ASEAN regional mechanisms actively promote wider regional political and security dialogues and cooperation as well as stress the principles of openness, transparency. The main objective of ASEAN-led regional mechanisms on political and security is to promote cooperative security that seeks common ground between the various regional stakeholders rather than collective defence which distinguishes friends from foes. At the same time the inclusive nature of ASEAN-centric regional mechanisms is also intended to prevent any one power

from becoming too dominant by ensuring the existence of a dynamic equilibrium among the major powers within a cooperative framework⁴.

Promoting Wider Regional Economic Cooperation

ASEAN centrality is also played out in the economic sphere. An important development has been the establishment of the ASEAN Plus Three which brings together the 10 ASEAN members with China, Japan and South Korea. The ASEAN Plus Three forum has come about as the East Asian countries' response to the 1997-1998 financial crisis that swept through the region and the pressures put by the International Monetary Fund (IMF) on the affected countries to carry out painful structural reforms. The primary aim of the ASEAN Plus Three cooperation is to prepare these countries better against future financial shocks and increase their ability to help each other in time of needs. So far, the ASEAN Plus Three forums consist of two separate gathering of ministers, namely the economic ministers and the finance ministers. The first meeting of the ASEAN Plus Three Economic Ministers took place on 3 May 2000 in Yangon.

Despite the impressive list of cooperation agenda compiled by the ASEAN Plus Three Economic Ministers, it was the meeting of the Finance Ministers that had attracted the most excited attention because of their decision to provide an alternative form of funding to supplement the existing sources of international funding. The East Asian countries' desire to establish an Asian Monetary Fund led by Japan during the early days of the financial crisis was sharply criticised by the IMF, the United States and the European Union because of concerns that access to such an alternative fund would weaken the commitment of the crisis-hit countries to carry out painful but necessary economic reforms and financial restructuring. While no moves have been made towards the establishment of the Asian Monetary Fund, during their second meeting on 6 May 2000 in Chiangmai, Thailand, the ASEAN Plus Three

⁴ The concept of "dynamic equilibrium" was put forward by Indonesian Foreign Minister Marty Natalegawa under the second term of President Susilo Bambang Yudhoyono (2009-2014). "Dynamic equilibrium" is regarded as more positive than balance of power as it emphasizes greater collaboration between the different powers within the East Asia Summit.

Finance Ministers launched the Chiang Mai Initiative, which widens the currency swap agreement that already exists among the 5 original ASEAN members to all ASEAN members and expand the currency swaps and repurchase deals on a bilateral base among the 10 ASEAN countries with Japan, China and South Korea (Stubbs, 2002).

At the same time, there has also been a proliferation of ASEAN Plus One free trade agreements (FTA) between ASEAN and other countries or entity. Currently, there are the ASEAN-Australia-New Zealand FTA, the ASEAN-China FTA, the ASEAN-India FTA, the ASEAN-Japan FTA, the ASEAN-South Korea FTA and the ASEAN-Hong Kong FTA. Efforts to coordinate all of these disparate FTAs have led to the agreement on the establishment of the Regional Comprehensive Economic Partnerships (RCEP) in November 2020 between the ten ASEAN member-states, Australia, China, Japan, New Zealand and South Korea. India, which participated in the ASEAN-led negotiations that started in 2012, in the end decided not to sign the RCEP agreement.

Internal Challenges to ASEAN Centrality

While ASEAN sets great store by its centrality, and the ASEAN dialogue partners have also frequently expressed formal support for ASEAN centrality, ASEAN faces several challenges in performing its expected role effectively. There are at least five major internal challenges currently confronting ASEAN centrality.

First, ASEAN's great diversity, with member-states having different political systems, strategic outlooks, and level of economic development, poses a major challenge to ASEAN cohesiveness and solidarity. The challenges of diversity have become even more acute with the expansion of ASEAN to include the three communist countries (Cambodia, Laos and Vietnam) and Myanmar. Given that ASEAN makes decisions by consensus, particularly on political and security issues, decision-making has often been based on the lowest common denominators. The diversity within ASEAN has been exacerbated by the divergence of values held by the member states, particularly with regards to democracy and human rights. ASEAN is in danger of being split between countries that have

embraced democracy and human rights as universal values and those that have not.

Second, as mentioned earlier ASEAN is not a supranational organization. While it has become more institutionalized over time, the ASEAN Secretariat remains relatively weak, with limited mandate and resources. The Chair of ASEAN, which rotates annually among the member-states that have differing capabilities, can at times lead to a less robust role in stewarding the large numbers of ASEAN regional mechanisms and over 200 meetings annually on a wide-range of issues.

Third, domestic crises also frequently distract various ASEAN member states by forcing them to focus inward and reducing their ability to pay attention to regional issues. Almost all of the ASEAN member-states have suffered from various crises, such as the Asian financial crisis which in Indonesia led to a multidimensional crisis in the late 1990s-early 2000, prolonged political instability such as happened in Myanmar and Thailand, natural disasters and pandemics. The COVID-19 pandemic that swept throughout the world in 2020-2021 also affected the ASEAN region as a whole, forcing all countries to focus their attention on dealing with the public health crisis and its social-economic impacts.

Fourth, the role of Indonesia as the largest member of ASEAN and seen as a natural leader within the regional body has at times been inconsistent. Indonesia was not able to play a leadership role in ASEAN in the immediate post-Suharto period as Indonesia grappled with social-economic crises and its difficult transition from authoritarianism to democracy. At the same time, the outlook and priorities of different presidents also affect Jakarta's role in ASEAN. After Indonesia's foreign policy activism and regional leadership during the Yudhoyono presidency (2004-2014), President Joko Widodo pursued a more economically-oriented foreign policy that emphasized bilateral engagements over multilateralism, triggering concerns that Indonesia was side-lining ASEAN in the early years of his presidency.

Fifth, the latest military coup in Myanmar which took place in February 2021 and ended the country's decade-long experiment with

democracy, is a domestic crisis with wide-ranging regional dimensions that also challenges ASEAN credibility. Myanmar's membership in ASEAN has from the beginning posed challenges to the regional body. Myanmar joined ASEAN in 1997 while it was still ruled by a military junta that had imprisoned the civilian political leader Aung San Suu Kyi, and annulled the election which had been won by the National League for Democracy (NLD) led by Suu Kyi in 1988. Several western countries imposed sanctions on Myanmar which affected ASEAN relations with its western partners, particularly with the European Union, until the sanctions were lifted when Myanmar started its transition to democracy in 2011. The military's latest refusal to recognize the result of the November 2020 election that was overwhelmingly won by the NLD, the arrest of political leaders including Aung San Suu Kyi and the military's seizure of power have led to large-scale internal conflicts in Myanmar between pro-democracy activists supported by the armies of rebelling ethnic minorities against the military junta. The latest political crisis is clearly of a major concern to ASEAN since Myanmar's internal conflicts and humanitarian crisis have regional implications, weakening ASEAN resilience as a whole. Even more challenging for ASEAN is the fact that its proposed 5-point consensus for ending the conflict in Myanmar has been ignored by the junta. The 5-point consensus that was agreed at a special ASEAN foreign ministers meeting in Jakarta in April 2021, including the Myanmar junta, call for a cessation of violence, a humanitarian access, appointment of an ASEAN envoy for Myanmar, visits of ASEAN envoy to meet all parties and an inclusive dialogue of all Myanmar stakeholders, but so far violence has continued unabated in Myanmar.

External Challenges to ASEAN Centrality

China's increasing economic dominance and assertive foreign policy have increasingly challenged ASEAN's unity and strategic autonomy. Several ASEAN countries have become economically dependent on China, making them more vulnerable to pressure not to act against China's interests, particularly on the South China Sea issue. Disputes over the South China Sea, which is claimed in parts by Taiwan and four

ASEAN countries, Brunei, Malaysia, the Philippines and Vietnam, and in its entirety by China have become more fraught amid China's aggressive policy in asserting its claim. This fact was clearly demonstrated in the unfortunate incident in 2012 when for the first time in its history ASEAN foreign ministers failed to issue a Joint Communique after their meeting in Phnom Penh as the host Cambodia, at the behest of China, opposed the inclusion of a passage critical of China in the draft of the Joint Communique (Bisley, 2018).

At the same time, geo-political rivalry between the United States as the incumbent superpower and China as an ascendant great power threatens to pull ASEAN members in opposite directions. China's steady rise as a comprehensive power to rival the United States, and what it may portend for the international order in general and for regional security in particular, has preoccupied the attention of both scholars and policy-makers in the past decade. Debates about the possible trajectory of US-China relations, whether these two superpowers will be able to develop a working relationship with each other or whether their interests will inevitably collide, particularly in the East Asian region, have fed both hopes and anxieties. Graham T. Allison (2017) in his book *Destined for War: Can America and China Escape Thucydides's Trap* describes that out of 16 cases of rising powers challenging the established powers throughout history, 12 had resulted in wars, and thus cautions that a violent clash between China and the United States is a distinct possibility unless both sides take the necessary steps to avert it.

In Southeast Asia, there are growing anxieties ASEAN and its ten member-states may be forced to choose between China and the United States. It was not that long ago that Southeast Asia was divided ideologically between the anti-communist and pro-communist camps, while internally many Southeast Asian countries battled over different ideologies and external alignments that dominated the Cold war. Given the great diversity among ASEAN member-states and within many of the ASEAN countries, taking side in the current United States-China rivalry carries the very real risks of not only dividing ASEAN but also of exacerbating the internal divisions that still exist within some of the member states. Such a scenario would clearly undo much of the progress

that has been achieved by individual Southeast Asian countries and weakens ASEAN's role as a whole.

The emergence of external minilateral groupings such as the Quad and AUKUS, generally perceived as being directed against China, can also pose a challenge to ASEAN centrality. The revitalization of the Quadrilateral Security Dialogue (the Quad) comprising the United States, Japan, Australia and India, generally perceived to be aimed at constraining China's regional hegemonic ambitions has generated mixed receptions among ASEAN member states. While the Quad was initiated in 2007 on the side-line of an ASEAN-hosted East Asia Summit in Manila, it remained moribund until 2017 when the leaders of the four Quad countries met at another ASEAN Summit in Manila. Since then, the Quad has become more active in deterring China through closer security cooperation between the member-states. The hardening stance between the Quad members towards China undoubtedly makes ASEAN's task of promoting inclusive dialogues towards cooperative security even harder. The trilateral security pact between Australia, the United Kingdom and the United States (AUKUS) in which Australia will receive nuclear-powered submarines from the other two countries have also attracted criticisms from a number of ASEAN countries, including Indonesia. Besides concerns about undermining the Nuclear Non-Proliferation Treaty (NPT) since Australia as a non-nuclear weapon state will receive nuclear-powered submarines from nuclear weapon-states, it is also feared that the presence of AUKUS could trigger a regional arms race and further heighten regional tension.

The Limits of ASEAN Centrality

ASEAN centrality usually refers to ASEAN's role in managing relations with external powers. Nevertheless, it is also important to look at ASEAN centrality from the perspective of intra-ASEAN relations. Given the nature of ASEAN, its great diversity, relatively weak institutionalism and decision-making by consensus, particularly on political-security issues, the regional body can only make agreements based on the lowest common denominators. ASEAN's regional

mechanisms are often seen as little more than “talk shops” not suitable for dealing with more controversial or difficult issues. It must also be noted that until recently ASEAN has refrained from conducting ASEAN-wide multilateral military cooperation or exercises to prevent the organization from becoming a defence alliance, preferring instead the bilateral or trilateral approaches. Within ASEAN, minilateral initiatives are also considered to be more practical in dealing with specific security challenges which may only involve a few countries, such as piracy in the Strait of Malacca or terrorist activities in the Sulu Sea. In the wider Indo-Pacific region, the emergence of the Quad and other beyond ASEAN minilateral initiatives, including those involving some ASEAN member states with non-ASEAN regional partners, are clear recognition of the limits of ASEAN centrality.

Furthermore, as an organisation comprising of mostly developing countries ASEAN has little capacity to deal with serious crises. During the Asian financial crisis that began in 1997 which affected several members of ASEAN, particularly Indonesia, there was not much that ASEAN as an institution could do to assist the member-states. ASEAN was sidelined since it was not yet in a position to extend substantial economic assistance, while member countries put much higher priorities on their relations with the traditional donor countries such as Japan, Western Europe and the United States. Similarly, ASEAN has not been able to play a significant role during the COVID-19 pandemic, with member states relying more on their individual efforts and bilateral relations with non-ASEAN partners to assist in the supply of vaccines.

Equally important, while there are several territorial disputes between ASEAN member-states, so far, they have been unwilling to make use of ASEAN in resolving these disputes, despite the fact that the First Bali Concord of 1976 stipulates that a High Council can be formed to deal with intra-regional disputes. ASEAN has succeeded in defusing regional tension, but attempts to resolve certain disputes once and for all have been left to bilateral efforts or to the adjudication of the International Court of Justice in the Hague, as had been the case with the overlapping claims over Sipadan and Ligitan between Indonesia and

Malaysia. These challenges continue to pose obstacles to the realization of ASEAN Community and ASEAN centrality.

Conclusion

Despite its many shortcomings, ASEAN has been lauded for its important role in maintaining regional harmony among its member-states, and increasingly for its ability to act as the primary convenor of wider regional engagements with major external powers, including with the United States and China. While not designed to resolve conflicts, ASEAN-centric regional mechanisms have had considerable success in confidence-building measures and preventive diplomacy, thus contributing to regional peace and stability, that can be contrasted favourably with many other conflict-prone regions where competing great powers' interests also intrude, such as the Middle East. ASEAN's effectiveness in carrying out its many expected functions, internal and external, is predicated upon its continuing cohesiveness and ability to engage with all powers equally.

Ensuring and preserving the strategic autonomy and agency of the Southeast Asian region has been the primary objective of ASEAN since its establishment at the height of the Cold War in 1967, even when all of the five founding members belonged to the non-communist/anti-China camp. The enlargement of ASEAN to include countries that had belonged to the opposite camp during the Cold War has undoubtedly made it harder for ASEAN to reach a consensus on important strategic issues, but the doctrines, principles and objectives of ASEAN have now been codified in the ASEAN Charter that all of the member states signed in 2007 and ratified in 2008. With the development of national and regional resilience the majority of ASEAN member-states have to a considerable extent overcome their historical fragility and vulnerability to external subversions, and together they have been able to foster the necessary confidence and ability to engage with major external powers on more equal terms.

ASEAN centrality is derived from a combination of factors, including the perceived gaps and needs for beyond-ASEAN regional

architecture, ASEAN's role as the primary regional convenor and support from the dialogue partners. ASEAN centrality most often refers to its driving seat role in promoting beyond-ASEAN political-security cooperation, particularly through the ASEAN Regional Forum and the East Asia Summit. ASEAN multilateral mechanisms have played an important role in fostering regional dialogues and cooperation, particularly during time of tension between the major powers.

ASEAN centrality is now facing several serious internal and external challenges, including domestic crises in a number of ASEAN states, particularly Myanmar, the rise of China as a superpower and the intensifying rivalry between the US and China. The viability of ASEAN centrality first and foremost depends on ASEAN cohesiveness, solidarity and willingness to take collective action. Due to ASEAN's structural problems ASEAN centrality also faces clear limitations.

Southeast Asian diversity is generally seen as a weakness as it affects ASEAN's unity and ability to reach a consensus on sensitive issues. However, as noted by Reid (1993) Southeast Asia's strategic location along the maritime trade route between the Chinese empire and Japan to the North and the many great empires to the West, as well as its produce of rare spices and woods that were in high demand throughout the rest of the civilized world had made Southeast Asia a hub of early globalization since ancient times, with the period between 1450-1680 marked as the region's age of commerce. Southeast Asian merchants, rulers, cities and states had a central part in the trade that flowed from and through their region.

Hence, ASEAN's inclusive approach to wider regional architecture has a historical antecedent in its pre-colonial past, and is strongly influenced by the peoples' open outlook toward diverse external influences. Southeast Asia is the most diverse region in the world for only here that one can find almost all of the great civilisations and world religions living side by side. The diversity in Southeast Asia does not only exist between countries, but also within countries. Hinduism, Buddhism, Confucianism, Islam, different variants of Christianity are all well represented. As we ponder the challenges that ASEAN faces in ensuring its

centrality in managing relations with major external powers it is worth remembering the earlier history and best practices that had marked Southeast Asia with its openness and ability to engage as equals with all comers. To quote Reid: “As Southeast Asians dramatically shape their present, they need not be inhibited by their immediate past An earlier period offers abundant evidence of creative responses to rapid economic change, a variety of social forms, a variety of political and intellectual possibilities” (Reid, 1993, p. 329-330).

ASEAN’s interests have increasingly gone beyond the wider Indo-Pacific region as reflected in the growing number of full dialogue partners, sectoral dialogue partners and development partners from other regions farther away. At the 55th ASEAN Ministerial Meeting in Phnom Penh on 3 August 2022 Brazil was conferred the status of ASEAN Sectoral Dialogue Partner, to date the only country from South America that has been granted this status by ASEAN. This is clearly in recognition of the sizeable two-way trade between ASEAN and Brazil, Brazil’s foreign direct investment in ASEAN countries that has grown over the years, as well as the fact that Brazil has developed close relations with ASEAN since 2021. Brazil acceded to the TAC in November 2011 and since then has appointed an ambassador to ASEAN. ASEAN has always been very selective in conferring full dialogue and sectoral dialogue partnership status, ensuring that the prospective partners have substantive economic and diplomatic engagements with ASEAN. Brazil, the largest country in South America and a G 20 member, becoming a sectoral dialogue partner, is undoubtedly beneficial for ASEAN, including in enhancing ASEAN centrality.

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The Centrality of ASEAN in Economic and Diplomatic Architecture in the Indo-Pacific: An Extra-Regional Perspective

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Introduction

The Association of Southeast Asian Nations (ASEAN) is a regional organization that, formed in the wake of a closed regionalism, has restructured itself to become one of the most important geopolitical and economic actors in Southeast Asia. In addition to its economic importance, especially since the 1990s, ASEAN, with almost six decades of existence, has been developing an important diplomatic role in the region, one of the most dynamic in terms of capitalism, but with countries that, for many years, have seen one another with rivalry.

In addition to deepening its integration, which is not only about economic and trade issues but also involves the creation and development of a community based on three pillars, ASEAN is of central interest to the Indo-Pacific region, a concept that has been used as a substitute for the Asia-Pacific but that highlights the oceans and not the portions of land. ASEAN is currently home to the world's third-largest population: the ten countries that make up the association have a total population of about 664 million people, as of 2021, where half are under the age of 30. In addition, the association has the third largest GDP in Asia, amounting to 3.3 trillion dollars in 2021, thus gathering 3.5% of the world's GDP and about 3% of the world's total land area. However, the region outperforms itself in terms of maritime extent, as the ASEAN

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maritime portion is three times larger than the land portion (National Committee of Indonesia's Chairmanship in ASEAN, 2023a).

Much more than numbers, which clearly demonstrate the importance of the organization in the international system, this chapter seeks to present, from an extra-regional perspective, the centrality of the association to international and regional relations, as a profoundly complex scheme of regional cooperation and integration. To this end, we seek to provide a brief history of the association, highlighting its role in important moments in Asia and the world, such as the end of the Cold War, the Asian Crisis of 1997, the Severe Acute Respiratory Syndrome (SARS) crisis, the Indian Ocean tsunami, the territorial disputes in the South China Sea and the creation of the Regional Comprehensive Economic Partnership (RCEP). Thus, this chapter is divided into four sections, in addition to this introduction and the final remarks. The first section presents the historical background of ASEAN, while the second section recounts the main events in the bloc during the Cold War years. The third section reports on the main changes undergone by the association since the end of the Cold War, while the fourth section points out some important developments of the first decades of the twenty-first century. The final remarks seek, by recovering the title of this chapter, to indicate the centrality of ASEAN in the economic and diplomatic architecture of the Indo-Pacific.

Historical background of ASEAN

In the late 1940s and early 1950s, Southeast Asia was beginning to shape itself as a region that gradually gained a greater degree of autonomy from the Western powers. The moment was of decolonization and increased nationalism². However, the reduction of the presence of the old metropolises did not mean their immediate removal. In 1947 the United

2 The Philippines was the first country to have its independence accepted by its metropolis, the U.S., in the post-World War II era in 1946. Then followed Myanmar in 1948, Indonesia and Laos in 1949, Cambodia in 1953, Vietnam in 1954, Malaya in 1957 (Sabah and Sarawak in 1963), Singapore in 1959, and Brunei a sultanate that only ceased to be a British protectorate in 1984. Thailand is an exception as it was one of the few countries that did not become a Western colony, which did not spare the state from a weakened and diminished sovereignty in 1945 due to attacks on French and British territories in Asia during World War II.

Nations provided a forum for Southeast Asia, the Economic Commission for Asia and the Far East, which became important to produce some regional organization. Other strengthening and integration initiatives in Asia took place in the 1940s, some of the most significant being those undertaken by a newly independent India that sought to demonstrate a stance against imperialism and pro-nationalism. These were the cases of the 1947 Conference on Asian Relations in New Delhi and the Inter-Asian Conference of 1949, whose purpose was to foster cooperation in Asia (Turnbull, 1999).

Thinking of integration of the Southeast Asian region in the 1950s through the mid-1960s was unlikely, and arguing for it even less likely, even as regional integration initiatives began to gain traction around the world. Initially, the elites of newly independent countries had a broader idea for Asia when it came to bringing regions closer together: an Asian federation encompassing India, China, and Southeast Asia as a whole or a pan-Asian unity that extended beyond Southeast Asia. These initiatives were nothing more than ideas without anything concrete (Ba, 2009).

The Cold War, still in its beginning, spread rapidly to Southeast Asia, which seemed to be a region conducive to the search for areas of influence by both sides of the dispute since most of the states were newly independent and their fragmented nationalisms were still in the making. The ideological dispute between communism and capitalism then became a way for these countries to achieve national development and cohesion (Turnbull, 1999).

But the same Cold War that encouraged nationalism also inspired “regional” arrangements such as the Bandung Conference³ in 1955, seen as a movement of solidarity among Third Way countries and considered “later as *primus inter pares* in the Association of South-East Asian Nations” (Turnbull, 1999, p. 594). Bandung was not the only movement of rapprochement and solidarity between countries. In Southeast Asia, the Philippines proposed an anti-communism pact that would be

3 The Bandung meeting took place in 1955 and brought together Third World countries that did not want to identify with either the US or the USSR during the Cold War, thus wishing to create an alternative path without automatic alignment, with the aim of seeking development.

followed by several other proposals from the country; Thailand proposed a Buddhist Union among the Mekong countries; and Malaysia brought several suggestions for a pan-Malay union. Most of these attempts at rapprochement always had an ethnic or religious character, which made the definition of the region less comprehensive, and ended up not advancing. However, all these movements demonstrated the existing interest in the region for a *de facto* approximation (Ba, 2009).

Fears of the spread of communism increased in the late 1950s in Southeast Asia, mainly due to the independence of Vietnam and the outbreak of the Second Indochina War⁴. Already in the early 1960s, there was the formal entry of the US into the war with Vietnam and with it the increased confrontation between China and the United States, although the greatest rivalry in that region was between the USSR and the USA. Also in this period, the estrangement between the People's Republic of China and the Soviet Union brought unrest to the countries in Southeast Asia (McDougall, 2007).

In the early 1960s, countering the conflicts and rivalries arising from the latent nationalisms of post-decolonization, some internal groups from different countries launched the idea of looking at the region in a different way and in 1961 created the Association of Southeast Asia (ASA), initially formed by Thailand, the Philippines and Malaysia. In 1963 starting from the same spirit of seeking cooperation and rapprochement the Maphilindo was created. Its members were the Philippines, Indonesia, and Malaysia, in the same year that Malaya became the Malaysia Federation. However, for different reasons ranging from nationalism, ethnic, religious, political, geopolitical, and regional historical rivalries, neither association maintained its existence for long (*Ibid*).

At that time, regionalism and nationalism still stood on opposite sides of the balance of states and the latter weighed more heavily on their assessments. Thus, to create an organization that would serve the countries of Southeast Asia, it would be necessary to be based on arguments that linked regionalism to nationalism. Thus, ideas of

⁴ Also known in the West as the Vietnam War, and in Vietnam as the American War (1955-1975).

self-determination, national consolidation, and non-intervention – ideas of national stability – allied to the ideas of regional unity, solidarity, and organization were taken into account, which meant the search for an end to conflicts. For a regional organization to continue to exist, it should stick to regional and national ideas, making the bloc withstand international pressures, improve the relationship between the member states, and facilitate dialogue between them by reducing information asymmetry and the feeling of latent insecurity. The association that emerged from this initial effort of five states allowed them to remain united and not strictly allied to one side or the other of the ideological conflict was ASEAN (Ba, 2009).

ASEAN in the Cold War years

On August 8, 1967, the Association of Southeast Asian Countries (ASEAN) was created through the signing of the Bangkok Declaration by five countries in the region: Thailand, Indonesia, Malaysia, the Philippines, and Singapore. Despite the attempt by these countries to include other countries in the founding of ASEAN, Cambodia and Burma (now Myanmar) declined to be part of the group (Turnbull, 1999).

Although theoretically the association was not anti-communist, and the Declaration emphasized the cultural and economic promotion of the region, the membership invitation was not extended to North Vietnam which was openly communist and was going through a war against the US. In fact, there was a discussion to include the two ‘Vietnams’ in the organization with the argument that only united Southeast Asia would be safe. However, the situation of war and insurrection⁵ made the members decide not to invite North Vietnam, and the fear that the invitation only to South Vietnam might sound like a provocation also left the country out (McDougall, 2007).

There were other debates about which members should join the association, mainly because of the absence of a clear definition in the

5 This was the moment of the establishment of two of the main conditions for membership of ASEAN, articulated by the then Minister of Foreign Affairs of the Philippines: to be a Southeast Asian state; and to be in accordance with the principles and purposes of ASEAN (Ba, 2009) – something that was not, at the time, guaranteed by Vietnam.

Bangkok Declaration of which regions constituted Southeast Asia. There was the suggestion of the insertion of Ceylon (now Sri Lanka), but without consensus, and India, which, however, was a much wealthier country than the rest of Southeast Asia. The idea was also discarded (Ba, 2009).

There are many readings about the first objectives and priorities of ASEAN as soon as it was created, but undoubtedly the conciliation of the members of recent conflicts, restoring trust between states, and the protection of the sovereignty of each member state were among the main ones (Turnbull, 1999; Simon, 2008). These actions were fundamental to the success of the association that still had defence issues to be resolved⁶, although this was not the main focus of the association, which primarily sought economic growth and cultural and social development in the region.

At the time of ASEAN's creation, its member states presented a very similar design as countries. They were anti-communist – although they did not seek to convey this as an internal condition of the association – and were united by the fear of an aggressive and imperialist reaction from North Vietnam and the People's Republic of China (PRC) to the region; they had governments with open economies, but which tended toward authoritarianism; and sought above all to promote and expand ASEAN trade within and outside the region as a tactic to develop individual countries, and the region as a whole (Turnbull, 1999).

Despite being part of the same association, the ASEAN countries still maintained deep rivalries that soon surfaced. As early as 1968 Malaysia and the Philippines suspended relations, again over the issue of North Borneo, as the Malays discovered a plan for the invasion of that territory by the Philippine army. Singapore and Indonesia also had their tensions this same year as the city-state began to execute

6 Because it was not a defence alliance per se – and also because of issues involving the self-determination of states – ASEAN refused to have a collective defence policy. There was resistance on the part of states to create a collective defence, as it could induce the perception that the group was anti-communist, which could deter the entry of other states in the region. The idea, in not characterizing itself as a militarized group, was that, since it was made up of smaller states, it should not get involved in the affairs of the powers. This, however, did not mean that individual states could not have and increase their military forces (Ba, 2009).

– despite Suharto’s personal appeals – the sentences of two Indonesian military commandos due to actions of the *Konfrontasi* period. Malaysia and Singapore, both former British colonies, also had disagreements, and with the closure of UK bases in both countries, there were riots in both for the withdrawal of workers from Singapore and from Malaysia (Ba, 2009).

But those were not the only cases. In addition to internal problems and rivalries, there was still great mistrust between the countries of the region and ASEAN member states during the Cold War years. In the 1970s, there was unease between Malaysia, the Philippines, and Singapore, which were re-establishing diplomatic relations with the PRC, while Indonesia, which was moving away from communism, only did the same in the late 1980s. There were misgivings of the country since the PRC had financed the Communist Party of Indonesia in 1965.

There were still less than harmonious relations between the countries of the region such as Brunei – which was not yet part of ASEAN – and Malaysia, since the state, a British protectorate, did not want to be part of the Federation of Malaysia when it was created in 1963. Apart from Brunei, Burma – which was not part of ASEAN at that time – was in civil war. Thailand was also suffering at the beginning of the decade as the Vietnam War had worsened since the mid-1960s. The U.S. provided great financial aid to Thailand which served as the base for the country during the war. However, in the late 1960s, there were insurgencies in the northeast, north, and south led by the Thai Communist Party, inspired by the Vietnamese situation. In the 1970s, there was the return of the military government and a politically troubled period with civil uprisings until 1975 (Turnbull, 1999).

Despite a negative perception of the institutional low speed of ASEAN in its first decade, it is possible to affirm that some achievements were reached in the 1970s that would later prove extremely relevant diplomatically for the region. Even with rivalry relations in Southeast Asia, in 1971 the association signed the Declaration of Zone of Peace, Freedom, and Neutrality (ZOPFAN). The guidelines that resulted from this declaration reinforced some key concepts of the institution such

as: what made those countries part of Southeast Asia, what they had in common and what was the extent of that regionalism⁷ (Ba, 2009; McDougall, 2007).

In addition to ZOPFAN, still in the 1970s ASEAN created the Treaty of Amity and Cooperation⁸ (TAC) in 1976. Initially a legal code that linked some interstate friendly conduct, it later became a document that would give access to the other countries of the region to the bloc. In the late 1980s, it underwent some amendments so that it would also serve countries outside Southeast Asia that wished to have a relationship with the association⁹. The ZOPFAN and the signing of the TAC were important to bring the countries of the association closer to a united Vietnam, once the documents formalized the relations of the countries through the basic principles established by ASEAN as non-aggression and non-interference.

The Third Indochina War¹⁰ served as a test for ASEAN unity since there were different responses from the bloc's countries to action, but it also served to strengthen their ties as an association, after all, they did not cease to exist after the incident (Ba, 2009). Although the war between the PRC and Vietnam ended weeks later, the situation in Cambodia only normalized after Vietnam withdrew its troops from the country in 1989 and elections were held for a democratic regime with the presence of the United Nations.

At the first official ASEAN Summit, the 1976 Bali Summit, in addition to the creation of the TAC, another important document for the establishment of ASEAN was issued. The Declaration of ASEAN

7 According to Ba (2009), the ideas that came out of the declaration were: that although different, such states had characteristics that made them part of a Southeast Asia as for all having suffered some kind of external intervention, for being small countries within the global system of great powers and also for being geographically close; that these characteristics should make them a unity through the achievement of the goals of regionalism; and finally, that the regionalism of Southeast Asia should extend to the mainland and the islands, to non-aligned or non-communist countries, thus bringing unity and not division.

8 Document that codifies the international principles and conduct appreciated by ASEAN, such as non-aggression, non-interference and peaceful resolutions (Saunders, 2008).

9 Brazil signed the Treaty of Amity and Cooperation in 2012 under President Dilma Rousseff, being the first Latin American country to become part of the TAC.

10 The Third Indochina War took place between China and Vietnam due to the latter's invasion of Cambodian territory under the Chinese-backed Khmer Rouge regime (February-March 1979).

Concord I (DAC I) reaffirmed the Bangkok Declaration that created the association in 1967 and aimed “to consolidate the achievements of ASEAN and expand ASEAN cooperation in the economic, social and political fields” (ASEAN, 1976, p.1). The Declaration paved the way for the association’s modern organizational structure and set out the main principles that guide it.

In DAC I, the association created some important political structures such as the meetings of member states Heads of Government, the obligation to sign TAC for those countries that established relations with the association, and the search for a peaceful resolution for internal conflicts. In the economic field, cooperation was established in basic commodities (mainly food and energy), industrial cooperation, trade cooperation, and joint cooperation for the international problems of commodities and other problems of the world economy, in addition to the devices for economic cooperation. Another issue addressed at the 1976 Bali Summit that was part of the DAC I was the improvement of ASEAN’s internal mechanisms, which created the ASEAN¹¹. In addition to the points highlighted above, the DAC I also dealt with the social, cultural, and security fields (ASEAN, 1976).

A year later, in February 1977, the association signed the ASEAN Preferential Trading Arrangements (PTA) which provided the main basis for the establishment of various trade liberalization mechanisms for preferential trade aiming at the expansion of the association development as well as its first trade liberalization mechanisms. Both the DAC I and the PTA paved the way for the establishment of the ASEAN Free Trade Area (AFTA) which would be established only in the early 1990s (Wan, 2011).

In the late 1970s and early 1980s, ASEAN began to pursue another of its goals: economic and trade cooperation. However, the priority of national economies in extremely nationalistic countries weakened trade liberalization within the bloc. From the end of the Cold War, the association began to turn to a more economic bias, and in 1984, ASEAN

11 Later, in 2003, the Second ASEAN Declaration of Agreement was held, which launched this new organizational structure composed of three pillars involving economy, politics, security, society and culture.

underwent its first horizontal expansion with the entry of the Sultanate of Brunei, which in the same year had become independent from Great Britain (Oliveira, 2006).

In 1987, at the Third ASEAN Summit, the Heads of State emphasized the need to strengthen economic cooperation within the bloc in order to increase trade and development potential by combating protectionism so that the private sector would have the opportunity to act freely in the region as one way to reach the development of the association, of their countries and the integration between them. Oliveira (2006) states that ASEAN went through three distinct phases: the process of maintaining regional security, in first years, the process of economic development, during the 1980s, and in the post-Cold War with the redirection of its objectives into and out of the region.

The transformation of ASEAN in the post-Cold War era

The end of the Cold War breathed new life into ASEAN. 'At the same time, changes associated with the end of the Cold War [...] had divided Southeast Asia, it also insulated Southeast Asia as a region in key ways (Ba, 2009, p. 101). With the end of the ideological dispute and the emergence of the U.S. as the new power, the association was able to focus on objectives other than the defence of the region and the sovereignty of its member states against the communist threat. It was also in the 1990s that ASEAN increased its scope through further horizontal expansion. The East Asian region as a whole was experiencing a time of great economic growth and rapid industrialization that began about a decade after the end of World War II but reached its peak in the late 1980s and early 1990s with Japan and the Asian Tigers (Taiwan, South Korea, Hong Kong, and Singapore, the latter a founding member of ASEAN). The association advanced in the good economic moment Asia was going through in the 1980s, but it was in 1990s that the association began to seek new objectives, despite maintaining the same principles since its creation and formation.

After Brunei's entry into the association in the 1980s, ASEAN was opened to new members, starting in 1995 with Vietnam, the first

country to join ASEAN in the post-Cold War era. Two years later, Laos and Myanmar also joined the association, which in 1999 added its most recent member until now, Cambodia, equally important to the concept of Southeast Asia. Cambodia was going through a civil war of more than a decade, and was still recovering in the early 1990s¹², and for that reason it entered the association only at the end of the 1990s (Ba, 2009).

In 1992 the so-called ASEAN-6¹³ signed some agreements. The main ones were the ASEAN Free Trade Area (AFTA) and the ASEAN Declaration on the South China Sea. The latter focused on specific issues of the South China Sea region, where there are important territorial disputes and 1/3 of all cargo ship movements in the world (McDowell, 2011). The region is of high importance to ASEAN since many of its members are located around or at this sea¹⁴, as well as China and Taiwan. The ASEAN Declaration on the South China Sea sought to ensure that disputes concerning the region were resolved peacefully while respecting the basis of non-aggression.

Achieving economic cooperation in ASEAN was, however, complex, mainly because of the difficulty in establishing a common market between economies that were competitive rather than complementary. Another problem for economic integration was the fact that most member states did not want to specialize in a specific area of economic activity if it meant having to abandon other areas they believed to be important. Despite the drawbacks, the ASEAN Free Trade Area was created (McDougall, 2007).

AFTA was the culmination of previous initiatives to create a free trade area in Southeast Asia. It began with the DAC I in Bali in 1976,

12 East Timor, also a Southeast Asian country, a Portuguese colony until 1975 and later considered the 27th Indonesian province, only had its independence recognized in 2002. In March 2011 the formal request was made by the country to join the bloc as a member state. In November 2022, the country was admitted "in principle" as the 11th member of the organization, with full membership pending. The country is granted observer status at ASEAN meetings, including at summit plenary sessions. However, on the association's website, in the list of member states there is no mention of East Timor (Shibata, 2023).

13 ASEAN-6 is made up of the five founding countries, plus Brunei, the first country to enter the bloc individually.

14 ASEAN members in the South China Sea: Malaysia, Indonesia, Singapore, Thailand, Cambodia, Philippines, Brunei, Vietnam.

the signing of the PTA in 1977, the Third ASEAN Summit of 1987, and the Framework Agreement for the Enhancement of ASEAN Economic Cooperation of 1992 that preceded AFTA. The ASEAN Free Trade Area was signed by its then-six members “to eliminate tariff barriers among the Southeast Asian countries with a view of integrating the ASEAN economies into a single production base and creating a regional market of 500 million people” (ASEAN, 2002, p.1). The agreement presented a timetable for tariff reductions and a deadline for all members to be able to adapt to their requirements. As AFTA was extended to all countries that entered the association subsequently, they were also required to conform to such rules, even if with different deadlines.

Until 1999, many agreements were signed within ASEAN aiming for greater regional integration, the development of countries and the bloc as a whole. Some important examples are the 1995 Treaty of Southeast Asia Nuclear-Weapon-Free Zone (ASEAN, 1995) which followed the principles of the United Nations Charter, the 1970 Non-Proliferation Treaty and the 1971 ZOPFAN; the 1996 ASEAN-Mekong Basin Development Cooperation (ASEAN, 1996) which aimed to encourage the development of the Mekong Basin countries and the strengthening of their economic ties with the association; the ASEAN Vision 2020 of 1997 (ASEAN, 1997) which was a joint declaration where the association outlined goals in various areas (such as economy, trade, science and technology, infrastructure and communications) for the year 2020; and the 1999 Joint Statement on East Asia Cooperation (ASEAN, 1999) which officially inaugurated ASEAN Plus Three (APT – Japan, China and South Korea) with the main focus on joint cooperation in the economic, social, political and security areas.

In addition to the agreements signed in that period, in 1994 the ASEAN Regional Forum (ARF) was created as a space to discuss security issues more comprehensively and more deeply than within the organization. The ARF grew out of a discussion launched by ASEAN countries and dialogue partners (Australia, Canada, the European Union, Japan, and the US) as well as meeting observer states (China, Russia, and Vietnam). The ARF currently has 27 members and is the largest regional forum dedicated to security issues (ARF, 2023). The ARF

counts ASEAN as the group's meetings "core" since it follows through the basic ASEAN principles of non-intervention, consultation, and dialogue, which counts for a lot when it comes to security and defence (McDougall, 2007).

The sudden growth of East Asia, however, suffered a setback in the late 1990s because of the financial crisis that hit the region. The first wave of the Asian financial crisis began as a currency crisis in Thailand. Domestic financial problems began to appear as early as 1994, but in 1997 the Thai Central Bank could no longer manage the outflow of dollars in a herd effect, which in fact initiated the crisis and led the country to seek loans from the International Monetary Fund (IMF). The crisis that began in Thailand spread to the rest of Southeast Asia since investors were afraid of a credit crisis in the other countries of the region. As a consequence of the Thai crisis, the currencies of the Philippines, Malaysia, and Indonesia fluctuated as early as 1998, leading to negative growth in all these economies, and also in South Korea (Wan, 2008).

The moment of fragility that hit some of the ASEAN members were going through also served as an opportunity for strong countries in the region, mainly China and Japan. The role of the IMF was heavily criticized during the Asian financial crisis, which helped China and Japan to stand out. Realizing that Western countries had done nothing or very little to help the countries most harmed by the crisis, Japan, China, and South Korea to a lesser extent, got even closer to the countries of Southeast Asia with the Chiang Mai Initiative (CMI)¹⁵ launched shortly after the third APT Summit in 1999. The role of CMI was to rescue the economies of East and Southeast Asia.

ASEAN in the 21st century – opportunities and challenges

From the 2000s, the association turned even more to the economic sphere, integrating, and seeking to restructure. However, despite the importance and strength of the economy and trade for ASEAN, the

15 The Chiang Mai Initiative is a regional financial arrangement created for East Asia after the 1997 financial crisis whose main purpose is to stabilize the network of bilateral swap contracts between ASEAN+3 members in order to promote liquidity support for countries experiencing balance of payment difficulties (Asami, 2005).

beginning of the twenty-first century was not only about the deepening of its economic and trade pillars. In 2003, ASEAN launched the Declaration of ASEAN Concord II (DAC II) where the association, with its current ten member states, seeking greater regionalization and unity in East Asia, committed to work for the establishment of an ASEAN Community divided into three pillars: Economic Community; Political and Security Community; and Socio-Cultural Community.

In 2007, the ASEAN Community was in fact launched through the ASEAN Charter, also known as the Singapore Declaration, which celebrated the association's 40th anniversary. The ASEAN Charter, which came into force in 2008, reaffirmed its founding principles and brought new issues to the association, issues that were closely linked to the construction of a community – such as the creation of an anthem, a symbol, a day for ASEAN – as well as structural changes that would increase the efficiency of the institution and its integration (ASEAN, 2007). The Singapore Declaration also had within its objectives to increase the use of legal constraints, make laws more stringent, and promote human rights and democracy. However, the entry of countries with non-democratic governments weakens most of these issues since, given the importance of ASEAN's basis of non-interference and non-intervention in the internal affairs of states, all its decisions are made by consensus (Emmott, 2008).

Only in 2015 was the ASEAN Community launched, by the Kuala Lumpur Declaration on the Establishment of the ASEAN Community. In its first pages, the declaration recalls all the documents¹⁶ that paved the way for the *de facto* creation of the ASEAN Community, which seeks to deepen the kind of integration that is being established in Southeast Asia. Within this effort, three main communities were created: the ASEAN Political-Security Community, the Economic Community, and the ASEAN Socio-Cultural Community (ASEAN, 2015). The 2015

16 ASEAN Vision 2020 (1997); Declaration of ASEAN Concord II (2003); Declaration of the Acceleration of the Establishment of an ASEAN Community by 2015 (2007); Declaration on the Roadmap for an ASEAN Community 2009-2015 (2009); Declaration on ASEAN Community in a Global Community of Nations; Agenda for ASEAN Community Building (2012); Declaration on Realization of the ASEAN Community by 2015 (2014).

Declaration also established a series of the so called Cross-Sectoral Initiatives, which involve issues from connectivity to smart cities. Historically, the pillar focused on economy and trade was the one that stood out the most before the existence of the thematic communities, which may be a sign of the search for greater appreciation of other themes beyond those that began to gain even more prominence in the 1990s (National Committee of Indonesia's Chairmanship in ASEAN, 2023b).

It was also at the turn of the century that the celebration of ASEAN-plus-one Free Trade Agreements began. The first of these FTAs with each of the APT countries was the ASEAN-China Free Trade Area (ACFTA), which marked the beginning of the Chinese economic rapprochement with the bloc in 2002. Then followed South Korea (ASEAN-Korea Free Trade Area – AKFTA) in 2006 and Japan (ASEAN-Japan Comprehensive Economic Partnership – AJCEP) in 2008. Each of the ASEAN-plus-one agreements has different characteristics, from the amount of trade liberalization between members to the timeframe for all countries to conform to established norms (Findlay, 2011).

Recently, ASEAN has also established FTAs with India (ASEAN-India Free Trade Area – AIFTA) in 2010 and with New Zealand and Australia (ASEAN-Australia-New Zealand Free Trade Area – AANZFTA) in 2009. Despite different characteristics, all ASEAN-plus-one agreements, which were made possible by the creation of the APT, have basically the same goal: to further boost the economy by using regional direct investment to strengthen ties between these countries and to influence ASEAN in order to be able to exercise the regional leadership role in East Asia (*Ibid*).

ASEAN also engages with several other countries inside and outside Asia. According to the principles of the ASEAN charter, it is its duty to establish friendly and mutually beneficial relations. This includes cooperation and partnerships with other countries, international, regional, and sub-regional organizations. To conduct ASEAN's external relations, the Foreign Ministers' meeting grants external partners

their formal status. All non-ASEAN members that maintain relations with the association, as well as intergovernmental organizations, need to have an ambassador to ASEAN (ASEAN, 1967) and preferably have signed the TAC.

In addition to extra-regional relations, it is important to highlight the role that ASEAN has been developing since the late 1960s and seeking to consolidate more recently, as a key player in the functioning of the Indo-Pacific, but more specifically in Southeast Asia. This central role has already been presented in relation to the Asian financial crisis of 1997 that led to the creation of the APT, but which keeps ASEAN at the centre of the relationship with powerful East Asian actors such as China and Japan. At the beginning of the twenty-first century, the regional leadership role that ASEAN had been seeking to build in Southeast Asia was once again tested by crises such as the Severe Acute Respiratory Syndrome (SARS epidemic) in 2003 and the Indian Ocean tsunami in 2004, both of which directly hit ASEAN member countries. In the first year of the SARS epidemic, the World Health Organization praised the role played by the APT countries in standardizing their health campaigns against the syndrome, a subject addressed at a special meeting of leaders of the association as soon as SARS was declared an epidemic (WHO, 2003).

The association was once again praised when, 11 days after the earthquake and tsunami that hit Indonesia in December 2004, it met to establish emergency action and to discuss reconstruction plans to help mitigate and prevent similar humanitarian tragedy situations. The *Declaration on Action to Strengthen Emergency Relief, Rehabilitation, Reconstruction and Prevention on the Aftermath of Earthquake and Tsunami Disaster of 26 December 2004* established the first steps taken by ASEAN and its leaders in humanitarian relief to Indonesia (ASEAN, 2005).

Despite the regional governance mechanisms developed and tested in SARS outbreaks, ASEAN struggled to develop rapid responses to the COVID-19 pandemic given the speed of contagion and the severity of infections, but also the initial emphasis on domestic actions in the

region. Even so, the association met at a Special Summit on COVID-19 in July 2020 to establish the COVID-19 Response Fund: in November, the ASEAN Comprehensive Recovery Framework was adopted at the 37th ASEAN Summit. The idea is that the fund could support the economies of the bloc in a post-pandemic moment (ASEAN, 2020; Thuzar, 2021).

Many are the challenges surrounding ASEAN, one of the most important being the association's responses to the South China Sea situation. Four of the key players in the South China Sea disputes – Vietnam, Malaysia, the Philippines, and Brunei – not counting Indonesia, which has eventual claims to the Natuna Islands – are members of ASEAN. Chinese pressure has been intense on ASEAN members bordering the South China Sea, with a series of incidents in the region since the mid-1970s. In 2002, ASEAN and China signed the Declaration on the Conduct of Parties in the South China Sea (DOC) that applies the same principles as the 1967 ASEAN Charter for territorial disputes and uses the United Nations Convention on the Law of the Sea (UNCLOS – 1982), of which all ASEAN members involved are signatories, as a basis for dealing with claims and disputes between ASEAN members and China (Thayer, 2012).

The DOC is a non-binding declaration and does not have a dispute resolution mechanism, since its members undertake to resolve them voluntarily, without taking disputes to international institutions. The DOC, however, was not able to muster a common position among the ASEAN countries on their claims towards China due to the distinct interests of the Association's members in the matter, some of them bordering the South China Sea, and some away from disputes and with excellent economic and trade relations with China (Severino, 2014). Thus, without being able to move towards a desired Code of Conduct (COC), which has been under negotiation since 1999, and would create a dispute resolution mechanism, the DOC remains more of a suggestive and ineffective statement. China is the main opposition force to a COC since it would restrict its claims in the South China Sea (Thayer, 2012).

If the South China Sea situation is one of the most complex issues for ASEAN, the formation of the Regional Comprehensive Economic Partnership (RCEP) can be seen as an asset. RCEP is currently the largest free trade agreement involving ASEAN countries and their major trading partners. The agreement, signed in 2020, gathers about 30% of the world's GDP. ASEAN, as a Southeast Asian organization, seeks to increase its regional economic integration, understanding that the RCEP agreement is a favourable option for this. Although extremely recent, its entry into force suggests that ASEAN fulfilled its role as an international organization during the process of forming the RCEP and helped make this agreement possible. Among the roles played by ASEAN in this agreement are the fulfilment of external expectations, the capacity to respond in unstable conditions, and mainly the implementation of the concept of ASEAN centrality. Thus, it is argued that ASEAN acted in favour of regional economic integration through the establishment of the RCEP agreement and, by the centrality in the process, has a good chance of taking advantage of the synergy it intends to create for the region (Adila, 2023).

Thus, today ASEAN is a regional organization that, although created in the wake of a closed regionalism, reinvented itself after the end of the Cold War and once again at the turn of the century, and has now almost 60 years of history, managing to reduce tensions and end conflicts in an area of instability. ASEAN can be considered a relevant and successful actor in international politics. If history and recent events are not enough to prove it, perhaps economic and trade data are. Between 2017 and 2021 the ASEAN countries individually grew on average a total of 19% while China grew by 29% and the US by 11%. In the same period, the ten ASEAN members had an average inflation of 2.3%, while the rest of the world average was 2.8%. Between 2010 and 2022, ASEAN received US\$ 1.82 trillion in Foreign Direct Investment and was the source of nearly US\$ 100 billion of Foreign Direct Investment to the world. Between 2013 and 2022, ASEAN totalled US\$ 27.6 trillion in trade with the world (ASEANSTATS, 2023).

Final Considerations: The Centrality of ASEAN in the Indo-Pacific Architecture

Even with the difficulties faced by ASEAN to establish itself, today it can be considered as the most enduring and organized Asian regional bloc. Despite the emphasis on economic relations, there is an effort for the ASEAN Community to establish itself with strength and for cooperation to extend into more specific areas than just trade. Unlike the European Union, ASEAN has a much less institutionalized and more flexible character, with explicit respect for the state entity and the idea of non-intervention in the particular affairs of each state. Such characteristics, so different from those of the most successful regional bloc, do not classify ASEAN as worse or better, only as a more recent association with a history and needs different from those in Europe at the time of the formation of its regionalism.

In the same way, ASEAN basic norms guide the way regionalism is built in Southeast Asia, the association is also the target of contestation within the bloc itself by countries that are in favour of deeper integration that sometimes run up against the principle of non-intervention in internal affairs, one of the primary clauses of the association. This makes it difficult to act with relevance in aspects of human rights or territorial disputes. However, the recent increase in the volume of ASEAN's scope, its trade, the economy of its member countries, as well as the importance of neighbouring countries such as China, Japan and the region covered by RCEP, makes the association a subject for further analysis and investigation.

As we have sought to demonstrate in this historical, brief, extra-regional review, many of the central issues of international politics that extend to the Asian continent echo in ASEAN. The diplomatic, economic-commercial, and geopolitical role of the association is undeniable. If some Western nations have already awakened to this centrality of ASEAN in Asia, another ones urgently need to wake up to this reality that will shape, and already shapes, the course of international politics.

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Fostering Open Regionalism and Shaping Sustainable Industrialization: Experiences from ASEAN

Venkatachalam Anbumozhi¹

Introduction

Open regionalism model in ASEAN trade and investment

The “ASEAN way” that strives for flexibility, trust, mutual respect, and informal consensus has led the region to rely on international law and enabling frameworks rather than official authorities in enforcing policy and law throughout its operations (Anbumozhi, 2017; Laowonsiri, 2016). The enabling frameworks include the ASEAN Charter, ASEAN Vision 2025: Forging Ahead Together: ASEAN Economic Community Blueprint 2025, and ASEAN Trade in Goods Agreement (ATIGA) (The ASEAN Secretariat, n.d.). Some of these enabling frameworks are explored in greater detail in section 2.

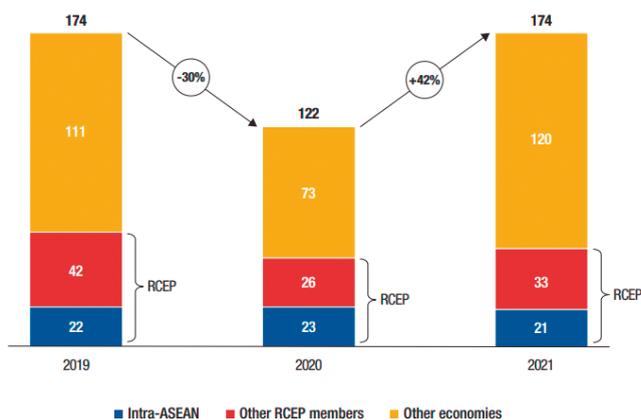
When it comes to trading goods with non-member states, the most-favored nation (MFN) clause prevails in addition to applicable regional treaties. Further, the requirement to have at least 40% of Free on Board (FOB) value from content that originates in ASEAN or regional value chain (RVC) is also mandatory (Laowonsiri, 2016). Inevitably, open regionalism becomes a prominent notion in dictating how ASEAN operates through sectors, such as trade and investment. Open regionalism, according to Drysdale and Vines (1998, p. 103) “seeks to promote economic integration amongst participants without discrimination against other economies”. As a result, building and maintaining relationships with externals has become one of ASEAN’s

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top goals, and such a strategy is mostly driven by market forces rather than policy stimuli (Drysdale, 2017).

As a community, ASEAN is well-known for its diversity. However, as an institution, the region is strictly intergovernmental. Therefore, despite pledging the region as an ASEAN community in 2015, trade and investment cooperation in ASEAN tends to shy away from giving up its national mechanism, in order to transcend into a much broader arrangement (Bergsten, 1997). Laowonsiri (2016) described such a cooperative approach as an introverted open regionalism. It denotes that ASEAN majorly receives a large amount of trade, investment, technology transfers from advanced economies rather than vice-versa. It becomes unsurprising that “other economies” which include non-member states dominate the Foreign Direct Investment (FDI) in ASEAN (see figure 1).

Figure 1. Flows of Foreign Direct Investment (FDI) in ASEAN, 2019-2021 (Billions of dollars)



Note: RCEP: Regional Comprehensive Economic Partnership includes all AMSs plus Australia, China, Japan, the Republic of Korea, and New Zealand.

Source: The ASEAN Secretariat (n.d.).

The ASEAN model of introverted open regionalism has shaped the industrialization in the region. Instead of cooperating vertically (between advanced and emerging economies) or horizontally (among countries with similar levels of economic development), industrialization in ASEAN occurs across different socioeconomic conditions and endowments, leading to path dependence rather than unification, as the EU does (Anbumozhi & Yao, 2017). The following section will go into greater detail.

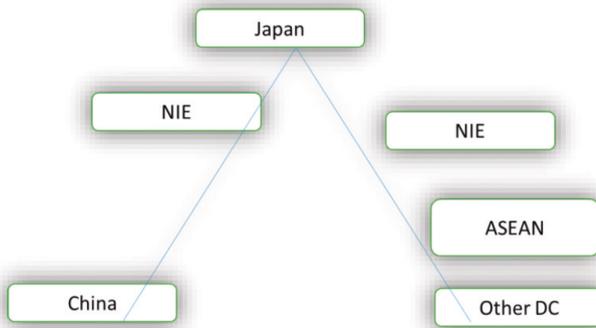
ASEAN Industrialization and the Flying Geese Model

Starting in the 1960s, most economies in Asia began to undergo massive structural change, especially in the composition of their output and sectoral shares. It began with Japan and the East Asian economies, followed by Southeast Asia subsequently (Felipe, 2018). The transition was similar across countries, that is, people moved to cities, transitioning from primary agriculture to industrialization (Felipe, 2018). Manufacturing outputs have increased dramatically, and leading industries contribute significantly to GDP in Asian countries. In a similar vein, the industry's share in GDP has grown significantly in ASEAN (Britannica, n.d.). Singapore, Thailand, and the Philippines showed the most significant growth. Indonesia and Malaysia had substantial growth in the 1980s (Britannica, n.d.). Due to its reliance on petroleum exports, industrial development in Brunei Darussalam is relatively less progressive compared to other ASEAN Member States. A similar phenomenon is also present in Cambodia, Lao PDR, Myanmar, and Vietnam (CLMV countries) because of high poverty and poor institutional support market economies (Working Group for Developing Roadmap toward East Asian Economic Integration, 2008).

The drastic economic change from primary agro-based to industrialization in ASEAN indeed has brought fortune to the region. For instance, new manufacturing jobs flourish and progressive GDP growth has caused the poverty rate in ASEAN to reduce down to 30% in 2019 compared to 2000's level (Felipe, 2018; OECD, n.d.). Industrial development in Asia has been extensively studied with the "flying

geese” model. The flying geese model depicts how industrial products, production processes, and their “costs” (emissions and pollution) are passed on from the leading goose to follower geese through the global value chain, leading to path dependence patterns (Enzmann & Moesli, 2022; Anbumozhi & Yao, 2017). This process of catch-up depicts Japan as the leading goose, with technological dominance and economic advancement over the following geese, which include countries in East and Southeast Asia (Anbumozhi & Yao, 2017).

Figure 2. Flying Geese Pattern of Asia



ASEAN = Association of Southeast Asian Nations, DC = developing countries, NIE = newly industrializing economy.

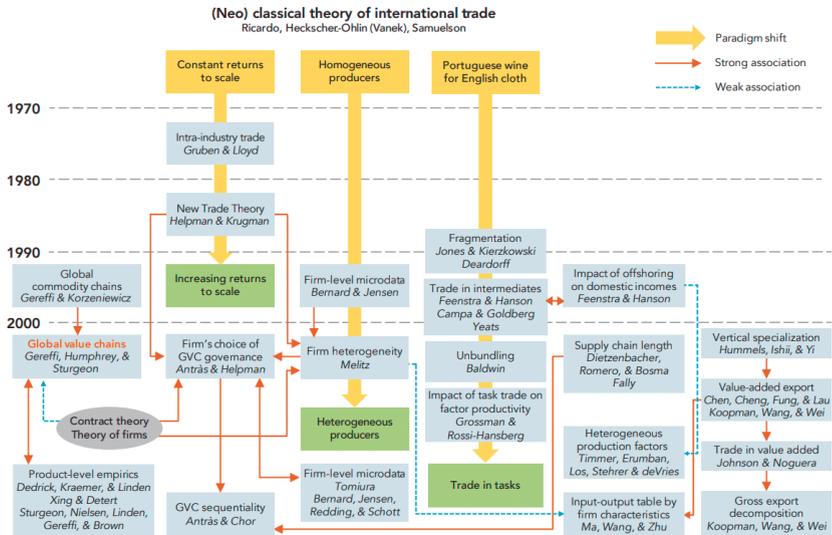
Source: Anbumozhi & Yao, 2017.

Global value chains, production networks and industrial clusters in Southeast Asia

The concept of global value chain (GVC) has become extremely important in ASEAN industrialization. Given one of the visions that the ASEAN Economic Community (AEC) strives for, that is, establishing a highly integrated and cohesive economy. ASEAN meaningful participation in GVC becomes a necessity for the region to realize an integrated and cohesive economy (Lehmacher, 2016; Inomata, 2017).

As demonstrated by Figure 3, the GVC theory has evolved dramatically. The first theory (1970s) began by depicting GVC as (i) perfectly competitive markets, producers operate at constant returns to scale; (ii) homogeneous producers; (iii) final product trade (Inomata, 2017). This perfectly competitive market in the first theory was then argued by a new school of thought, New Trade Theory. Through this theory, GVC was zoomed in, depicted as an intra-industry trade (1980s). The theoretical framework of GVC advanced, further zooming in on intra-industry trade, highlighting the coexistence of diverse enterprises within an industry as explained by a new theory known as the New-New Trade Theory (1990s). Moving on to the 2000s, driven by the advancement of transportation, communication, and information technologies, GVC is no longer regarded solely as the movement of finished goods, but also as the cross-national transfer of tasks and the value added by these tasks (Inomata, 2017).

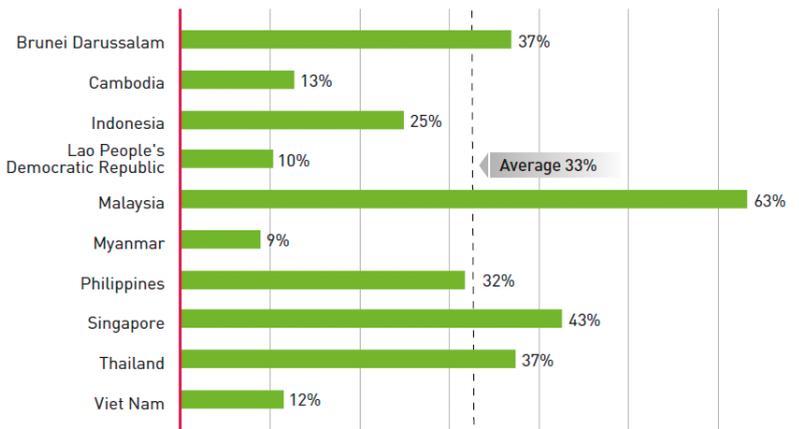
Figure 3. Genealogical map of analytical frameworks for global value chains



Source: Inomata, 2017.

ASEAN is emerging as a competitive manufacturing hub, trading parts and components rather than final products like firms in Europe (Kuroiwa & Heng, 2008). Industrialization in ASEAN has certainly contributed significantly to the region’s GDP. Unfortunately, progressive industrialization in ASEAN does not immediately reflect more affluence in the region. As shown by Figure 4, the average domestic value added in exports, presented as a share of GDP in each AMS, is 33%. More than 60% of the region’s exports are dominated by foreign countries (Inomata, 2017). This situation is exacerbated by different development levels and industrial strategies applied by each country in the region that cause more challenges to create an integrated and cohesive regional value chain in ASEAN.

Figure 4. Shares of domestic value added in ASEAN exports, by industry, 2015

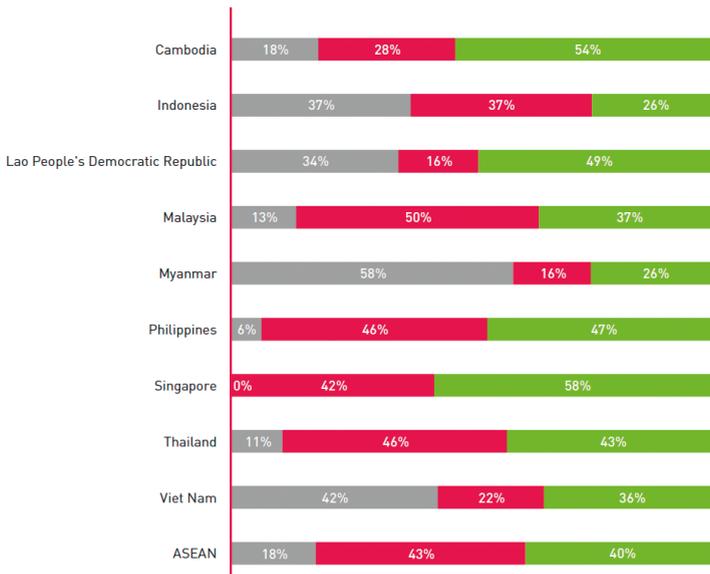


Source: Inomata, 2017.

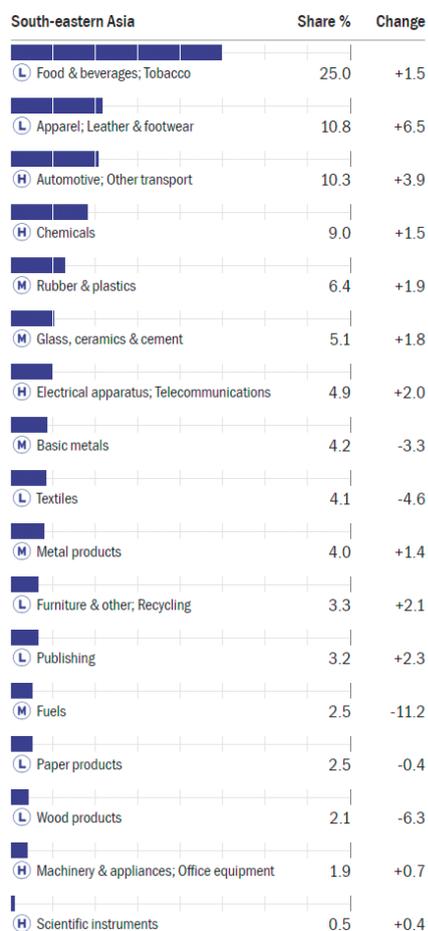
Figure 5 indicates that tertiary industries, such as electricity, transportation, and services, are dominating the industry mix in ASEAN. More details about total manufacturing added per industry in ASEAN are presented in Figure 6. Maintaining a seamless flow of goods and services in the tertiary sector, as well as sustainably managing “its hidden costs”, such as emissions, economic integration through

production networks between AMSs; and between ASEAN and other nations become inevitable. To safeguard firms' competitiveness in the production networks, industrial clustering becomes paramount. Enzmann and Moesli (2022) grouped AMSs into three industrial clusters based on their manufacturing resources and technology levels. The first cluster consists of Cambodia, Lao PDR, and Myanmar. Indonesia and the Philippines make up Cluster 2. Malaysia, Thailand, and Vietnam are included in Cluster 3. Singapore and Brunei Darussalam are categorized as niche players because of countries' prominent dependency on specific industries, that is, financial services (Singapore) and petroleum & gas (Brunei Darussalam). Greater details about industrial clusters in ASEAN as well as their challenges are presented in section 3.

Figure 5. Structure of value-added exports from ASEAN, by country, by industry, 2015



Source: Inomata, 2017.

Figure 6. Total manufacturing added per industry in ASEAN, 2016

Source: Seric & Tong, 2019.

To elucidate the production networks and industrial clustering in ASEAN, it might not be relevant to adopt prominent economic integration models from the Global North countries considering the distinct characteristics of natural resource endowment and varying levels of economic development, capital resource, and technology adoption in Southeast Asia. However, it has been argued that it was precisely this diversity of economic resources and absorptiveness of

technology in ASEAN that aided the flying geese pattern of shared development since the region was able to capitalize on its individuality to flourish with a supportive division of labor (Anbumozhi & Yao, 2017). It is accomplished by establishing effective coordination in the hierarchical structure among the leading goose (Japan), the second-tier geese (East Asian countries) and the third-tier geese (ASEAN) to break on the regional dependency on energy-intensive and high-emission development path, transitioning to sustainable industrialization.

Enabling Framework for Open Regionalism and Economic Cooperation Framework

This section examines the enabling framework in governing industrialization in ASEAN, encompassing both regional and mega-regional levels. At the regional level, the discussion comprises initiatives on the ASEAN Free Trade Area (AFTA) and the ASEAN Economic Community (AEC). At the mega-regional level, the focus is on the Regional Comprehensive Economic Partnership (RCEP) and the East Asia Summit (EAS). These frameworks have shaped the significant structural shift in the sectoral share composition and industrialization of ASEAN economies.

ASEAN Free Trade Area (AFTA)

The establishment of the ASEAN Free Trade Area (AFTA) in January 1992 aimed to eradicate tariff barriers among the nations of Southeast Asia. This initiative sought to integrate the economies of ASEAN member countries into a unified production base, ultimately fostering the creation of a regional market including a population of 500 million individuals. The Agreement on the Common Effective Preferential Tariff (CEPT) Scheme for the ASEAN Free Trade Area mandates the reduction of tariff rates imposed on a diverse array of items exchanged within the area to a maximum of five percent. The elimination of quantitative limits and other non-tariff obstacles is necessary (ASEAN, 2002).

AFTA has become significant institutional foundation that upholds ASEAN's ultimate objectives and principles, while also influencing the regional economic frameworks that foster and strengthen trade collaboration both inside and outside of ASEAN (Lee, 2023). The dedication of ASEAN to fostering regional economic cooperation by means of liberalizing trade and investment has assumed heightened significance in the face of prevailing global economic instability. The ASEAN FTAs will persist in playing a crucial role in fostering economic prosperity and stability within the region. These agreements also contribute to the achievement of ASEAN's objective of regional economic integration (Lee, 2023).

The Asia-Pacific area plays a pivotal role in the development of global supply chains, which in turn affects production, resource consumption, and employment across the world. This is due in part to the benefits of FTAs, standardized regulations, and the introduction of cutting-edge technologies. An analysis of bilateral and regional FTAs signed by AMSs and their trade partners such as the United States, European Union, and Japan reveals substantial disparities between the desired goals and the actual implementation of these agreements. The omission of environmental products and services was evident in the recently agreed RCEP. While the predominant discourse around the circular economy has been centered around the establishment of conducive regulatory frameworks inside national boundaries, there has been a noticeable dearth of scholarly attention directed towards the potential contribution of FTA in facilitating this transformative process. FTAs are crucial in facilitating circular supply chains, namely in the integration of business models centered around eco-design, the collecting and sorting of waste materials for their conversion into secondary raw materials, and the processes of remanufacturing or refurbishment.

The ACFTA (ASEAN-China Free Trade Area) was the first FTA with external parties to be signed by ASEAN. The relatively low utilization rates of trade sectors in AFTA and the ASEAN-China Free Trade Area indicate that the regional trade agreements within ASEAN have mostly been motivated by member states' geopolitical and strategic interests, rather than their economic liberalization objectives (Ravenhill, 2010).

Due to its limited achievements in terms of tariff reduction for intra-ASEAN trade, AFTA has been widely perceived as a relatively minor organization in the field of trade (Lee, 2021). This perception is supported by the fact that AFTA has not achieved substantial advancements in terms of institutional expansion and enhancement (Aggarwal & Koo, 2008). Enhancing the economic and trade collaboration within ASEAN through various institutional frameworks enables ASEAN and other countries to effectively address the volatilities in the global economy and foster peace, stability, and prosperity within the region.

ASEAN Economic Community (AEC)

After the implementation of the ASEAN Free Trade Area (AFTA), ASEAN further enhanced its economic integration by means of the ASEAN Economic Community (AEC). The establishment of the AEC in 2003 aimed to achieve several objectives, including the establishment of a unified market and production base, promoting fair economic growth, and enabling integration into the global economy. The AEC encompasses the process of liberalizing and facilitating trade in products, services, and investment, while also emphasizing the protection and promotion of investment. The report provides an overview of the initiatives outlined in the AEC Blueprint, as well as the corresponding timelines set for their completion. The scholars discovered that as of the conclusion of 2011, the attainment of implementation was at a rate of just 67.5%. Although the elimination of tariffs is progressing as planned, challenges persist in the removal of non-tariff barriers and the liberalization of services and investment regimes (ADBI, 2013).

The process of ASEAN integration, facilitated by AFTA and aimed towards the establishment of the AEC, has played a role in promoting domestic reform in various member nations. Additionally, this integration has also benefited from the implementation of unilateral liberalization measures and domestic reforms, particularly those carried out under the guidance of the World Trade Organization (WTO) (ERIA, 2017).

The AEC Blueprint 2025 outlines the five main objectives put forth by the AEC, which include: (i) the establishment of a closely integrated and unified economy; (ii) the promotion of a competitive, innovative, and dynamic ASEAN; (iii) the improvement of connectivity and cooperation across various sectors; (iv) the development of a resilient, inclusive, and people-centered ASEAN; and (v) the positioning of ASEAN as a global player (ASEAN, 2015).

ADB report (2013) defined several factors that facilitating and hindering ASEAN economic integration in five areas, as follows:

- *Geopolitical factors supporting regional cooperation:* The geopolitical and security landscape in Southeast Asia throughout the 1960s and 1970s fostered a strong inclination towards regional collaboration aimed at achieving peace and stability (ADB, 2013). The decision of countries to participate in multilateral economic organizations is heavily influenced by their geopolitical objectives and foreign policy orientation, as evidenced by democratic regime types and formal alliances (Lee, 2021).
- *Initial economic diversity is an impediment to regional integration:* Larger economies perceived less need for trade openness to attain economies of scale, whereas smaller ASEAN members perceived more benefit from free entry into an integrated regional market (ADB, 2013).
- *Initial similar production and export structures are an impediment to regional integration:* ASEAN competed with one another for developed-country markets. With the development of regional production networks since the late 1980s, and the resulting fast expansion in intra-industry trade in parts and components, economic complementarity in manufacturing arose across ASEAN nations (ADB, 2013).
- *Pressure to be competitive with transition to outward-looking development strategies:* From 1960s to 1980s, ASEAN states avoided trade and investment liberalization to develop a regional market by pursuing import-substituting industries. As the globe became more global and import substitution

became less effective, outward-looking development policies were adopted through unilateral economic changes (ADBI, 2013).

- *External pressures toward economic integration:* ASEAN industry was prepared for a more liberal global trading environment through regional competitiveness after the Uruguay Round and reformation of the GATT as the WTO in December 1991, (ADBI, 2013).

Regional Comprehensive Economic Partnership (RCEP)

The signing of the Regional Comprehensive Economic Partnership (RCEP) in 2020 marked its ascension as the most extensive free trade agreement (FTA) globally. The 15 countries within RCEP include Australia, Brunei, Cambodia, China, Indonesia, Japan, South Korea, Lao PDR, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand, and Vietnam. The agreement encompasses a substantial proportion of the worldwide economy, making a noteworthy contribution of around 30% to the global gross domestic product (GDP) in the year 2019.

RCEP represents the largest regional trading bloc globally, encompassing a significant population of 2.2 billion individuals, which accounts for around 30% of the world's population. Moreover, the collective regional GDP of RCEP stands at approximately \$38,813 billion, constituting roughly 30% of the worldwide GDP in 2019 (ERIA, 2022). Additionally, RCEP commands a substantial share of global commerce, amounting to almost 28%. The regional multilateral FTA establishes a significant framework for trade and regional integration, as well as the development of vibrant regional and global industrial value chains. The mobilization and allocation of substantial resources for trade and investment in the global market is facilitated by the opening of East Asia's extensive domestic markets, hence stimulating demand (ERIA, 2022).

RCEP establishes a well-defined and structured framework for conducting trade in goods, services, and investment, and is founded

upon several fundamental components of regional integration: The key components of the agreement include: 1) adherence to rules-based principles in trade and investment, 2) facilitation of market access, 3) promotion of economic cooperation, 4) recognition of ASEAN centrality, and 5) the adaptability and responsiveness provided by its dynamic nature as a “living” agreement (ERIA, 2022).

RCEP offers a broader framework for eliminating trade barriers. It also offers a defined timeframe for countries to execute their obligations by offering implementation solutions (ERIA CADP 3.0, 2022). Therefore, it is imperative for ASEAN and East Asian countries to prioritize the implementation of the trade and investment agenda outlined in RCEP. A more precise picture of the commitment and environment for trade facilitation than the ASEAN Plus One FTAs offered by RCEP (ERIA CADP 3.0, 2022).

East Asia Summit (EAS)

The East Asia Summit (EAS) is a regional conference that convenes on a yearly basis, bringing together leaders from an original group of 16 countries spanning East Asia, Southeast Asia, South Asia, and Oceania. This forum operates under the framework of the ASEAN Plus Six mechanism. The inception of EAS occurred in 2005 when the inaugural EAS was convened in Kuala Lumpur, Malaysia. EAS participant countries consist of ASEAN member states, Australia, China, India, Japan, New Zealand, and the Republic of Korea. The United States and the Russian Federation convened at the 6th East Asia Summit held in Bali, Indonesia on November 19, 2011. Since its inception, ASEAN has assumed a pivotal position and demonstrated leadership within the forum. EAS convenes after the yearly gatherings of ASEAN leaders, assuming a significant position within the regional framework of the Asia-Pacific region.

EAS has delineated six key domains of collaboration, namely encompassing environment and energy, education, finance, global health concerns and pandemic illnesses, natural disaster management, and ASEAN connectivity. Strategies have been formulated to enhance

collaboration in these areas of utmost importance. EAS also deliberated on collaborative efforts in other domains and growing concerns, including but not limited to food security, commerce and economics, maritime security, and cooperation, as well as traditional and non-traditional security matters (ASEAN, n.d.). EAS has developed a Plan of Action (POA) 2024-2028 with the aim of facilitating effective coordination, collaboration, and execution of the statements, declarations, resolutions, and initiatives put forth by the EAS Leaders.

On September 7th, 2023, the 18th EAS was held in Jakarta, Indonesia, resulting in the document *East Asia Summit Leaders' Statement on Maintaining and Promoting the Region as an Epicentrum of Growth*. The forum underscored the EAS countries' commitment as a forum for dialogue and cooperation on broad strategic, political, and economic matters of common interest and concern, with the objective of promoting peace, stability, and economic prosperity in East Asia (ASEAN, 2023).

Table 1. Comparison of economic cooperation frameworks in ASEAN

	<i>Regional</i>		<i>Mega-regional</i>	
	AFTA	AEC	RCEP	EAS
Inception	1992	2003	2020	2005
Countries	ASEAN member states	ASEAN member states	15 countries in Asia Pacific Nations: ASEAN, Australia, Japan, China, South Korea, New Zealand	16 countries: East Asia, Southeast Asia, South Asia, and Oceania

Purpose	Create a single market and international production base; attract foreign direct investments; expand intra-ASEAN trade and investments.	Foster cohesiveness and economic integration, enhance competitiveness and build resilience within ASEAN.	Construct comprehensive, high-quality, and mutually advantageous economic relationship to boost regional trade and investment and global economic development.	Advancing closer regional cooperation.
Potential Threats	Complicated to make AFTA bigger by building stronger ties with other areas, due to different economies, judicial and institutional systems, political ties.	Struggle to affect change to the region's labor landscape resulting in suffering skilled labor shortage and wage disparities.	RCEP agreement firstly lacks depth and breadth in free trade. Second, it is less open in market access for services trade and industrial investments.	EAS may fail to exert impact due to its inability to promote collaboration or implement decisions. Although progress has been made in 2015, there is still a significant gap between members' discussions and their ability to implement decisions.
Impacts for industrialization	Increase ASEAN's competitive edge as a production base geared for the world market.	Facilitates industrial development, innovation, efficiency, maximization of potential contribution of services sector to economic development and growth.	Expanding markets and facilitating foreign direct investment, notably in e-commerce and industrial revolution industries 4.0.	Seizing the fourth industrial revolution.

Source: Authors compilation.

Asia Regional Integration

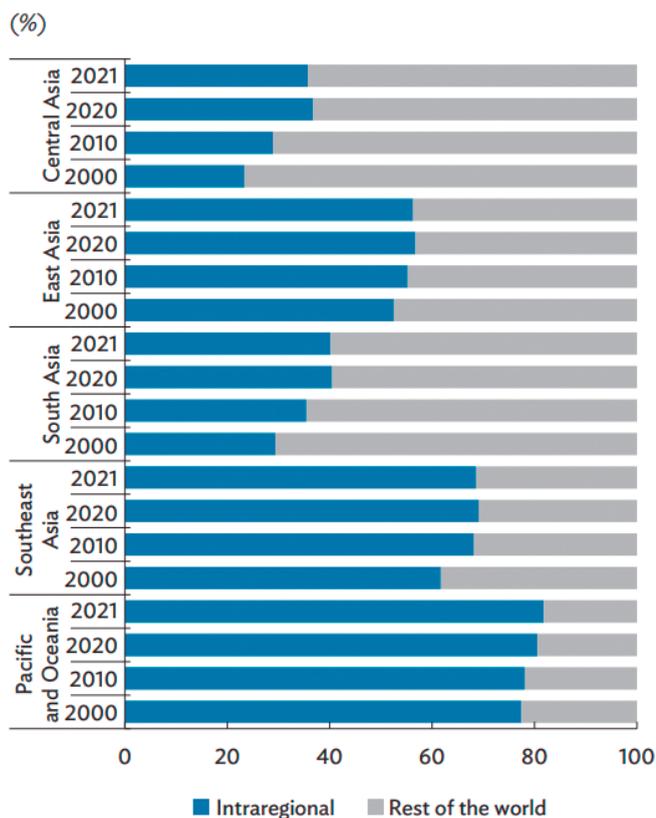
The distribution of intraregional trade within the Asian subregion could be analyzed by separating it into two distinct components: intra-subregional trade and inter-subregional trade (ADB, 2023). In terms of intra-subregional trade linkages, East Asia maintained its position as the area with the most robust trade connections, accounting for 35.1% of the total trade share. Southeast Asia, on the other hand, held the second highest intra-subregional trade share at 21% (ADB, 2023).

The strength of intra-subregional trade ties in Central Asia, South Asia, and the Pacific and Oceania regions was very limited. In the context of interregional trade, it is noteworthy that the Pacific and Oceania regions maintained the dominant market share, accounting for 80.8% in the year 2021 (ADB, 2023).

The regions of Southeast Asia, South Asia, Central Asia, and East Asia, in sequential order, had inter-subregional trade shares that were all below 50%. The primary factor contributing to the significant and rising proportion of intraregional commerce in the Pacific and Oceania area may be primarily attributed to the expanding proportion of interregional trade involving Australia and New Zealand (ADB, 2023).

Figure 7 shows that in terms of intraregional trade shares among Asian subregions, the Pacific and Oceania region exhibited growth alone in the year 2021. Additionally, the Pacific and Oceania regions maintained the biggest proportion of intraregional trade in 2021, with Southeast Asia and East Asia following closely behind. The intraregional trade share of the Pacific and Oceania in 2021 reached its greatest level since the year 2000. In contrast, both South Asia and Central Asia maintained intraregional trade percentages that remained below 50% (ADB, 2023).

Figure 7. Intraregional Trade Shares by Asian Subregion



Source: ADB calculations using data from the International Monetary Fund. Direction of Trade Statistics. <https://data.imf.org/dot> (in ADB Asian Economic Integration Report, 2023).

Managing the Sustainability Challenges accompanies Industrialization

To move forward to a higher-income level, ASEAN aggressively pushes for its industrialization. Unless ASEAN is bold enough to deviate from the path-dependence patterns of economic development; and what is passed on as illustrated by the flying geese model (see section 1), the region is prone to bear the same (if not more) ‘sustainability

burden' that comes from intensive resource consumption and high-level emissions from fossil fuels (Anbumozhi *et al.*, 2022). This section will, therefore, delineate the sustainability challenges that ASEAN industries deal with, as the “costs” of the region’s rapid industrial advancement.

Resource depletion and high emission

Table 2 shows that the country is utilizing a lesser fraction of its income to replenish or offset resource depletion, indicating that the country is managing its natural resources more sustainably. On average, AMSs use 3.4% of its Gross National Income (GNI) to replenish or offset resource depletion, almost three times higher than that in European Union and the world. Such a figure demonstrates that ASEAN is still challenged by the inefficient use and process of its resources.

Table 2. Adjusted savings: natural resources depletion (%GNI)

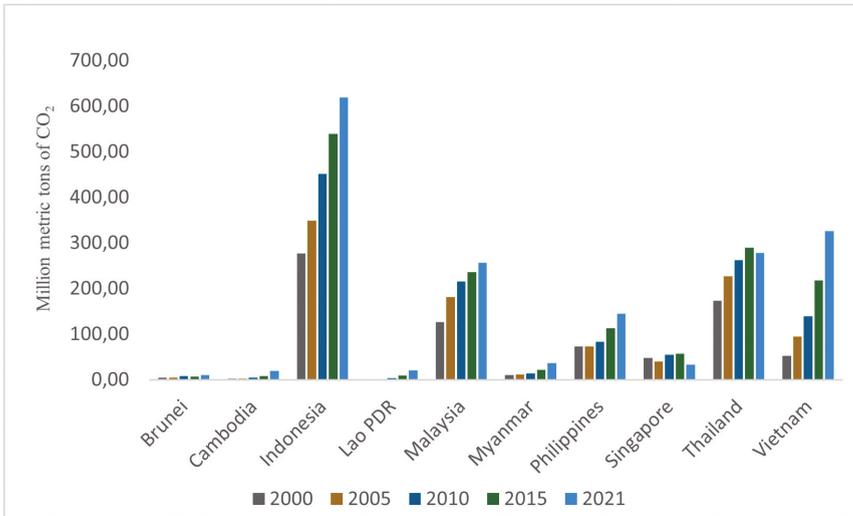
	2018	2019	2020
Cambodia	0,0	0,0	0,1
Brunei Darussalam	17.0	14.6	10.8
Indonesia	2.5	2.1	1.6
Lao PDR	2.9	2.4	2.3
Myanmar	5.4	4.2	3.4
Malaysia	7.0	5.7	4.6
Singapore	0.0	0.0	0.0
Thailand	1.7	1.3	0.9
Viet Nam	1.2	0.8	0.4
Philippines	0.5	0.4	0.4
European Union	0.1	0.1	0.1
World	1.2	1.1	0.8

Source: World Development Indicators, n.d.

Driven by the competitive industrialization process, the non-intermittent characteristics that fossil fuels offer becomes an incentive for ASEAN’s continuous increase in its CO₂ emissions (Anbumozhi *et al.*, 2022). Data as shown in Figure 8 demonstrates that the intensive-energy types of machinery, prominently used in the region’s industries

have challenged ASEAN to transform its industrialization, to become more sustainable (Anbumozhi *et al.*, 2022).

Figure 8. Territorial carbon dioxide (CO₂) emissions in ASEAN, 2000-2021



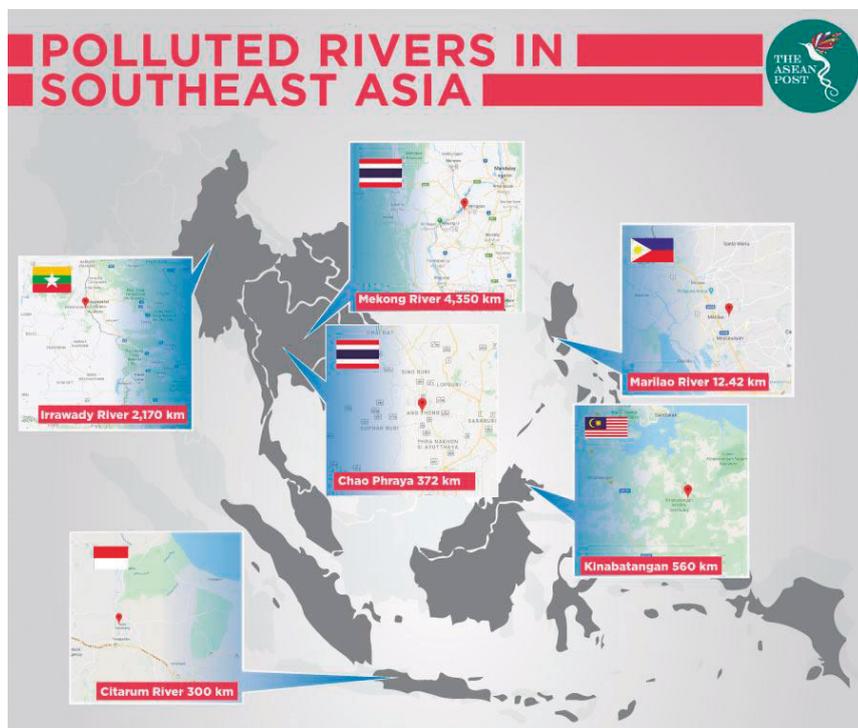
Source: Von Kameke, 2023.

Environmental pollution

ASEAN’s rapid industrial advancements have resulted in not just economic prosperity but also environmental pollution (Nguyen *et al.*, 2023). Poor air quality has been considered as the most pressing environmental pollution according to UNEP (n.d.a). Industrial emissions become one of the key pressures that exacerbate air quality in ASEAN. According to the World Health Organization, air pollution caused 525,000 premature deaths in ASEAN in 2012 (UNEP, n.d.b). Over the years, the overall air quality in the region has not improved significantly, majorly driven by the lack of incentives to control the emission from industries through energy efficiency technology, pollution control, and renewables. In addition to air quality, polluted water has emerged as an

urgent issue in environmental pollution that ASEAN must address. Tons of garbage and hazardous mercury levels from the industry have become a major pressure that has deteriorated the water quality of ASEAN's rivers. Figure 9 depicts several of Southeast Asia's contaminated rivers with alarming levels of pollution.

Figure 9. Polluted rivers in ASEAN



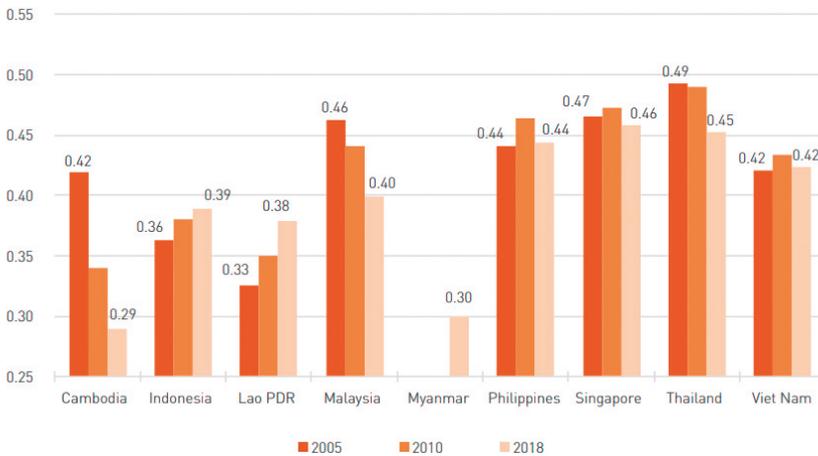
Source: The ASEAN Post, 2019.

Inequality and middle-income trap

The advancements that industrialization brings forth have inevitably changed the socioeconomic structures, and the landscapes of livelihoods in ASEAN. The said changes and their impacts will affect communities in the region at different results and levels. In general,

the blossoming economic opportunities that industrialization brings to the region will be most taken of, by those who have better access to those opportunities (Shrestha, 2018). These groups of communities are usually people with good upbringings from finance to education levels. Consequently, rapid industrialization in ASEAN widens the extant disparities that different groups experience in the region, leading to worse inequality. Gini index, as shown in Figure 9, presents that the decline in Gini Index across AMSs occurs at a different rate. Nevertheless, in 2018, the overall Gini Index in ASEAN shows that income or wealth in the region is controlled by approximately 35% of its population.

Figure 10. Gini Index by country in ASEAN, 2005-2018



Source: The ASEAN Secretariat, 2020.

Several AMSs are still struggling to escape from the “middle-income trap”, that is, a country experiences stagnation after reaching a middle-income level (Tho, 2013). As inequality grows in ASEAN, it indicates that access to finance, growth, and development is owned by a small percentage of the region’s overall population. Such a constraint severely hampers the region’s efforts to increase total wealth and productivity, making it difficult for ASEAN to shift from a middle-income to a high-income status.

Conclusions

Industrialization in ASEAN takes place across different socioeconomic situations, indicating that the region is reflecting an introverted open regionalism, that is, countries shy away from establishing vertical (advanced economies) or horizontal (similar levels of economic development) cooperation. In practice, ASEAN relies on enabling frameworks rather than formally institutionalized policy and law in progressing its industrialization. The enabling frameworks that were discussed in this paper include the ASEAN Free Trade Area (AFTA) and the ASEAN Economic Community (AEC) at the regional level. At the mega-regional level, this paper highlighted the Regional Comprehensive Economic Partnership (RCEP) and the East Asia Summit (EAS). Overall, there is the possibility of overlap in the effects that each framework may impose. Such overlaps raise questions about whether the effects of each framework will complement or negate the benefits that each framework promises. This study did not delve deeper into the complementing and bypassing effects of ASEAN industrialization enabling frameworks. As a result, this study strongly recommended that more research on this topic be conducted in the future. Another concern that emerges from industrialization in ASEAN is the catch-up patterns that the region takes on, the path-dependence that passes on technology, industrial process, and “costs” from advanced East Asian economies to ASEAN. The “flying geese” model has carefully illustrated this path dependence of economic integration in Asia. Unless ASEAN is bold enough to deviate from the path-dependence patterns of economic development; and the “costs” passed on, the region is prone to bear sustainability challenges that come from intensive resource consumption and high-level emissions from fossil fuels. The challenges in question include (i) rapid resource depletion and continuous high emissions prominently observed in the region; (ii) environmental pollution, both in water and air, is increasing at an alarming rate, and (iii) lastly, inequality developed from the compounding effects of industrialization in aggravating the region’s entrenched existent disparities.

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Industrial Development in ASEAN Countries: Lessons for Developing Economies

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Introduction

Rapid export-oriented industrialization, underpinned by foreign direct investment (FDI) and integration into global value chains (GVC), has been the central characteristic of Southeast Asia's development path in recent decades. The region's increasingly deeper integration, catalyzed by the creation and subsequent enlargement of the Association of Southeast Asian Nations (ASEAN), has tremendously boosted its industrial development.

Five founding members – Indonesia, Malaysia, the Philippines, Singapore, and Thailand – established ASEAN, a regional intergovernmental cooperation organization, in 1967. Five other countries joined later: Brunei (1992), Vietnam (1995), Laos (1997), Myanmar (1997), and Cambodia (1999).

In 1992, ASEAN members signed an agreement to establish a free trade area. Later, ASEAN (as a bloc) signed free trade agreements (FTAs) with China, India, Japan, South Korea, Australia, and New Zealand. All these economies, except India, are members of the Regional Comprehensive Economic Partnership (RCEP), an FTA that came into

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force on January 1, 2022. India participated in the negotiations but later decided to opt out.

This chapter aims to briefly review the process of industrialization in Southeast Asia. It begins by presenting the outward-oriented strategy that currently prevails in the region, contrasting it with the more domestic-oriented model that characterized the region's past and is still followed in some developing countries. Next, it discusses the state's role in Asia's industrialization and presents the flying geese pattern of development, which is believed to accurately describe the region's industrial path. Finally, the chapter focuses on the industrial development of three countries – Singapore, the Philippines, and Vietnam –, which are considered to represent three different waves of export-oriented industrialization within the region.

A paradigm shift in development thinking and practice

Late industrialization was once almost synonymous with import substitution (IS), the development model pursued by much of the non-industrialized world during the 1950s and 1960s. In this model, developmental states employed a range of policies, which included credit and tax incentives for capital investment and domestic production, minimum local content requirements, multiple exchange rates, and high import tariffs (or even the prohibition of imports of certain industrial consumer goods) to induce the substitution of imported for domestically produced manufactured goods. All these measures were largely justified under the guise of protecting nascent local industries (Bruton, 1998).

However, in the mid-1960s, an alternative model of catch-up industrialization emerged in East Asia. This outward-oriented model, known as export promotion (EP), was initially adopted by four economies – Hong Kong, Singapore, South Korea, and Taiwan – whose economic success later led them to be known as the Asian tigers. Around the same time, even supporters of the IS model, such as economist Raúl Prebisch, began to acknowledge its problems, such as the inefficiency caused by low competition and small local firms, and the distortions caused by policies that privileged import substitution over export promotion

(Irwin, 2021). Critics of the IS model, such as economist Anne Krueger, gathered substantial empirical evidence of its inefficiencies and highlighted the advantages of an outward-oriented model supported by export promotion policies (Krueger, 1997)⁵.

Export promotion policies were successfully adopted by South Korea and Taiwan, which combined them with typical IS policies. The key difference between the East Asian model and the traditional IS model was the significant reduction of distortions that favored IS industries, combined with the introduction of various types of export incentives (Bruton, 1998). The high growth of these economies, compared to IS followers, caught the attention of both academia and international institutions. In these economies, exports grew at much higher rates than gross domestic product (GDP) and, more importantly, spread to non-traditional items. As emphasized by De Vries (1966), it became clear that the EP model was superior to IS in addressing an essential problem of developing countries: the low capacity to import, due to lack of foreign exchange, which often limited economic growth rates. In addition, the outward-oriented model promoted efficiency through a better allocation of resources. However, it was not clear whether such a model could be successfully transferred to other developing countries. It seemed that more important than the types of instruments adopted to promote exports was the way in which they were implemented (Jenkins, 1991). The effectiveness of the model seemed to be clearly associated with the setting of goals, rewards, and penalties (carrots and sticks). Indeed, selective policies, whether focused on industries or firms (picking winners), were widely used in both EP and IS followers, but the results, in terms of stimulating the emergence of internationally competitive companies, were quite disparate.

Several analysts and international organizations (IOs) attributed the success of the Asian tigers to a significant reduction in government intervention and market-friendly reforms, which helped to reduce the distortions imposed by the IS model. However, this view is challenged

5 It is worth noting that, although supporters of IS, Prebisch and other early development economists never denied the importance of exports, especially for obtaining foreign exchange to import capital goods (Irwin, 2021).

by Amsden (1989) and Wade (1990), among others, who argue that active state policies were the main cause of the success of the outward-oriented strategy. Additionally, the view that the model followed by South Korea and Taiwan was more liberal is simplistic, since these economies were much more restrictive to FDI inflows than most Latin American countries until the 1990s.

A key feature of the development model followed by several East and Southeast Asian countries was that political leaders were willing to abandon unsuccessful or inefficient policies. This contrasts with the situation in other parts of the developing world, where vested interests of the economic elites often prevented changes and unsuccessful policies were often maintained indefinitely (Jenkins, 1991).

The role of Japan in emending the IO's discourse on development strategy

In the 1980s, IOs such as the World Bank (WB) and the International Monetary Fund (IMF) began to explicitly advocate for a new model of development (World Bank, 1987), which would combine trade and FDI liberalization, privatization, and a generalized reduction in incentives to enterprises. Governments should retreat from direct intervention in markets and concentrate in providing education, infrastructure, macroeconomic stability, free trade and capital flows, and a regulatory framework that fostered private investment and competition. The WB's flagship publication – *World Development Report* – became a vehicle for disseminating this approach to developing nations.

However, around the same time, a new important player was ascending within these institutions. After decades of rapid growth, Japan had become the second largest economy in the world. Its development model, anchored in industrial exports, helped it accumulate a large volume of foreign exchange and become the world's largest creditor. Japan's larger economic scale altered its status in IOs – it became the second largest shareholder in the WB and the IMF.

Nonetheless, Japan's growing importance and influence extended beyond IOs. The Plaza Accord of 1985 led to a sharp appreciation of the

yen against the US dollar, reducing the competitiveness of Japanese exports. In response, Japanese firms significantly expanded their FDI, especially in neighboring Asian countries. By the end of that decade, Japan had become the world's largest aid donor, the largest provider of concessional loans and the largest investor in East and Southeast Asia. With these financial resources, Japan exported its own rhetoric about development, which placed the active role of government on par with market-friendly policies.

However, Japan's development vision, rooted in its own history, clashed with the prevailing precepts of IOs, which were heavily influenced by the United States (US). That was an era when the Washington Consensus, with its emphasis on free markets and limited government intervention, was being shaped. Japan's government disagreed with the WB's interpretation of the East Asian growth model, which disregarded the role of interventionist policies and stigmatized industrial policy. Japan believed that financial policies should be used to advance a wider industrial strategy, while the WB advocated that credit should always be granted at market rates (Wade, 1996).

According to Japan, WB's prescriptions for developing countries failed to take into account the successful strategy pursued by Japan and other Asian economies. To address this, Japan funded a WB study of the East Asian experience. Titled *The East Asian Miracle*, it was published in 1993. This study (World Bank, 1993) was the first WB publication to recognize that some interventionist policies may have increased investment, exports, and economic growth. However, the study was cautious in its findings, acknowledging the widespread use of selective policies but finding it difficult to establish a causal relationship between those policies and the observed results. While the study did not find evidence that directed credit was essential for the development of Japan and Korea, it acknowledged that the negative effects typically associated with such a policy were not detected in those experiences.

Flying geese, tigers, and dragons

Not all IOs have embraced the Washington Consensus. The United Nations Conference on Trade and Development (UNCTAD), for example, has remained skeptical of the liberalizing agenda. In a 1996 report, UNCTAD highlighted the regional dynamics of development in East and Southeast Asia, concluding that the reality is more complex than simplistic interpretations of the “Asian miracle”, which emphasize liberalizing policies while disregarding the role of the state (UNCTAD, 1996).

Unlike Latin America and Africa, where industrialization has been primarily a national endeavor⁶, a regional dynamic has been the hallmark of industrialization in East and Southeast Asia. In this region, there has been a constant redivision of labor as countries’ comparative advantages evolve. This dynamic process of industrial upgrading, known as the flying geese pattern of industrialization (Kojima, 2000), is characterized by significant FDI and trade flows. It has enabled the entire region to maintain its competitiveness in the global economy by facilitating the sequential transfer of labor-intensive industries from more developed countries to less developed countries within the region. As economies ascend the income ladder, they shift their factors of production to more capital- and technology-intensive industries.

In industries where production processes can be readily disaggregated into distinct stages, such as electronics and garments, the flying geese model has fostered the emergence of extensive regional value chains. These chains are characterized by substantial cross-border flows of parts and components, typically produced by highly specialized firms in higher-wage economies, which are then assembled in lower-wage countries and exported to final markets. In this configuration, the specialization of countries is no longer determined by the final products they export, but rather by the tasks they perform within the intricate

6 It is noteworthy that Raúl Prebisch, the first secretary-general of UNCTAD, was a fervent advocate for Latin American integration. Even when he advocated for protection for local producers, he envisioned an expanded Latin American market that would transcend national boundaries. The small size of many Latin American economies prevented them from specializing in more than a few products, rendering a regional integrated market essential for their economic development.

network of interconnected activities that comprise the regional value chains.

Since Japan was the first economy in the region to industrialize, it naturally assumed the role of leading goose, followed by the four economies that came to be known as the (original) Asian tigers – Hong Kong, Singapore, South Korea, and Taiwan. A third tier, formed by Indonesia, Malaysia, Philippines, and Thailand, came to be known as the second-generation Asian tigers – or dragons, depending on the source. More recently, a fourth tier emerged, comprised by China, Vietnam, and other economies of Southeast Asia.

FDI was not a key driver of industrial investment in Japan, South Korea, and Taiwan, although it had played a role in facilitating technology transfer in the latter two economies. In the case of the second-generation tigers, FDI was particularly important because their industrial deepening coincided with the period in which Japanese firms were losing competitiveness and decided to relocate part of their productive capacity to these countries. Such a movement was subsequently followed by the original tigers, Singapore, South Korea, and Taiwan, whose firms invested in both the second- and third-generation tigers.

Japan, along with the original Asian tigers, served as a model for Southeast Asian countries, which began to emulate various policies adopted by those economies. Indonesia, Malaysia, and Thailand, for instance, implemented a wide range of export incentives while gradually reducing the level of protection for their economies. Exchange rate policies were liberalized, and currencies were frequently devalued to boost exports. Overall, the policies increased the exposure of locally producing firms to international competition, which served as an incentive for the adoption of more state-of-the-art technologies and management practices.

The second generation of Asian tigers transitioned to more technology-intensive products more rapidly and with much greater reliance on FDI (UNCTAD, 1996). However, the products exported by these industries had a significantly higher import content than those

exported by the first-generation tigers. In other words, the local value added in the products exported by the second generation of tigers was much lower. This raised concerns about the ability of a sector dominated by multinational enterprises (MNEs) to promote technological upgrades and foster the creation of backward linkages in the host economy (UNCTAD, 1996).

Industrial development in ASEAN countries, then and now

This section examines the diffusion of the development model adopted by Japan and emulated by most Southeast Asian economies. For brevity, it focuses on three countries, each representing a different generation of Asian tigers: Singapore, the Philippines, and Vietnam. The aim is not to provide a comprehensive account of industrialization in these countries, but to highlight a few decisive developments and draw lessons that may be useful for other developing nations.

Singapore

Singapore, a city-state spanning 734 square kilometers, is home to 5.6 million people, of whom nearly three-quarters are ethnic Chinese. Its strategic location at the southeastern tip of the Strait of Malacca, where the Indian and Pacific Oceans converge, has propelled it to prominence as a major hub for the movement of goods between the East and the West. This advantageous position has fostered the growth of robust services sector, which now serves as the cornerstone of Singapore's economy.

Singapore was the first country in Southeast Asia to achieve prosperity through industrial development. Between 1965 and 2022, its GDP grew at an average annual rate of 7%, and per capita income soared from US\$ 500 to over US\$ 67,000⁷. Remarkably, even after reaching this high income level, Singapore did not experience the same degree of deindustrialization that has affected other developed economies. In 2022, manufacturing sector still accounted for a significant 20.5% of GDP.

7 Source: World Development Indicators (WDI). Available at: <<https://databank.worldbank.org/source/world-development-indicators>>.

Close ties between businesses and governments are a defining characteristic of Asian economies. While this can be viewed positively, as it can facilitate the formulation of effective policies, it is often perceived negatively, as it can create opportunities for cronyism and corruption. Haggard and Low (2002) posit that Singapore stands as a counterpoint to this rule. Despite having an active industrial policy, Singapore has not historically been beholden to private interests. This anomaly may be attributed to the relatively small size of the local private sector, which is overshadowed by foreign MNEs and state-owned enterprises. As of 2022, Singapore hosts 5.4% of the world's FDI stock, surpassing all other economies except the US, China, the Netherlands, and the United Kingdom (UK)⁸.

Singapore stands as the sole Southeast Asian economy among the first-generation tigers. Its remarkable industrial development commenced shortly after the city-state's independence in 1965. Following an unsuccessful IS strategy adopted in the early 1960s, Singapore emulated the successful examples of Hong Kong and Taiwan by embarking on an EP model as a means of enabling the newly independent state.

Singapore's developmental state was characterized by a strong authoritarian regime that intervened heavily in the economy (Wade, 2018). In 1966, the government announced its intention to attract FDI, which would bring expertise and assured markets (Rodan, 1986). To this end, the government introduced a range of fiscal incentives to exporters, unlimited duty-free import of equipment and raw materials needed by manufacturing enterprises, among other incentives. In addition, the state created agencies to promote exports, provided funding and invested in infrastructure. It also employed repressive measures to keep wage levels below productivity levels to boost competitiveness (Rodan, 1986). This was seen as necessary due to the perception that foreign MNEs' motivation to establish export bases in developing countries was to exploit lower production costs than in their home countries. The majority of FDI in the initial years came from the US, followed by the

8 Source: UNCTADstat. Available at: <<https://unctadstat.unctad.org/datacentre>>.

UK and the Netherlands. At the time, US electronics companies were in need to expand capacity and found in Singapore a suitable location for their more labor-intensive activities.

Having achieved full employment in the early 1970s, the Singaporean government sought to improve the quality of FDI attracted to the country. This involved modifications to the fiscal incentives offered to investors, the introduction of an export credit scheme, and stricter controls over wages. During this period, operations within the electronics industry underwent significant upgrading, moving to higher value-added goods. Singapore became the largest exporter of calculators and a significant player in the production of radios, cassette recorders, and television sets. In addition, local plants increased their backward and forward linkages within the economy. Productivity rose, in part due to the move to higher value added goods. However, even with strict control over wages, Singapore (a first-generation tiger) began to lose some MNE's plants to neighboring countries with lower wages and a more plentiful labor force, such as Malaysia (a second-generation tiger).

In 1979, the Singaporean government made a strategic decision to move the country away from competition with lower-wage countries. To achieve this, it intervened in the economy to raise wage costs. This was done to discourage labor-intensive investments and to pressure firms to upgrade their production processes and raise productivity. At the same time, the government provided generous fiscal incentives to encourage capital- and technology-intensive investments, which included accelerated depreciation and double deduction of research and development (R&D) expenditures (Bautista, 1984). These incentives were designed to attract MNEs that were investing in advanced manufacturing technologies. Additionally, the Singaporean government considerably expanded its investments in professional training. As a result of these policies, Singapore was able to successfully transition from a labor-intensive economy to a more knowledge-based one. By 1980, three major industries – electrical machinery and appliances, petroleum/petrochemical, and transport equipment – accounted for nearly two-thirds of Singapore's manufacturing output (Bautista, 1984).

In the ensuing decades, Singapore continued to upgrade its economic structure, retaining a sizable manufacturing capacity while becoming an increasingly important international services hub. Despite its relatively small population compared to others ASEAN economies, Singapore has remained the region's largest exporter of manufactured goods, particularly of more technologically sophisticated products. In 2020, Singapore's gross exports of medium-high technology goods were 1.5 times those of Vietnam, 1.9 times those of Malaysia, and 2.1 times those of Thailand⁹. Singapore's manufacturing prowess is evident even when considering only local value added. While the share of local value added in the country's total manufacturing exports fell from around 51% in 1995 to around 44% in 2005, it has remained relatively stable since then¹⁰. This performance is consistent with the regional trend, particularly among countries that are more integrated into regional value chains, such as Malaysia and Vietnam.

In summary, Singapore's trajectory reveals that its political leaders have pursued, since the outset of its industrialization process, a deliberate strategy to upgrade the country's industrial base, rejecting a pattern of comparative advantages based on cheap labor. The government has heavily intervened in the economy, primarily through tax incentives, while credit subsidies have been a less important industrial policy instrument than in other Asian economies (Weiss, 2005).

In addition, there was a major effort, particularly since the 1980s, to increase the knowledge-intensity of the industry by establishing a robust national innovation system. The success of this endeavor is particularly noteworthy given that Singapore's industry is dominated by foreign MNEs, which typically concentrate their R&D efforts in their home countries. Therefore, Singapore's story demonstrates, first, the importance of deliberate planning (Huff, 1995) and, second, the significance of state capacity in implementing the policies necessary to achieve desired goals.

9 Source: WDI.

10 Source: OECD's Trade in Value Added database (OECD/TIVA). Available at: <<https://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm>>.

Philippines

The Philippines has traditionally been classified as the “sick man” of Asia or even as the “Latin America” of Asia (Noland, 2000). Once among the most advanced economies in the continent in the 1950s, it was surpassed by many of its neighbors in the following decades. Tolo (2011) lists several structural factors that may help explain the Philippines’ low growth compared to its Southeast Asian neighbors, including institutional deficiencies, inadequate infrastructure, a poorly diversified industrial base, and low levels of investment.

Most post-war Asian economies followed the IS-EP sequence of industrial development. However, some countries remained in the IS model for much longer than others. The success of the first-generation Asian tigers in the late 1960s had a demonstration effect across Asia, inspiring other countries to adopt similar economic policies. In the 1970s, Malaysia and Thailand implemented trade openness and policies to attract FDI, which boosted their economic growth. In contrast, the Philippines remained largely committed to the IS strategy until the early 1980s, despite adopting some export-promotion policies.

The Philippines was the first country in East and Southeast Asia to embark on an IS strategy, but it was not the result of a well-thought-out plan. Rather, the introduction of controls on imports and foreign exchange in 1949, which became the cornerstone of the country’s industrial policy during the IS period, was designed to resolve a balance of payments crisis (Bautista, 1984; Ariff & Hill, 1985). In the late 1950s, a cascading tariff structure was adopted, with lower tariffs on raw materials and intermediate goods and higher tariffs on finished goods and goods that could be produced domestically. This structure remained in effect until the late 1980s and led to an industrial structure with few backward linkages and a high dependence on imported inputs (Aldaba, 2013).

“Philippine industrialization is usually described as a cumulative record of controls, protection, exchange overvaluation, and distorted domestic policies” (Albuero, 1987, p. 487). The effects of economic protectionism and other IS policies proved to be detrimental to the

country's competitiveness. Pressures from interest groups, combined with inefficient bureaucracy and high import tariffs, undermined the Philippines' participation in international trade and imposed barriers to the reception of FDI (Kind, 2000). Political uncertainty and dysfunctional government suppressed investment (De Dios & Williamson, 2015).

In the late 1970s, the Philippines embarked on an ambitious industrial restructuring program funded by a structural adjustment loan from the WB. Average tariffs were lowered, and their dispersion was substantially reduced from 1980 onwards (Hill, 2013). However, the foreign debt crisis and the subsequent political crisis led to the plan's failure (Ariff & Hill, 1985).

The Philippines was severely affected by the external debt crisis of the early 1980s. The country entered a moratorium in 1984, creating enormous difficulties in importing, which heavily affected import-dependent industries such as automotive, electronics, and garments. The crisis also generated strong political instability and popular revolt, culminating in the deposition of Ferdinand Marcos (De Dios & Williamson, 2015).

The timing of the economic and political crises was critical, coinciding with the period in which Japan, Taiwan, and Hong Kong were relocating their industries through FDI. These investments flowed to Malaysia, Thailand, and Indonesia, where export-oriented plants were built. Thus, political instability prevented the Philippines from benefiting from the Asian flying geese type of development.

Market and outward-oriented economic reforms resumed under the government of Corazón Aquino (1986-1992), despite the persistence of political turbulence. This process continued under the government of Fidel Ramos (1992-1998), which benefited from greater political stability and a more favorable external environment. A large trade liberalization began in 1991 and was deepened in subsequent years, reducing average tariffs on industrial goods from 24.6% to 6.9% between 1991 and 2000 (De Dios & Williamson, 2015). The FDI policy was significantly liberalized and new incentives were introduced to attract foreign MNEs (Aldaba, 2013). The progress made during this

period gave the Philippines' economy and financial system greater resilience to face the adverse effects of the 1997 Asian financial crisis (Rodlauer *et al.*, 2000; Noland, 2000).

Subsequent governments continued to undertake reforms that improved the country's investment climate. Manufacturing value added annual growth rate accelerated from 3.5%, in 2001-10, to 5.6%, in 2011-19. However, manufacturing industry grew more slowly than the rest of the economy in both periods, leading to a decline in its share of GDP from 25.3%, in 2000, to 21.9%, in 2010, and 18.5%, in 2019¹¹. Moreover, an old problem remained: overdependence on imported inputs, translating into low local value added in sectors such as electronics, garments, and automotive (Aldaba, 2013).

The Philippines case provides a few lessons for other countries seeking to foster industrial development. First, political stability is crucial. Uncertainty generated by instability and legitimacy crises severely affects private investment decisions, both domestic and foreign. Between 1980 and 1985, the Philippine GDP fell 6.2%, industrial output fell 19%, while investment plummeted by a staggering 48% (De Dios & Williamson, 2015). Furthermore, severe episodes of instability can have lasting scars. Political stability had not been fully restored in the Philippines until recently and, as a result, the country's investment rate has remained substantially lower than that of its Southeast Asian neighbors for a long time.

Second, in the era of globalized value chains, inefficient industries have no place. However, to increase the benefits reaped from GVC participation, a country must undertake efforts to increase local value capture, rather than remaining locked at low-value-adding activities at the final stages of manufacturing industry. In Thailand, entry into GVCs – facilitated by FDI – stimulated a process of cumulative causation, which manifested itself in the creation of backward linkages in the domestic economy. In the Philippines, however, the problems faced by the manufacturing industry during the period of instability prevented the emergence of these linkages. As a result, the country's industry

11 Source: WDI.

has remained heavily dependent on imported parts and components. Likewise, Philippines' industrial exports has little local value added (Kind, 2000), reminiscent of the poor experience of Mexican *maquiladoras*.

One of the consequences of the Philippines' failure to catch up is the peculiar phenomenon of overeducation. This occurs when the skill intensity of an economy does not accompany its human capital improvements, resulting in people with relatively high educational levels occupying jobs that offer very low returns to education. In the early 2000s, low-skilled services were absorbing more than half of the new secondary and college graduates in the Philippines (Mehta *et al.*, 2009). So, a third lesson of the Philippines case is that, despite the increasing importance of the services sector in a modern market economy, a thriving manufacturing industry is still important to absorb highly skilled workers.

Vietnam

Vietnam has been one of the most impressive catching-up stories of the last few decades. Since it began market-oriented reforms in 1986, its GDP per capita has more than sextupled. In purchasing power parity (PPP) terms, Vietnam's GDP per capita has converged significantly with that of the second-generation Asian tigers. In 1990, Vietnam's GDP per capita was equivalent to 46.4% of Indonesia's, 28.9% of Thailand's, and 19.8% of Malaysia's. By 2022, these numbers had jumped to 91.8%, 65.1%, and 40.2%, respectively¹².

However, the change of course in Vietnam was not the result of an ideological conversion of the country's communist leadership, but of the failure of the then-prevailing economic model (Riedel & Comer, 1997). A centrally planned economic regime had been in place in Vietnam since its partition in 1954, and remained largely unchanged after the post-war reunification in 1975. As in other communist countries, Vietnam's economy suffered from several distortions and inefficiencies (Kien & Heo, 2008).

¹² Source: WDI.

Amid growing economic difficulties, Vietnam embarked on a program of economic reforms called *Đổi Mới* (Renovation) in 1986, marking its transition to a market socialist economy (Chaponnière, Cling, & Zhou, 2010). Undertaken at very difficult geopolitical circumstances¹³, the reforms included agrarian reform – which gave farmers greater control over their land and production –, liberalization of foreign trade, opening up the country to foreign investment, flexibilization of domestic markets, new property rights laws, privatization, incentives to reduce the role of state-owned enterprises in national production, and regulations to increase efficiency and market adherence by these firms (Pinto & Corrêa, 2014). Thus, unlike Singapore and the Philippines, which only had to transition from an inward-looking to an export-oriented capitalist model, Vietnam had to transition from a Soviet-style, highly centralized economy, to a market economy, while also opening up to the world. Nonetheless, Vietnam certainly benefited from China's successful experience of opening up and reforming its economy that started in 1978, as they had to go through similar changes in various areas.

The results soon showed up. The country's GDP increased 8.4% per annum between 1990 and 1997, while manufacturing value added grew even faster, 11.1% annually. Exports of goods and services soared from 4% of GDP, in 1988, to 53.9%, in 2000¹⁴.

Since the early 1990s, Vietnam's economic strategy has centered on rapid integration into the global economy (Thoburn, 2013), not only via exports but also via the attraction of FDI. Key events that enhanced the country's engagement in the international economy and locked in its domestic unilateral liberalization (Athukorala, 2006) include: joining ASEAN in 1995 (and its free trade area in the following year), signing a bilateral trade agreement with the US in 2000, signing (through ASEAN) a free trade agreement with China in 2002, and joining the WTO in 2007.

13 "The country was verging on being a pariah state: frozen out of relations with the US; at loggerheads with its neighbors, the PRC to the north and the Association of Southeast Asian Nations (ASEAN) to the south and west; about to lose the support of its principal international benefactor, the Soviet Union; and having minimal contact with international financial institutions (IFIs)" (Hill, 2013, p. 114).

14 Source: WDI.

Inward FDI has increased significantly, especially after joining the WTO. In fact, average annual FDI inflows increased from US\$1.8 billion in 2002-2006 to US\$7.9 billion in 2007-2011, an increase of 350% – for comparison, FDI to the Philippines increased only 26% in the same period¹⁵. In 2022, inward FDI stock reached US\$ 210 billion, equivalent to 52% of Vietnam’s GDP (UNCTADStat, 2023). Until 2006, most FDI flows came from Japan and the four first-generation tigers (Lim, 2011). These economies remained the dominant sources of FDI after Vietnam joined the WTO, with China joining the group more recently.

According to Ngoc (2018) Vietnam’s post-*Đổi Mới* trade policies can be divided into four distinct periods: IS policy (1986-1996), export-oriented industrial policy with trade protectionism for selected industries (1996-2007), EP policy with trade liberalization (2007-2015), and EP policies with a focus on services (2015-present). Indeed, despite the reduction of administrative controls and non-tariff trade barriers, studies carried out in the late 1990s and early 2000s found that Vietnam’s trade policy was still inward-oriented, favoring import substitution in several industries. In 2003, effective protection rates remained high, with higher tariffs for goods in the final stages of production chains. Some industries were heavily protected, such as beverages and tobacco, plastic products, textiles, and motor vehicles (Athukorala, 2006).

In order to reduce the disincentive effects of tariffs charged on inputs used by export industries, Vietnam put in place, in 1991, a program of export processing zones (EPZs) and duty drawbacks on imported inputs (Thoburn, 2013). However, as the scheme only benefited final exporters, meaning that local producers of intermediate goods that used imported inputs when producing to sell to the exporting companies could not use it, it created a bias against the creation of backward linkages in the country’s economy (Athukorala, 2006). There are currently four EPZs in Vietnam. The pioneer was established in 1991. Most foreign MNEs operating in EPZs are Japanese and Taiwanese.

In the early 2000s, Vietnamese industry had a dual character: heavy industry remained mostly in the hands of state-owned enterprises

15 Source: UNCTADStat.

(SOEs) and was heavily protected by tariffs due to its lack of international competitiveness, while a separate industry focused on exports was mostly in the hands of foreign MNEs (Perkins & Anh, 2009). In 2007, foreign-invested enterprises accounted for 38% of industrial output and 57% of exports (Lim, 2011).

Vietnam's economy has achieved impressive growth and low volatility in the 21st century, with average annual GDP growth of 6.3% from 2000 to 2022¹⁶ – only the 2020-21 biennium experienced a slowdown to below 5% due to the COVID-19 pandemic. For most of this period, exports grew faster than output, reaching 63.3% of GDP in 2008. However, the 2008 global financial crisis had a negative impact on major export markets, causing exports to fall in the following years. Export growth resumed from 2011 onwards, and exports reached 80.1% of GDP in 2019. In addition to quantitative growth, there has also been a qualitative change in exports, with high-tech goods reaching 34.2% of goods exported in 2019, while in 2008 they represented only 4.8%¹⁷.

Vietnam's growing participation in key GVCs has helped drive its expanding exports. In 2018, Vietnam accounted for 7.8% of the world's gross exports of textiles, garments, and leather products, up from 1.2% in 2005. The country's share of global electronics exports has also grown rapidly, from 0.06%, in 2005, to 1.39%, in 2018¹⁸.

Participating in GVCs can help domestic firms, particularly small and medium-sized enterprises (SMEs), increase demand predictability, production scale, and product and process quality to meet international standards. The introduction of new technologies has driven strong productivity growth.

GVCs of labor-intensive goods, such as garments and footwear, are buyer-driven. Production is organized and controlled by marketing-intensive firms or retail chains that usually do not own manufacturing plants. Instead, they rely on first tier suppliers, which, in the case of garments, are often MNEs from Hong Kong, Taiwan or South Korea,

16 Source: WDI.

17 Source: WDI.

18 Source: OECD/TIVA.

which produce in low labor cost countries (Thoburn, 2009). Investing in new equipment has helped Vietnamese garment firms become GVC suppliers, leading to significant increases in output per worker (Thoburn, Sutherland & Hoa, 2007).

According to some studies (Le & Pomfret, 2011; Kokko & Thang, 2014; Nguyen *et al.*, 2020) the presence of foreign MNEs positively affects the productivity of Vietnamese firms in upstream sectors. Possible channels for this effect include the transfer of knowledge and technologies from MNEs to their suppliers and the possibility of exploiting economies of scale and scope provided by increased demand for their products.

In recent years, Vietnam has benefited from the growing trade and technological dispute between the US and China. Indeed, the country has been increasingly seen by electronics MNEs as a viable place to where relocate part of their productive capacity currently in China.

Vietnam is a latecomer to the electronics GVC within ASEAN. In 2001, Vietnam ranked 47th among the world's electronics exporters, but rose to 10th place by 2020, making it the largest electronics exporter in ASEAN. However, the country's involvement in the electronics GVC is still heavily concentrated in assembly activities – product design and key components production, which together capture the lion's share of value in this GVC, are still carried out in other countries (Leung, 2022).

In 2006, Intel's decision to build a semiconductor assembly and testing plant in Vietnam (whose operations started in 2010) marked a turning point for the country's electronics industry (Pinto, 2017). This move attracted other global players, such as Samsung, which relocated its largest smartphone assembly plant from China to Vietnam. Today, Samsung produces about 40% of its smartphones worldwide in Vietnam, making it the company's largest smartphone manufacturing hub.

Reflecting the changing profile of Vietnam's manufactured goods exports and the country's increasing integration into certain GVCs, the share of local value added in gross exports has been declining over the years: from 67.6% of gross exports, in 1995, to 54.6%, in 2005, and 44.1%, in 2018. This decline has been accompanied by an increase

in foreign value added, especially from China, which rose from an insignificant share in 1995 to 6.4%, in 2005, and 17.1%, in 2018. Specific industries have experienced a similar trend. In the textile/garment industry, local value added in gross exports fell from 63.6%, in 1995, to 50%, in 2005, and 42.4%, in 2018, while the share of Chinese value added reached 24.9% in 2018. In electronics goods, local value added in gross exports fell from 47% in 2005 to 37.1% in 2018. In this case, there was a significant increase not only in the value added in China (from 5.7% to 16.1%), but also in the value added in South Korea (from 5% to 16.3%)¹⁹.

Vietnam's industrialization experience, like those of the other countries examined in this work, offers valuable lessons for countries seeking prosperity through industrial development. Like China, Vietnam has adopted a gradualist approach to market-oriented reforms, rather than the shock therapy followed by East European countries. This approach has allowed for a less disruptive adjustment in the industrial structure, with lower output loss. It has also permitted greater experimentation, with more audacious policies being confined to special zones before their adoption nationwide.

One of the major contradictions of GVCs is that firms and countries must be extremely competitive to integrate into them, which requires using a high level of imported inputs, if they are cheaper and/or of better quality. However, this reduces the capacity to generate domestic backward linkages, limiting the development effects of GVC participation. Vietnam's strong engagement in GVCs to accelerate integration into the global economy through exports and FDI is another important lesson for other developing nations. The country has been one of the most successful in this endeavor, with early signs of modest upgrades in some GVCs, which is essential as it loses comparative advantages derived from low labor costs.

¹⁹ Source: OECD/TIVA.

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Bioenergy in energy transition in ASEAN: Status, challenges, and potential international cooperation

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Introduction

With a significant annual growth in economic, population, and energy demand, ASEAN has an important position along the global supply chain of energy sector. The energy demand of ASEAN in 2050 is projected to grow three times of the 2020 value without any measures applied. The application of the ASEAN regional targets (APS scenario) in the energy sector would only reduce half of the energy demand growth in 2050. Under the APS scenario, industry and transport are the two highest energy consumer sectors, which account for 43% and 28% of total energy demand in the region in 2050, respectively. Moreover, both sectors still have a high dependency on fossil fuels (coal, oil, and gas), which account for more than half of the total energy demand in 2050. The share of bioenergy in both sectors in 2050 is projected to be at 13% and 17%, respectively (ACE, 2021).

To manage the significant energy demand growth of the ASEAN region, the 41st Joint Ministerial Energy Meeting (AMEM) in August 2023 highlighted the need for the region to accelerate energy transition efforts while ensuring six priority energy targets (security, reliability, accessibility, sustainability, resiliency, and affordability) (ASEAN, 2023a). In line with this, decarbonization pathways of the energy sector in the region would depend significantly on three key pillars: scaling up renewable energy, boosting energy efficiency in the electricity sector, and a gradual transition from the coal-fired power plants (IEA, 2023a).

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Under the ASEAN Plan for Energy Cooperation (APAEC) Phase II, the region aims to achieve a 23% RE share of the total primary energy source by 2025 by boosting the utilization of biofuels and bioenergy (ASEAN, 2020). Due to the high availability of bioenergy in the region, the boosting of its utilization of bioenergy particularly in the power and transport sectors would contribute significantly to both energy security and the transition of the area (IEA, 2019).

To accelerate energy transition efforts including boosting the utilization of biofuels and bioenergy, the region needs to also strengthen energy cooperation with development partners and international organizations (ASEAN, 2020). In December 2022, ASEAN and Brazil announced the formal joint sectoral cooperation committee (AB-JSCC) with emphasis on several key areas including renewable energy, digital economy, and others (ASEAN, 2022). Bioenergy plays an important role in the energy sector in both countries. In 2022, the combined domestic production of the three largest biofuel-producing countries (Brazil, Indonesia, and India) saved approximately US\$ 38 billion in oil import costs (IEA, 2023b). Therefore, deepening the cooperation between ASEAN and Brazil on bioenergy would potentially bring huge benefits for energy transition on both sides.

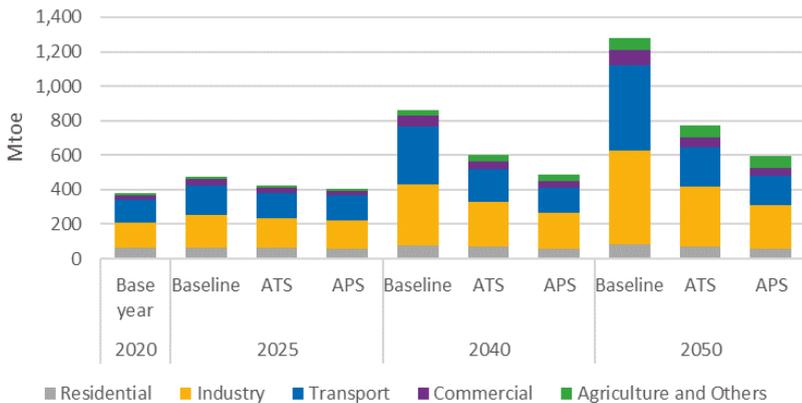
Against this background, this article focuses on the role of bioenergy in energy transition in ASEAN by examining its status, challenges, and potential collaboration between ASEAN and Brazil in bioenergy. This article is structured into five sections. Section 1 presents a brief introduction or background of the issues selected in the article. Section 2 presents an overview of energy transition in ASEAN through understanding the energy landscape, characteristics of energy demand and supply among ASEAN Member States (AMS), and energy transition targets of the ASEAN. Section 3 describes the current development, its policies and targets, utilization of bioenergy in key sectors (power, industry, and transport), and challenges in the bioenergy sector in ASEAN. Section 4 presents the existing and potential international cooperation between ASEAN and Brazil in the energy and bioenergy sectors. Section 5 presents the conclusion and the way forward.

Energy landscape and transition in ASEAN

Energy landscape of ASEAN

Population and gross domestic product (GDP) growth are two main factors affecting energy consumption in the region. ASEAN’s total final energy consumption (TFEC) – the annual amount of energy consumed across all end-use sectors of the economy – had grown by 1.6 times in 2019, from 2005 levels. In 2020, consumption declined to 385 million tons of oil equivalent (Mtoe) due to the COVID-19 pandemic. Whilst the average annual growth of GDP from 2005 through 2020 is 4.6%, TFEC’s average yearly growth is lower, at 2.7% during the same period (ASEAN, 2021). Without any policy measures applied, the region is projected to have approximately three times the 2020 energy demand level. Industry and transport are the two largest consumer energy sectors among others, which account for 81% of total energy demand in 2050 under the Baseline Scenario. The implementation of the regional measures under the APAEC target only reduces approximately half of the total energy demand of ASEAN in 2050 (Fig. 1).

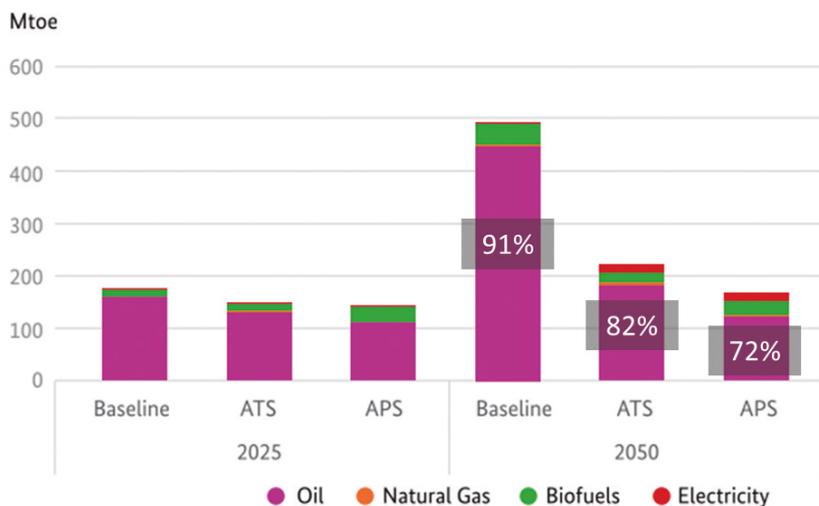
Figure 1. ASEAN Energy Demand by Sector



Source: ACE, 2021.

In terms of fuel, oil products remain the largest to be consumed, with a 47% share in 2050 under the Baseline Scenario and reduced to 38% under the ASEAN regional target scenario (called APS). Transport is still dominated by oil products, which constitute 91% and 72% of the total fossil fuels consumption in 2050 under the baseline and the ASEAN regional target (APS) scenarios, respectively. The reduction of oil consumption in the transport sector under the APS scenario is due to the potential shift of oil products to electric vehicles and biofuel mix (Fig. 2).

Figure 2. ASEAN Energy Consumption in Transportation by Fuel

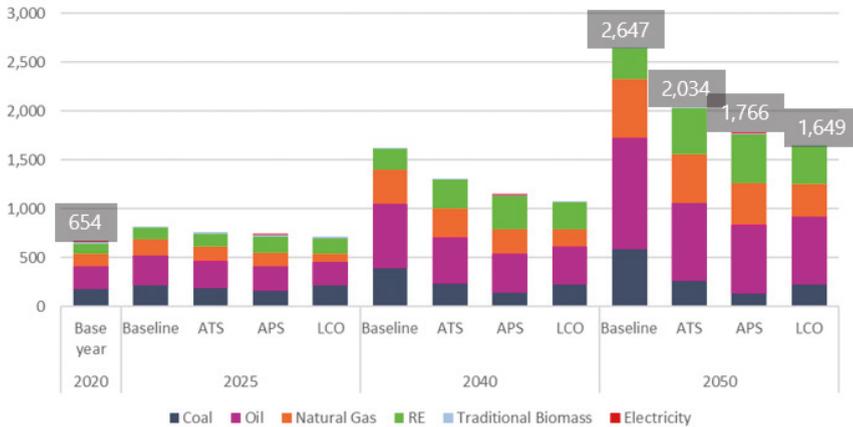


Source: ACE, 2021.

Responding to the growing demand, ASEAN’s total primary energy supply (TPES) needs to increase up to 4 times between 2020 and 2050 under the baseline scenario. Under the implementation of the ASEAN regional targets (APS), it can be reduced by up to 2.7 times of the 2020 value. Fossil fuels are projected to still dominate the energy supply mix of the region, particularly from the oil products in transport and coal in the power and industry sectors. Without any stronger mitigation measures, this would significantly affect energy security issues in the

region due to the high possibility of the net importer of gas in 2025 and coal in 2039 (Fig. 3).

Figure 3. ASEAN Energy Supply by Fuel (Mtoe)



Source: ACE, 2021.

Characteristics of energy supply and demand in ASEAN

Using the panel data analysis, this study found that GDP affects the energy supply and demand significantly. Meanwhile, population growth affects energy demand only. These findings indicate that the industry sector is a key driver for economic growth which also determines the energy supply in the region. In addition, stronger demand response management policies would be needed not only to manage the speed of energy demand but also to lower the energy supply as well.

Figure 4. Panel Data Analysis Result of energy supply and demand

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.738E-17	.091		.000	1.000
	Zscore(GDP)	1.237	.240	1.237	5.160	.001
	Zscore(Population)	-.302	.240	-.302	-1.260	.248

a. Dependent Variable: Zscore(TPES)

Coefficients^a

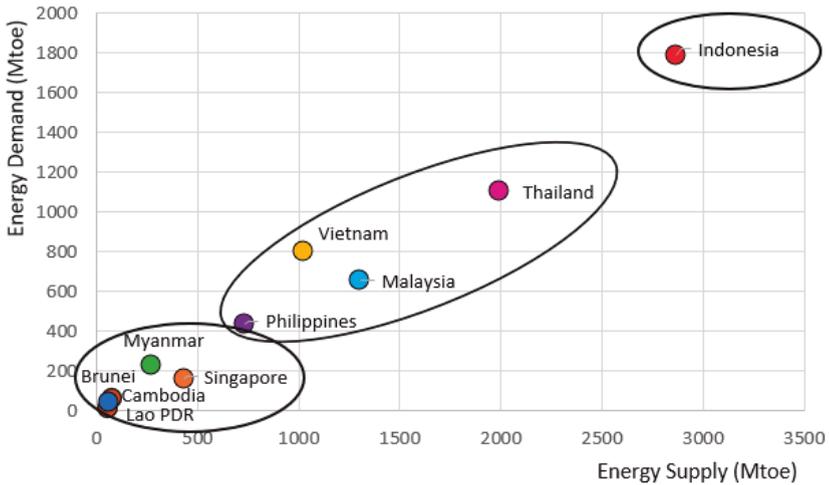
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	529574.803	37262.237		14.212	<.001
	Zscore(GDP)	893550.357	148387.028	1.558	6.022	<.001
	Zscore(Population)	819234.597	248776.771	1.428	3.293	.017

a. Dependent Variable: TFEC

Source: ACE (2021).

Understanding of energy supply and demand at each AMS would be also important due to better formulation of regional targets which also fit with each energy sector's condition of each AMS. This study applies the K-cluster analysis to group each AMS according to each AMS' energy characteristics. The main finding of this analysis was that 10 AMS countries can be grouped into three clusters (groups) which are based on their similarities in TPES and TFEC levels (Fig. 4). The results show that Brunei Darussalam follows a similar pattern to Cambodia, Lao PDR, Myanmar, and Singapore (cluster 1). It is due to the similarities of these countries in hydropower and natural gas. Meanwhile, Malaysia, the Philippines, Thailand, and Vietnam are together in cluster 2. These four countries have similar amounts of population, economic growth, and fuel types of energy supply and demand. The last cluster only contains Indonesia because the country has the largest population, GDP, and energy supply and demand (Fig. 5). This finding can be a good basis for designing energy cooperation among the region toward energy transition efforts in ASEAN.

Figure 5. Mean Cluster Grouping Result



Source: Authors' analysis.

Energy transition in ASEAN

Being a region with high economic growth and a 7% share of total global emissions in 2019, ASEAN faces challenges in setting up more ambitious actions to mitigate the climate threat (Climate Action Tracker). Under COP27, almost all Member States have pledged net-zero or carbon neutrality (Appendix 1), which strengthens the importance of energy transition orientation beyond low-carbon technology and offsets the current business-as-usual (BAU). All ASEAN countries had submitted the Nationally Determined Contributions (NDCs) committed to emission reduction targets as a form of climate pledge realisation.

As energy produces more emissions, the ASEAN Member States have outlined their mitigation actions for energy sectors in their NDCs' reductions of GHG emissions target. Many ambitions for energy transitions are varied in scope and ambition across the region, which not only has been set out in the NDCs but also in the respective national

plans or roadmap. For example, Malaysia has released a document of the Malaysia National Energy Transition Roadmap recently (MoEM, 2023). Renewable energy has become the primary source to pursue the energy transition pathway. Solar PV, hydropower, and bioenergy are among the key priority sectors for ASEAN's renewable energy landscape (Appendix 1).

Bioenergy in ASEAN

Status development of bioenergy

The potential of bioenergy within ASEAN is vast, with applications ranging from electricity generation to heat production, biofuels for transportation, and biogas for various industrial purposes. The International Renewable Energy Agency (IRENA) identifies 13 sustainable bioenergy pathways that could yield at least 7.1 exajoules (EJ) (equivalent to 1,972 terawatt hours) of selected feedstock annually by 2050 (IRENA, 2022c). Alternative projections underscore the necessity for more than double domestic bioenergy utilization by 2050, aiming to reach 7.6 EJ.

Within the scope of biofuels, the ASEAN region's abundant, yet untapped, bioenergy potential is evident. It encompasses diverse and ample feedstock resources, with palm oil production as a prominent example, primarily driven by Indonesia and Malaysia, holding significant influence in the global palm oil sector (ACE, 2023b). Meanwhile, Thailand is a top global bioethanol producer, and the Philippines' use of coconut oil and sugarcane waste as biofuel feedstock further underscores regional strength. As of 2022, Indonesia's Crude Palm Oil (CPO) feedstock reached 9.5 billion tonnes, equal to 10,300 ML biodiesel production; Malaysia's CPO at 1.1 billion tonnes, equal to 1,150 ML biodiesel production; the Philippines's coconut oil at 228,000 million tonnes, equal to 248 ML bioethanol production; Thailand's sugarcane at 1.1 billion tonnes, molasses 3.6 billion tonnes, and cassava 3.3 billion tonnes, equal to 1,460 ML bioethanol production (USDA, 2022).

The COVID-19 pandemic years disrupted the global transportation fuel sector, affecting biofuel industry performance in ASEAN, and halting most of the member countries' plans to increase their national

blending mandates (ACE, 2021). But Thailand's ethanol fuel sector rebounded with incentives and innovative applications, including Indonesia's biodiesel that recently announced its B35 initiative. Apart from biofuels, biogas is another vital component of bioenergy in ASEAN as it can significantly reduce methane emissions, as indicated by AEO7. Six ASEAN member states, including Cambodia, Indonesia, Malaysia, the Philippines, Singapore, and Vietnam, have committed to the Global Methane Pledge, aiming to decrease methane emissions by at least 30% below 2020 levels by 2030 (CCAC, 2023).

ASEAN nations have biomass energy potential that exceeds 8000 million gigajoules in total (Tun *et al.*, 2019). Furthermore, modern biomass is expected an increased role in electricity generation, with installed capacity projected to surge from 7 gigawatts (GW) in 2017 to 176 GW by 2050, in line with the Transition to Energy Systems (TES) (IRENA, 2022c). The biofuel market in ASEAN is dominantly driven by governments' blending mandates, which specify the required proportion of biofuels in fuel transportation. This policy has gained global traction since 2011, with over 50 countries adopting it and numerous others outlining forthcoming biofuel quota objectives (IEA, 2022). Notably, within the ASEAN region, implementing blending mandates forms the cornerstone of the APAEC Phase II: 2021-2025 in achieving 35% renewable energy (RE) share in total installed capacity by 2025. Moreover, six of the ASEAN member states have established specific biofuel policies, with five enacting blending mandates. The biofuel policies and blending ratios for ethanol and biodiesel in ASEAN member states are briefly summarized in Table 1.

Table 1. Biofuel policy and blending ratio mandates across AMS

Country	Biofuel Policy/Blended Ratio		
	Ethanol	Biodiesel	Policy/Source
Brunei Darussalam	N/A	N/A	
Cambodia	N/A	N/A	

Indonesia	E5 by 2023 E20 by 2025	B30 by 2020 B35 by 2023	MEMR Regulation no 12/2015 2022 Enhanced National Determined Contributions (NDC) Indonesia.
Lao PDR	10% biofuel share in TPES (blending ratio 5%-10%) by 2025. 10% biofuels share in transport fuels by 2030		Vision 2030, Strategic Plan 2025, and 5-year Power Development Plan 2021 NDC Lao PDR
Malaysia	E10	Current: B20	2021 National Biodiesel Program - update from MPIC Malaysia
Myanmar	N/A	N/A	
Philippines	Current: E10 E20 by 2040	B5 by 2020 B10 by 2040	Biofuel Law based on RA: 9367 Biofuel Act
Singapore	N/A	N/A	
Thailand	Current: E85, E20, E10	Current: B7, B10, B20	Alternative Energy Development Plan 2018 2021 DEDE Report
	20-25% biofuel share in TFEC by 2037		
Vietnam	Current: E5, E10	Current: B5, B10	Decision no 2068/QĐ-TTg Decision no 53/2012/QĐ-TTg
	13% and 25% of the transport sector's fuel demand in 2030 and 2050, respectively		

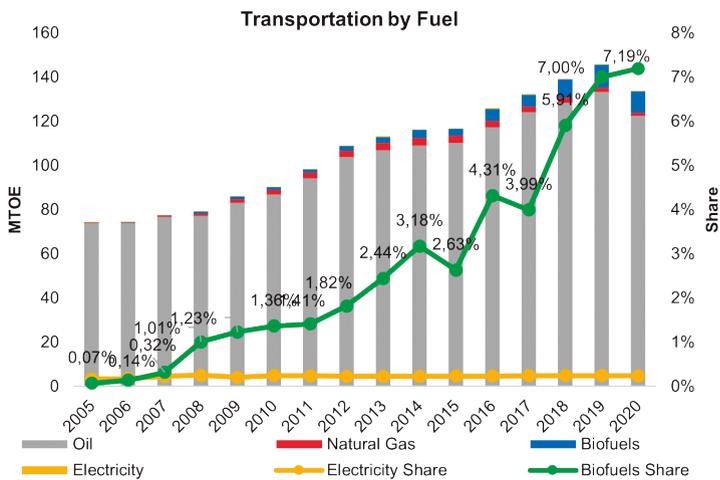
Source: ACE, 2023a.

Utilization of bioenergy in electricity, industry, and transport

It is projected that bioenergy will represent a substantial portion in total electricity sector in the region, accounting for at least 31.1 GW and 55.7 GW by 2050 under the baseline and the ASEAN regional target scenarios, respectively (ACE, 2021). Similarly, bioenergy's share of the total primary energy supply for the industry surged to 19.3% in 2020. Furthermore, this share is expected to continue upward, reaching 32.71% of the total energy allocation for industrial applications by 2050 (ACE, 2021). Additionally, Figure 6 underscores the continuous increase in biofuels' share within the transportation sector, culminating

at 7.2% in 2020 (ACE, 2023c). The utilization of biofuels in ASEAN has experienced significant growth and is projected to maintain its upward trajectory. This path is motivated by the imperative of countering fossil energy scarcity, strengthening energy security, and reducing emissions in the transportation domain (Fig. 6).

Figure 6. Biofuels Share in Transportation by Fuel



Source: ACE, 2023c.

Challenges

In addition to challenges faced by the region in adopting renewable energy (limited technical and financial supports), bioenergy development faces larger difficulties particularly related to technology readiness and the lack of comprehensive policy compliance. Bioenergy also encounters distinct challenges tied to factors such as scalability, seasonality, and perceived constraints on bioenergy availability (unstable feedstock supply), which influence investors’ sentiment and project viability (IRENA, 2022b). In addition, formidable barriers include the collection and processing of bioenergy resources, a deficit

in technological expertise, insufficient incentives and subsidies, and substantial upfront costs (ACE, 2022).

Moreover, using non-sustainable bioenergy carries profound potential repercussions for the ASEAN region's environment and economy. Issues associated with the adverse impacts of unsustainable bioenergy encompass land competition, emissions resulting from land-use changes, deforestation, biodiversity erosion, competition with food production, and the inadequacy of biowaste and air pollution management. Thus, prioritizing sustainable feedstocks is of utmost significance in ensuring the environmental integrity of bioenergy endeavours (IRENA, 2022a).

International cooperation

Existing scheme of international cooperation between ASEAN and Brazil

Under the APAEC Phase II, strengthening regional and international cooperation for ASEAN is essential for meeting the energy sector targets of the region. ASEAN has strengthened cooperation and actively maintains good relations with dialogue partners and international organizations including Brazil. In 2022, Brazil engaged in formal dialogue with ASEAN during the 55th ASEAN Ministerial Meeting and conferred the status of sectoral dialogue partner (ASEAN, 2022). The development of the ASEAN-Brazil Practical Cooperation Areas (PCA), which would function as a framework to achieve common objectives and priorities over the next years, was also agreed upon by both parties through several priority areas (such as food security, renewable energy, digital connectivity, and others). Although Brazil has become one of the newest ASEAN Sectoral Dialogue partners, comprehensive ties with ASEAN countries have been formed in the past. Cooperation between Brazil and ASEAN countries takes place on various levels and through different channels. However, most of the bilateral cooperation was initiated to foster trade and investment. Indonesia (under the 2019 Strategic Partnership) and Singapore (under the 2018 Avoidance of

Double Taxation Agreement) have signed bilateral agreements with Brazil in the economy sector (Antara News, 2011; MoF Singapore, 2018).

In a brief look at Brazil's trading relations with Southeast Asian economies, it is clear the two sides have maintained their bilateral cooperation. The trade between ASEAN and Brazil reached US\$ 33.5 billion in 2022, marking a significant upward trend whereas in 2002 the trade was merely valued at US\$ 2.9 billion (ASEAN Stats Data Portal). Brazil's top three exports are crude oil, iron ore, and soybeans, while refined petroleum, auto components, and pesticides are Brazil's biggest imports (ASEAN, 2023b). Brazil's inflow on the ASEAN Foreign Direct Investment (FDI) accounted for US\$ 20.31 million in 2021 (ASEAN Stats Data Portal). These robust and growing numbers highlight the importance of commercial exchange with ASEAN countries and underscore the strategic relevance of the region for Brazil's foreign trade (Fig. 7).

**Figure 7. International Trade ASEAN to Brazil, 2017-2022
(Million US\$)**



Source: ASEAN Stats Data Portal.

Brazil was the first Latin American country to accede to the Treaty of Amity and Cooperation in Southeast Asia (TAC) in 2011. The current cooperation areas already capture most of the opportunities, especially for ASEAN in forging closer relations with the South America region or the Southern Common Market (MERCOSUR), which is highlighted in the 55th ASEAN Ministerial Meeting (ASEAN, 2023b). As the largest economy in Latin America, it appears to be a gateway to foster closer relationships with countries in The Southern Common Market (MERCOSUR). Brazil also produces 60% of the goods and services in South America, and the economic fluctuations of Brazil are intimately tied to many of its neighbours (Adler & Sosa, 2012). It appears that Brazil's business cycle has a significant impact on economic activity in Brazil's neighbours. In addition, ASEAN is a potential market for Brazil and Latin America due to its large population and increasing economic activity.

Previously, ASEAN countries have formed joint actions that concern on environment. For instance, Indonesia and the two countries with the biggest tropical forests in the world – Brazil and Congo – have created an alliance to work together on the economy and the sustainable management, protection, and restoration of tropical forests and other ecosystems (The New York Times, 2022). Additionally, Singapore and Brazil committed to collaborating on climate change and inked a deal to increase collaboration in capacity-building projects (The Straits Times, 2023). Those existing cooperations with ASEAN countries have the potential to spill over to energy sectors, as both sides have abundant resources that can benefit each other.

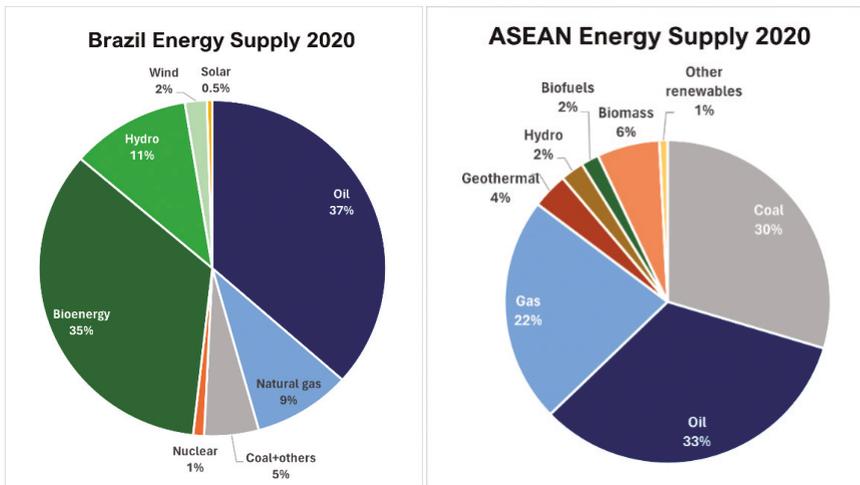
Potential Cooperation for Energy Transition and Bioenergy

Looking to the future, Brazil and ASEAN hold the same perspective on the necessity to develop renewable energy through their deal of sectoral dialogue cooperation. Both countries still heavily depend on fossil fuel utilization but with two different trajectories. For ASEAN, the amount of imported natural gas reached 30 Mtoe in 2020. If this trend continues, ASEAN is projected to become a net importer of natural gas

and oil by 2025 and 2039, respectively (ACE, 2021). Therefore, to reduce their reliance on fossil fuel both countries aim for developing large-scale renewable energy.

Under Brazil’s National Energy Plan (PNE) 2050, the country has set out a renewable energy target of 45% of primary energy demand and 14.3% of energy supply by 2030 (MME Brazil, 2020; IRENA, 2023). Bioenergy also provides a significant contribution to both Brazil’s and ASEAN’s energy primary supply. In biofuel global production, Brazil and Indonesia ranked second and third with amounts of 915 and 390 petajoules (PJ) in 2022, respectively (Statista, 2023). The future of biofuel demand on both sides is likely to increase significantly.

Figure 8. Comparison Energy Supply ASEAN and Brazil, 2020



Source: IRENA, 2023; ACE, 2021.

In ASEAN, bioenergy applications could be extended beyond the transportation sector, such as electricity, heating, and clean cooking through biomass or biogas. The Indonesian government has developed a regulatory framework for biodiesel, which resulted in the unexpected production of 8.4 million kilolitres (kL). Meanwhile, in Thailand, transportation is the only sector that is currently subject to

the country's mandated ethanol and biodiesel blending requirements. The government has also implemented a cut in excise rates for vehicles that are compatible with these designated biofuel blends to promote compliance with the compulsory biofuel blends (ACE, 2023a).

Brazil's biomass is more significant than fossil fuels as a source of heat. Industry is the dominating sector, with a demand for fuel and heat that is around four times greater than that of residential sectors. More than half of the fuel used in both the industrial and residential sectors is derived from biomass. Besides heating sectors, the use of biofuels for transportation indicated a pivotal role. In flex-fuel vehicles (FFVs), pure hydrous ethanol usage has grown significantly. Since its introduction in 2005, biodiesel has rapidly increased in use as a diesel alternative, mostly for heavy-duty transportation. In 2019, biodiesel accounted for 9.6% of the energy in diesel use on average (IEA, 2021).

Sectoral Dialogue cooperation between ASEAN and Brazil may stimulate stronger economic cooperation including in the bioenergy sector. Brazil accumulated earlier development experience in the acceleration of the sector. The country can bring extensive experience in the field to ASEAN in the form of knowledge sharing on steps for tackling barriers or challenges in the bioenergy sector (both policy package, technology capacity, and finance) covering both upstream and downstream sectors of bioenergy.

Conclusion and ways forward

The energy landscape in the ASEAN presents significant challenges and opportunities for bioenergy in driving the region's energy transition. Bioenergy, as a versatile and sustainable energy source, plays a pivotal role in the region's transition to cleaner energy. Biofuels are emerging as a key sector for energy transition, with blending mandates being implemented in several member states. The growth of bioenergy is particularly significant in the electricity, industry, and transportation sectors, contributing to reducing emissions and enhancing energy security. Nevertheless, the bioenergy sector faces its own set of challenges, including technology readiness, policy compliance,

scalability, and feedstock availability. Additionally, sustainability is a crucial concern to avoid adverse environmental and economic impacts.

The potential for international cooperation, particularly between ASEAN and Brazil, is promising. Both regions have set ambitious targets for renewable energy adoption, with bioenergy as a focal point. Brazil, with its substantial bioenergy expertise, can collaborate with ASEAN in developing sustainable biofuel production, sharing technology, and fostering the bioenergy industry's competitiveness and economic growth. This cooperation aligns with their shared goals of reducing fossil fuel dependency, increasing energy security, and mitigating climate change. The sectoral dialogue partnership between ASEAN and Brazil creates opportunities for the exchange of knowledge, expertise, and technology in the bioenergy sector. As two emerging economies, their collaboration can stimulate economic growth while accelerating the energy transition. The further collaboration between ASEAN and Brazil in the bioenergy sector scheme should be also designed in the context of the energy landscape characteristic of each ASEAN Member State (AMS).

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Appendix 1. Key sectors of energy transition towards carbon neutrality in ASEAN

ASEAN Countries	Emission Reduction targets		Carbon Neutrality/ Net Zero targets	Key Sector
	Unconditional	Conditional		
Brunei Darussalam	By 20% by 2030 compared to BAU		Net zero emission by 2050	EV, solar PV
Cambodia	By 42% or 64.5 MtCO ₂ eq by 2030 compared to BAU		Carbon neutrality by 2050	EV, Solar, Hydro, Biomass
Indonesia	By 32% relative to BAU level in 2010 by 2030	By 43% relative to BAU level in 2010 by 2030	Net zero emission by 2060 or sooner	CCT, EV, Gas Power Plant, Solar, Biomass Co-firing, electric stove
Lao PDR	By 60% compared to Baseline scenario, or around 62 MtCO ₂ eq in absolute terms		Net zero emission by 2050	Biofuels for transportations, EV, Hydropower, Solar, Biomass
Malaysia	Economy-wide carbon intensity (against GDP) reduction of 45% compared to the 2005 level		Carbon neutrality by 2050	Green hydrogen, CO ₂ storage, CCUS, EV, Solar PV, Bioenergy, Biofuel
Myanmar	144.52 MtCO ₂ eq emissions reduction by 230	414.75 MtCO ₂ eq emission reduction by 2030	Carbon neutrality by 2050	Hydropower, Solar
Philippines	2.71% GHG emission reduction by 2030 compared to BAU	72.29% GHG emissions reduction by 2030 compared to BAY	N/A	Biodiesel, EV, RE and Geothermal
Singapore	Achieve peak emissions at 60 MtCO ₂ eq around 2030		Net zero emission by 2050	Hydrogen, EV, Solar, Carbon Capture
Thailand	30% GHG emission reduction compared to BAU by 2030	40% GHG emission reduction compared to BAU by 2030	Carbon neutrality by 2050 and Net zero emission by 2065	CCS, Zero-emission vehicles, RE
Vietnam	By 15.8% relative to BAU level in 2014 by 2030	By 43.5% relative to BAU level in 2014 by 2030	Net zero emission by 2050	Biofuels, Biomass co-firing, EV, RE

Source: UNFCCC, 2023.

Energy transition: The Brazilian experience and the potential for joint solutions

Evandro Gussi¹

On his first trip to Southeast Asia as Chancellor of the Brazilian government inaugurated in 2023, Ambassador Mauro Vieira was emphatic:

The world faces the pressing need to collectively reduce emissions as we ensure energy access to our populations in a context of growing demand. This task is far too complex and urgent, and the only way to address it is through cooperation. We need to bring major players and stakeholders together – governments, private actors, academia. We need to act together, and for that we need to think together.²

We were at the opening of the *Sustainable Mobility: Ethanol Talks Indonesia* seminar, held in Jakarta in October 2023 by UNICA (Brazilian Sugarcane and Bioenergy Industry Association), APLA (Brazilian Ethanol Cluster) and the Brazilian Ministry of Foreign Affairs, under the patronage of the Brazilian Trade and Investment Promotion Agency (ApexBrasil) and in partnership with the Indonesian government.

To a qualified audience of important players in the energy and mobility sector, Minister Mauro Vieira continued: “Today’s *Ethanol Talks* gives us the opportunity to do just that: think together. Here we will

1 President and CEO of the Brazilian Sugarcane Industry and Bioenergy Association – UNICA.

2 VIEIRA, Mauro. Address by Minister Mauro Vieira at the opening of the “Sustainable Mobility: Ethanol Talks” seminary – Jakarta, 9 October 2023. *Ministry of Foreign Affairs*, 9 Oct. 2023. Available at: <<https://www.gov.br/mre/en/content-centers/speeches-articles-and-interviews/minister-of-foreign-affairs/speeches/mauro-vieira-2023/address-by-minister-mauro-vieira-at-the-opening-of-the-201csustainable-mobility-ethanol-talks201d-seminary-2013-jakarta-october-9-2023>>. Last access on: 26 Feb. 2024.

discuss ways to decarbonize the mobility sector, focusing specifically on how biofuels can contribute to this goal”.

I mention the minister’s words because they summarize, in a surgical way, the strategy of the program that we are developing at the end of 2019 and taking to various countries in the Global South. *Ethanol Talks* offers an opportunity for cooperation and dialogue between experts, policymakers, regulators and representatives of the sugar and energy sector on how to expand the production and use of ethanol for sustainable mobility, in the light of the Brazilian experience. It is certainly one of the actions with the greatest impact on promoting ethanol abroad.

Jakarta hosted the 9th edition, with the distinction of being the first after the launch of the Global Biofuels Alliance (GBA), led by India, Brazil, and the United States during the G20 Summit in 2023. The initiative recognizes the contribution of biofuels to the energy transition, taking the role of energy sources such as ethanol to a new level in the global debate on routes to decarbonize the transport sector, which is responsible for almost 25% of greenhouse gas (GHG) emissions.

In 2020, we started the *Sustainable Mobility: Ethanol Talks* program in Asia. We’ve been to India, Pakistan, and Thailand. After the COVID-19 pandemic subsided, we moved on to Latin America (Argentina, Costa Rica, Guatemala) and returned to Asia, presenting the program in Indonesia and in two new editions in India. Since then, the Indian government has authorized the sale of pure ethanol (E-100) at petrol stations. It has also brought forward the target of 20% ethanol blended into petrol by five years to 2025. This is a huge leap if we consider that in 2014, the level of ethanol blended into petrol in India was just 1.5%. In 2022, this blend reached 10%, a percentage that should double by next year.

Putting this evolution into absolute figures, the purchase of ethanol by Indian fuel distributors has risen from 380 million liters in 2013 to an impressive 6 billion liters in 2023; in other words, an increase of almost

16 times in just 10 years. According to data from the NITI Aayog³, a public policy think tank of the Indian government, the estimated need for ethanol for blending 20% ethanol into petrol will be 10 billion liters a year for the period between 2024 and 2026. There is a promising market that will generate jobs and income while reducing emissions.

In India, E20 began to be offered on a trial basis in 2023, at petrol stations in 15 of the country's cities, with a progressive expansion to the entire region over the next few years. The Indian government's decision is a fundamental step towards consolidating the program in the country, generating environmental, economic, and public health benefits.

We are partners in this process. Over the last few years, we have contributed technical information that has saved years of research and development. We have translated public policies and studies on the use of ethanol in motor vehicles. This cooperation gained momentum in 2022, when UNICA and SIAM (Indian Society of Automobile Manufacturers) signed a Memorandum of Understanding (MoU) which started the Virtual Centre of Excellence (CoE) in bioenergy. This is an initiative that ASEAN countries can benefit from, finding there a hub of information on the generation of technological advances, technical standards, regulations, market access and policies related to biomass and bioenergy.

As no country is the same as another, and every experience needs to be adapted, transformed, and modified to suit each reality, a rich, in-depth, and substantive dialogue is the best way for countries to learn from each other's successes and mistakes and find the best ways to expand sustainable mobility.

With this knowledge, technologies should be selected according to the characteristics of each region: production potential, availability of infrastructure, job creation, economic conditions, among others points. For tropical and subtropical regions with a vocation for producing sugar

3 SARWAL, Rakesh et al. *Roadmap for Ethanol Blending in India 2020-25*. Report of the Expert Committee. New Dehli: NITI Aayog, 2021. Available at: <https://www.niti.gov.in/sites/default/files/2021-06/EthanolBlendingInIndia_compressed.pdf>. Last access on: 26 Feb. 2024.

cane and other inputs such as corn, ethanol is an effective and available response to important global challenges of the 21st century.

Three of these challenges stand out for their complexity and urgency: global warming, which threatens life itself on Earth; pollution at alarming levels in several metropolises around the world and which is responsible for millions of deaths a year; and the growing demand for energy to meet population and economic growth, particularly in emerging countries.

Brazilian experience

Ethanol and bioenergy have helped transform Brazil's social, environmental, and economic reality. Twenty years ago, in 2003, the launch of flex-fuel technology revolutionized mobility in the country. Initially developed as a technological response by the national automotive industry to enable combustion engines to also run on ethanol, reducing dependence on fossil fuels, in recent years flex-fuel technology has gained prominence due to the benefits that biofuel offers for low-carbon mobility.

Hydrated ethanol (E100) emits up to 90% less CO₂eq than fossil fuels. In the same vein, the presence of 27% biofuel in Brazilian petrol guarantees a 15% reduction in these emissions. This percentage has been mandatory in the country since 2015. And the Brazilian parliament is currently considering a proposal to increase the blend of ethanol in petrol to 30%, as a way of improving vehicle efficiency.

In 2023, around 42% of fuel consumption for light vehicles will be supplied by ethanol, thanks to flex-fuel technology, which allows a combustion engine to run on 100 per cent ethanol or petrol – or on both fuels together, in any proportion.

In these two decades (2003-2023), the use of ethanol in the country has prevented more than 660 million tons of CO₂eq from being released into the atmosphere. This volume represents the annual emissions of

Germany⁴. By way of illustration, to achieve the same CO₂eq saving would require planting almost 5 billion native trees and maintaining them for 20 years.

Alongside its contribution to preventing global warming, ethanol has also provided a successful experiment in controlling pollutant emissions. Its contribution is well known, for example, so that the city of São Paulo, the fourth most populous in the world, is now one of the metropolises with the lowest level of air pollution. In 2022, the city ranked 1,872nd on the IQAir⁵ list, a platform that monitors and ranks the air quality of municipalities around the world.

Public policies

Recognising the benefits of ethanol and other biofuels, when reflected in clear, long-term public policies, can lead to an immediate reduction in emissions in the automotive sector. In Brazil, we have good examples of policies that have encouraged the development of the production sector over the years.

Although the first use of ethanol in the automotive sector dates to 1931, the first big leap in Brazil came with the Proálcool program in the 1970s. At the time, the aim was primarily to guarantee supply in a scenario of scarcity. However, its main feature was only realized decades later: in a world afflicted by the effects of climate change, it was understood that ethanol could reduce GHG emissions, thus contributing to sustainable mobility.

All this made even more sense with the Paris Agreement. At the 21st Climate Conference in 2015, it became clear that actions to reduce

4 UNICA. The calculations take into account sales of hydrous ethanol fuel and C gasoline published by the Brazilian National Agency for Petroleum, Natural Gas and Biofuels (ANP). The volume of anhydrous ethanol fuel is obtained from the blending level in force in each month evaluated. Emission levels were assessed considering life cycle analysis, expressed in the parameters published by the ANP in its Resolution No. 758/2018. Specifically, gasoline emissions totaled 87.4 gCO₂/MJ. Emissions from anhydrous and hydrated ethanol were based on the parameters defined for a typical ethanol plant, according to ANNEX I of the aforementioned Resolution, which details the values referred to in art. 3, item XXIII, art. 5, item IX, art. 24, §3 and art. 25, §1 of Resolution No. 758, of November 23, 2018.

5 WORLD'S most polluted countries & regions, 2018-2022. IQAir. Available at: <<https://www.iqair.com/world-most-polluted-countries>>. Last access on: 26 Feb. 2024.

global warming would necessarily include decarbonizing the transport matrix. In light of Brazil's voluntary targets to reduce emissions in the sector, the country endeavored to build the National Biofuels Policy –RenovaBio – with many hands.

Established in 2017, RenovaBio is the largest program for replacing fossil fuels with renewable fuels on the planet. This policy lays the foundations for increased consumption and more sustainable production of biofuels, as well as establishing the Decarbonization Credit (CBio), an instrument that offers an opportunity to offset emissions for sectors of the economy with higher mitigation costs.

The dynamic initially proposed by RenovaBio seeks to correct an important market failure that characterizes the world of renewable energies: the presence of externalities that result in a sub-optimal level of production and consumption of biofuels and over-investment in fossil sources. In essence, the positive externality associated with decarbonization becomes an economic return for the biofuel producer; what was a negative externality, on the other hand, becomes an additional private cost for fossil fuels. From then on, it's up to the consumer to make their choice, based on the relative prices, now corrected, of each fuel.

This market adjustment and the changes brought about in the sugar-energy industry because of the generation of CBios are undoubtedly more important than any revenue generated from the sale of these bonds. The changes seen since the implementation of RenovaBio have initiated a fundamental process so that the sector can face the challenges and take advantage of the opportunities that the global macrotrend towards low-carbon energy will generate.

Between 2020 and 2023, RenovaBio prevented the emission of more than 100 million tons of CO₂eq (each bond represents one ton of carbon dioxide avoided in the atmosphere). As it is a tradable security on the stock exchange, the credit paves the way for the voluntary carbon offset market.

With RenovaBio, Brazil has become the only country in the world with more than 90% of its biofuel production with audited and

ballasted carbon emissions, a production that is proving to be even more sustainable. To give you an idea, the plants showed an average reduction of 3.5% in CO₂eq emissions during the recertification process.

Three years after the implementation of RenovaBio, it is also clear that the managers of the production units are incorporating new concepts into the production system, with the search for products, technologies and processes that reduce GHG emissions. Another important point is that RenovaBio establishes zero deforestation, i.e. no deforestation is allowed at plants certified under the program.

In 2023, a new step was taken with the Combustível do Futuro (Fuel of the Future) program. It aims to expand the use of sustainable, low-carbon fuels, based on Brazil's successful experiences with ethanol, biodiesel and RenovaBio. It is an initiative that takes Brazil's commitment to sustainable mobility even further, incorporating life cycle assessment (LCA) as a sustainability criterion. The project is innovative in that it considers the principle of technological neutrality or diversity, recognizing all routes that contribute to reducing CO₂eq emissions.

According to the concept adopted in the program, the assessment of fuels will account for all GHG emissions, from the process of cultivation and extraction of resources, production of liquid or gaseous fuels or electricity, to their distribution and use in light and heavy passenger and commercial vehicles.

Brazil is an illustrative example of how the right energy policies can help a nation face the daunting energy challenges of our times. Since the country embarked on a program to use ethanol as an alternative to fossil fuels in the 1970s, ethanol production in Brazil has grown more than 50-fold, while prices have fallen by up to 60% in real terms.

Looking to the future, we see an even more promising scenario, with unrivalled opportunities for the new era of sustainable mobility based on ethanol. In addition to land mobility, we have strategic opportunities in the air and maritime sectors.

Opportunities

Air transport accounts for 2% of global greenhouse gas emissions and is among the sectors considered most difficult to decarbonize. In this context, replacing fossil paraffin with sustainable fuel has been identified by experts as a key strategy for significantly reducing CO₂e emissions.

IATA (International Air Transport Association) estimates that Sustainable Aviation Fuel (SAF) could contribute around 65% of the emissions reductions needed for aviation to reach net zero by 2050. To date, sustainable fuels can be blended with fossil aviation paraffin at a rate of up to 50%.

Currently, seven biofuel production routes are certified to produce SAF. By design, these SAFs are drop-in solutions that can be used with the existing fuel infrastructure at airports, fully compatible with modern aircraft.

One of the most promising routes is Alcohol-to-Jet (ATJ), which uses ethanol as its base. This route has been identified as the most viable short-term solution for meeting international aviation's carbon neutrality target by 2050. With increasingly sustainable production and reduced emissions, ethanol has the characteristics (renewable, available, and efficient) to be an important alternative for decarbonizing air transport.

This is where Brazil's experience in the production and use of ethanol as a fuel in the transport sector can play an even more relevant role, accelerating the implementation of the use of biofuels in various countries to reduce carbon emissions. There are opportunities to transfer the technical knowledge and experience accumulated in Brazil over time to respond to the challenges facing the decarbonization of the transport matrix.

We have in this point yet another technological route that can benefit ASEAN, like the exchange of experiences that we have established in East Asia. At the end of 2023, we had the opportunity to promote very relevant discussions on this issue at a workshop held in Tokyo,

Japan. The Japanese government has mandated the use of 10% SAF by 2030 for international flights at Japanese airports. It estimates that the demand for sustainable aviation fuel could reach 1.7 billion liters per year.

Like the *Sustainable Mobility: Ethanol Talks*, the *Brazil-Japan SAF Workshop* was a program of qualified debates and exchange of experiences for technical cooperation that can be replicated in other parts of Asia.

With the raw materials available for ethanol production and the possibility of sustainable productivity growth, Brazil has great potential to contribute to the diversification of energy sources in Japanese air transport. Either by supplying inputs to produce SAF or by providing sustainable fuel for aircraft.

The challenge of zero emissions by or around 2050 is also on the strategic horizon for the shipping industry, a target adopted by the International Maritime Organization (IMO), the United Nations agency responsible for regulating maritime transport. With its Greenhouse Gas Strategy⁶, the IMO aims to reduce carbon emissions from international maritime transport by 40% by 2030 and 72% by 2040 compared to 2008 levels, reaching close to zero by 2050.

As part of the criteria for assessing how sustainable a fuel is, the IMO guidelines consider the assessment of the fuel's life cycle, as we have already mentioned when dealing with Brazil's biofuel policies. This means that not only the emissions generated by burning in the ship's engine are important, but also the emissions from extraction, production, transport, and storage – this is known as “well-to-wake”.

According to research by the Global Centre for Maritime Decarbonisation⁷ in Singapore, led by Professor Lynn Loo, the shipping industry is in a period of experimentation and exploration to understand

6 CLASSNK. *Pathway to Zero-Emission in International Shipping – Understanding the 2023 IMO GHG Strategy*. Tokyo: ClassNK, 2023. Available at: <https://www.classnk.or.jp/hp/pdf/info_service/ghg/PathwaytoZero-EmissioninInternationalShipping_ClassNK_EN.pdf>. Last access on: 26 Feb. 2024.

7 GLOBAL MARITIME FORUM. *The shipping industry's fuel choices on the path to net zero*. Global Maritime Forum, 2022. Available at: <<https://www.energy.gov/eere/bioenergy/articles/department-energy-releases-request-information-progression-clean-fuels>>. Last access on: 26 Feb. 2024.

the implications of adopting different green fuels. The result is a multi-fuel future, just like in other transport sectors.

In this context, ethanol has enormous potential to be a significant alternative in shipping transport. There are currently projects under development to adopt technologies that operate with different fuels, including the biofuel produced in Brazil from sugarcane and corn.

It should be emphasized that Brazilian ethanol complies with all the sustainability guidelines established at the international level. In addition to the ban on transforming forest land into agricultural land, in accordance with the RenovaBio policy guidelines, the economic trade-off “food versus fuel” doesn’t make sense here in Brazil either.

The country has developed a production model in line with what the FAO (Food and Agriculture Organization of the United Nations) calls the Integrated Food and Energy Production System. The more energy we produce, the more food we have. Instead of “food versus fuel”, we have “food plus fuel”.

In sugarcane farming, we adopt the crop rotation model, a soil management and conservation technique. At the end of each planting cycle, the sugarcane is replaced by a cycle of peanuts or soybeans. As well as helping to fix nitrogen in the soil, this model has made the state of São Paulo the largest producer of peanuts in Brazil, with more than 770,000 tons per year. The production of corn ethanol comes from the second crop, encouraging succession cultivation with soybeans and, consequently, not requiring the opening of new areas for planting. This industry also produces DDG, an input for animal nutrition.

Demand for renewable energy

Brazil’s leading role in the energy transition is evident in the most diverse global forums, as the executive director of the International Energy Agency (IEA), Fatih Birol, rightly recognized. During his visit to Brasilia in January 2024, he emphasized that Brazil is entering an unprecedented period in its economic and political history over the next

two years. As well as holding the Presidency of the G20, the country will host COP30 in 2025.

Fatih Birol was in the Brazilian capital to sign the Work Plan for Accelerating the Energy Transition in Brazil with the Ministry of Mines and Energy, headed by Minister Alexandre Silveira, who has led important agendas for the valorization of biofuels in the Brazilian energy matrix.

On the occasion, Fatih Birol highlighted that Brazil's time has come: "The transmission of clean energy in the world is not happening, but Brazil has the muscle and leadership to drive fair and inclusive development". He also underlined that bioenergy, which comes from biological assets such as biomass, will be the biggest player in renewable energies and the one that can grow the most, with the capacity to be replicated, especially in the most economically vulnerable societies.

If we look globally, more than a hundred countries in the tropical and subtropical regions produce sugarcane, the main active ingredient in the ethanol we use in Brazil. There are around 1.8 billion tons worldwide, using an area of around 25 million hectares, according to the FAO. And then there's the production of ethanol from corn, which began in Brazil in the 2010s and now accounts for almost 20% of total production.

In the 2023-2024 harvest, which runs from April/23 to March/24, the Brazilian sugar-energy sector processed more than 645 million tons of sugar cane, producing 32 billion liters of ethanol, of which 19 billion was hydrous ethanol (E100) and 12.8 billion anhydrous (which is mixed with petrol). And this industry has the capacity to expand more and more – without deforesting or competing with food.

Expansion is taking place mainly through the recovery of degraded pasture areas and investments in research and technological development. The sugar-energy sector currently has the experience and potential to supply renewable and sustainable energy at a scalable level. Every 1 liter of ethanol generates approximately 12 liters of vinasse, a by-product that in turn can be used to produce biogas, a source of clean, 100% renewable electricity, as well as being an alternative to fossil fuels through the generation of biomethane.

Biomethane has the same carbon molecule as natural gas, with a much lower carbon footprint. This biofuel can act as a substitute for diesel and natural gas, with the capacity to power heavy vehicles such as buses and tractors. However, it reduces CO₂e emissions by up to 95% compared to fossil fuels. This energy is also the basis for research into the development of green hydrogen, an innovation that will certainly increase the competitive advantage of agricultural inputs. On the other hand, vinasse, and other sugarcane processing waste, such as straw and filter cake, are rich in nutrients and return to the field as biofertilizers.

Sugarcane biomass also generates bioelectricity. Clean and renewable, this energy is generated close to electricity consumption centers, reducing system losses and the need for investment in transmission. In 2023, this generation for the national electricity grid totaled 29.2 GWh, which is equivalent to supplying the entire electricity consumption of Brazilian industry for two months in 2023.

More than a thousand towns participate in this production chain in different ways, employing around 2.1 million people directly and indirectly throughout the sector. A study published in the international scientific journal *Biomass and Bioenergy*, by researchers from the Luiz de Queiroz College of Agriculture (ESALQ/USP) and the State University of Londrina (UEL), states that in each municipality where a plant is installed, per capita income increases by 1,028 dollars per year. In neighboring municipalities, the increase is 324 dollars per capita per year. The increase in the local economy is enormous.

With these indicators and the strategic differential of a supply chain characterized by the circular economy, the agro-industry in the sugar-energy sector brings enormous economic, social, and environmental benefits to the municipalities and regions where it operates.

Next steps

Regarding the next steps, we are confident in Brazil's potential to lead a just energy transition, sharing knowledge and successful experiences with all nations with a vocation for the bioenergy agroindustry, especially Asian, African, and Latin American countries.

The expectation is that we can increasingly expand cooperation with the nations of the Global South, engaging biofuel-producing and consuming countries, based on an agenda strengthened by the Global Biofuels Alliance.

This part of the planet brings together large developing nations, which are the most dynamic on the planet and therefore have a growing demand for energy. It is also in these regions that agriculture forms the backbone of their economies.

With similar vocations, respecting the peculiarities of each region, together we can pave the way for a new international market that favors, above all, the countries of the Global South, such as the nations gathered in the ASEAN economic bloc.

The challenges are great, and ethanol has a bright future as part of the solution to low-carbon mobility. Whether on land, in the sky or at sea.

Brazilian Agribusiness and ASEAN¹

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Introduction

The Association of Southeast Asian Nations (ASEAN) is a regional bloc made up of ten countries with a combined population of 654 million people and a GDP of US\$ 2.96 trillion. The heterogeneity of the bloc's members increases the complexity of the study and highlights the great opportunities in different markets and products, which will inexorably be impacted by rapid economic and population growth and urbanization.

The focus of this chapter is to analyze the main characteristics of the region and its specificities, focusing on the agribusiness trade relationship between Brazil and ASEAN and future opportunities. In this study, ASEAN is considered to be the group of countries shown in Table 1 below.

Between 2000 and 2019, the economies of ASEAN members practically doubled in size, with accumulated GDP growth of 97.2%, which represents an average compound annual growth rate (CAGR) of 5.2%. The bloc's growth was second only to China and India, which grew at an average annual rate of 9.4% and 6.8%, respectively. However,

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- 1 Chapter originally published in Portuguese in the book *O Brasil no Agro Global: reflexões sobre a inserção do agronegócio brasileiro nas principais macrorregiões do planeta*. São Paulo: Insper, 2021, p. 349-384.
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it was above the United States, the European Union and Brazil, which grew by an average of 1.8%, 1.2% and 2.6% respectively⁵.

Table 1. ASEAN countries population and GDP

Paises	População estimada (2018, milhões pessoas) ^a	PIB (2019, bilhões de US\$ correntes em 2010) ^b
Brunei	0,43	13,5
Camboja	16,2	19,5
Indonésia	266,8	1.146,9
Laos	7,0	12,6
Malásia	32,0	382,1
Mianmar	53,9	84,5
Filipinas	106,5	340,3
Singapura	5,8	333,1
Tailândia	69,2	442,3
Vietnã	96,5	187,7
Total	654,31	2.962

Source: (a) UN, 2019; (b) World Bank, n.d.

[Countries] [Estimated population (2018, millions of people)^a] [GDP (2019, billion current US\$ in 2010)^b]

[Brunei / Cambodia / Indonesia / Laos / Malaysia / Myanmar / Philippines / Singapore / Thailand / Vietnam / Total]

In addition, as a result of this growth, ASEAN has become one of the most dynamic trading regions in the world, with a high level of integration into global value chains⁶. This high level of integration has been made possible and facilitated by a network of modern trade agreements that have allowed for the free exchange of goods and investments, both within the bloc and externally⁷.

The bloc has accumulated a series of social and commercial achievements in its first 50 years. Between 1967 and 2016, the bloc's participation in world GDP went from 3.3% to 6.2%; the rate of people living in poverty went from 47% to 14%; intra-bloc exports went from less than 10% to almost 25%; ASEAN's participation in world exports

⁵ World Bank, n.d.

⁶ Greenville & Kawasaki, 2018; Woetzel *et al.*, 2018.

⁷ Chirathivat & Srisangnam, 2013; Soeastro, 2003.

went from 2% to 7.2%; and the food production index went from 24 in 1990 to 148 in 2016⁸.

Food security

The Global Food Security Index (GFSI), drawn up by the Economist Intelligence Unit, which has developed a quantitative and qualitative model based on 34 indicators, aims to assess the exposure of the populations of 113 countries to issues such as physical, social and economic access to sufficient and nutritious food that make up a healthy and “ideal” diet.

Among the countries covered by the indicator, Singapore ranked first in the overall food security ranking (2019), while Laos ranked 92nd, being the ASEAN country with the highest exposure to food insecurity. Indonesia and the Philippines, the most populous countries in Southeast Asia, ranked 62nd and 64th in 2019, driven mainly by the low availability of natural resources and high exposure to climate change.

The GFSI shows the heterogeneity of the countries in the region and the exposure of the vast majority of them to food security, since only Singapore (1st) and Malaysia (28th) are in the top 50 of the ranking. The quality and safety of food, which takes into account the variety and nutritional quality of the diet, is an aggravating factor for the food security of countries in the region, since the diet is concentrated on a small variety of foods.

Agricultural production

Rice

Rice has long been Southeast Asia’s main agricultural product in terms of production value, planted area and nutritional participation in local diets. However, over the last few decades it has been losing ground to other export-oriented crops, such as palm oil, and to products that

8 ASEAN, 2017.

make up the region's modern diet, such as meat and fruit⁹. Between 1963 and 2013, rice, which accounted for 39% of the gross value of agricultural production in the region, became 30%, while palm oil went from 0% to 12% and meat and eggs went from 14% to 17% (in constant international dollars from 2004-2006)¹⁰.

Even so, the basis of regional public food security policies remains largely based on commercial protection and dependence on rice. Local governments continue to implement measures that encourage domestic production by small and large producers, as well as establishing public distribution, stockpiling and price control policies. These incentive policies are among the reasons why this region is one of the most important in rice cultivation: in 2018, 30% (47 million ha) of the entire area planted with rice in the world was in Southeast Asia, a position that has been stable for some time¹¹.

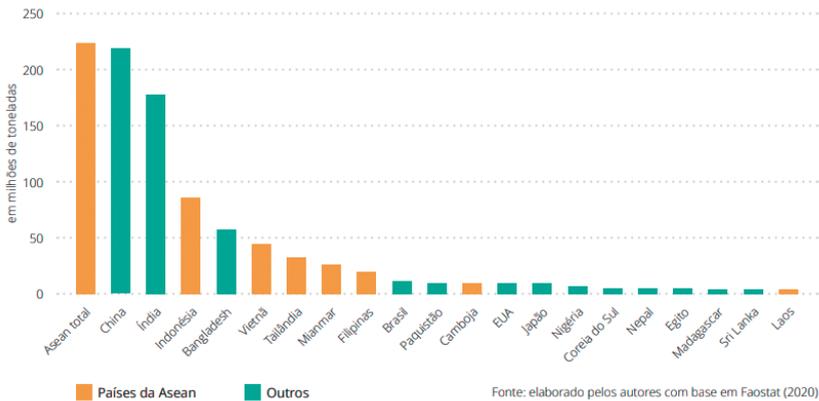
With so much land dedicated to rice, ASEAN is a net exporter of the product, but production and consumption levels vary between countries, with net exporters and net importers such as Indonesia, Malaysia and the Philippines. Figure 1 illustrates the twenty largest global rice producers in 2018, seven of which are from the Southeast Asian bloc. If we consider the total production of the bloc, ASEAN appears in first place, ahead of China, the largest producer.

9 OECD, 2017.

10 OECD & FAO, 2017.

11 FAOSTAT, n.d.

Figure 1. The top 20 global rice producers in 2018 and total ASEAN production. ASEAN countries and total are highlighted



Source: elaborated by the authors based on FAOSTAT (2020).

[in millions of tons] [ASEAN total / China / Índia / Indonésia / Bangladesh / Vietnã / Tailândia / Myanmar / Filipinas / Brazil / Paquistão / Cambóia / EUA / Japão / Nigéria / Coreia do Sul / Nepal / Egito / Madagascar / Sri Lanka / Laos] [ASEAN countries / Others]

Even with the recent increase in the average income of local populations and greater integration of global trade, which makes it possible to import and produce other items, rice remains very important in local diets. In 2017, the average consumption of rice in calories per day per person was 1,274 (45% of total daily calorie intake), while for the world this figure was 551 (19% of daily calories). For the same year, the inhabitants of Southeast Asia consumed an average of 196 kg of rice, the largest amount of any region in the world and 140% more than the world average of 81.4 kg¹².

Fisheries

In addition to rice, fisheries and fishery products are traditionally very important to the region and make up a large part of the nutritional and protein sources of local diets. Per capita consumption of fish in the

12 FAOSTAT, n.d.

region is approximately 36 kg, double the world average, and represents 42% of animal protein intake in the region¹³. In addition to its historical importance, we also see a continuous upward trend in the consumption of these products. Between 1961 and 2013, the average consumption of fish per person jumped from 12.9 kg to 33.2 kg per year, while other meats fell below 13 kg/year.

In order to meet the significant increase in demand, ASEAN's fishing sector has managed to increase its productivity considerably, both in capture fisheries and in aquaculture, the latter more recently. As a result, not only does the region stand out in terms of consumption, but also in terms of production: in 2015, it accounted for 17% of global fish production, 19% of which was in the capture fisheries market and 14% in the global aquaculture market¹⁴. Unlike rice, fishery products are more exported and rank as the second main product, only behind palm oil, in the bloc's agricultural exports, a position that has remained stable since at least 2009.

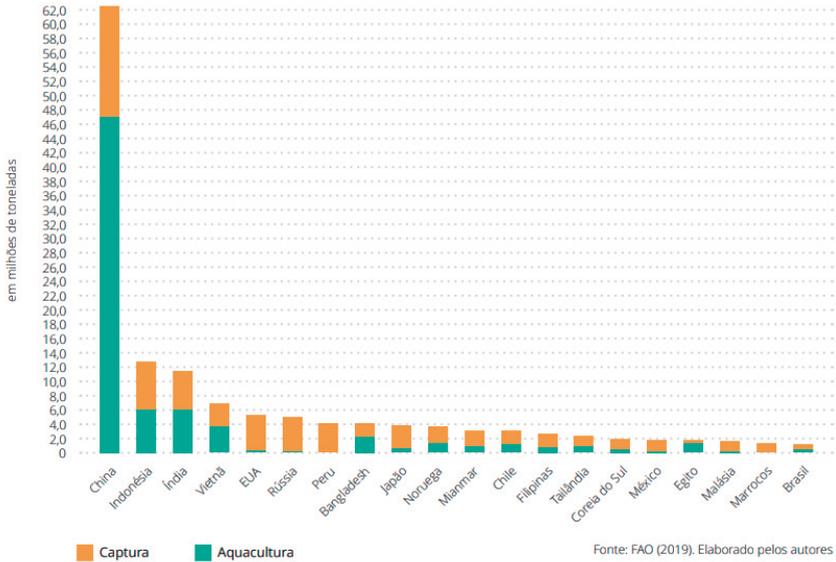
Due to geographical and historical aspects that favor fish production, as well as the most recent gains in productivity, in 2017 Indonesia was second only to China, which leads the world ranking of the largest fish producers by a long shot. While China produced 62.2 million tons that year, of which 15.3 million were caught and 45.8 million aquacultured, Indonesia produced 12.8 million in total. Figure 2 illustrates the largest fish producers and the type of production in 2017, with the exception of China, which differs greatly from the other countries¹⁵.

13 OECD & FAO, 2017.

14 OECD & FAO, 2017.

15 FAO, 2019.

Figure 2. Largest global fish producers by type of production in 2017, with the exception of China, the largest producer. ASEAN countries are highlighted



Source: FAO, 2019. Elaborated by the authors.

[in millions of tons] [China / Indonesia / India / Vietnam / USA / Russia / Peru / Bangladesh / Japan / Norway / Myanmar / Chile / Philippines / Thailand / South Korea / Mexico / Egypt / Malaysia / Morocco / Brazil]

However, fishing has encountered a number of challenges in its quest to increase production and productivity in the region. One of these challenges is that freshwater fishing and production, especially aquaculture, occupies land that could be used to grow other products. Economic activities that generate more income are certainly positive, but they can cause unexpected externalities, compromising the food security of the region's poorest populations¹⁶.

Despite the considerable increase in fish production and consumption that the region has seen in recent decades, Southeast Asia is expected to enter a less accelerated phase of fishing production

¹⁶ OECD, 2017.

expansion. Part of this will be due to the decrease in new areas for aquaculture, as land availability inland becomes scarcer, and the stabilization of catch production, which is facing internal and external pressures to combat the problem of unsustainable overexploitation of species¹⁷. Thus, projections indicate that between 2017 and 2026 fish production should grow by an average of 1.2% per year, a much lower rate than that recorded between 2002 and 2016, when the activity grew by 3.6% per year¹⁸.

ASEAN agricultural production: diversification and challenges

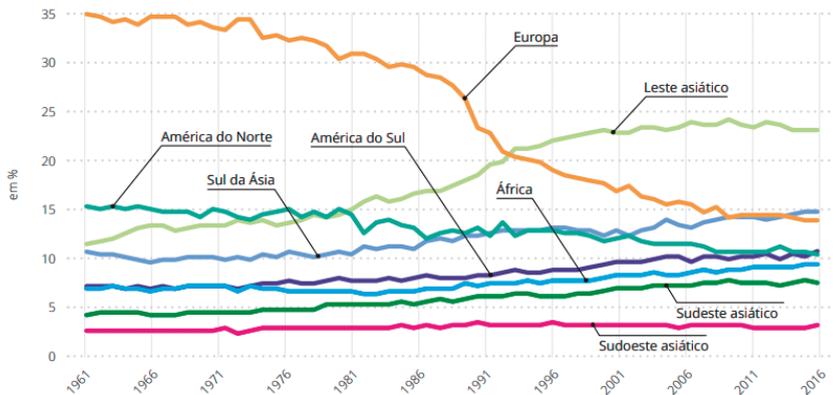
In the wake of the increases in production and productivity of rice and fish, Southeast Asia has also started to produce export-oriented crops, such as the emblematic case of palm oil, among others. As a result, ASEAN was able to increase its participation in the world's agricultural production significantly, and was the second fastest-growing among the world's main production regions. As can be seen in figure 3, between 1961 and 2016, Southeast Asia went from 4.8% to 7.9% of global agricultural production, a relative increase of 65%, second only to East Asia, which grew by 121%¹⁹.

17 OECD, 2017; DeRidder & Nindang (2018).

18 OECD & FAO, 2017.

19 FAOSTAT, n.d.

Figure 3. Participation in agricultural production (in production value) of the world's main food-producing regions between 1961 and 2016



Source: FAOSTAT. Elaborated by the authors.

[in %] [Europe / East Asia / North America / South America / South Asia / Africa / Southeast Asia / Southwest Asia]

ASEAN has a number of positive points that will continue to drive the bloc's economic development, such as modern trade arrangements, the attraction of investment, its integration into global value chains and its young and growing population. On the other hand, there are a number of challenges to overcome and, while population growth may be positive for the economy, it will certainly put pressure on the demand for food, which will consequently lead to an increase in the area of harvesting and aquaculture. UN projections indicate that by 2050 the region's population will reach 794 million, an increase of 21% compared to 2020²⁰. In a tropical region as extensive and populated as this one, the environmental impacts of economic activities derived from land use are even more urgent and imperative issues.

Table 2 shows some indices that exemplify and illustrate how the region lacks in area and water resources per inhabitant, especially when compared to Brazil. In addition to the difference in the availability of

20 UN, 2019.

important resources for the development of agriculture, such as water and land, the growth of agricultural production in Southeast Asia is already slowing down: between 2002 and 2016, average annual growth was 2.7%, while between 2017 and 2026 it is expected to grow by 1.8% per year²¹.

Table 2. Comparison of selected resources between ASEAN countries and Brazil

País	População rural (milhões)	População rural (%)	Área total (km ²)	Área de agricultura 2016 (km ²)	Área de agricultura per capita (ha)	Recursos hídricos renováveis 2014 (bilhões m ³)	Recursos hídricos renováveis per capita 2014 (mil m ³)
Brunei	0,1	22,3%	5.270	144	0,03	9	19,6
Camboja	12,4	76,6%	176.520	54.550	0,34	121	7,4
Indonésia	119,2	44,7%	1.811.570	570.000	0,21	2.019	7,6
Laos	4,5	65,0%	230.800	23.690	0,34	190	27,4
Malásia	7,7	24,0%	328.550	86.270	0,27	580	18,1
Myanmar	37,4	69,4%	653.080	127.600	0,24	1.003	18,6
Filipinas	56,6	53,1%	298.170	124.400	0,12	479	4,5
Singapura	0,0	0,0%	709	7	0,00	1	0,1
Tailândia	34,6	50,1%	510.890	221.100	0,32	225	3,2
Vietnã	61,8	64,1%	310.070	121.780	0,13	359	3,7
Total Asean	334,3	51,1%	4.325.629	1.329.541	0,20	4.985	7,6
Brasil	28,1	13,4%	8.358.140	2.835.460	1,35	5.661	27,9

Source: adapted from OCDE & FAO, 2017.

[Country / Rural population (millions) / Rural population (%) / Total area (km²) / Agriculture area 2016 (km²) / Agriculture area per capita (ha) / Renewable water resources 2014 (billion m³) / Renewable water resources per capita 2014 (thousand m³)] [Brunei / Cambodia / Indonesia / Laos / Malaysia / Myanmar / Philippines / Singapore / Thailand / Vietnam / Total ASEAN / Brazil]

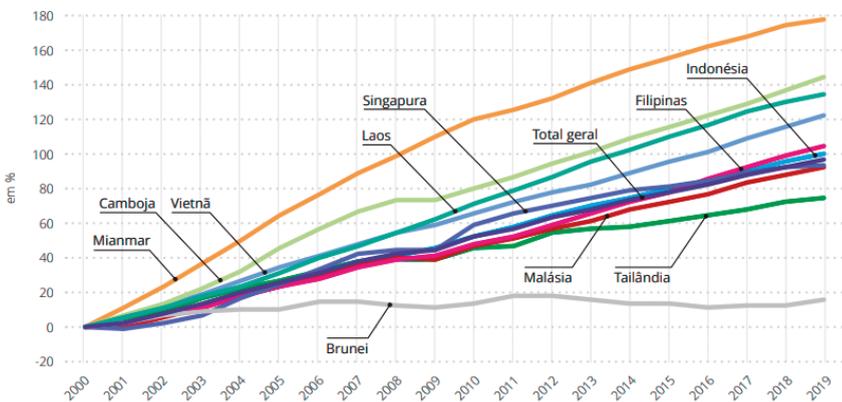
Given all these factors, added to population growth and the process of urbanization, there is likely to be room for Brazil to increase its agribusiness exports to the Southeast Asian bloc, helping countries in the region to guarantee food security for their growing populations.

21 OECD & FAO, 2017.

Economy, trade agreements, foreign investment and global value chains

The ASEAN bloc has shown some of the strongest growth among global economies this century, but the countries in the bloc have grown unevenly. Between 2000 and 2019, for example, Indonesia grew by 180% and Brunei by just 20%. Figure 4 below illustrates exactly this disparity in growth between the bloc's countries over the last two decades.

Figure 4. Cumulative GDP growth of Southeast Asian countries between 2000 and 2019 (current 2010 values in US\$)



Source: World Bank. Elaborated by the authors.

[in %] [Indonesia / Singapore / Philippines / Laos / Grand total / Cambodia / Vietnam / Myanmar / Malaysia / Thailand / Brunei]

Indonesia, Southeast Asia's largest economy in absolute terms, accounted for 39% of the region's GDP in 2019 and has shown an economic growth rate of 5.5% per year over the last 20 years. Following in the footsteps of the bloc's largest economies in terms of participation in the region's GDP in 2019 are Thailand (14.7%), Malaysia (12.9%), the Philippines (11.7%) and Singapore (10.9%). Naturally, income growth has accompanied higher levels of production and trade in

goods and services, thus increasing demand and accelerating the bloc's internationalization.

The accelerated economic development of Southeast Asia in this century is certainly related to the institutional and commercial development of the bloc itself. Although ASEAN has formally existed since 1967, when Indonesia, Malaysia, the Philippines, Singapore and Thailand signed its founding declaration²², the agreement that established free trade between the countries, the ASEAN Free Trade Area (AFTA) agreement, dates back to 1992. Afta was initially signed by the same countries that founded ASEAN, plus Brunei, which joined the bloc in 1984. The other four countries that make up the group today completed their access processes to ASEAN when AFTA was already in force and immediately joined the regional free market²³.

At the end of 2020, after eight years, the negotiations for the creation of the Regional Comprehensive Economic Partnership (RCEP) were concluded. The treaty brings together 15 countries from Southeast Asia (ten ASEAN countries), East Asia (China, Japan and South Korea) and Oceania (Australia and New Zealand). India, which took part in the negotiations, chose not to join the agreement at first. Despite India's absence, trade and investment relations between the member countries will be strengthened, given that they account for a third of the world's GDP, population and global trade.

It's worth noting that ASEAN also allows its members to enter into individual and parallel trade agreements, outside the scope of the bloc and the trade agreements negotiated jointly. Within this individual modality, Singapore and Malaysia are very active members. If on the one hand this policy can weaken the cohesion of the bloc, on the other it prepares the environment for individual agreements to expand and reach the other ASEAN members in the future.

The modern institutional and commercial arrangement that the bloc has been developing and improving meant that in 2017 ASEAN received US\$ 1.9 trillion in foreign direct investments (FDIs), representing

22 ASEAN, 1967.

23 Chirathivat & Srisangnam, 2013.

21% of global FDI stocks invested in emerging markets, a percentage that has doubled in two decades²⁴. Annual FDI inflows between 2009 and 2019 quadrupled, reaching more than US\$ 150 billion last year. In addition, at least 94 of the world's 100 largest non-financial multinationals have set up production units in the region. Many of these multinationals are in the technology sector and produce high value-added items for export.

As with the technology industry, ASEAN also receives part of its foreign investment directed towards the agribusiness sectors, but on a smaller scale. Investments in ASEAN agriculture have followed the same trend as total FDIs and have risen rapidly this century, but peaked in 2015 at US\$ 5.4 billion²⁵. However, investments in agriculture are often not registered or reported publicly. Legal uncertainty about how to document and classify transactions between investing countries and those receiving this type of investment is a major reason for the lack of clarity in the data. In addition, FDI in agriculture in ASEAN countries can lead to a series of sensitive social conflicts involving investors, governments and local rural populations, who sometimes fail to reach a consensus on property rights, labor and environmental issues²⁶.

Despite this, the agricultural sector in ASEAN has developed and increased its production and exports considerably. Part of this progress in agriculture would not have been possible without the establishment of large agricultural companies that have expanded and internationalized. The consolidation of these companies has not only been a factor in attracting investment, but has also stimulated the bloc's incipient projection in international agribusiness trade, through modern global value chains (GVCs)²⁷.

Taking advantage of the insertion in GVCs, the accelerated development of agriculture and agribusiness has only been more intense in recent decades. This development has been driven by an increase in productivity and planted area, as well as the diversification of agricultural

24 ASEAN, 2017.

25 ASEAN, 2017.

26 ASEAN, 2017.

27 ASEAN, 2017.

production with a focus on export-oriented crops such as palm oil, cocoa and coffee. The increase in international trade in ASEAN agricultural products in the 21st century has been remarkable: exports went from US\$ 40 billion in 2000 to US\$ 166 billion in 2019 – an increase of 315% – while imports went from US\$ 21 billion in 2000 to US\$ 114 billion in 2019 – an increase of 443%²⁸. These figures partly illustrate how the bloc has been able to insert itself and benefit from agribusiness GVCs.

Even so, in general, the ASEAN countries, although well integrated into other production chains, such as technology products, still have a long way to go to improve their integration into agribusiness GVCs. Even though ASEAN is a free trade bloc, intra-ASEAN trade in agricultural products is still not completely open, as it suffers from some persistent import tariffs and non-tariff barriers (NTBs).

This can even jeopardize food security goals. For example, when farmers produce rice, subsidized by national policies and supported by import restrictions, governments end up generating a higher price for rice on local markets than would be the case without subsidies and trade protection, a scenario in which it would be possible to buy rice from countries that produce more efficiently and cheaply, lowering prices for the end consumer²⁹. The case of rice is truly emblematic because, despite being the most important food crop for the region, it was left out of the AFTA negotiations and today the product still faces an average import tariff of 25% among the members of the bloc, with some countries even applying lower tariffs to countries outside the bloc, such as Myanmar and Vietnam³⁰.

NTBs are also relevant measures that hinder regional trade in agricultural products and increase trade costs. The study by Greenville and Kawasaki (2018) pointed out that, if countries made an effort to reduce just 15% of these measures through regulatory harmonization, the positive impacts on trade in agribusiness products would already be quite significant, even causing ASEAN members to increase the value

28 USDA, n.d.

29 Greenville & Kawasaki, 2018.

30 OECD, 2018.

added to their exports, thus intensifying the bloc's participation in agribusiness GVCs.

The more the bloc is able to harmonize its NTBs for agricultural products, the faster and more intensively ASEAN will be included in agribusiness GVCs. If this doesn't happen quickly, its productivity and global competitiveness in food and agricultural trade could be compromised in the long term. The data that Greenville and Kawasaki found, beyond the issues with non-tariff measures, illustrates how the bloc is still an important supplier of agricultural inputs to the world, rather than a region recognized for adding value internally to its most basic products. Part of this may be an effect of the partial liberalization of agricultural products between the ASEAN countries themselves, since trade is still restricted, largely as a result of the NTBs applied between the bloc's members.

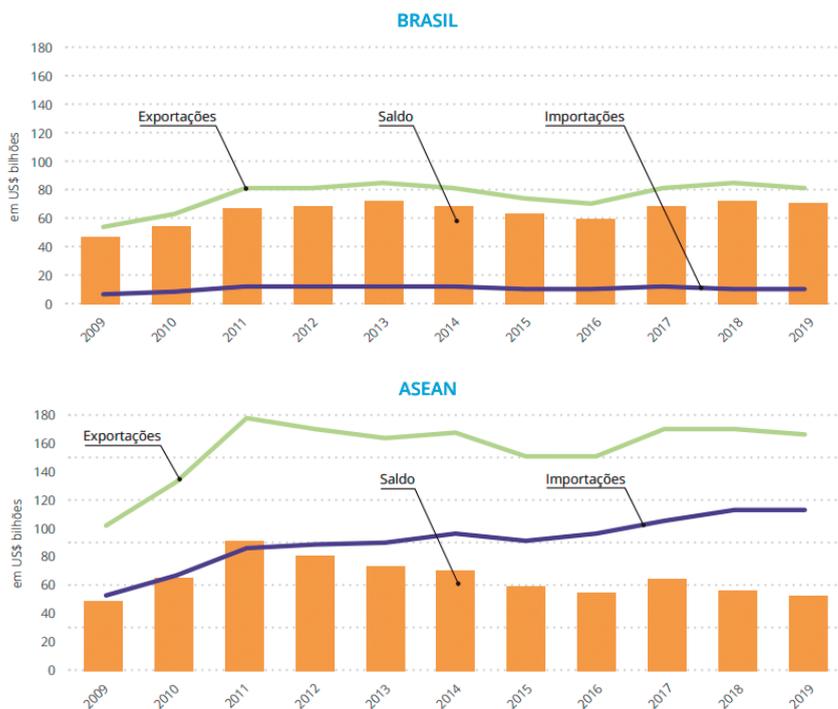
After contextualizing the dynamics of Southeast Asia's economy, population, production, trade and consumption of agri-food products, we will now explore the region's trade relations in agribusiness, focusing on the main products and markets, assessing Brazil's role as ASEAN's strategic partner in supplying agribusiness products to the region.

Trade flows between ASEAN and Brazil in agribusiness

Agribusiness trade balance

According to the data in figure 5, when we compare Brazil's agribusiness trade balance with the sum of the countries that make up ASEAN (taking into account intra-bloc trade), both show a large surplus.

Figure 5. Agribusiness trade balance between 2009 and 2019 for Brazil and ASEAN



Source: UN Comtrade. Elaborated by the authors.

[BRAZIL] [in US\$ billions] [Exports / Balance / Imports]

Brazil's trade balance jumped from US\$ 48.8 billion in 2009 to US\$ 72.6 billion in 2019, an increase of 49%. In the same period, Southeast Asia's balance went from US\$ 49 billion to US\$ 52.6 billion, growing by 7%. The jump in Brazil's trade balance was driven by the huge growth in exports, especially influenced by the soy complex, the main export product. In Southeast Asia, both imports and exports grew considerably, the latter with a little more intensity, influenced by the growing value of fruit and chicken meat.

Agribusiness exports

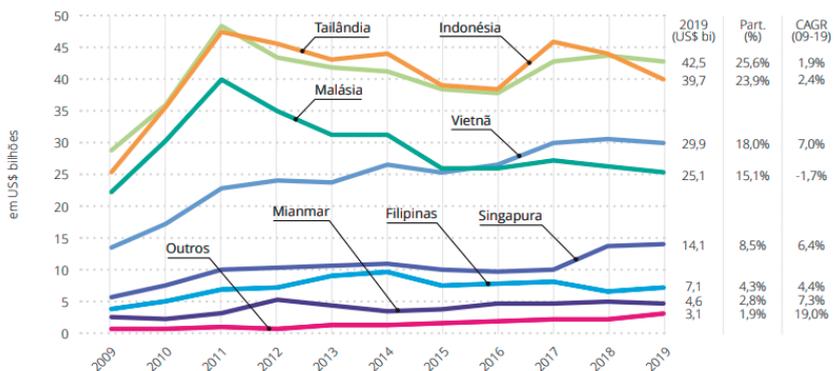
Between 2009 and 2019, as illustrated in figure 6, all Southeast Asian countries showed growth in the value exported, with the total value rising from US\$ 101.5 billion to US\$ 166.1 billion, an increase of 63% over the period analyzed.

Thailand, the bloc's largest exporter of agricultural products, with exports of US\$ 42.5 billion in 2019, showed a compound annual growth rate (CAGR) of 1.9% between 2009 and 2019. Indonesia was the bloc's second largest source of exports, with US\$ 39.7 billion in 2019 and a CAGR of 2.4% between 2009 and 2019.

Vietnam showed the highest growth among ASEAN countries that exported more than US\$ 5 billion in 2019, with a CAGR of 7% between 2009 and 2019 and a value of US\$ 29.9 billion in the last year analyzed.

On the other hand, Malaysia was the only country in the region to show a negative CAGR, with -1.7% between 2009 and 2019 and exports of US\$ 25.1 billion last year.

Figure 6. ASEAN: agribusiness exports between 2009 and 2019 by origin – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



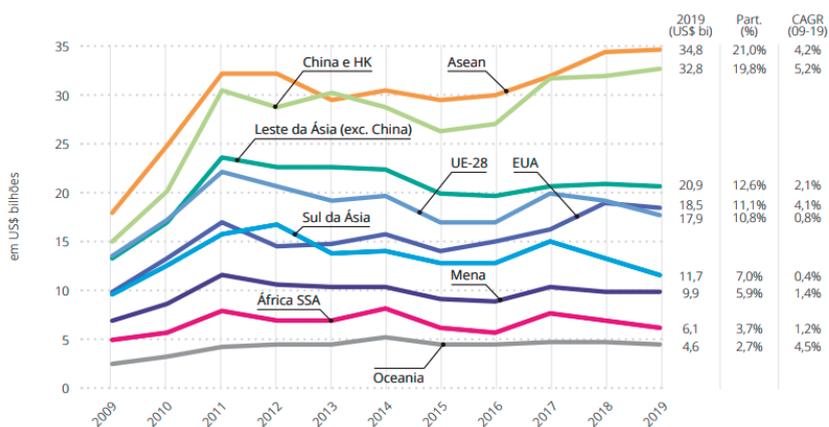
Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [Thailand / Indonesia / Malaysia / Vietnam / Others / Myanmar / Philippines / Singapore]

Among the destinations of ASEAN exports, as shown in figure 7, intra-bloc trade ranked first, with US\$ 34.8 billion in 2019 and average annual growth (CAGR) of 4.2% between 2009 and 2019. Although trade outside the bloc is important, intra-bloc trade made above-average gains, increasing its participation from 17.7% to 21% between 2009 and 2019.

Exports to China and Hong Kong, with US\$ 32.8 billion in 2019, showed the highest CAGR between 2009 and 2019, at 5.2%. Next in terms of value exported in 2019 were: East Asia (except China and Hong Kong; US\$ 20.9 billion and a CAGR of 2.1%) and the United States (US\$ 18.5 billion and a CAGR of 4.1%).

Figure 7. ASEAN: agribusiness exports between 2009 and 2019 by destination – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

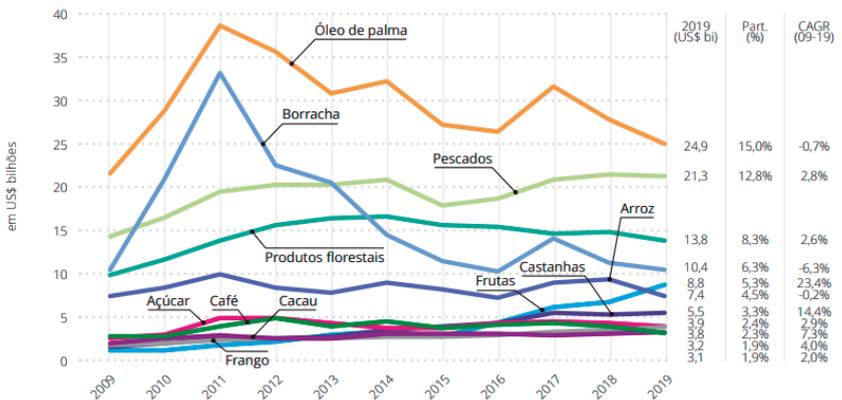
[in US\$ billions] [China and HK / ASEAN / East Asia (exc. China) / EU-28 / USA / South Asia / MENA / Africa SSA / Oceania]

ASEAN’s export portfolio is diversified: in 2009, the top ten products accounted for 76.4% of total exports and in 2019, 70.1%. Palm oil ranked first among the products exported by the bloc, with US\$ 24.9 billion in 2019, but showed a negative CAGR of -0.7% between 2009 and 2019. Exports of fish and forestry products, with US\$ 21.3 billion (CAGR

of 12.8%) and US\$ 13.8 billion (CAGR of 8.3%) in 2019, respectively, ranked second and third.

With a compound growth rate of 23.4% between 2009 and 2019 and reaching exports of US\$ 8.8 billion in the last year analyzed, fruit was the positive highlight in the bloc's exports. On the other hand, rice, which showed few changes in production, consumption and trade between 2009 and 2019, was one of the negative highlights, with a CAGR of -0.2% in the period and exports totaling US\$ 7.4 billion in 2019.

Figure 8. ASEAN: agribusiness exports between 2009 and 2019 by selected product – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



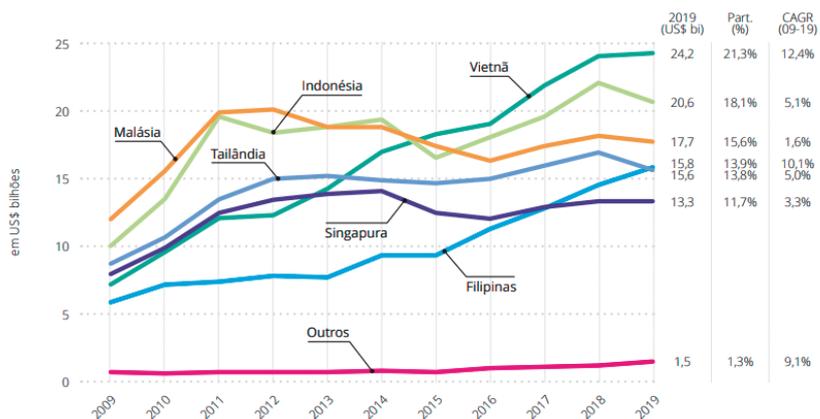
Source: UN Comtrade. Elaborated by the authors

[in US\$ billions] [Palm oil / Rubber / Fisheries / Rice / Forest products / Nuts / Fruit / Sugar / Coffee / Cocoa / Chicken]

ASEAN – Agribusiness imports

Between 2009 and 2019, all ASEAN countries showed growth in agribusiness imports, as can be seen in figure 9. Vietnam, in addition to being the bloc's main importer in 2019, with US\$ 24.2 billion, also showed the highest CAGR among bloc members that imported over US\$ 3 billion in 2019, with 12.4% between 2009 and 2019.

Figure 9. ASEAN: agribusiness imports between 2009 and 2019 by destination – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



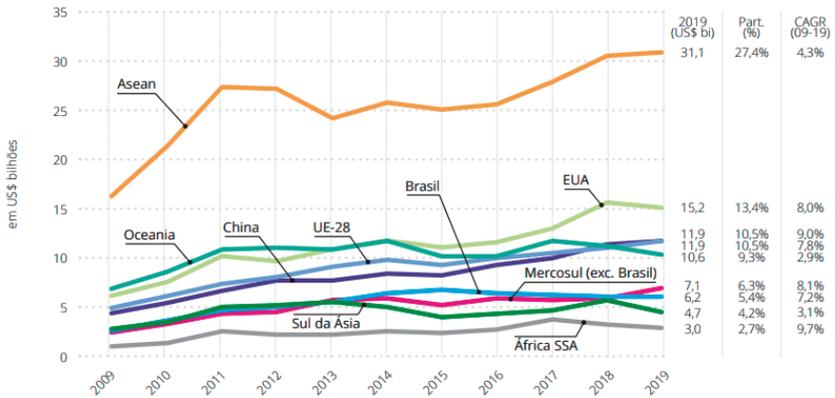
Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [Indonesia / Vietnam / Malaysia / Thailand / Singapore / Philippines / Others]

Indonesia, the region’s main economy, ranked second in imports in 2019, with US\$ 20.6 billion and a CAGR of 5.1% between 2009 and 2019. Malaysia, the third largest importer, as well as in exports, stood out for being the region with the lowest growth in the period analyzed, with a CAGR of 1.6% between 2009 and 2019 and imports of US\$ 17.7 billion in the last year analyzed.

As shown in figure 10, intra-bloc trade was the main source of ASEAN imports, with US\$ 31.1 billion in 2019 and a CAGR of 4.3% between 2009 and 2019. The United States was the second largest source of imports in 2019, with US\$15.2 billion in 2019 and a CAGR of 8% between 2009 and 2019.

Figure 10. ASEAN: agribusiness imports between 2009 and 2019 by origin – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

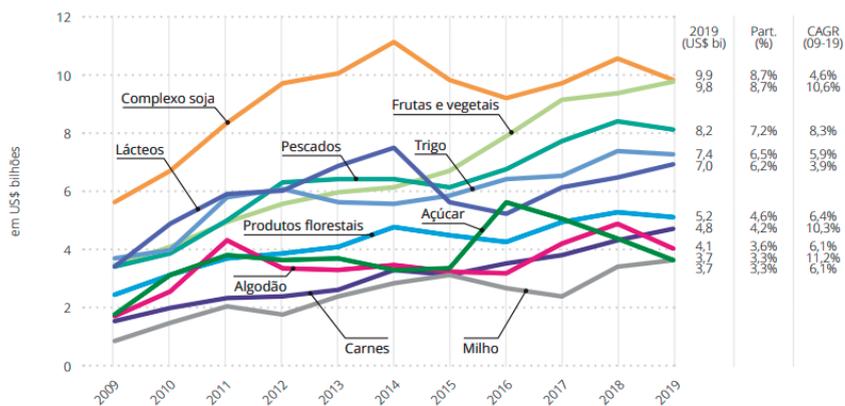
[in US\$ billions] [Asean / Brazil / USA / Oceania / China / EU-28 / Mercosul (exc. Brazil) / South Asia / Africa SSA]

China and the European Union, both with a value of US\$ 11.9 billion in 2019 and a CAGR of 9% and 7.8% between 2009 and 2019, respectively, were the third and fourth largest origins.

Brazil was the seventh largest source of ASEAN imports, with a CAGR of 7.2% between 2009 and 2019 and a value of US\$ 6.2 billion in the last year analyzed.

Figure 11 illustrates some of the main chains and products imported by ASEAN, with soy being the main one in 2019, with US\$ 9.9 billion and a CAGR of 4.6% between 2009 and 2019. Fruit and vegetables follow, with US\$ 9.8 billion in 2019 and a CAGR of 10.6% between 2009 and 2019.

Figure 11. ASEAN: agribusiness imports between 2009 and 2019 by product (selected) – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

Note: meat includes beef, chicken and pork. Fruit and vegetables include fresh and processed products.

[in US\$ billions] [Soy / Fruit and vegetables / Dairy products / Fisheries / Wheat / Forest products / Sugar / Cotton / Meat / Corn]

Meat imports (beef, chicken and pork) grew rapidly, at a compound annual growth rate of 10.3% between 2009 and 2019, reaching US\$ 4.8 billion in 2019. Another highlight was corn, which showed a CAGR of 11.2% between 2009 and 2019 and US\$ 3.7 billion in the last year analyzed.

When analyzing ASEAN imports between 2009 and 2019, one can see that there is a great deal of dispersion in terms of importing countries, but a concentration in terms of origins. With regard to products, there is great diversity in imports – none of the imported products exceed 10%.

The large participation of intra-bloc trade is explained by the large production surplus of countries in the region for certain products, plus the ease of trade due to agreements or subsidies, as well as geographical issues. From the data shown in the figures, it is also clear that Southeast Asia is relevant in the trade of agribusiness products in which Brazil is

competitive in global trade, although the region is not one of the most important markets for Brazil's exports.

However, in recent years the Brazilian government has made efforts to increase the country's participation in the region by negotiating sanitary and phytosanitary agreements that seek to harmonize trade between Brazil and the countries in the bloc. In this regard, the Ministry of Agriculture, Livestock and Supply (MAPA) and the Indonesian Ministry of Agriculture and Rural Development established the Brazil-Indonesia Agricultural Consultative Committee (CCA) in 2007, precisely as a bilateral forum to deal with issues restricting agricultural trade³¹.

Another movement that we have seen happening more recently is the expansion of agricultural attaché positions in the region, which seek to identify business opportunities and overcome the challenges that restrict trade. Recent evidence of the effectiveness of agricultural attachés in ASEAN – who in 2020 are in Indonesia, Singapore, Thailand and Vietnam³² – is the number of markets opened to new Brazilian agricultural products for Southeast Asian countries. During Minister Tereza Cristina's tenure, between January 2019 and July 2020, of the 85 market openings, 19 were in ASEAN countries, more than the number opened to African countries (11), or the Middle East and North Africa region (14). Southeast Asia is second only to the American continent, where 34 markets were opened up, largely due to Argentina, which expanded the market for 16 Brazilian products³³. In the following section, we will look more closely at Brazil's trade in agribusiness products with the region and, further on, analyze ASEAN imports of selected products, detailing destinations and origins.

Brazil: agribusiness imports from ASEAN

For Brazilian imports of agribusiness products in 2019, ASEAN accounted for 6.2% of the total, with a value of US\$ 0.73 billion. In addition, between 2009 and 2019, the Southeast Asian bloc showed a CAGR of -3.3%, the lowest among the main macro-regions.

31 Brazil, 2018.

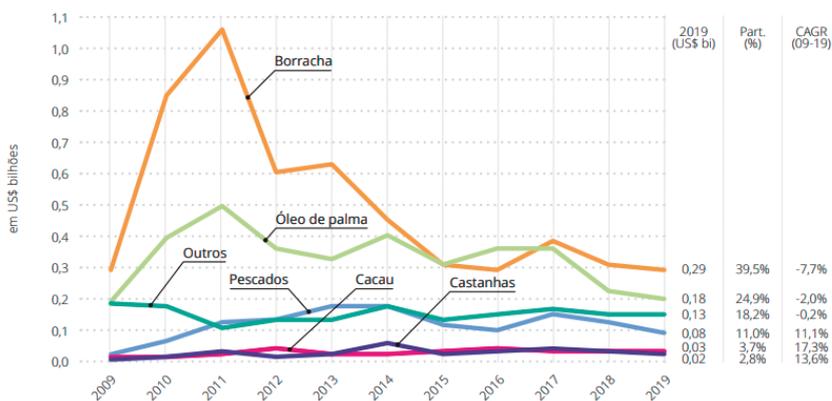
32 MAPA, 2020b.

33 MAPA, 2020a.

With regard to the products imported by Brazil from ASEAN, during the period analyzed, imports were heavily concentrated in rubber and palm oil, even though in recent years these products have lost ground in terms of the participation of Brazilian imports, both due to the fall in the value imported and the growth in imports of other products.

Figure 12 shows that in 2019 the main product imported by Brazil from Southeast Asia was rubber, with a value of US\$ 0.29 billion and a CAGR of -7.7% between 2009 and 2019. This was followed by palm oil, with imports of US\$ 0.18 billion in 2019 and a CAGR of -2.0% between 2009 and 2019. In contrast to the two main products in terms of value, which showed a negative CAGR, other products showed rapid growth in the period, such as fish (US\$ 0.08 billion and a CAGR of 11.1%), cocoa (US\$ 0.03 billion and a CAGR of 17.3%) and nuts (US\$ 0.02 billion and a CAGR of 13.6%). Imports of other products totaled US\$ 0.13 billion in 2019.

Figure 12. Brazil: ASEAN agribusiness imports between 2009 and 2019 by product (selected) – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [Rubber / Palm oil / Others / Fisheries / Cocoa / Nuts]

Regarding the origins of Brazilian imports from Southeast Asia between 2009 and 2019, Indonesia provided approximately half of the total value imported by Brazil, totaling US\$ 0.36 billion in the last year analyzed and a CAGR of -3.4% in the period. Thailand came next, with imports of US\$ 0.15 billion in 2019 and a CAGR of -5.4% between 2009 and 2019.

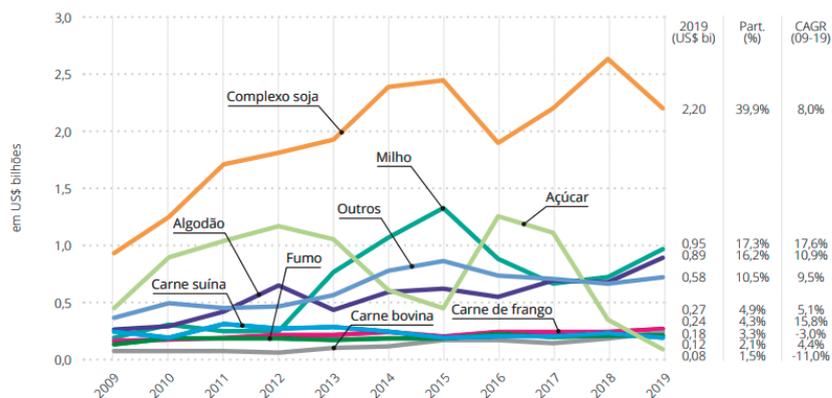
Brazil: agribusiness exports to ASEAN

Brazil's exports to ASEAN rose from US\$ 2.6 billion in 2009 to US\$ 5.5 billion in 2019, with a compound annual growth rate of 6.7%. Among the products exported, as can be seen in figure 13, soy occupied the top position throughout the period analyzed, reaching US\$ 2.2 billion in 2019 and a CAGR of 8% between 2009 and 2019.

Next came corn, the product with the highest growth in the period analyzed, with a CAGR of 17.6% between 2009 and 2019, reaching US\$ 0.95 billion in 2019. Another product that stood out for its rapid growth over the same period was beef, with a CAGR of 15.8% over the period and exports of US\$ 0.24 billion in 2019.

On the other hand, sugar was the negative highlight, showing a CAGR of -11% between 2009 and 2019, with an export value of US\$ 0.08 billion in the last year analyzed.

Figure 13. Brazil: agribusiness exports to ASEAN between 2009 and 2019 by product (selected) – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

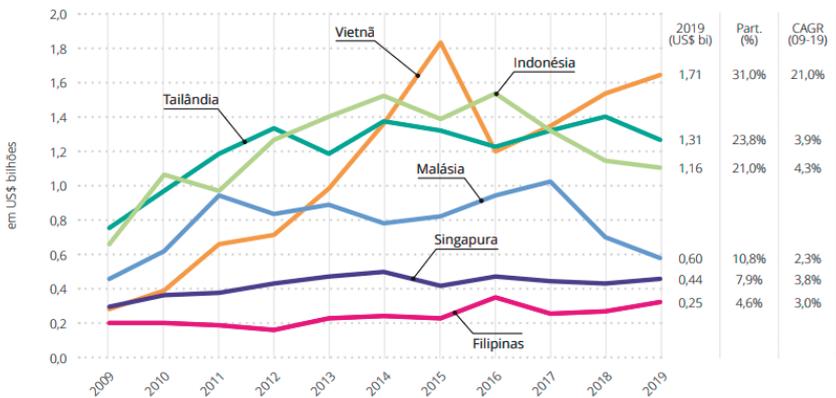
[in US\$ billions] [Soy / Corn / Sugar / Others / Cotton / Tobacco / Pork / Beef / Chicken]

In the scope of ASEAN, Brazil is the protagonist of two disputes at the World Trade Organization (WTO) concerning chicken meat from Indonesia and sugar from Thailand. The first is about Brazil’s veterinary certification in that country, which acts as a NTB and prevents Brazilian chicken from competing with local chicken. In the second case, concerning Thai sugar, Brazil is complaining about excessive subsidies for producers in that country, which affect international prices and unfairly increase Thai participation in international markets.

Figure 14 illustrates the destinations of Brazil’s exports within ASEAN. Vietnam, which had already occupied the top position in 2015, driven by Brazilian corn exports that year, has once again become Brazil’s main destination in the region since 2018, with a value of US\$ 1.71 billion in 2019 and a CAGR of 21% between 2009 and 2019. As the ninth largest destination country for Brazilian exports in 2019, it was the nation with the highest CAGR between 2009 and 2019, when considering the countries to which Brazil exported more than US\$ 50 million in the last year of the period analyzed.

Next, in terms of values in 2019 and CAGR between 2009 and 2019, were: Thailand (US\$ 1.31 billion and CAGR of 3.9%), Indonesia (US\$ 1.16 billion and CAGR of 4.3%), Malaysia (US\$ 0.60 billion and CAGR of 2.3%), Singapore (US\$ 0.44 billion and CAGR of 3.8%) and the Philippines (US\$ 0.25 billion and CAGR of 3%). Exports to the other destinations amounted to US\$ 0.05 billion in 2019.

Figure 14. Brazil: agribusiness exports to ASEAN between 2009 and 2019 by destination – US\$ billion, participation in 2019 and CAGR from 2009 to 2019



Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [Vietnam / Indonesia / Thailand / Malaysia / Singapore / Philippines]

Analysis of relevant products for Brazil and ASEAN

Soy

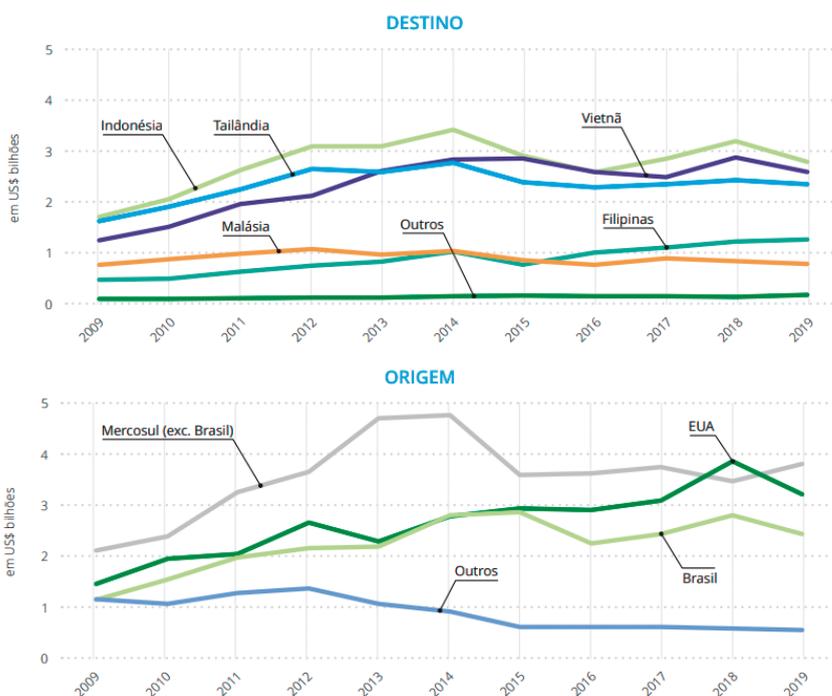
Soy was the main product imported by the bloc in 2019, totaling US\$ 9.9 billion, and its main buyers were Indonesia, Vietnam and Thailand, with growing imports that reached US\$ 2.8 billion, US\$ 2.6 billion and US\$ 2.3 billion, respectively, as shown in figure 15. Among the origins, Brazil, the largest global exporter of this commodity³⁴ in

34 UN Comtrade, n.d.

2019, appeared as the third main supplier of soybeans to Southeast Asia, with US\$ 2.4 billion and 24% of this market, behind Mercosur (except Brazil), with US\$ 3.8 billion and a participation of 38%, and the United States, with US\$ 3.2 billion and a participation of 33%.

In 2019, Brazil was the main source only for Thailand, with imports of US\$ 1.33 billion, of which Brazilian soy accounted for 57% of the total imported. In the other two main markets, Indonesia and Vietnam, Mercosur (except Brazil) and the United States, respectively, were the main origins.

Figure 15. ASEAN: soy complex imports between 2009 and 2019 by destination and origin



Source: UN Comtrade. Elaborated by the authors.

[DESTINATION] [in US\$ billions] [Indonesia / Thailand / Vietnam / Malaysia / Others / Philippines]

[ORIGIN] [in US\$ billions] [Mercosur (exc. Brazil) / USA / Others / Brazil]

Sugar

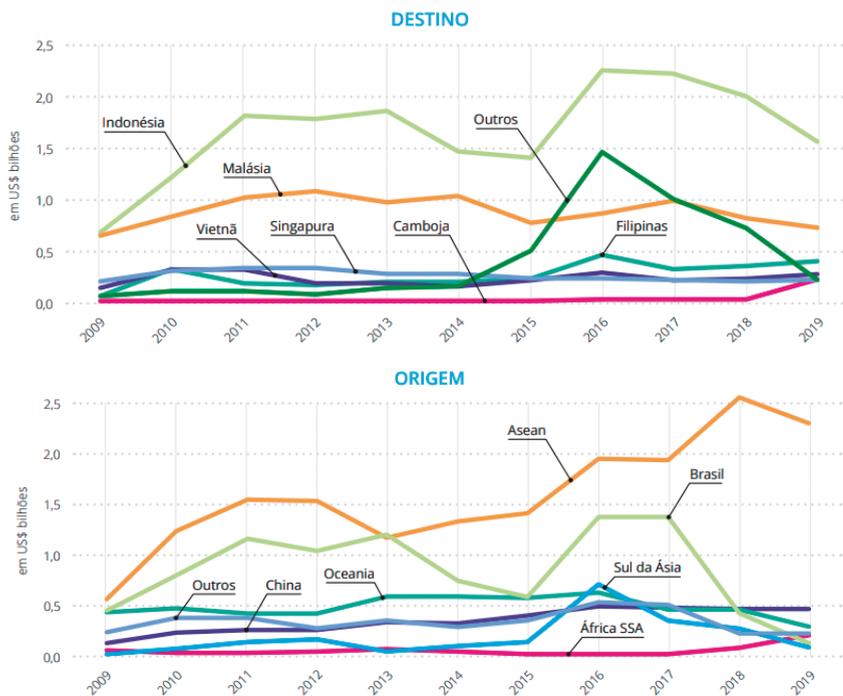
As a bloc, ASEAN can be considered a net exporter of sugar over the last few years, achieving a trade surplus in seven of the last eleven years³⁵. However, looking at the countries in the region, it can be seen that only Thailand has a large trade surplus, while all the other countries demand sugar imports. The geographical proximity of the countries in the region to Thailand, India and Australia, exporters of this commodity, which have artificial benefits (through subsidies) and/or great logistical competitiveness, ends up hindering consistent access for Brazilian sugar in the bloc, causing imports to be seasonal, increasing volumes in years when exports from nearby suppliers are reduced due to production difficulties³⁶.

ASEAN's total sugar imports in 2019 amounted to US\$ 3.7 billion and a CAGR of 6.1% between 2009 and 2019. Indonesia stood out as Southeast Asia's main importer in 2019, with US\$ 1.6 billion and a participation of 43% of the bloc's total imports. Malaysia (US\$ 729.8 million, participation of 19.8%), the Philippines (US\$ 416.8 million, participation of 11.3%), Vietnam (US\$ 284.5 million, participation of 7.7%), Cambodia (US\$ 215.5 billion, participation of 6.3%) and Singapore (US\$ 232.9 million, participation of 5.8%) followed in 2019. Imports from other countries amounted to US\$ 226.2 million in 2019. The region's import data is shown in figure 16.

35 UN Comtrade, n.d.

36 UN Comtrade, n.d.; Unica – personal correspondence, 26 Aug. 2020.

Figure 16. ASEAN: sugar imports between 2009 and 2019 by destination and origin



Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [DESTINATION] [Indonesia / Others / Malaysia / Vietnam / Singapore / Cambodia / Philippines]

[in US\$ billions] [ORIGIN] [ASEAN / Brazil / South Asia / Others / China / Oceania / Africa SSA]

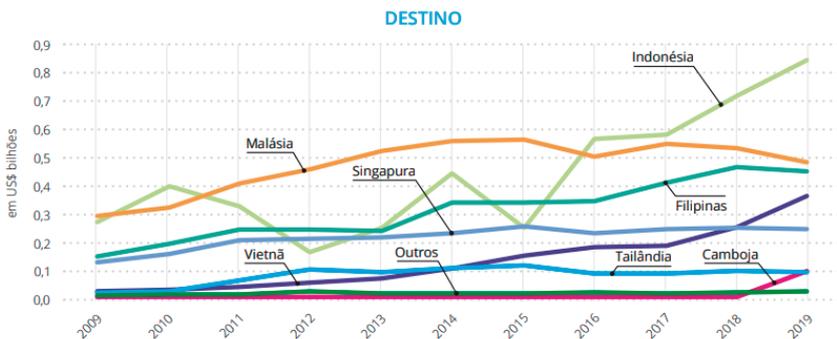
Among the origins of the bloc's imports, intra-bloc trade, predominantly dominated by exports from Thailand, ranked first in 2019, with US\$ 2.3 billion and 63% of the total. Following in descending order of value in 2019 were China (US\$ 476.5 million and 12.9%), Oceania (US\$ 451.1 million and 7.5%), Sub-Saharan Africa (US\$ 211.5 million and 5.7%), Brazil (US\$ 122 million and 3.3%) and South Asia (US\$ 73.8 million and 2%). Imports from other origins amounted to US\$ 217.9 million in 2019.

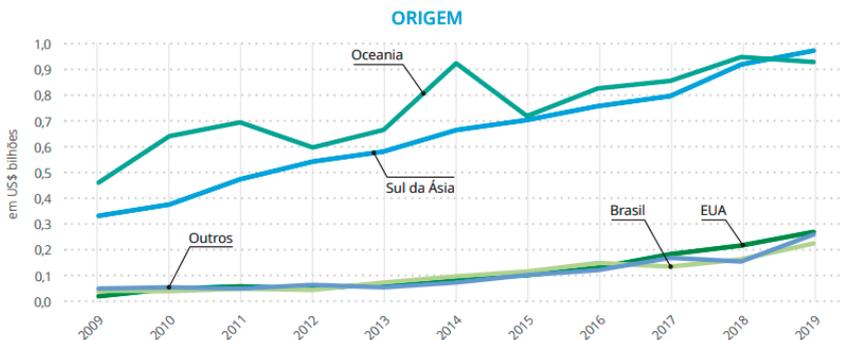
ASEAN'S Brazilian sugar imports, which exceeded US\$1.3 billion in 2016 and 2017 and had an average participation of 26% between 2009 and 2017, fell sharply from 2018 onwards, mainly influenced by Thailand's growth. In the period between 2009 and 2019, the value imported from Brazil fell the most, with an average annual rate of -7.6% in the period.

Beef

Southeast Asia is highly dependent on beef imports to meet the demand of its countries, with more than 50% of the domestic consumption of countries in the region coming from imported volumes¹⁹. Between 2009 and 2019, beef imports doubled, reaching US\$ 2.6 billion in 2019 and a CAGR of 10.5% over the period. According to figure 17, the main ASEAN importers in 2019, in descending order, were: Indonesia (US\$ 851.1 million and participation of 32.4%), Malaysia (US\$ 484.4 million and participation of 18.5%), the Philippines (US\$ 453.3 million and participation of 17.3%), Vietnam (US\$ 366.8 million and participation of 14.0%), Singapore (US\$ 249.8 million and participation of 9.5%), Cambodia (US\$ 99.5 million and participation of 3.8%) and Thailand (US\$ 94.7 million and participation of 3.6%).

Figure 17. ASEAN: beef imports between 2009 and 2019 by destination and origin





Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [DESTINATION] [Indonesia / Malaysia / Singapore / Philippines / Vietnam / Others / Thailand / Cambodia]

[in US\$ billions] [ORIGIN] [Oceania / South Asia / Others / Brazil / USA]

In the period analyzed, ASEAN's imports were concentrated in Oceania (Australia) and South Asia (India), standing at over US\$ 900 million in 2019 and with a participation of approximately 35% each. The United States, with US\$ 271 million and a participation of 9% in 2009, occupied the third position. Brazil was the fourth main source, with US\$ 226.9 million and a participation of 8.6%. Brazil's timid performance can be partly explained by the difficulty of accessing markets within the region. Indonesia, the bloc's main importer, was closed to Brazil for most of the period analyzed, until the Ministry of Agriculture opened the market in the second half of 2019, accumulating imports of US\$ 15.5 million and a participation of 2% in 2021³⁷. Imports from Brazil in 2019 were concentrated in the Philippines, with US\$ 109.3 million and a participation of 48% among all origins, and Singapore, with US\$ 79.2 million and a participation of 35%.

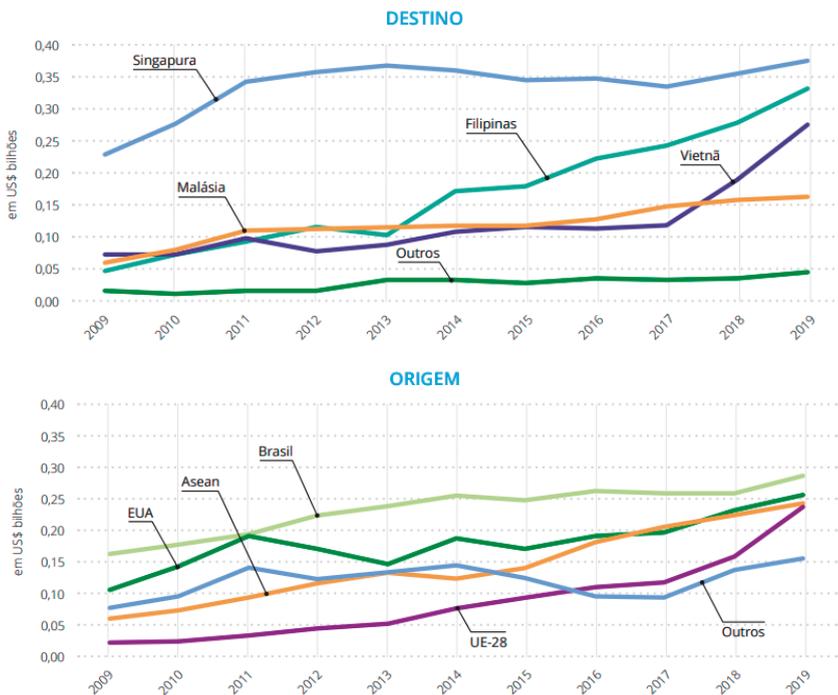
Chicken

Among the ASEAN countries, Thailand is an important global exporter of chicken meat, responsible for exports of US\$ 3.6 billion in 2019, more than three times the total imported by the bloc, which

³⁷ UN Comtrade, n.d.; G1, 2019.

was US\$ 1.2 billion in the same year. As for imports from the bloc's countries, as can be seen in figure 18, the main importers in 2019 were, respectively, in terms of value and participation in total imports: Singapore (US\$ 375.2 million and 31.6%), the Philippines (US\$ 331.8 million and 27.9%), Vietnam (US\$ 275.1 million and 12%) and Malaysia (US\$ 161.8 million and 8.8%). Imports from other countries amounted to US\$ 45.1 million.

Figure 18. ASEAN: chicken meat imports between 2009 and 2019 by destination and origin



Source: UN Comtrade. Elaborated by the authors.

[in US\$ billions] [DESTINATION] [Singapore / Philippines / Vietnam / Malaysia / Others]

[in US\$ billions] [ORIGIN] [Brazil / ASEAN / USA / EU-28 / Others]

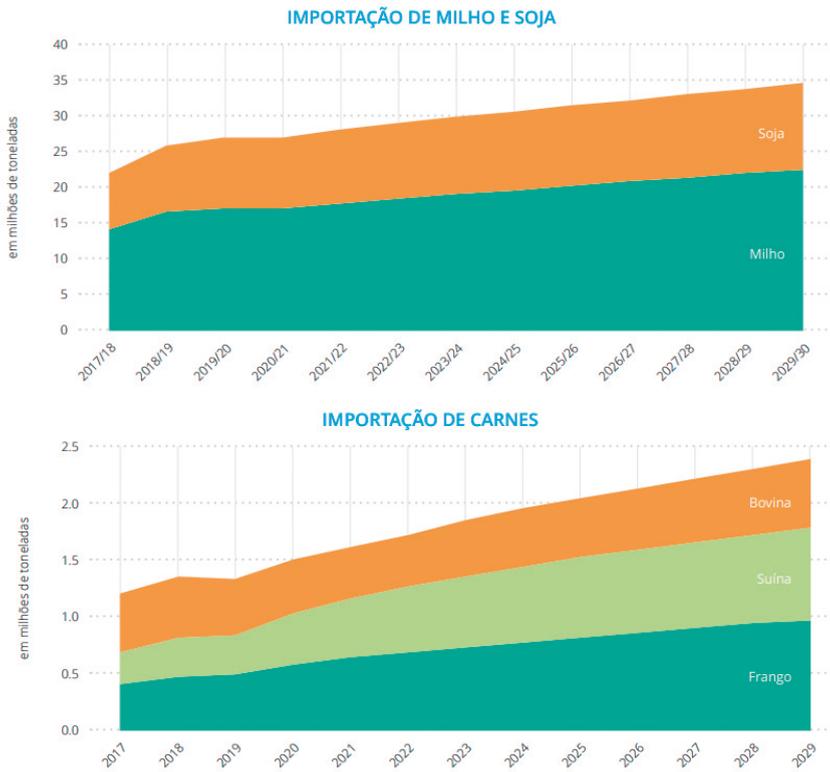
Brazil, the largest global exporter of chicken meat, was also ASEAN's main supplier in 2019, with a figure of US\$ 289.9 million and a participation of 24.4% in the region's total imports. The following origins followed in 2019: the United States (US\$ 257.4 million and a participation of 21.6%), intra-bloc ASEAN (mainly Thailand; US\$ 245.6 million and a participation of 20.7%) and the European Union (US\$ 239.6 million and a participation of 20.2%). Imports from other sources amounted to US\$ 156.5 million.

Upon further analysis, it can be seen that Brazil showed a CAGR of 5.4% between 2009 and 2019, the lowest among the four main origins of ASEAN chicken meat. The United States, intra-bloc ASEAN and the European Union showed CAGRs of 6.6%, 15% and 28.7% over the same period, respectively, thus narrowing the gap that Brazil had at the beginning of the period analyzed. Part of this underperformance can be explained by the fact that Brazil's imports were concentrated in Singapore, which coincidentally was the country in the region with the second lowest CAGR among destinations, with 3.1% between 2009 and 2019.

Projections and prospects for the next decade

Demand for food from Southeast Asia is expected to continue to grow over the next decade, according to a projection made by the USDA's International Baseline and shown for selected products in this study in figure 19.

**Figure 19. ASEAN: corn, soy and meat imports
(realized and projected)**



Source: USDA. Note: countries considered for corn and soy: Indonesia, Malaysia, Philippines, Thailand and Vietnam. Countries considered for chicken and pork: Indonesia, Malaysia, Thailand and Vietnam. Countries considered for beef: Indonesia, Malaysia, Philippines and Thailand.

[in million tons] [CORN AND SOY IMPORTS] [Soy / Corn]

[in million tons] [MEAT IMPORTS] [Beef / Pork / Chicken]

ASEAN's production of corn and soybeans, important inputs for animal feed, was 30.9 million tons and 0.6 million tons in the 2019/20 crop year, respectively. In 2029/30, corn production will grow to 37 million tons, while soybean production will remain stable.

ASEAN's corn imports in the 2019/20 crop year were 16.9 million tons and are expected to grow by 33% by 2029/30, reaching 22.5 million tons. Soybean imports, which stood at 9.9 million tons in 2019/20, will grow by 21.2% by 2029/30, reaching 12 million tons in the last year of the USDA's projection.

The region's beef, pork and chicken production combined, as estimated by the USDA, is expected to grow by 27.2% between 2019 and 2029, reaching a total of 21.5 million tons, driven mainly by chicken meat, which will grow by 36.7% in the period.

Meat imports are expected to grow by 77.5% between 2019 and 2029, reaching 2.4 million tons last year, driven mainly by the growth of pork, which is expected to increase by 138.8% in the period. According to USDA projections, imports of chicken and beef are expected to grow by 100.2% and 14.4% respectively. It is important to note that Brazil is the largest global exporter of chicken and beef and the fourth largest of pork, with great potential to increase exports to ASEAN, since the value sent to the region, considering chicken, beef and pork together, represented only 3.9% of the total exported by Brazil in 2019 (UN Comtrade, n.d.).

Conclusions

Urbanization and the rapid growth of ASEAN's GDP per capita, from US\$ 2,300 in 2000 to US\$ 4,700 in 2019, has made the bloc one of the most dynamic regions in terms of demand and trade³⁸ (World Bank, n.d.; UN Comtrade, n.d.). However, geographical and political limitations (stocks, subsidies, etc.) related to the countries in the region restrict the growth of the domestic food supply, which is highly concentrated in a few products and has unsatisfactory average productivity levels. Therefore, in order to meet the needs of an economically prosperous and increasingly urban and globalized population, but still with around 60 million undernourished people, Southeast Asia will have to increase its demand for agricultural products.

38 World Bank, n.d.

In addition to the challenges of promoting food security, the region is expected to begin experiencing a period of cooling in its productivity rates in the field. As a result, it will become increasingly difficult and unlikely that ASEAN countries will be able to supply their growing populations with the same relative amount of food produced locally. The increase in this demand, combined with ecological challenges – such as environmental preservation and overfishing – and land ownership challenges – such as unclear land ownership and the decrease in new arable areas – will put even more pressure on Southeast Asia to source more agribusiness products through imports.

With this new scenario in mind, animal proteins, whose consumption levels are highly correlated to rising incomes, will undoubtedly experience an increase in demand over the next few years in most Southeast Asian countries. In view of this, imports of products involving this chain, such as corn, soybeans and meat, are expected to increase in volume over the next decade, as is clear from the USDA (International Baseline Data) projection shown in the previous section.

Measures to facilitate trade, such as greater commercial openness on the part of Southeast Asian countries, especially through the licensing of meatpacking plants, could lead to even greater volumes being imported, exceeding the forecast by the USDA. For this to happen, Brazil must also continue to engage with governments in the region and negotiate new market openings for agricultural products. Negotiating free trade agreements with these countries, which are increasingly involved in global trade, must also be taken into account.

Although Brazil's WTO disputes against Southeast Asian countries aim to reduce trade distortions and improve access for Brazilian products to these markets, they may not be very effective. Market openings through litigation may not lead to effective openings, as there is nothing to stop these countries from imposing new technical and sanitary barriers, thus obstructing free competition once again. Furthermore, in diplomatic terms, an opening carried out in this way could harm products that already have access to those markets or hinder future negotiations on trade agreements.

Given this scenario, in order for Brazil to be successful in establishing new agreements and strengthening bilateral trade with ASEAN, it is recommended that the country continues to promote its image as one of the most important global producers of safe and healthy food, capable of helping to guarantee food security in the region.

Also with a view to becoming an increasingly present and important supplier in the region, the Brazilian government and private initiative should seek to establish agreements and partnerships that make foreign direct investment in Brazil viable, with a view to improving supply chains, reducing costs and time spent transporting agribusiness products.

Figure 20. SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the future of the Brazil-Asean relationship

<p>FORÇAS (Strengths):</p> <ul style="list-style-type: none"> • Produtividade • Qualidade • <i>Food safety</i> • Fornecedor confiável • Inovação tecnológica • Sustentabilidade • Coordenação atores públicos/adidos 	<p>FRAQUEZAS (Weaknesses):</p> <ul style="list-style-type: none"> • Imagem internacional • Marca/<i>branding</i> • Resultados/narrativas ambientais • Presença tímida da iniciativa privada • Logística • Baixa diversificação • Burocracia local
<p>OPORTUNIDADES (Opportunities):</p> <ul style="list-style-type: none"> • Crescimento populacional/renda/urbanização • Acordos de livre comércio • Políticas de cooperação técnica • Diversificação da pauta • Atração de investimentos 	<p>AMEAÇAS (Threats):</p> <ul style="list-style-type: none"> • Mudanças climáticas • BNTs (barreiras não tarifárias) • Aumento da competição • Desvio de comércio • Enfraquecimento OMC • Agenda política • Descoordenação de agências públicas

Source: elaborated by the authors.

[STRENGTHS: / Productivity / Food safety / Reliable supplier / Technological innovation / Sustainability / Coordination of public and private actors]

[WEAKNESSES: / International image / Branding / Environmental narratives/results / Timid presence of private initiative / Logistics / Low diversification / Local bureaucracy]

[OPPORTUNITIES: / Population growth/income/urbanization / Free trade agreements / Technical cooperation policies / Diversification of trade / Investment attraction]

[THREATS: / Climate change / NTBs (non-tariff barriers) / Increased competition / Trade detour / Weakening of the WTO / Political agenda / Mismatch between public agencies]

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Public policies, family farming and food (in) security in times of pandemic¹

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Introduction

In the 1990s, around 32 million Brazilians suffered from the problem of hunger. Among the actions that have contributed to reduce extreme poverty and hunger is the creation of public policies to promote family farming (PPFF)⁴ implemented in Brazil over the last 30 years.

However, since 2015, the resources allocated to the PPFF have been drastically reduced, causing discontinuity in the supply of food to the entities and users of the programs, resulting in a loss of income that has caused situations of food insecurity for the family farmers themselves. The problem has become even more serious as a result of the COVID-19 pandemic, due to the difficulties in marketing production.

The challenge presented has also been a daily one for farmers in Ceará (CE), the state that has received the most investment for the PPFF in Brazil's Northeast Region and the third in the country with the most resources earmarked for it.

Thus, the general objective was to analyze the impacts of disinvestment in public policies and the pandemic on the daily lives of family farmers in Barbalha-CE.

From a theoretical-methodological point of view, the study is based on the principles of social constructionism, and is mainly based on and uses discursive practices, understood as a privileged way of

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4 We will use this acronym to refer to the set of public policies to promote family farming implemented since 1996.

understanding the production of meaning in everyday life (Mary Jane Spink⁵ & Rose Mary Frezza, 2013).

In addition to reviewing the concepts of food security, family farming and public policies, an analysis was carried out of documents in the public domain (Peter Spink, 2013b; Peter Spink *et al.*, 2014), especially legislation related to the PPF and reports on its implementation, as well as other productions relevant to food security in Brazil and issued by organizations dedicated to research and intervention in this field-theme.

In order to develop the research, data was also produced in the field, based on a qualitative approach (John Creswell, 2016; Cecília Minayo, 2013) through observations and conversations in everyday life (Milagros Cardona, Rosineide Cordeiro & Jullyane Brasilino, 2014) from 2018 to 2022 at fairs, meetings and training events with family farmers in the Cariri region of Ceará, as well as participation in WhatsApp and Facebook groups with a view to boosting actions and communication between inhabitants of the communities.

From 2020 to 2021, a series of semi-structured interviews (Sérgio Aragaki *et al.*, 2014) were also conducted with three families of farmers who are members of PPF and are also leaders involved in associations and mobilization activities in their rural communities in the Arajara District in Barbalha-CE. The data produced through these two techniques and reflections throughout the process were recorded in the field-theme diary (Peter Spink, 2003; Benedito Medrado, Mary Jane Spink & Ricardo Mélo, 2014).

The research used a qualitative approach to produce the data, which was understood through the analysis of discursive practices (Mary Jane Spink & Rose Mary Frezza, 2013; Mary Jane Spink & Benedito Medrado, 2013; Mary Jane Spink, 2010) with a focus on the analysis of linguistic repertoires (Mary Jane Spink, 2013; Sérgio Aragaki, Pedro Piani & Mary Jane Spink, 2014), using three different techniques: thematic maps (Mary Jane Spink & Helena Lima, 2013; Vanda Nascimento, Roberth

5 The use of the authors' first names is deliberate and seeks to make visible female authorship, which has historically been erased, as feminist epistemologies point out.

Tavanti & Camila Pereira, 2014; Jonas Souza, 2018), idea association trees and narrative lines (Mary Jane Spink, 2010; 2013).

The methodological approach adopted is also close to argumentative approaches in the field of public policy (Frank Fischer, 2003, 2009; Frank Fischer & John Forester, 2013) and the possibility of articulating these with discursive psychology related to the constructionist perspective (Peter Spink, 2013a).

In addition to this introduction, the article consists of three sections: Family farming and the guarantee of food security in Brazil; Food (in)security in the Brazilian context; and public policies for marketing family-based agricultural production: rise and disinvestment, followed by the Final Considerations.

Family farming and the guarantee of food security in Brazil

Food security as a social right of the Brazilian people

Food and nutrition security (FNS) consists of guaranteeing the right of everyone to regular and permanent access to quality food in sufficient quantity, without this compromising access to other essential needs. The concept proposed at the II Brazilian National FNS Conference also points out that these eating practices must be “health-promoting, respectful of cultural diversity and environmentally, culturally, economically and socially sustainable” (Consea, 2004, p. 5).

Food security is also considered a right by various Brazilian state documents. This right is recognized in its direct form as a social right (Article 6) and in its indirect form as a component of other rights, namely Workers’ Rights (Article 7) and Children’s Rights (Article 227), as well as state provisions in the field of Education (Article 208).

Brazil also has a specific law in the field of food security and the right to food, the Organic Law on Food and Nutritional Security – LOSAN (Law No. 11.346/2006). This legal instrument is considered to be a step forward as it points to the promotion and guarantee of the human right to adequate food as the objective and goal of the Food and Nutritional Security Policy.

The Food and Nutrition Security Policy (Decree No. 7.272/2010) highlights the importance of family farming as a strategy for developing FNS so that it is economically sustainable, with growing equity and social inclusion, since this form of production encourages diversified cultivation and expands the capacity for rural families to consume food and other goods, as well as for marketing (Consea, 2004).

The National Council for Food and Nutrition Security (Consea, 2004) points out that in Brazil we are experiencing an environmental problem due to the pattern of modernization of national agriculture, stimulated by public policies, based on the intense use of agrochemicals and high mechanization. Thus, family farming promotes a socially equitable occupation of the agrarian space and favors the appreciation of the social, environmental and cultural dimensions associated with agri-food production, as is typical of the FNS approach. The relevance of family farming to FNS can be seen in the issue of access to food in satisfactory quantity and quality by family farmers and their families, and also in their contribution “to providing society with agri-food products with the same sufficiency and quality requirements” (p. 25).

Below we will go into detail about family farming and its contributions to promoting food and nutrition security in Brazil, highlighting the great value of implementing programs to support the production of food from family farming that contribute to the supply of healthy food available to urban and rural populations.

Family farming and food security in rural and urban contexts

Family farming can be broadly understood as a form of agricultural production in which management, ownership and most of the work come from people who have ties of blood or marriage (Ricardo Abramovay, 1997; 2006).

It is from the production of farming families that most of the food we consume comes, and this method of cultivation enables a less damaging relationship with nature and guarantees the work and livelihood of many families in the countryside and in the city, having great social, cultural and economic relevance for Brazil.

One of the most important points for promoting family farming in Brazil, and which justified the implementation of most of the country's public policies for family farming, is that family-based production is an important source of quality food for the domestic market, which strengthens the country's food security strategies (Conab, n.d.).

In this context, there are the development programs and policies implemented since the 1990s in Brazil – and intensified in the period from 2003 to 2014 – which were conceived as instruments not only to alleviate and satisfy hunger, but to foster initiatives aimed at food security, with guarantees of product quality, distribution, mechanisms for access to food and, above all, local development focused on family farming (Hieda Corona & Andre Pereira, 2013).

These and other events are part of the trajectory of growing recognition over the last three decades, especially due to the pressure exerted by social movements and trade unions in the category, and was the legatee of various public policies at federal, state and municipal level from the 1990s onwards. One of the milestones was the creation of the National Program to Strengthen Family Farming (Pronaf) in 1996, a process that also marked the construction of names for farmers and family farming, which came to be frequently mentioned in government actions and documents.

With Pronaf, since 1996, and after the implementation of the Fome Zero Program, since 2003, different specific public policy instruments have been developed and implemented for this category of producers, such as Family Farming Insurance, the National Policy for Technical Assistance and Rural Extension (Pnater), the Food Acquisition Program (PAA), the National School Feeding Program (PNAE) and other government actions. These advances were largely the result of the capacity for mobilization, political intervention and negotiation of various social organizations representing family producers (Cláudia Schmitt, 2005).

Although credit is generally given to local public authorities, the design of these public policies for family farming, which began in Brazil with Pronaf, is the result of pressure exerted by popular movements

linked to peasant agriculture and the influence of a series of studies carried out by the Food and Agriculture Organization of the United Nations (FAO) in partnership with other international organizations such as the Inter-American Institute for Cooperative Agriculture (IICA) and the World Bank (1991, 1993, 1994a, 1994b, 1995, 1996, 1997a, 1997b), which, among other things, made a diagnosis of the agrarian system, drew up guidelines for agrarian policy and sustainable development for small family production, and made proposals for agricultural development aimed at family farming, especially through public policies.

However, after the 2016⁶ coup, budget reductions in the PPF were frequent, jeopardizing the livelihoods of producer families and beneficiary institutions, as pointed out in Laís Leite *et al.* (2018), and the continuity of various public policies with a significant impact on improving the lives of farming families.

According to the FAO (Alan Bojanic, 2017), family farming is a key sector for food security in Latin America, especially for rural populations, since the percentage of poverty in rural areas is four times higher than in urban areas and around a third of people living in rural areas suffer from extreme poverty. However, the sector faces significant limitations in aspects related to access to productive resources, social services, basic infrastructure, rural services, financing and agricultural extension.

Family production is considered to be a factor in slowing down the rural exodus and a source of resources for families with lower incomes, as well as making an important contribution to generating wealth in the country. Family farming is responsible for a very significant share of Brazil's entire agricultural product, including its interrelationship with other important segments of the economy (Joaquim Guilhoto *et al.*, 2007).

As a socio-productive segment, family farming is of not insignificant proportions when it comes to formulating a development project for the country, given that around 90% of its 5,807 municipalities base

6 "The parliamentary coup of 2016, embodied in the impeachment of President Dilma [...] the story of the coup will also be told as the story of the strong conservatism present in Brazilian society, related to gender dimensions" (Clara Araújo, 2018, p. 33-34).

their economy on agricultural activity. According to data from the 2017 Agricultural Census, there are currently 3,897,408 rural family farming establishments in the country, 76.8% of all rural establishments, which account for 23% of the value of agricultural production and employ around 67% of the workers in all establishments. On the other hand, it represents only 23% of the total area of these production units (IBGE, 2017).

Data from the now-defunct Ministry of Social Development (MDS) and Ministry of Agrarian Development (MDA)⁷ published by Portal Brasil (2011, 2015) and the Special Secretariat for Family Farming and Agrarian Development (SEAD, 2017) show that in Brazil, 70% of the food that reaches people's tables is produced by family farming, and that this sector is capable of guaranteeing food security and eradicating hunger.

As for the participation of family farming in food production, the Agricultural Census (IBGE, 2017) shows that the sector is responsible for 69.6% of national cassava production, 23.1% of bean production, 12.5% of corn, 18.4% of wheat, 37.8% of coffee, 10.8% of rice, 64.2% of milk and had 51.4% of the pig herd, 45.5% of the poultry herd, 31% of cattle and produced 21% of wheat.

In addition to its importance in food production, the experience of family farmers in rural contexts, thinking of these spaces in a pluralistic way, can also be understood as a "rich source of symbolic goods that feed another economic and social dynamic" (Maria José Carneiro, 2008, p. 25) in which nature plays a central role as a connector of signs.

7 Brazil's Ministry of Agrarian Development (MDA) was created on November 25, 1999 by Provisional Measure No. 1,911/2012. It was abolished on May 12, 2016 by Provisional Measure No. 726, which amended and repealed Law No. 10,683 of May 28, 2003, transferring its powers to the Ministry of Social Development (MDS). As a replacement for the MDA, the Special Secretariat for Family Farming and Agrarian Development of the Civil House of the Presidency of the Republic (Sead) of Brazil was created on May 27, 2016 by Decree No. 8,780.

Food (In)security in the Brazilian context

In Brazil, in 1990, an average of nine million families were unable to use their monthly income to buy enough food to meet their nutritional needs. In the Northeast, around 7.2 million people were in a situation of food and nutritional insecurity during this period, as Ana Maria Peliano (1993) denounced in *O mapa da fome: subsídios à formulação de uma política de segurança alimentar* (The map of hunger: subsidies for the formulation of a food security policy).

In 2014, according to the FAO report, Brazil was removed from the World Hunger Map. The data analyzed shows that between 2002 and 2013 the number of undernourished Brazilians fell by 82%. The organization also points out that between 1990 and 2014 the percentage drop was 84.7% (FAO, n.d.).

Among the actions that have contributed to reducing extreme poverty and hunger, the agency highlights food and nutritional security policies such as conditional cash transfers, such as the Bolsa Família program and the continuous benefit program. The FAO (n.d.) also highlights support for family farming with actions aimed at facilitating access to credit, providing technical assistance and greater security for family farmers.

Since achieving food security requires a combination of increased agricultural productivity and the corresponding investments, fostering rural development and facilitating access to adequate food for vulnerable populations, one of the public initiatives that stood out in pursuing this design was the Fome Zero Program, which was even replicated in other countries in 2005 through the Hunger-Free Latin America and Caribbean Initiative, inspired by Brazil's (FAO, IFAD & WFP, 2014).

According to the organization, “the progressive realization of the right to food implies legal, political, economic, social and institutional actions based on the principles of transparency, accountability, participation, non-discrimination, empowerment, human dignity and the rule of law” (FAO, IFAD & WFP, 2014, p. 2).

Overcoming food insecurity is intrinsically linked to transforming our food systems, integrating agriculture with nutrition. It is seen by the FAO and PAHO (2017) as one of the necessary measures in the challenge of eradicating hunger and malnutrition in Latin America and the Caribbean over the next 15 years.

The multilateral organizations also stress that it is essential for the countries of the region to direct their efforts in the coming years – including the implementation of public policies – towards developing sustainable and nutrition-sensitive food systems. Since in order to guarantee good nutrition and break the intergenerational cycle of poverty - the basis for physical and cognitive development, well-being, good health and economic productivity - it is essential to improve the characteristics and functioning of food systems (FAO & PAHO, 2017).

Sustainable and nutrition-sensitive food systems can be understood as those that: “provide nutritious and affordable food for all, and in which the management of natural resources preserves ecosystems to meet not only current and future human needs, but also the delivery of food, economic, environmental and nutritional products and services.” It also recognizes “the role of agriculture and food in nutrition and places the reduction of malnutrition within its objectives by seeking to increase food availability, not only in terms of volume, but also accessibility, diversity, sustainability and nutritional characteristics” (FAO & PAHO, 2017, p. 18).

Brazil had left the hunger map in 2014 (MDS, 2014) and was consolidating its position as a global leader in terms of food security, both by formalizing its commitment to eradicating hunger within a constitutional and legal framework, and by implementing policies that sought to guarantee this right (FAO, 2013).

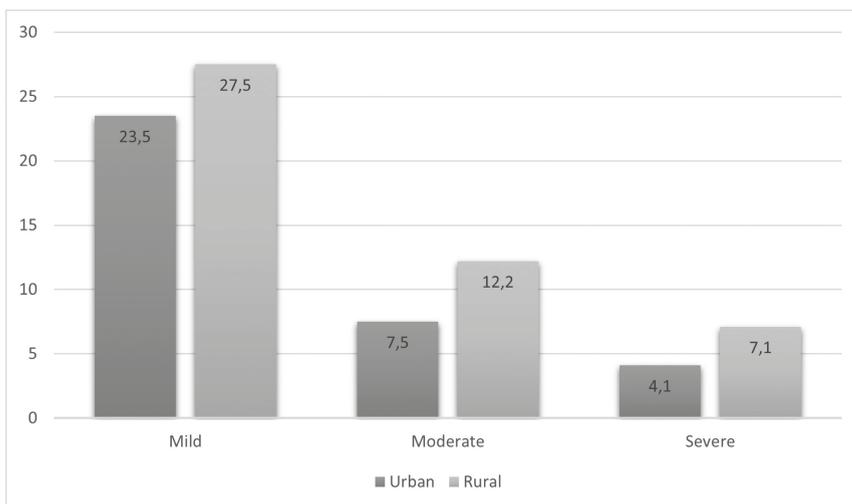
However, according to the FAO, since 2019 there has been a reverse trend: Brazil is returning to the list of countries that have difficulties keeping their population at satisfactory levels of nutrition.

Food insecurity is intrinsically related to social inequalities, and one of its generators is poverty, which has also been on the rise in our country in recent years. As the IBGE's Synthesis of Social Indicators

(2020a) points out, between 2016 and 2017, poverty among the population rose from 25.7% to 26.5%. On the other hand, the extremely poor, the World Bank's definition of those living on less than R\$ 140 a month, jumped from 6.6% in 2016 to 7.4% in 2017 (Pablo Valadares, 2019).

The report from the *Pesquisa de orçamentos familiares 2017-2018: análise da segurança alimentar no Brasil* (2017-2018 Family Budget Survey: Analysis of Food Security in Brazil, IBGE, 2020b) also points out that between 2017 and 2018, 36.7% of the 68.9 million households in Brazil (equivalent to 25.3 million) had some degree of Food Insecurity (FI): mild FI (24%, or 16.4 million), moderate FI (8.1%, or 5.6 million) or severe FI (4.6%, or 3.1 million). The situation is even more serious in rural areas, as shown in the indices below based on IBGE data (2020b):

Graph 1. Food security situation of residents in urban and rural private households (2017-2018, %)



Source: Elaborated by the author based on survey data.

The situation has a tendency to worsen with the Covid-19 pandemic and its repercussions on the economy (unemployment,

underemployment, bankruptcy, etc.) and on the levels of inequality (socioeconomic, educational, health, etc.) experienced by our population.

The influence of the pandemic on food insecurity can be exemplified based on the results of the *Inquérito Nacional sobre Insegurança Alimentar no Contexto da Pandemia da Covid-19 no Brasil* (National Survey on Food Insecurity in the Context of the Covid-19 Pandemic in Brazil), by the Brazilian Food and Nutrition Sovereignty and Security Research Network (Rede Penssan, 2021), which reveal that severe food insecurity reached 9% of the population in 2020. Also according to the survey, 112 million Brazilians, more than 50% of the Brazilian population, suffered some degree of food insecurity in that same year, reaching levels of food insecurity close to those of 2004 (Igor Carvalho, 2021) when the PPFs were massively implemented in order to combat hunger and provide better conditions for the distribution and sale of production to family farmers.

The situation is appalling in Brazil and has also been seen as a problem in several countries, as recorded in the *State of Food Insecurity and Nutrition in the World (SOFI) 2021* report⁸, which pointed out that world hunger worsened dramatically in 2020 as a result of COVID-19. It is estimated that more than 10% of the global population – up to 811 million people – were undernourished that year.

It is understood that this would be an opportune moment to rely on the PPFs, especially those aimed at building markets for food security and environmental sustainability – which will be discussed in the next and final section of this article –, a predominant reference point in the 3rd generation of public policies for family farming according to the classification developed by Catia Grisa and Sergio Schneider (2014).

8 The report was developed and published jointly by the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the United Nations World Food Programme (WFP) and the World Health Organization (WHO).

Public policies for marketing family-based agricultural production: rise and disinvestment

Among the public policies with the greatest potential to contribute to food and nutritional security are the Food Acquisition Program (PAA) and the National School Feeding Program (PNAE), which we will detail below.

The PAA is a program for public purchases and support for the marketing of family-based agricultural production. The PNAE, a PPAF similar to the PAA, was created so that public purchases for school meals would also be made through a public policy, and that part of the funds would be used to buy products from family farms, as guaranteed by Law No 11.947 (2009):

Art. 14 – Of the total financial resources passed on by the FNDE⁹, within the scope of the PNAE, at least 30% (thirty percent) must be used to purchase foodstuffs directly from family farmers and rural family entrepreneurs or their organizations, giving priority to agrarian reform settlements, traditional indigenous communities and *quilombola* communities.

The PAA and PNAE are programs that help to guarantee food and nutritional security for social assistance and educational entities and also provide an improvement in income and working conditions for farmers, contributing to sustainable regional development. According to Ladislau Dowbor (2006), these and other programs have the capacity to contribute to development in less developed regions, thus making it possible to boost small investments and economic flows at a local level.

The importance of these policies is also highlighted by the National Supply Company (Conab, n.d.), which points out that the commercialization of family agricultural production through the creation of legal instruments represented a milestone in Brazilian agricultural policy and its implementation reveals the presence of the state in the

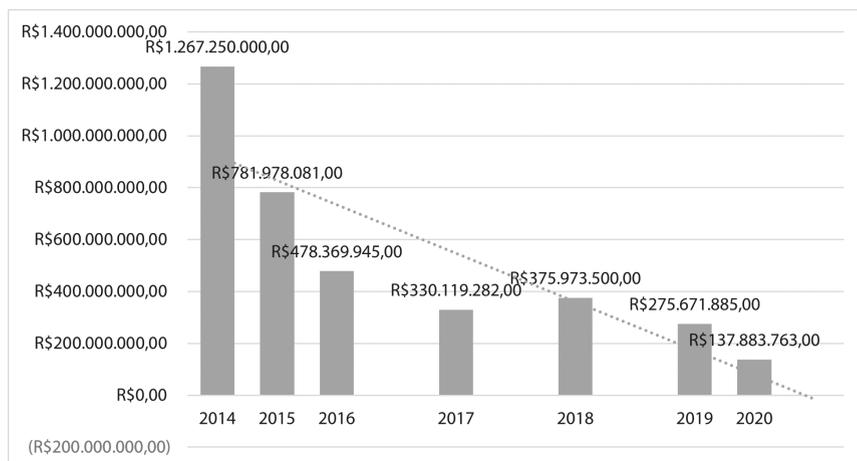
⁹ The National Education Development Fund (FNDE, 2022) is a federal agency created by Law No. 5,537 of November 21, 1968, and amended by Decree-Law No. 872 of September 15, 1969. It is the unit responsible for executing the educational policies of the Ministry of Education (MEC).

commercialization of small family production, conveying security and incentive to production which, in conjunction with other actions, raises the quality of life of farmers and their families and promotes sustainable development in the least assisted parts of rural areas.

However, the scenario experienced by the PPF since 2015, and especially after the 2016 coup, has been one of frequent budget cuts, jeopardizing the livelihoods of producer families and beneficiary institutions and the continuity of various public policies with a significant impact on improving the lives of farming families.

As was seen during the analysis of the data made publicly available by the Ministry of Social Development and Fight against Hunger since 2014 and later by the Ministry of Citizenship (Brasil, 2016; 2017; 2018; 2019; 2020; 2021) regarding the budget allocation for item 2798 – Acquisition and Distribution of Food from Family Farming to Promote Food and Nutritional Security from 2014 to 2020, it was possible to observe that the budget fell by around 90%, as shown in Graph 2.

Graph 2. Comparison of resources earmarked for the purchase of food from family farming to promote food and nutrition security from 2014 to 2020



Source: Elaborated by the author based on survey data.

In practice, this means the dismantling of public policies related to this heading. We have also seen movements to weaken these PPFs in a specific way, and our hypothesis is that this period of political instability may have been seen as a window of opportunity¹⁰ for the extinction of these public policies.

The repercussions of the budget cuts and the dismantling of these PPFs were also evident in the state of Ceará and in the Cariri region, where the observations and daily conversations and interviews with family farmers in our research took place, and were very much present in the interlocutors' speeches.

The cut in funds invested in public policies and the difficulties in putting into practice the marketing strategies already sought, including fairs, because of the pandemic has had an impact on their production and income, as Ms. Margarida emphasizes in our discursive exchange:

Laís: – So you now sell at solidarity economy fairs and other places?

Margarida: – Orders, renovations, but with this *pandemic* it's become a lot less, because *people are afraid to even receive the products*, right?

Laís: – Uh-huh. So you're not even having that fair you were selling at before Gestraf?

Margarida: – No, it's over.

Laís: – Uh-huh.

Margarida: – They wanted to go back now, but [the teacher accompanying the project from ITEPS/UFCA] said it wasn't advisable, right?

Laís: – Uh-huh.

Margarida: – Because it's increasing in Barbalha.

Laís: – And in Juazeiro.

Margarida: – That's right... There's no way.

10 Windows of opportunity are moments such as ministerial reforms, changes of executive and legislative mandate and approval of budgets in which public policies considered ineffective or that have lost their appeal on the public agenda can be extinguished or replaced by others (Secchi, 2014).

Laís: – Uh-huh.

Margarida: – But it's difficult, Laís.

Laís: – Uh-huh.

Margarida: – *It's so hard, if it weren't for these little farms that we get...* this sister of Raimundo's, she gave us a little andu farm, and she and I are there, every day we go, every day, picking up the dry ones, right? It's all dry.

Laís: – Hum.

Margarida: – So we move on.

Laís: – Did you get *emergency aid*?

Margarida: – I did. Which is what's still covering something, right?

The pandemic has accentuated existing inequalities and exposed deficiencies in social, political and economic systems, including access to health and social protection services. Among those most affected are women with family responsibilities, informal workers, low-income families and young people (ILO, 2020).

The interlocutors also express regret at the discontinuation of their participation in the PAA and PNAE, which has reduced their family income in a worrying way:

Raimundo: – We delivered to the PAA for several years, from 2008 until 2016 we were still able to deliver produce to the PAA.

Laís: – So the PAA was able to deliver more or less how much per year? In cash.

Raimundo: – *It was 6,500 reais that we...* most years we looked for all this money, *now last year it was only... it was supposed to be 1,200 reais, because the federal quota went down, it was supposed to be 1,300 reais,* but I registered everything, but due to the cancellation of classes...

Laís: – And PNAE?

Raimundo: – PNAE was also very good, PNAE was a combo that supplied both pulp and sequilho. We delivered up to 14,000, which was the remainder of the DAP.

Láis: – The PNAE allowed you to deliver more, right?

Margarida: – At that time it was good, it was part of working on the farm...

In the discursive exchanges, the farmers highlighted the difference between selling their produce through the PPF, especially the PAA and PNAE, and other types of marketing such as fairs, as Mr. Raimundo points out:

Raimundo: – That's why I always argue that those two programs should be less bureaucratic for farmers, because there's no other program, right? These little fairs, you know, they help, but *the PAA delivers and the guy can hold on to it*. You produce... it takes a while to get paid, right? But you get it. And *when you do, you do something. You renew the stock...*

From local to national, the disinvestment and dismantling of these public policies, especially under the Temer and Bolsonaro governments, has led to a situation of insecurity and discontinuity in the work carried out by the teams and institutions that work with the PPFs, especially the Brazilian Agricultural Research Corporation (Embrapa) and the Municipal Secretariats, resulting in less support for these farmers, both for renewing documents such as the Declaration of Aptitude to Pronaf (DAP), visits for technical assistance, support to participate in PPFs, among others.

For the farmers taking part in the research, these PPFs were important for marketing and qualifying production, as they mentioned:

Láis: – Do you think having participated in a family farming policy has changed anything in your life?

Raimundo: – Absolutely.

Láis: – What, Mr. Raimundo?

Raimundo: – *The tendency to increase production, right? My wife qualifies, creates the product, right? Giving it a little extra so that it's better produced, right? Because there's variation, because what's coming is the techniques from the guidance I received, from partnerships with organizations too, like Sesc, right? Each workshop we attend... The staff give us some feedback, mention the quality, you know, and the guidance.*

[...]

The meanings produced about these public policies are permeated by the memory of hard work, but that there was encouragement to produce and recognition, including financial:

Raimundo: – *Yeah, once you're there, once you've managed to register, you know, provide the necessary documentation, that's it. There was the burden of going there, I mean, because everything is more difficult with our product, because you have to produce, right? Because you don't just arrive in a corner and pick up a bunch of bananas, a piece of fruit, ours is a plant, which takes a long time to produce. Nine people who come to dig, like there were there, at most, forced even, go on Saturday, it was 60 kilos of sequilho. As well as producing, there's also the packaging...*

Laís: – Hum.

Raimundo: – *But it's tough. And I want to go back again.*

Laís: – *And apart from this part of selling, how do you say, marketing and production, you've had these courses and stuff, but what about yourselves? Do you think anything changed after you went through these public policies?*

Raimundo: – *Knowledge, right? In practice. That's why it's important for our knowledge.*

Margarida: – *Improvement in the quality of the products, right? Also the need for us to seek knowledge...*

Láís: – Uh-huh. Do you think these public policies help to value those who produce?

Margarida: – Yes.

Láís: – Valuing yourselves as farmers?

Raimundo: – *That's what I'm saying, it both values you and gives you better quality, because you're getting that extra income, right? The program benefits production.*

Margarida: – *It encourages you to work.*

The amounts paid for the products sold to the PAA and PNAE are equivalent to those sold to the final consumer – unlike the prices that most farmers sell at to middlemen – which shows that they value the products and the farmers themselves. There is also praise for the delivery method, which is less painful for them than the fairs and with fewer losses, as well as a greater volume of produce and a greater amount of money for the produce than they are used to in other marketing methods.

The repertoires most used by interlocutors to talk about these policies are: increasing production, guidance, partnerships, encouragement, appreciation, less bureaucracy, quality, production. This is also evidenced in academic studies and studies by national and international bodies which highlight the successful implementation of the PPF in Brazil, due to the volume of resources and beneficiaries served and the “significant improvement in poverty, income and inequality indicators in the Brazilian countryside, as well as the cooling of rural-urban migration” (Fernando Gaiger Silveira *et al.*, 2016, p. 2).

In addition to the elements mentioned above, Maria emphasizes the social value of family farming for feeding the population:

Maria: – Family farming is general, *because it's not just for us, we can sell to other people, help other people, so for me it's... I don't even know how to explain it, because that's what it is to me, right, it's not just our family, it's the whole family, I don't export, but there are farmers who do,*

not just to Ceará, but to other states as well. So that's what family farming is to me.

Laís: – Do you think it's important?

Maria: – Absolutely.

[...]

Maria: – For me, for my family and for the people who consume it, because *a lot of people depend on what I produce to eat.*

Laís: – And for you? How important is it to you?

Maria: – For *food* too and *because I like it*, I love *working the land*, I feel good, digging, picking up soil, coming home full of clay, if you saw me when I arrived I would have run away! Full of mud, even my boots were full, because it rained a lot today. But *I love working with the soil and with nature.*

Maria's speech highlights food and nutritional security as one of the potentialities of family farming and one of the factors responsible for valuing it. As has been pointed out in this text, we would also like to add here the points made explicit in LOSAN (2006), especially in its article 4, which deals with the scope of FNS, due to the great articulation it presents with the interlocutor's speech and that of the others already mentioned in this section:

I. expanding the conditions of access to food through production, especially *traditional and family farming*, processing, industrialization, marketing, including international agreements, food supply and distribution, including water, as well as job creation and income redistribution;

II. the conservation of biodiversity and the *sustainable use of resources*;

III. *promoting the health, nutrition and diet of the population*, including specific population groups and socially vulnerable populations;

IV. guaranteeing the biological, health, nutritional and technological quality of food, as well as its use, encouraging healthy eating practices and lifestyles that respect the ethnic, racial and cultural diversity of the population;

V. the production of knowledge and access to information; and

VI. the *implementation of public policies* and sustainable and participatory strategies for food production, marketing and consumption, respecting the country's multiple cultural characteristics (Law 11.346/2006, p. 4, emphasis added).

Another important point made by Maria is the importance of farming for herself and her family – the relevance of maintaining the family and the reproduction of the family management model are also pillars that support the definition of this type of farming.

It is clear from the interactions described above that family farming makes a double contribution to food security, firstly by guaranteeing access to quality food for these families – who receive little assistance from public services in their areas and generally earn less than the minimum wage – and secondly by selling these products on the domestic market, increasing and diversifying the supply of quality food products for the population. The sale of these products also increases families' incomes, which allows them to access other products and services, improve their living conditions and also the feeling that their work has been recognized.

The importance of public policies on marketing and food security for the survival of the “family farmers” category should also be emphasized. Fulfilling the premise that public policies should, based on social reality, seek to contribute to overcoming inequalities (Maria da Graça Gonçalves, 2013).

Final considerations

Since their creation in the 1990s, public policies on family farming in Brazil have been linked to the fight against hunger and the guarantee of food and nutritional security for the Brazilian population.

The PFFF intensified at the end of the 1990s, gained momentum in the following years and found greater space in the first and second terms of the Lula government, involving a wide range of social actors (Claudia Schmitt, 2005). The coup against President Dilma Rousseff aggravated the situation of disinvestment in these policies, causing family farming to be severely penalized in its investments. Today, with Lula's return to government in 2023, there is a scenario of expectations regarding the reinvestment and repositioning of family farming as an important way of generating healthy food and social and environmental preservation.

Using theoretical contributions, documentary data and speeches produced with the family farmers interviewed, this article highlights the great value of family farming in guaranteeing food security in Brazil, highlighting food security as a social right, the social, cultural and economic relevance of family farming for Brazil, since it is responsible for most of the food consumed by the population, as well as its symbolic goods, and the fact that it presents itself as an alternative with a lower environmental impact.

The situation of food insecurity experienced in Brazil in the 1990s and recent years highlights the setbacks caused by the dismantling of public policies – which played a central role in overcoming hunger in the 20th century – and the impacts of the Covid-19 pandemic and the worsening of social inequalities in this context.

This way, we highlight the important role of public policies for marketing family-based agricultural production, pointing out their potential and the consequences of their rise, as well as the repercussions of their disinvestment for family farmers and the Brazilian population.

The difficulty of obtaining the food necessary for their subsistence has also occurred among rural workers, who suffer from restricted access to public services in their territories. They have also experienced

adversity in producing, marketing and thus guaranteeing food security for their families in the face of disinvestment in public family farming policies and the health and socio-economic crisis scenario.

Based on the above, we can conclude the subjective, social and economic impact of this socio-productive segment on families and their localities, confirming family farming as a socially and environmentally more suitable alternative for minimizing the food and nutritional insecurity that the country is once again experiencing.

Furthermore, the PPFs stand out as a strategy to encourage the production of healthy food for urban and rural populations, and it is necessary to maintain and expand these government initiatives in order to guarantee food and nutritional security in Brazil.

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Brazil and ASEAN: A New Partnership¹

Piragibe S. Tarragô²

The ASEAN

The Association of the Southeast Asian Nations (ASEAN) was founded in Bangkok, on 8 August 1967, in a meeting of ministers of foreign affairs of Indonesia, Malaysia, the Philippines, Thailand and Singapore. The rather low-key event reflected a degree of uncertainty as to the level of ambition the new body would have. Initially, ASEAN should promote cooperation among its members in order to preserve political peace and stability not only within and between themselves, but also against the threats of separatist and communist insurgencies that hovered in Southeast Asia in those days.

The Association has evolved from a nonaggression pact between five states into a sophisticated community of ten (possibly eleven, Timor Leste is on the way to join it). In the post-Cold War 1990s and early 2000s, Brunei Darussalam, Vietnam, Myanmar, Laos and Cambodia acceded to ASEAN. The Association has grown from a loosely institutionalized regional entity indirectly addressing the political and security relations of its member states into a more complex array of economic, political and security, and socio-cultural communities. These form the three community pillars, which shall lead to the ultimate goal of ASEAN to become a Community, underpinned by the rule of consensus, sovereignty and non-interference in domestic affairs.

1 Note of the author. In drafting the article, the author made extensive use of documents and material prepared by units of the Brazilian Ministry of Foreign Affairs, in many instances reproducing texts verbatim. In addition, the author wishes to acknowledge and thank for the support received in the form of research and revisions by the staff of the Coordination for ASEAN of that Ministry. Information on the history of ASEAN was derived from contents available on ASEAN Secretariat's homepage and from the books by Shaun Narine (*The New ASEAN in Asia Pacific and Beyond*, 2018) and by Amitav Acharya (*The Making of Southeast Asia – International Relations of a Region*, 2013).

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ASEAN decision-making process unfolds through summits, ministerial and senior official meetings, several thematic mechanisms and a secretariat, headed by a secretary-general, with headquarters in Jakarta. The first summit took place in Bali in 1976 (known as Bali I) and confirmed decisions taken by meetings of foreign ministers since 1967. Bali I was a seminal moment in the evolution of ASEAN. It adopted the Treaty of Amity and Cooperation in Southeast Asia (TAC), which laid out the basic guidelines for interaction between its signatories. The TAC commits its signatories to the peaceful settlement of disputes; it has since become the symbolic heart of the region's security aspirations. Any non-member country desirous of developing closer relations with ASEAN must join the TAC.

Another important summit took place in 2003 again in Bali (Bali II). It called for an ASEAN Charter, which was eventually signed in November 2007. The Charter, which entered into force on 15 December 2008, provides for initiatives designed to give the Association a legal personality, and to achieve the ASEAN Community by also equipping it with an institutional framework (secretariat). The Charter also codifies ASEAN norms, rules and values; sets clear targets for ASEAN; and presents accountability and compliance.

At Bali II, ASEAN's leaders approved plans to make ASEAN the foundation of a much larger and more coherent regional project, with bold goals. Bali II also called for the creation of an ASEAN Community, to consist of three separate communities: a Political and Security Community, an Economic Community, and a Socio-Cultural Community. The summit was the first effort to propel ASEAN into the twenty first century, and to assert a rightful and leading role of Southeast Asia in the redefinition and realignment of Asia Pacific in the emerging world order.

While the bloc has been set up to address political and security concerns (first pillar), it has evolved in the post-Cold War period by expanding both geographically with the incorporation of five new members and thematically. New areas of cooperation have been introduced under the two other pillars, i.e., the economic and the

social-cultural ones, so that the three combined are part of the all-encompassing concept of a Community.

The Economic Community has given rise to numerous initiatives designed to integrate national and regional markets and to promote a free flow of trade among ASEAN member states. It has also sought to integrate ASEAN markets into the world trade currents, following the strong globalization trends prevailing in the 1990s. Free trade agreements (FTA) were concluded by ASEAN with partners, like Australia, New Zealand, South Korea, culminating with The Regional Comprehensive Economic Partnership (RCEP), which stands out as one of the most important FTAs subscribed by ASEAN member states, as it comprehends China and most East Asian countries.

Since ASEAN inception, but especially as of 1980s, member states have benefited increasingly of investment inflows and of the growth of trade with their main partners, regional and global.

ASEAN member states often reiterate the centrality nature of the bloc's role in Southeast Asia geopolitics. The centrality is understood to put ASEAN at the center of all actions taken or to be decided, including by non-member states that may involve or have a bearing on the Southeast Asian countries. To assure itself that role, the Association has undertaken to foster a number of forums involving the participation of non-member states, such as for example, the APT (ASEAN plus Three – China, Japan and South Korea), the EAS (East Asian Summit which includes APT countries plus the United States, Russia and India), the ARF (ASEAN Regional Forum: ASEAN plus 17 countries from Asia plus the US, the EU, Canada, Australia and New Zealand). These forums, as has been customary, are attended by the heads of government on the occasion of the annual ASEAN summits.

Relations between ASEAN and non-member states are generally structured according to levels of priority and interest in cooperation, which take as a reference the three pillars: political and security, economic and socio-cultural. Levels of cooperation with non-members are set out following a categorization as Dialogue Partners, Sectorial Dialogue Partners and Development Partners. The acceptance of a non-member

state as a partner in one of those categories opens the door for the latter to develop with the Association projects, bilateral or plurilateral agreements or actions of mutual interest in multilateral forums based on work programs negotiated between the non-member and the member states coordinated by the secretariat. In principle, the work programs are guided by the objectives set forth in the aforementioned three building pillars of the ASEAN Community.

ASEAN, the economy

ASEAN has shown a remarkable economic growth and a rapid technological evolution. It has attained an average GDP growth of 5.7% between 2000 and 2019. The per capita GDP has increased fourfold and the GDP (in nominal terms) fivefold in the last 20 years. The bloc is home to a population of more than 671 million. Its nominal GDP amounts to US\$ 3,6 trillion. ASEAN, as a whole, is the world's 5th largest economy (after the US, China, Japan and Germany), and generates a volume of external trade of more than US\$ 3,48 trillion annually (figures are for 2022, extracted from data compiled by the ASEAN secretariat).

Notwithstanding the overall positive figures for ASEAN economy, there are significant development gaps among member states. On the one hand, Singapore stands out as one of the wealthiest countries in the world with a per capita income of US\$ 82,794 (followed within ASEAN by Brunei Darussalam – per capita income of US\$ 37,446). On the other, there are low-income countries, such as Myanmar (per capita income of US\$ 1,161), Cambodia (US\$ 1,758) and Lao PDR (US\$ 2,022) (figures are for 2022 from ASEAN secretariat).

ASEAN's share in the world economy amounts to 3.6% (in 2022). Indonesia is the largest economy in the Association (36.4% of the bloc's GDP), followed by Thailand (13.7%), the Singapore (12.9%) and Vietnam (11.3%).

ASEAN's economy is sustained by the tertiary sector (services) accounting for 50.5% of the GDP, followed by the secondary sector (industry) with 29.8% and the primary sector (raw materials) with 16.4%.

Overall ASEAN's foreign trade in 2022 has reached US\$ 3,846 billion, comprising exports of US\$ 1,962 billion and imports of US\$ 1,884 billion. In 2022, the Association's external trade increased 14.9% over the previous year. Singapore has continued to perform the role of engine of trade in goods. In 2022, that country's foreign trade accounted for 26.2% and 25.2% of the Association's exports and imports respectively. Intra-ASEAN trade was responsible for 22.4% of the total trade in goods in the region (22.9% of all exports; 21.6% of all imports). The main foreign markets for ASEAN exports are China, the US, the EU and Japan. In addition, most of imports of the bloc have their origin in China, South Korea and Japan.

As to services, trade under this heading in ASEAN in 2022 totalled US\$ 935.6 billion (imports: US\$ 469 billion; exports: US\$ 466.6 billion), an increase of 16.4% over the previous year. On exports, business services, transportation and financial services lead the pack. On the import side, business services, transportation, telecommunication and information services and informatics are the most valuable.

In 2022, the flows of foreign direct investments (FDI) into ASEAN attained US\$ 225.8 billion, with Singapore being the main recipient within the bloc (more than half of FDI destined to ASEAN member states). Most the FDI comes from the US, ASEAN, Japan, the EU and China. These five investors account for 58.5% of all inflows.

In science, technology and innovation, the evolution of the Southeast Asian countries has been outstanding. According to *The Global Innovation Index 2023*, issued by the World Intellectual Property Organization (WIPO) Singapore is ranked the world's 5th largest innovator. Other countries in the region do not stay too far behind in innovation. Malaysia ranks 36th, Thailand 43rd and Vietnam 46th. All of them are ahead of Brazil, which occupies the 49th place in that ranking. An increasing number of unicorn companies – *startups* – with a market value of more than US\$ 1 billion, have set their headquarters in member states of the Association. *The ASEAN Investment Report 2022* registers 46 such companies in the region.

ASEAN has one of the world's fastest internet market growth. As per ASEAN secretariat, more than 460 million people in the bloc in 2022 had access to internet services, 100 million of which have been added in the last three years. The Association has put in place several institutional structures to deal with digital issues and cyber security.

Over the years, in particular from 1992 onwards, ASEAN and its member states negotiated a variety of trade agreements. Among themselves, member states subscribed in 1992 the ASEAN Free Trade Area (AFTA). With third parties, the most significant, given the number and the trade-weight of participants, consists of the Regional Comprehensive Economic Partnership (RCEP), which was agreed to in 2020 between ASEAN member states, China, Japan, South Korea, Australia and New Zealand. In addition, member states have concluded individual trade agreements with China (FTA), Japan (Comprehensive Economic Partnership), South Korea (FTA), Australia-New Zealand (FTA) and India (FTA). Moreover, member states have negotiated bilateral trade agreements on their own with a number of partners. One of them (Singapore) has just signed a FTA with MERCOSUR, and some of them (Indonesia and Vietnam) have indicated intent in negotiating trade arrangements with the South American bloc.

Brazil-ASEAN Economic Relations

The bilateral ties between Brazil and ASEAN member states have evolved significantly. According to Brazilian figures, in 2023, trade flows between Brazil and ASEAN member states reached US\$ 33 billion, a 17% growth over 2021. Brazilian exports totalled US\$ 24,4 billion, and imports, US\$ 9,2 billion.

Brazilian exports to ASEAN comprise mostly commodities. Brazilian data for 2022 show, as the main export items: fuels (25% of the total), soya meal (16%), crude oil (11%), soya bean (9.8%), iron ore (8.6%); meats [bovine, poultry and pork (7.2%)]; cotton (4%).

On the other hand, imports by Brazil from ASEAN consist mostly of manufactures: electronic parts (15% of the total), telecommunication

equipment (11%), vegetable oils (6.5%), car parts and accessories (4.9%), other manufactures (4.7%), latex and rubber (3.9%).

In 2023, exports to ASEAN exceeded those Brazil sent to other partners and regions, such as MERCOSUR (US\$ 23.5 billion), the Middle East (US\$ 14.9 billion) or the entire African continent (US\$ 13.2 billion). Brazil's bilateral trade with individual ASEAN member states is higher than that with some of Brazil's most traditional partners. Brazilian exports to Singapore are bigger in value than the ones to Germany, Japan or South Korea; exports to Malaysia exceed those to Italy or to the United Kingdom; and exports to Vietnam surpass the ones to France.

ASEAN's strong economic growth in recent decades also generates opportunities for reciprocal investments. ASEAN attracts for Brazilian companies looking to diversify their international presence. At the same time, companies from Southeast Asia have been investing in Brazil. Singapore is already the third largest direct investor from Asia in Brazil (behind China and Japan), with an estimated stock of US\$ 17.4 billion in 2020.

According to information by the Brazilian ministry of foreign affairs, the potential for bilateral investments have already drawn the interest of companies of both Brazil and ASEAN countries. On the one hand, Brazilian companies have increasingly explored investment opportunities in ASEAN member states. Major Brazilian companies have set up business in the region, such as the mining company Vale in Indonesia and Malaysia; food companies of the likes of BRF in Malaysia and JBS in Vietnam; agribusiness Group Jacto in Thailand. Brazilian companies have chosen Singapore as a hub for their operations in the Indo-Pacific region, like B3, Embraer, Petrobras, Vale, CBMM, Braskem, BRF, Seara, Minerva, WEG e Tramontina, among others.

Investments from ASEAN countries in Brazil include Minor Group, a Thai company in the hospitality business; PTT (Thailand) and Petronas (Malaysia), in the oil and gas sectors; International Container Terminal Services Inc. (the Philippines), in port logistics; Royal Golden Eagle Group (Indonesia) through its subsidiaries Paper Excellence and April, in the pulp and paper sector. This shows the great potential that exists

for increasing trade and investment relations between Brazil and the ASEAN countries.

On the regional level, MERCOSUR and ASEAN have explored synergies with a view to increasing trade and business exchanges. MERCOSUR and ASEAN had formal meetings in 2008, 2009 and 2017 in order to assess the possibility of negotiating a FTA. The South American bloc has since engaged in trade talks with individual ASEAN Member States. It managed to conclude in 2023 a FTA with Singapore, while it has undertaken exploratory talks with Vietnam and Indonesia with the same purpose.

The sheer size of the respective populations and consumer markets highlights the existence of untapped opportunities to increase the quality and the volume of trade flows. It is the view of Brazilian officials that there is room for expanding trade in value added goods and services with ASEAN partners, including in highly sophisticated sectors, with mutual benefits. Brazilian trade missions have visited most of the ASEAN countries with certain frequency. In this regard, Brazil's status as a Sectorial Dialogue Partner provides an incentive for added exploration of trade opportunities, greater technological cooperation, and the setting-up of joint initiatives.

Furthermore, besides direct trade with ASEAN, it is telling that more than 45% of all Brazilian exports are destined for the Asia-Pacific region. Main shipping routes pass through Southeast Asia, especially the Strait of Malacca. Therefore, the region is also important from a geostrategic standpoint, as it also serves as passage of Brazil's trade with other key economic partners in Asia.

Brazil-ASEAN Cooperation

Brazil has a long history both as recipient and as provider of technical cooperation. Initially on the receiving end of foreign aid, Brazil has also become a provider of technical cooperation. In 1987, the Brazilian Cooperation Agency (ABC) was established under the authority of the Ministry of Foreign Affairs. ABC has grown to be an active development

partner in many developing countries. It has undertaken around 4,000 technical cooperation projects in 108 countries.

As explained by ABC officials, Brazilian technical cooperation does not involve direct transfer of financial resources to the partner country, nor is the spending of large financial resources necessary to achieve satisfactory results with cooperation projects. The cooperation unfolds mainly by means of sharing best practices and successful experiences that the partner country can adapt to build its own policies and strengthen its technical and institutional capabilities.

Brazil has Technical Cooperation Agreements (TCA) in force or under negotiation with almost all ASEAN member states. The first such agreement was signed with Thailand (1984), followed by the signing of similar ones with Myanmar (2012), Indonesia (2018), Cambodia (2021) and Lao PDR (2022). Negotiations with Brunei Darussalam, Malaysia, the Philippines and Vietnam on possible TCAs have been initiated.

In wishing to reinforce its cooperation ties with ASEAN countries through ABC and other government agencies, Brazil, as a Sectorial Dialogue Partner of the Association, has indicated a number of possible areas in which it would be ready to cooperate with ASEAN. They include, for example, trade and investment, agriculture and food security, technical cooperation, combat to transnational crimes, maritime security, family and sustainable farming, school meal programs, renewable energies and teaching of Brazilian Portuguese, among others. ASEAN officials in turn have shown interest in cooperation in many areas such as agriculture and food security, renewable energy and climate change, sustainable forest management, health diplomacy and global health. These and many other areas comprise the list of Practical Cooperation Areas, which Brazil and ASEAN have adopted in December 2023, thus establishing a roadmap for bilateral cooperation initiatives between both parties.

A first cooperation activity undertaken between Brazil and ASEAN within the framework of the sectorial dialogue partnership was carried out at the end of 2023. On that occasion, a mission of officials of ASEAN member states and secretariat, sponsored by the ABC, visited main

centers of excellence in Brazil dedicated to research and innovation in renewable energies, science and technology, health, sustainable agriculture and food security.

In addition to technical cooperation, Brazil and ASEAN member states have concluded a series of cooperation agreements or Memorandums of Understanding (MoU). They cover areas such as culture (with Vietnam), defense (Indonesia), education (Cambodia, Indonesia), science and technology (Malaysia, Vietnam and Singapore), technical and scientific cooperation (Thailand), sports (Thailand), as well as exchanges between diplomatic academies (Philippines, Vietnam), fight against hunger and poverty (Indonesia and Vietnam), among many others. Brazil has a history of successful cooperation experiences with ASEAN member states. Some examples are given below.

With Cambodia, Brazil signed a MoU on education, which allows students from Cambodia to participate in undergraduate and graduate programs in Brazilian universities. In addition, it has assisted that country through the IBSA Fund (India-Brazil-South Africa) to develop policies concerning poverty reduction among youth.

With Indonesia, Brazil established a Strategic Partnership in 2008 and a Plan of Action, in 2009, which allows for cooperation in trade and investment, renewable energy, defense, mining, social inclusion policies, academic and educational cooperation, scientific and technological cooperation, multilateral issues, among others. Furthermore, negotiations have set off on a possible Comprehensive Economic Partnership Agreement between MERCOSUR and Indonesia.

Brazil and Lao PDR share a history of cooperation based on Brazil's experience in school meals programs. Brazil provided cooperation to Lao PDR in this area in conjunction with the World Food Program (WFP). In 2022, Brazil and Lao PDR signed a TCA.

Since 2013, Brazil has maintained a cooperation program with Myanmar for the production of snake antivenom serum. Led by the São Paulo Butantan Institute, this initiative has focused on training specialists in Myanmar. In March 2022, both countries signed a complementary agreement to set about the second phase of the antivenom project.

Technical cooperation has been one of the main topics of interest of the Philippines. In 2023, Brazil and the Philippines have exchanged technical missions as part of a cooperation project to improve the productivity of the Filipino sugarcane plantations. Furthermore, both countries have subscribed to a MoU on defense.

With Singapore, Brazil has a cooperation agreement on education for many years. In 2011, Brazil's Coordination for the Improvement of Higher Education Personnel (CAPES) began an academic exchange program with the Singapore Agency for Science, Technology and Research (A*STAR). Cooperation between the National University of Singapore and Mackenzie Presbyterian University in São Paulo on the use of graphene contributed to the opening of the first graphene factory in Latin America (UCSGraphene), in 2020.

Cooperation between Brazil and Thailand is promising. The two countries have developed a control project of fruit flies since 2017. In March 2022, Brazil and Thailand signed a MoU on agricultural cooperation.

Brazil has signed several instruments of cooperation in force with Vietnam, including in agriculture, culture, health and medical sciences, science and technology, training of diplomats and sports.

Areas of Cooperation

Brazil has flagged that the cooperation it already extends bilaterally to some ASEAN countries can serve as an indication of areas that can be further developed jointly or with other members. It has indicated to ASEAN counterparts its willingness to engage in cooperation activities in the many subjects identified in the document Practical Cooperation Areas 2024-2028 (PCA), agreed by both parties and adopted in December 2023, be it collectively with ASEAN member states, in coordination with the Association's secretariat, be it bilaterally with individual member states. The PCA itself is meant to be the focus of cooperation activities to be developed between 2024-2028. It consists of a selection of subjects where both parties have expertise and mutual interest. They are grouped in sections following the three pillars on which ASEAN community-building objectives are anchored, i.e., political and security; economic;

and social-cultural. It also adds a fourth section covering cross-sectoral areas. Under the four sections 34 subject areas are pinpointed. They include, among others, sustainable farming, environmental protection, conservation of biodiversity, renewable energies, combat of transnational crimes, human rights, trade and investment, tourism, science and technology and innovation, technical and vocational education, public health, connectivity, smart cities. In addition, Brazil is willing to support, with purposeful cooperation projects, Timor Leste's preparation to assume full membership in ASEAN.

Examples of Brazil's capabilities in developing cooperation with other developing countries abound. In sustainable farming, for instance, Brazil has well-known expertise to share it with its ASEAN partners. Prior to the establishment of the Brazilian Company for Agricultural Research (EMBRAPA) in 1972, Brazil was a net importer of food. EMBRAPA's technical and scientific contribution have been key not only to raising productivity, but also to the farming expansion to vast areas of formerly unproductive land. The development of techniques to produce crops in the Midwestern *Cerrado* biome was pivotal to the transformation of Brazil's agriculture sector. Technological breakthroughs have generated more environmentally friendly practices that reduce the use of fertilizers, pesticides and water. Likewise, the development of water-recycling techniques and drought-resistant species has resulted in better yields.

Brazilian officials are of the view that exchanges of visits of high-level agriculture and livestock authorities from Brazil and from interested ASEAN countries, along with representatives from the private sector, can promote a better understanding of their respective agribusiness sectors, as well as assist in identifying possible areas for cooperation.

Forest management and conservation also stand out among ASEAN countries' interest in technical cooperation. Brazil's experience in the subject matter dates back to the 1970s, when the EMBRAPA Center for Agricultural Research for Humid Tropics started research and development of technologies for sustainable use in the Amazon region. Hence, EMBRAPA has amassed nearly 50 years of expertise on forest

management and conservation. In addition, a number of Brazilian universities offer both undergraduate and graduate programs in the subject matter, as well as in forest science and forest engineering.

Another topic of interest is cooperation in renewable energies, in the context of energy transition. Indeed, given the commitments to fight climate change, cut carbon emissions and achieve carbon-neutrality, under the Paris Agreement, countries have shown increasing interest in tapping renewable energy sources. Brazil has one of the least carbon-intensive energy sectors in the world, with a successful experience in biofuels, especially sugar cane or corn-based ethanol.

With half a century experience in the production of ethanol, Brazil has been promoting it in several countries, as one option of sustainable mobility for the future. With the support of private institutions, it has organized seminars (“Ethanol Talks”) to disseminate information about that topic in such countries like India, Pakistan, Thailand and Indonesia. The seminars consist of a substantive dialogue among policy makers, regulators, industry representatives and experts in the ethanol sector, and could be a valuable input for policy makers in ASEAN countries.

Brazil has also acquired expertise in certain subjects that could be of interest to ASEAN. One is digital transformation, which emerges as one of the main challenges of the 21st century. Brazil has developed innovative solutions to the benefit of its citizens by making available inclusive digital government services. In the GOV.BR platform, one can access a wide array of governmental services offered in digital form, like applying for driver’s license, submitting annual income tax returns, making medical appointments in public hospitals, among many other services.

Brazil has also made strides in the digital transformation of its financial system. The Brazilian Central Bank created an instant payment system, known locally as PIX, that enables users to send and receive money, via smartphones, in few seconds at any time, including on non-business days. PIX is a no-cost service that lowers transaction costs, increases security for users and allows for higher market competition and efficiency, financial inclusion, among other benefits.

Brazil is also willing to share its experience with public policies to implement universal health care. The Unified Health System (SUS, the acronym in Portuguese), is a government-run public health care system which is one of the world's largest. It provides universal health coverage for the entire Brazilian population, encompassing a vast network of service providers spread out in more than 50,000 health units. The system is entirely cost-free at any point of service for any person. Brazil is also a reference when it comes to vaccines, having one the world's most effective immunization programs.

Brazil shares with ASEAN many key values, such as respect for a multilateral, rules-based international system and international law; defense of peace and peaceful resolution of conflicts; non-interference in domestic affairs; and promotion of international cooperation. This common ground and the similar perspectives of developing countries would enable Brazil and ASEAN member states to have a more coordinated action in international organizations and multilateral discussions in issues as varied as trade, environment, climate change, health and human rights, sustainable development goals (SDGs), among many others.

Cooperation between Brazil and ASEAN can be a two-pronged one, and necessarily so, given the development gap among the Association's member states. With low or middle-income members, Brazil can share its experience and best practices in a more traditional way, through cooperation projects carried out by ABC and in conjunction with international development agencies. In this regard, it can take guidance from the Initiative for ASEAN Integration (IAI) Work Plans, which is meant to narrow the development gap among the Association's countries. With middle and high-income members, Brazil can explore opportunities to develop jointly projects in high tech sectors or smart infrastructure projects, for example, whose respective implementations can also produce tangible benefits for Brazilian stakeholders.

Political Relations Brazil-ASEAN

Brazil has long-established diplomatic relations with all ASEAN member states: the Philippines (1946), Indonesia (1953), Malaysia (1959), Thailand (1959), Singapore (1967), Myanmar (1982), Brunei Darussalam (1984), Vietnam (1989), Cambodia (1994) and Lao PDR (1995).

Brazil maintains the largest network of embassies in Southeast Asia among the Latin American countries. It has resident embassies in Jakarta (since 1953), Bangkok (1959), Manila (1965), Singapore (1979), Kuala Lumpur (1981), Hanoi (1994) and Yangon (1996). Non-resident embassies are also in charge with the relations with Brunei Darussalam (through the Embassy of Brazil in Kuala Lumpur), Cambodia and Lao PDR (through the Embassy of Brazil in Bangkok). The Brazilian government has recently decided to establish a resident embassy in Phnom Penh, Cambodia.

Relations between Brazil and ASEAN have expanded in the past decades. An important step was the accreditation of the first Brazilian ambassador to ASEAN in 2011. In the following year, Brazil signed the Treaty of Amity and Cooperation in Southeast Asia (TAC), thereby becoming the first Latin American country to do so. Moreover, the seven ASEAN Member States with resident embassies in Brazil raised their standing before the Brazilian official institutions by establishing the ASEAN Committee in Brasília (ACB) in 2013. In 2022, a special envoy to ASEAN was designated at the Brazilian chancery. In 2023, Brazil set up a special representation to ASEAN in Jakarta (distinct from the embassy that handles relations with Indonesia) and appointed an ambassador in charge exclusively with its relations with the Association.

Brazil has put in place an extensive network of bilateral mechanisms with nearly all ASEAN member states, especially to conduct political consultations and to develop initiatives of all sorts of cooperation. In 2020 and 2021, during the peak of the COVID-19 pandemic, the political dialogue between Brazil and some ASEAN partners was carried on through videoconference meetings. In 2022 and 2023, political consultations in the in-person format were resumed.

Strengthening ties with ASEAN has featured high among Brazil's foreign policy objectives. With that in mind, Brazil's ministry of foreign affairs, early in 2021, initiated demarches with the Association's member states in order to be granted status of Sectorial Dialogue Partner. For that purpose, it submitted to the ASEAN secretariat a paper describing the advantages in conferring on Brazil that status, as exemplified by a roll of possible areas of cooperation Brazil would be ready to develop with member states.

Recognizing the value of deepening the long-term relationship with Brazil, the ASEAN foreign ministers meeting in August 2022 took the decision to establish with Brazil a Sectorial Dialogue Partnership. Both sides expect that the new partnership will translate itself in enhanced cooperation initiatives with mutual benefits. In this context, and following the practice adopted by Association, Brazil and ASEAN have agreed on a document, known as Practical Cooperation Areas, to guide the cooperation activities in selected areas, identified as having great potential and more attuned to meet the member states' demands.

In order to prepare itself for the demands in the new phase of the relationship, Brazil's Ministry of Foreign Affairs established a special unity in the chancery to assist in handling ASEAN-related issues and give support to the newly created Permanent Mission to ASEAN. This reflects the firm belief by the government that the Sectorial Dialogue Partnership shall stimulate in much more dynamic relations between Brazil and the ASEAN.

Brazil, Sectorial Dialogue Partner of ASEAN

The Sectorial Dialogue Partnership between Brazil and ASEAN, agreed by ASEAN Foreign Ministers in August 2022, is already paving the way for a more structured cooperation. The new partnership received the blessings of the Ministers of Foreign Affairs of Brazil and Indonesia (pro-tempore chair of the ASEAN) and the head of ASEAN secretariat at the Trilateral Meeting held in October 2023. The meeting has constituted, so to speak, the formal beginning of the Brazil-ASEAN dialogue partnership. In its wake came the adoption, in December

2023, of the Practical Cooperation Areas (PCA), which identifies a high number of areas to be the object of cooperation activities in the period 2024-2028.

Now a reality, the partnership has the potential of serving as a fruitful platform for cooperation in initiatives that otherwise could only be bilateral, thus generating synergies and a better use of resources. As a Sectorial Dialogue Partner of ASEAN, Brazil has made clear that is willing to take the relationship with the region to a higher level. Brazilian foreign officials believe that the long-term partnership will create favorable conditions to explore the great potential for cooperation existing between both sides based on equality, respect and without conditionalities. For the partnership is expected to bring together Brazilian and member states' public and private institutions. Brazilian officials stress that the country can be a helpful partner as it wields the knowledge and expertise necessary to meet the cooperation demands of ASEAN countries.

In the view of Brazilian officials, having the status of Sectorial Dialogue Partner is not an end in itself, but rather the starting point of a new phase in the relationship between Brazil and ASEAN. One that could lay the foundations for the development of enhanced political, social, economic and trade relations between themselves. The growing institutional cooperation with ASEAN, expressed in the new partnership, will be the groundwork for the increment of business, technological and trade relations, and will contribute to increase people-to-people exchanges between Brazil and ASEAN member states.

On the other hand, the partnership will imply for Brazil to be more attentive to the political concerns of ASEAN, especially insofar as the preservation of peace, stability and prosperity of the region is involved. As is well known, the strategic position of Southeast Asia requires ASEAN to act on very politically sensitive issues that may have geopolitical repercussions in the region and in the Indo-Pacific area. Two issues come to mind, by way of example: the situation in Myanmar and in the South China Sea. In both cases, ASEAN has a central role to play. Its dialogue partners should be responsive to the Association's concerns and interests in addressing issues crucial to ensuring peace, stability and prosperity in Southeast Asia.

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