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Responses to COVID-19 in Southeast Asia: Diverse Paths and Ongoing Challenges

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Running Title: Responses to COVID-19 in Southeast Asia

Abstract:

Due to geographical proximity and trade links with China, Southeast Asian countries were among the first to be exposed to and affected by COVID-19. However, despite shared challenges including protecting population health and economic security, policy responses by national governments have been varied and remain so a year into the pandemic. This article critically reviews Southeast Asian countries' approaches to COVID-19 with reference to individual country experiences and ASEAN. We discuss key policy responses: leadership, public risk communications, health system preparedness and resilience, economic support and social protection, aid and global health diplomacy, digital technologies, and the region's multilateral response.

(100 words)

Research Highlights:

1. Across Southeast Asian countries, responses to the COVID-19 pandemic were varied and continue to be shaped by individual countries' diverse economic, development, sociopolitical, and health systems profiles, with strong early performances by Malaysia and Vietnam vs. crisis in the Philippines and Singapore in the initial stages of the pandemic, and continued challenges in Malaysia and the Philippines vs. relative stability in Vietnam and Singapore today.
2. From a regional perspective, ASEAN responded rapidly but its efforts were focused primarily on communication and information-sharing in the form of knowledge networks and diplomatic meetings, rather than a comprehensive and integrated regional pandemic response.
3. The experience of Southeast Asian countries' responses to COVID-19 highlights the need for decisive and credible leadership, a pragmatic and conscientious approach to balancing risks, transparent risk communication, good governance, and the ability to reflect and take steps to prepare for future pandemics.

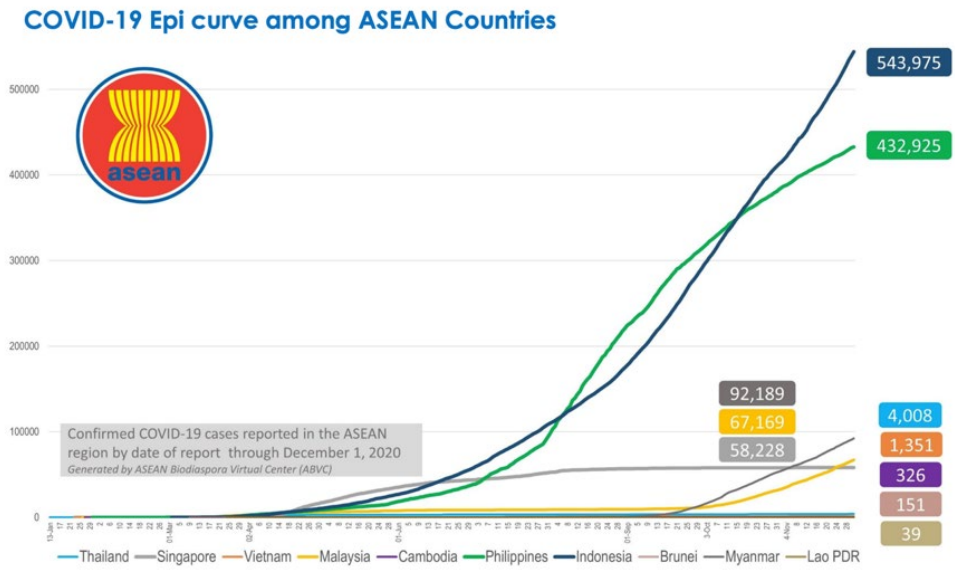
Key words: COVID-19, Southeast Asia, ASEAN, pandemic, health systems, economics

1. Introduction

Due to their geographic proximity and links with China, Southeast Asian countries were among the first to be exposed to COVID-19. However, in spite of shared pandemic-related challenges, policy responses by individual governments have taken very different forms and remain diverse over a year later. This article critically reviews approaches to COVID-19 with reference to the wide range of country experiences and the overall regional response.

As of February 2021, more than 2.4 million cases and 50,000 deaths have been reported in the ten countries that make up the Association of Southeast Asian Nations (ASEAN) - Indonesia, Thailand, Malaysia, Singapore, the Philippines, Vietnam, Laos, Cambodia, and Brunei Darussalam (ASEAN Biodiaspora Virtual Center, February 26, 2021), making up about 2% of the global burden. Figure 1 below shows the COVID-19 epidemiological curve, which reflects both differences in populations and varied levels of control. At the end of 2020, more than half of ASEAN's COVID-19 cases came from Indonesia and about a quarter from the Philippines. On the other end of the spectrum, Lao PDR, Brunei, and Cambodia have reported less than 1,000 cases each at the time of writing.

Figure 1: COVID-19 epidemiological curve among ASEAN member states as of December 2020



Source: ASEAN BioDiaspora Virtual Centre, 2020.

Measures implemented range from rigorously enforced full lockdowns in countries like Singapore to relatively "laissez-faire" approaches, especially in countries with large rural or informal sectors such as Laos and Myanmar (Dialante et al, 2020) Resources spent on COVID-10 have also varied: Singapore has spent at least USD89 billion, while among lower middle-income countries, funding ranged from USD 30 million (Lao PDR) to USD 38 billion (Philippines). Among upper middle-income countries, funding ranged from USD 84 billion (Thailand) to USD 115 billion (Indonesia). The Philippines and Indonesia have received the largest share of international aid, with at least USD 5 billion in loans and grants each (ADB, 2021).

Managing the pandemic tested the capacity of health and social care systems already under the pressures of aging populations and progress towards universal health coverage. Countries stretched to meet the acute care needs of COVID-19 patients while reallocating scarce laboratory and community health resources towards testing and tracing. All suffered the economic consequences of the pandemic and its containment measures, in particular countries dependent on flows of tourist revenue, essential goods and services and migrant labor. Falling investment, supply-chain disruptions and global recession stoked unemployment and put a halt to previous growth across the region, leading to the first regional contraction in over two decades and eradicating past gains in poverty reduction, especially for already-vulnerable groups such as women and migrant workers.

2. Regional Responses to COVID-19

This section presents four country cases illustrating the variation in country-level responses and pandemic trajectories – starting with strong early performances by Malaysia and Vietnam vs. crisis in the Philippines and Singapore and ending with continued challenges in Malaysia and the Philippines vs. relative stability in Vietnam and Singapore – and discusses the collective response through ASEAN.

Malaysia

Malaysia, a middle-income country with a population of 32.7 million, reported its first three cases of COVID-19 on 25 January 2020. In February, a four-day religious gathering of over 14,000 devotees in Kuala Lumpur became a super-spreader event. Following two confirmed deaths on 17 March, the government imposed a Movement Control Order (MCO) on 18 March, prohibiting mass movements and gatherings, restricting travel, instituting mandatory quarantine for all inbound travelers, and closing all non-essential services. By 4 May, numbers had dipped substantially, and most economic sectors were reopened with social distancing measures in place, followed by resumption of interstate travel and some religious gatherings in June. Compulsory mask-wearing was introduced on 29 July following the emergence of new clusters, leading to a sustained period of low transmission.

A surge began in September 2020 after a snap state election in the East Malaysian state of Sabah. With mandatory in-person voting, over a million voters turned out, many traveling inter-state to vote. On 9 November 2020, a Conditional MCO was reinstated. Since then, the government has periodically enforced and relaxed different types of movement control orders across states, depending on case numbers. While peaking at 4,571 new daily cases on 4 February 2021, Malaysia's daily case numbers are now trending downward, averaging 2,200 per day at time of writing. As of March 2021, more than 304,000 confirmed cases and close to 1,200 deaths have been reported. (COVID-19 Repository, 2021)

Vaccination is underway, with over 53,000 residents receiving first doses as of 3 March 2021. Malaysia has taken a two-pronged approach, dealing with pharmaceutical companies and negotiating with the COVAX facility. In January 2021, Malaysia agreed to purchase 18.4 million doses produced by Russia's Gamaleya Research Institute and China's Sinovac (from April), All vaccines will be distributed free, in three phases: the first phase covers frontline workers while the second covers vulnerable groups including those aged 60 and above and those with infectious and/or noncommunicable diseases. The third phase covers those of working age and will run until the end of 2021 or early 2022. Foreign nationals residing in Malaysia will also be eligible, including irregular migrants (Reuters, 2021 February 11)

The Philippines

The Philippines is a lower-middle-income archipelago nation home to 100 million people, heavily reliant on tourism and remittances from an overseas workforce. After reporting its first imported case on 30

January 2020, in February, travelers from mainland China, Hong Kong, Macau and Taiwan, and outbound travelers to South Korea. Following the confirmation of 10 local cases in March 2020, President Rodrigo Duterte declared a state of public health emergency. However, full lockdowns were initially delayed due to feasibility concerns in highly urbanized, densely populated Metro Manila.

After the first COVID-19 death on 11 March 2020 (the same day the WHO declared COVID-19 a pandemic), the travel ban was extended to all countries with local transmission; the military and the police were mobilized to lead the inter-agency COVID-19 task force. A state of calamity was announced, with the island of Luzon placed under enhanced community quarantine (ECQ) including school closures, curfews and restrictions of mass gatherings. Interestingly, effective 18 February 2021, all travelers with valid visas are permitted to enter the Philippines (Republic of the Philippines Inter-Agency Task Force for the Management of Infectious Diseases, 2021). Only foreign nationals are required to quarantine for at least 6 nights in a dedicated quarantine facility and undergo a COVID-19 test (Ministry of Foreign Affairs, Singapore, 2020).

The emergency powers enabled by two *Bayanihan* laws grant the President additional authority to combat the pandemic. Yet, despite one of the longest lockdowns in the world, the Philippines is still struggling with high daily COVID-19 case numbers. As of March 2021, it has recorded over 600,000 cases and more than 12,500 deaths (COVID-19 Repository, 2021).

In January 2021, the Philippines' Department of Finance announced a plan to secure 25 million doses of Sinovac's COVID-19 vaccine (Reuters, January 11, 2021). By the end of January 2021, 9.4 million doses of the Pfizer-BioNTech vaccine and the Oxford-AstraZeneca vaccine were secured through the COVAX Facility (Reuters, January 31, 2021), and a further USD 25 million committed for further procurement and purchase through the ADB Asia Pacific Vaccine Access Facility (APVAX) (ADB, 2021). The Philippines rolled out its COVID-19 vaccination program with Sinovac after receiving an initial 600,000 doses donated by China on 1 March 2021.

Vietnam

Vietnam, a coastal country of 95 million inhabitants, is widely considered to have had one of the strongest responses to COVID-19 worldwide. Preparations preceded the first official case; on 20 January 2020, Vietnam established a national COVID-19 Response Plan and Technical Treatment and Care Guidelines and prepared the public healthcare system to test and treat incoming cases. The day after the first official case was declared on 23 January 2020, an Emergency Epidemic Prevention Taskforce Group was formed to direct and coordinate different levels of government (Ha, et al., 2020). The activation of the Emergency Public Health Operations Center provided mechanisms for the provincial Centers for Disease Control to prevent and control COVID-19 through case detection, isolation, tracing cases, and surveillance measures. Only days later, all flights from Chinese and other epidemic areas to Vietnam and vice versa were suspended, crowds were banned, public mask-wearing was mandated, schools were closed, and extensive contact tracing operations commenced.

By March, Vietnam had suspended international flights from all other countries. It required anyone entering Vietnam to undergo a 14-day, mandatory institutional quarantine on arrival, mobilizing the military and local governments to provide free testing, meals, and amenities. Vietnam was also the first country in the world to apply medical declarations, mandating them for all entrants from China from 25 January 2020 and for all people arriving from elsewhere from 7 March 2020 (Malhotra, 2020). From 1 February 2021, all travelers entering Vietnam must undergo medical checks and a mandatory 21-day quarantine upon arrival (Visit Vietnam, n.d).

The government implemented nationwide social isolation measures from 1 to 15 April 2020 (Ha, et al., 2020), and subsequently acted swiftly to contain localized outbreaks with partial lockdowns. The rapidity of strong and decisive government action combined with high levels of population engagement have been cited as key factors underlying the fact that as of March 2021, Vietnam reported just 2,526 cases and 35 deaths, an impressive performance given its sizable population and a shared 1,450km land border with China.

Vietnam has agreed to purchase 30 million doses of the Oxford-AstraZeneca vaccine (Reuters, January 4, 2021) and is eligible to buy 30 million doses from the WHO-led COVAX Facility (Reuters, February 19, 2021). The campaign will prioritize the vaccination of frontline healthcare workers in the first quarter of 2021, key personnel such as teachers in the second quarter of 2021, and older adults aged 65 and over by the end of the third quarter of 2021 (Channel News Asia, February 23, 2021). AstraZeneca vaccines were received on 28 February and were approved for emergency use on 30 January 2021, a few days after Vietnam's first locally transmitted case in almost two months (Reuters, February 19, 2021). Vietnam is also working to develop its own vaccines: clinical trials are underway for the 'NanoCovax' vaccine developed by Vietnamese pharmaceutical company Nanogen Pharmaceutical Biotechnology (Le and Thu, 2021).

Singapore

Singapore was initially hailed as being at the forefront of pandemic management. A developed Southeast Asian city-state of 5.8 million, it built on both its relative wealth and the benefit of lessons learned from past outbreaks of SARS and avian flu, including the establishment of a color-coded Disease Outbreak Response System Condition (DORSCON) framework to guide its response plans.

After the first confirmed COVID-19 case on 23 January 2020, the government raised the nation's Disease Outbreak Response System Condition (DORSCON) level from Yellow to Orange. As case counts increased, Singapore's Multi-Ministry Taskforce, with representatives from across the health, manpower, finance, trade and industry sectors, was established to lead the national COVID-19 response. A partial domestic lockdown also known as the "circuit breaker", was implemented for eight weeks, from 7 April to 1 June 2020. Singapore kept essential workplaces and services open, but closed educational facilities, suspended religious activities, restricted movement and gatherings and imposed physical distancing measure. Mask-wearing was made mandatory in April 2020, bolstered by regular free nationwide distribution of reusable masks. Violations of these restrictions were met with strong penalties.

In late April, while community cases dwindled, a surge among migrant workers living in communal dormitories raised questions about Singapore's dependency on imported low-wage labor and the adequacy of health and social protection for the migrant workforce. With more than 1,000 new cases a day being detected in the dormitories at its peak, this second wave dwarfed the first and was met by a concerted effort to isolate, test and treat the dormitory populations, while simultaneously re-opening schools and businesses with safe-distancing measures in place in late June of 2020.

As an import-dependent city-state and global travel hub, Singapore protected its supply chains to ensure the continuous flow of imports, and prioritized international travel as part of safe reopening. The government has continued to maintain strong quarantine protocols for international travelers while actively pursuing "reciprocal green lanes" and safe travel corridors for essential and business travel. The evolving global pandemic situation, however, has stymied progress: a planned air travel bubble with Hong Kong and an air travel pass for Vietnam are both deferred/suspended until further notice (Immigration and Checkpoints Authority, Singapore, n.d.). Since December 2020, Singapore allowed for re-openings of most business sectors and social gatherings of up to 8 individuals. As of March 2021, Singapore has

reported a total of only 29 deaths among 60,052 confirmed COVID-19 cases, the vast majority of which (i.e., around 55,000 cases) comprised low-wage migrant workers, primarily from the construction industry.

Singapore was the first Asian country to receive the Pfizer-BioNTech vaccine on 21 December 2020 and has ordered vaccines from Pfizer-BioNTech, Moderna and Sinovac Biotech. Vaccination for healthcare workers began on 30 December 2021, followed by seniors aged 70 and above on 27 January 2021, and subsequently critical workers. Singapore plans to provide free vaccination nationwide by the third quarter of 2021, including the migrant worker population.

The Multilateral Response

Founded in 1967, ASEAN aims to promote regional growth and stability through intergovernmental cooperation on economic, political, security, educational, and sociocultural matters of interest among its ten member states. Although membership reflects large variation in economic, geopolitical and sociocultural backgrounds and stages of development, collectively ASEAN represents a major global player. Prior to the global pandemic, in July 2019, ASEAN had a combined estimated population of 662,012,000 and had risen to fifth place among the largest economies in the world, with nominal GDP estimated at USD 3.0 trillion and a regional GDP growth rate since 2011 of close to 5.0% (versus global GDP growth of below 4.0% (UN, 2019)

In the early pandemic, ASEAN's responses were swift and multisectoral but focused primarily on communication and information-sharing rather than a comprehensive and integrated regional response. Four days after China's notification of the novel coronavirus to the WHO on 31 December 2019, the ASEAN Secretariat Health Division alerted ASEAN senior health officials, triggering a series of dialogues around pandemic response, formulated in a series of virtual meetings, summits and video conferences.

The pandemic activated regional public health platforms, several of which were rooted in structures and systems developed as part of the regional response to SARS in 2002, including the ASEAN Emergency Operations Centre (EOC) Network for Public Health to provide daily situational updates to the ASEAN Plus Three, Contact Points of the ASEAN EOC Network and the ASEAN Plus Three Field Epidemiology Training Network (ASEAN+3 FETN). The ASEAN BioDiaspora Regional Virtual Centre generates data analytics and visualization to inform policymaking as a complement to national risk assessments, while other entities such as the ASEAN Risk Assessment and Risk Communication Centre helped disseminate preventive and control measures, including combatting false news and misinformation. At the same time, ASEAN ministerial economic, health, foreign affairs and tourism bodies had worked to intensify multi-sectoral cooperation, leveraging on ASEAN Plus Three (i.e., ASEAN, China, Japan and South Korea). ASEAN's Guidelines on the Provision of Emergency Assistance were used to help member states safely and quickly repatriate citizens to their home countries as national borders gradually closed over time. The ASEAN Economic Ministers agreed on a statement on economic resilience, which, given ASEAN's heavy reliance on trade, called for collective action leveraging technology, digital trade, and existing trade facilitation platforms to ensure the smooth flow of goods and services, protect critical infrastructure and trade routes, and allow the continued operation of businesses, particularly small and medium enterprises.

The first ASEAN Coordinating Council Working Group on Public Health Emergencies (ACCWG-PHE) was held on 31 March, followed by the Special ASEAN summit on Coronavirus Disease in April. The Summit issued a declaration with seven key measures for strengthening cooperation, including (1) further strengthening public health cooperation measures (2) preserving supply chain connectivity and ensuring the smooth flow of essential goods; (3) cultivating multi-stakeholder, multi-sectoral, and comprehensive approaches (4) collectively mitigating the socioeconomic impacts of the pandemic while safeguarding public well-being as a basis for (political) stability; (5) enhancing the transparent and public dissemination of important health and safety information; (6) providing appropriate assistance to support pandemic-

affected nationals of ASEAN countries in third countries; and (7) the allocation of resources to a joint Covid-19 ASEAN Response Fund for procuring medical supplies and supporting necessary research.

As events further unfolded, ASEAN initiated other pandemic-specific mechanisms overseen by the ACCWG-PHE. These include the setting up of the ASEAN Regional Reserve of Medical Supplies (PPEs), ASEAN Standard Operating Procedures for Public Health Emergencies and the operation of the COVID-19 Response Fund. At the end of 2020, the ASEAN Centre on Public Health Emergencies and Emerging Diseases was launched and the ASEAN Comprehensive Recovery Framework was approved. Together with its Implementation Plan, the ACRF serves as a consolidated exit strategy from the COVID-19 crisis that articulates five strategies to address short-term reopening, medium- and long-term recovery and longer-term resilience and re-emphasizes the multi-sectoral nature of a pandemic response: enhancing health systems, strengthening human security, maximizing the potential of economic integration, accelerating digital transformation and promoting sustainability in all areas.

ASEAN has also collectively pursued multilateral collaboration with external partners on health and economic fronts. In November 2020, ASEAN concluded the Regional Comprehensive Economic Partnership (RCEP) Agreement with Australia, China, Japan, Korea and New Zealand, a critical step towards post-COVID economic recovery. The ASEAN Secretariat has also committed to working with the WHO to implement the South-East Asia Pandemic Response and Preparedness program, which will strengthen health systems in member states and communication about the pandemic, as well as with the European Union on programs to similarly support preparedness and response capacities.

3. Discussion

The differing experiences of four countries above and the experience of ASEAN as an institution reflect the juxtaposition of the evolving understanding of a complex disease with underlying geopolitical and socioeconomic complexity. Below, we highlight elements of the policy responses across our case studies that played key roles in shaping these experiences.

Leadership in political context

The ability to implement a comprehensive multi-sectoral response relied heavily on the strength of leadership in national governments, which manifested in significantly different forms among our cases.

In Malaysia, the beginning of the COVID-19 epidemic coincided with a major political transition, following then-Prime Minister Mahathir Mohamed's sudden resignation in February 2020 and the subsequent overturn of 2018's democratically elected Pakatan Harapan coalition government. The takeover by a new alliance led by current Prime Minister Muhyiddin Yassin represented a return to Malay nationalist politics and forces associated with the regime of ex-Prime Minister Najib Razak, previously ousted under the shadow of an unprecedented corruption scandal related to the national 1MDB sovereign wealth fund. In spite of a strong early start, this political uncertainty and perceived lack of a mandate among segments of the public has been cited as a barrier to pandemic management, contributing to incidents such as local electioneering that precipitated a new surge, policy implementation failures and the reduced credibility of government rulings such as the Movement Control Orders. In January, the King approved the declaration of a government-proposed a state of emergency until August 2021 explicitly as a measure to address COVID-19, preventing the calling of new elections until the emergency is lifted.

In Singapore, national solidarity around COVID-19 has been an underlying theme from the start, recalling for many the experience of SARS as a national watershed event. Daily briefings from the quickly formed

Multi-Ministerial Task Force and regular multi-lingual national addresses by the Prime Minister's speeches formed the foundations for the government's effective, transparent, culturally sensitive crisis and risk communication strategy during the pandemic. In July 2020, a month after the nationwide circuit breaker, the government called for elections. Government leadership was positioned as responsible for dealing with challenges up ahead and despite a weakened popular vote showing, the ruling party's political legitimacy remains high.

In the Philippines, the Duterte administration adopted a national security-led response and declared success in waging a war against COVID-19, using an approach that mirrors its war on drugs. Political concerns quickly manifested even at the very start of the pandemic timeline, when members of the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) for COVID-19 response were replaced in the wake of criticism of the administration's decision making. The national response has been further complicated by concerns about human rights abuses, emerging scandals around the national health insurance agency and most recently, allegations about preferential access to unapproved COVID-19 vaccines by the president's military security detail and other close associates. Repeated calls for the Health Secretary's resignation have been made while various localities (e.g., Manila, Pasig, Taguig, Baguio) have independently implemented measures beyond national guidelines to address local outbreaks and have procured or signed deals for COVID-19 vaccines for their jurisdictions (Rappler, 2021). Meanwhile, although polls suggest continued and possibly even rising popular approval for the administration, the President continues to be publicly at odds with the pandemic task force over reopening and reports suggest that initial vaccination rollout has been met with skepticism by a country wary of China's influence on the current administration (Robles, March 1, 2021).

In Vietnam, facilitated by the one-party state, Prime Minister Nguyen Xuan Phuc also took a top-down hardline approach. Like the Philippines, his administration declared war on COVID-19, drawing on strong imagery to invoke national unity with mottos like "fighting the epidemic is like fighting against the enemy". (Jones, 2020). On February 1, after six confirmed cases, the prime minister signed a decision declaring a national epidemic, with the strong support of the Communist Party and the National Assembly and an established chain of pre-existing emergency response committees linking national and community decisionmakers within the same decision-making units. While centrally-led, the strategy ensured implementation of the "four on-sites" - onsite leadership, onsite human resources, onsite materials and supplies, and onsite logistics (Nguyen et al, 2021). The relative success of pandemic control has reinforced greater trust in the government: a 2020 survey found that 62% of people in Vietnam believed the level of government response was the "right amount," a number higher than any of the other 45 countries surveyed (Pollack, et al, 2020).

Public communications about risk and mitigation measures

Given the complex and rapidly evolving understanding of the disease and its prevention, the need for an effective of public communications strategy was critical.

In spite of political instability, the Malaysian government was able to deploy a risk communication approach grounded in constancy and reassurance, with Health Director-General Noor Hisham Abdullah emerging as a familiar, apolitical leader representing health system frontline healthcare workers and a trusted conveyor of new data and evidence (Kyaw et al, 2021)

In the Philippines, official channels include Healthy Pilipinas, a Facebook page supported by the government and the *COVID Alis sa Pamilyang Wais* ("Family Smarts Keep COVID Away") campaign. The *Bayanihan* laws also require the President to conduct a weekly public report on the state of COVID-19 response as part of the country's risk and crisis communication strategy. However, these reports are

perceived by some as blame-shifting steering meetings, threatening citizens and critics alike with force, rather than being transparent and informative about government action.

Meanwhile, Singapore leaders grounded their COVID-19 risk communications in “defensive pessimism” (Wong, 2020). Risks were framed as serious, persistent, and not to be underestimated, and with emphasis on the scientific basis of measures undertaken. Transparency and access to information have been consistently highlighted. The population were initially kept apprised of the pandemic-related developments through regularly-broadcast briefings at the Ministerial level. A dedicated Ministry of Health website and hotline were put in place, with COVID-19 related briefing information linked prominently to the primary government portal. Information on each confirmed case, including age, sex, occupation and case history is shared publicly. In addition, Singaporeans can receive daily WhatsApp or Telegram updates with reports of the latest case numbers, clusters, and other information (Sagar, 2020).

Vietnam’s COVID-19 communications have been of unique interest. In January 2020, Vietnam had already disseminated their mid-term plan for communicating health risks for the 2020–2025 period. Extensive risk communications measures for COVID-19 addressing all stakeholders were undertaken using this framework, when many other nations had yet to perceive the virus as a major threat. On February 5, warnings were made publicly available through all media platforms, and on February 9, the Ministry of Health held a virtual conference with the WHO and 700 hospitals nationwide on containing the virus. The government also implemented a vigorous public awareness campaign on all mass media platforms, including regular messages sent to all phones notifying citizens of what to do to protect themselves via multiple applications (e.g., Zalo, Viber, Lotus, TikTok) and an active campaign to identify and penalize misleading online information. In an unexpected and innovative twist, in late February 2020, the National Institute of Occupational Safety and Health released “Ghen Co Vy,” which translates to “jealous coronavirus,” a well-known pop song given new lyrics and turned into a handwashing public service announcement. The song began a popular dance challenge on the video-sharing social networking platform TikTok, garnering over 8 billion views.

Health system preparedness and resilience

Across Southeast Asia, as noted earlier, health systems were already under pressure to manage rising chronic disease burdens while meeting the goal of achieving universal health coverage. As countries found themselves in various stages of preparedness to face the epidemic, forward planning and investments in the necessary public health and medical infrastructure became evident advantages. As the pandemic progressed, a resilient healthcare workforce and multisectoral cooperation became second and third critical pillars of defense.

Both Singapore and Vietnam’s experiences reflected lessons from the history of SARS and H1N1. In Singapore, at the top, the new National Center for Infectious Disease was poised to lead the overall efforts, having been fortuitously launched in September 2019, in the form of a 330-bed purpose-built facility designed to strengthen Singapore’s capabilities in infectious disease management, prevention, and outbreak management. On the ground, the government activated the Public Health Preparedness Clinics (PHPCs), formerly known as Pandemic Preparedness Clinics, a network of clinics in Singapore that consolidate the primary care response to public health emergencies. With respect to financing, in the early pandemic, the Singapore government bore the majority of the costs of testing, treatment and quarantine, although this support has gradually been reduced over time.

However, the major unanticipated outbreak among migrant workers in dormitories revealed a major blind spot in the system, which does not subsidize care for non-Singaporeans, and raised broader questions around health equity and responsibility for living conditions and employee welfare. As case numbers

surged, the Ministries of Health and Manpower mobilized significant resources and worked together to implement a “three-pronged strategy” - facility lockdown, testing and isolation of workers and close contacts, and the moving of healthy essential workers to alternative accommodation, e.g., military camps.

Following SARS in 2002 and avian flu in 2010, Vietnam increased investment in public healthcare and health infrastructure, developing a public health emergency operations center, a public health surveillance system and an epidemic management plan that were quickly and effectively put into action. Even prior to the first reported case, hospitals nationwide were prepared with appropriate protocols, with selected regional centers for severe case management. Regional therapeutic task forces were established, personal protective equipment was stockpiled, and infection control measures were reinforced at hospitals, while emphasizing the theme that “‘saving lives is prioritized above consideration of the economic loss.” After the initial few months, the military was additionally deployed to assist. All treatment was covered by the National Health Insurance for Vietnamese citizens. These plans enabled Vietnam to meet the very first reported cases with proper isolation, prompt contact tracing and timely reporting and sharing of information, and to quickly and effectively address subsequent outbreaks.

Conversely, in the Philippines, about PHP 58.6 billion was set aside for health, including medical equipment and supplies, personal protective equipment, COVID-19 coverage for patients and health workers through PhilHealth, production of test kits and compensations for private facilities for use in COVID-19 response. However, the capacity to trace, test and treat COVID has been a strong constraint, even leading to a halt in the sending of healthcare workers abroad to avoid a local shortage of healthcare personnel for the COVID-19 response (CNN Philippines, 2020). Malaysia's healthcare system similarly received relatively sizable government funding support for COVID-19 (MYR 6.4 billion) but has been overwhelmed by the persistence of high caseloads, leading to growing concerns about provider burnout and arrangements with private healthcare institutions to provide additional beds and ICU facilities.

Economic support and social protection

Across all four countries, efforts to keep their national economies afloat and provide social safety nets have been put in place, with economic supports that are relatively large compared against health spending.

For instance, since February 2020, Malaysia has spent at least MYR 113 billion (USD 26.3 billion) for COVID-19 response; the share of income support (MYR 106.6 billion) is considerably larger than the support for health interventions (MYR 6.4 billion) (Asian Development Bank, February 21, 2021). In addition, the Malaysian government has undertaken a series of stimulus packages amounting to over MYR 290 billion (USD 67 billion) that provide tax incentives, financial support for businesses, and wage subsidies to bolster the negative economic impacts of the pandemic. Elsewhere, and indeed on a worldwide scale, the Singapore government’s fiscal response has been sizable, with disbursement of SGD100 billion (USD 75 billion) combined from four stimulus packages, causing an unprecedented drawing down of its considerable national reserves. To mitigate the economic impact of the pandemic and ensure business continuity, support included cash grants for citizens and households, wage subsidies, and corporate tax relief.

In the Philippines, an initial PHP 2 billion was allotted by the Department of Labor and Employment before a PHP 27.1 billion budget was allocated for sectors affected by COVID-19, PHP 14 billion of which was allocated to tourism (CNN Philippines, 2020b; 2020c). An additional PHP 629.9 billion has been earmarked for income support, including subsidies for low-income families and employees of small businesses, boosting buffer stock of essential goods, assistance to Overseas Filipino Workers, and an emergency employment program for informal sector workers. About PHP 165 billion more (USD 3.4

billion) was allotted for pandemic response and recovery in September 2020 under the second *Bayanihan* law (CNN Philippines, 2020a).

Lastly, to date, Vietnam has spent VND 283 trillion (USD 12.2 billion) on a social protection package to support tax deferrals and policy changes, tax rates reduction, wage support and subsidies to individuals, households and businesses and indirect income support, focusing in part on poor/near poor households and the recently unemployed (Asian Development Bank, 2021). These are critical to maintain economic stability but may be a matter of political survival. Critics of the Duterte administration, for instance, suggest that sizable cash benefits could be responsible for the President's strong continued approval even in this challenging period.

International aid and global health diplomacy

For three of our four cases, external financing has been a significant contributor to the COVID-19 response. Malaysia has received at least MYR 85 million (USD 19.93 million) in international loans and grants from the ADB and USAID (Asian Development Bank, February 21, 2021). The Philippines has received at least PHP250 billion (USD 4.9 billion) in international assistance for COVID-19 response, mostly in loans and grants, from various multilateral financial institutions and foreign aid agencies (Asian Development Bank, February 22, 2021). These include PHP 95.97 billion (USD 1.885 billion) in loans (USD 1.875 billion) and grants (USD 10.36 million) from the ADB, USD 1.1 billion in loans from the World Bank, and USD 750 million from China's Asian Infrastructure Investment Bank. Over 50 UN and local and international non-government partners have raised more than PHP 6 billion (USD 122 million) for the COVID-19 Humanitarian Response Plan to provide critical health interventions and multi-sectoral humanitarian assistance to 5.4 million poor and marginalized Filipinos in epidemic hotspots (Gonzalez, 2020). Additionally, Vietnam received over VND 13.6 trillion (USD 586 million) in international assistance, most of which are loans and grants from the Asian Development Bank (VND 13.2 trillion). The remainder are from the UN COVID-19 Response and Recovery Funds, the USAID and the World Bank through the Pandemic Emergency Financing Facility (Asian Development Bank, 2021).

COVID-19 has also offered the opportunity for countries to pursue global health diplomacy, choosing to strategically make monetary or in-kind donations to other countries as part of the broader global COVID-19 response. Singapore's efforts have been notable: the government contributed US$500,000 to the World Health Organization's Strategic Preparedness and Response Plan for COVID-19, sent two tranches of aid to China, and delivered relief to regional neighbors Indonesia and Myanmar (Ong, 2020). Alongside, Singapore donated 520,000 COVID-19 tests, more than 10 PCR machines for diagnostic testing, 3,000 oxygen and ventilation supplies, more than 2.3 million surgical masks, and over 120,000 liters of hand sanitizer to more than 35 countries worldwide (Temasek Foundation, 2020).

Vietnam has also offered international assistance after boosting domestic production of medical supplies, including domestically made and WHO-approved test kits. Harnessing health diplomacy, Vietnam has delivered COVID-19 related medical equipment (test kits, face masks, PPE, hand sanitizers) to neighboring Laos, Cambodia, Indonesia, China, US, France, Germany, Italy, Spain, Britain, Russia, Japan, Sweden, Cuba, Israel, and the Maldives, and donated USD50,000 to support Myanmar's COVID-19 response. Finally, Malaysia has been a selective donor with a specific political agenda, extending assistance to Palestine through donations of face masks, gloves and face shields (Bernama, May 11, 2020).

Digital technology adoption

Most countries in Southeast Asia have harnessed technology in some way as part of their national COVID-19 responses - whether for mass communications, contact tracing, surveillance or public service

delivery, including telehealth, distance learning and digital payments. For instance, Singapore introduced TraceTogether, a Bluetooth-based contact tracing app, in March 2020. Singapore also introduced SafeEntry, a national cloud-based digital visitor registration system which logs an individual's identification and contact details when visiting public locations, to facilitate contact tracing and identification of COVID-19 clusters. Alongside, as noted previously, the government embarked on an information campaign via Telegram and WhatsApp. The pivot to online service delivery was also significant: school closures were immediately accompanied by an electronic home-based learning system. In the healthcare system, an online COVID-19 symptom checker was rolled out, together with telecare programs at the primary care level. Government support schemes were delivered by electronic vouchers and through direct deposits. In addition, various assistance schemes have been launched to enable businesses to go online, especially small and medium enterprises.

The ability to leverage existing online/mobile platforms to rapidly and cost-effectively deploy solutions has been a major advantage. However, concerns about privacy and data protection remain, as do questions around the quality of implementation, access, and equity in countries facing a significant digital divide.

Focusing on comparative experiences with contact tracing, In Malaysia, the MySejahtera mobile app was developed to facilitate nationwide contact tracing efforts and now also acts as a portal for the national vaccination program. In Vietnam, the government deployed Bluezone, a contact tracing mobile app (another mobile app, NCOVI, collects citizens' self-reported daily health status and is a reporting platform for suspected COVID-19 cases and an official channel for updates on COVID-19) (Ministry of Information and Communications of the Socialist Republic of Vietnam, 2020) As of August 2020, population uptake of MySejahtera was reportedly 60% and Bluezone was approximately 14%. Despite high levels of trust, uptake of Singapore's TraceTogether was reported to be only approximately 70% in December 2020. To improve uptake, TraceTogether has been integrated into wearable tokens distributed to non-phone users.

Comparatively, the Philippines illustrates the uneven take-up of technology. On the one hand, for surveillance, the Feasibility Analysis of Syndromic Surveillance using Spatio-Temporal Epidemiological Modeler (FASSSTER) platform developed by the Ateneo de Manila University has been successfully introduced as the local government unit monitoring platform for health crisis management, allowing for sophisticated analysis of data and visualization (Dillera, 2020). At the same time, the Philippines does not yet have a widely adopted contact tracing system, continuing to rely in some areas on manual data entry. Several contact tracing apps were launched by various organizations and agencies, including the Department of Health and the IATF (Staysafe) and the Philippine Red Cross (RC143), the Philippine Ports Authority and Civil Aviation Authority (Traze), the Department of Science and Technology (Safe, Swift and Smart Passage, S-PASS) but none has been adapted for use nationwide despite Staysafe being mandated by the IATF (CNN Philippines, 2020, 2021). Attempts to consolidate the contact tracing apps and disease surveillance systems through the WHO's proposed COVID-KAYA epidemiological surveillance information system for healthcare and testing facilities nationwide has proven difficult (WHO, 2020).

Multilateral action and its limits

With respect to Southeast Asia's multilateral response, it is critical to understand that ASEAN's role as a regional platform is circumscribed firstly by its inherent nature and resources, secondly by the diversity of its membership, and lastly by the roles of other multilateral organizations with an overlapping mandate. Although ASEAN has regional frameworks and agreements in place to facilitate conversation, diplomatic dialogue, and information flows, it functions as an intergovernmental organization seeking to promote and facilitate integration, rather than a supranational union in which member states cede aspects of authority or sovereignty to the group. ASEAN's fundamental principles

of non-interference and national sovereignty of member states rule out a fully integrated cross-national ASEAN-level response to COVID-19 (ASEAN, n.d.).

In the case of regional travel, although the phased establishment of an ASEAN-wide travel bubble was suggested by Indonesia, a coordinated response has not been forthcoming. Instead, countries in the region with similar levels of control are instead establishing bilateral travel corridors among themselves and others. At the same time, ASEAN's Regional Virtual Centre continues generating risk assessment reports on COVID-19 for air travel and sharing travel advisories among countries in ASEAN in collaboration with Bluedot, the Philippines' Department of Health, the ASEAN Secretariat and the Government of Canada.

In another instance, while the ASEAN COVID-19 Response Fund recently announced the intent to spend USD 10.5 million to buy vaccines, participation in other global platforms related to vaccine access remains critical for member states. This includes APVAX, which has USD 9 billion funding allocated to support access, procurement, transport and expansion of vaccine manufacturing capacity in developing member states (ADB, 2021) and another USD 500 million available for a Vaccine Import Facility to facilitate vaccine imports and mitigate payment risks (Reuters, December 11, 2020). Elsewhere, six LMICs – Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines and Vietnam – are eligible for assistance under the COVID-19 Vaccine Global Access (COVAX) Advance Market Commitment (AMC) mechanism. Among the higher-income ASEAN member states, Singapore has announced its commitment of USD 5 million to the AMC mechanism and co-chairs the Friends of the COVAX Facility initiative with Switzerland (Channel News Asia, December 4, 2020). Brunei and Malaysia have signed commitment agreements to the COVAX Facility, while Thailand has submitted a non-binding confirmation of intent to participate (GAVI, 2020).

Conclusions

Within the first year of the pandemic, Southeast Asian countries like the Philippines, Malaysia, Myanmar and Indonesia have dealt with high numbers of cases for prolonged periods, with pandemic management hindered by domestic challenges, while Vietnam, Singapore, Brunei, Cambodia, Laos and Thailand have been able to contain COVID-19 relatively well.

At the time of writing, protecting population health, safety and economic security in the face of a pandemic and a global recession remains a top priority for all. In addition, against the backdrop of forced shutdowns of previously open borders, slowed regional trade integration, and greater insularity and protectionism in countries around the world, ASEAN nations continue to recognize the critical need for international flows of goods, services and persons and the value of a multilateral platform. Vaccination programs have begun as of the first quarter of 2021 and recent regional growth forecasts are relatively optimistic. However, the projected gains are uneven, leading to concerns about a "multi-speed" recovery and widening socioeconomic disparities both across and within countries (see Table 1 below).

Table 1: World Economic Outlook forecasts
(year-over-year change; percent)

Country	2019	2020	2021
Asia	4.6	-2.2	6.9
Singapore	0.7	-6.0	5.0
Brunei Darussalam	3.9	0.1	3.2
Cambodia	7.0	-2.8	6.8
Indonesia	5.0	-1.5	6.1

Lao P.D.R.	5.2	0.2	4.8
Malaysia	4.3	-6.0	7.8
Myanmar	6.5	2.0	5.7
Philippines	6.0	-8.3	7.4
Thailand	2.4	-7.1	4.0
Vietnam	7.0	1.6	6.7

The discussion reviews both strengths and limitations in policy responses across four diverse cases in Southeast Asia, which reflect country and regional capacities to continue to manage COVID-19 and potential divergences in the roads to reopening and recovery. In addition to underscoring the prime importance of decisive and credible leadership, there are a few clear implications: countries should strive to maintain a pragmatic yet conscientious approach to balancing complex and changing risks, to espouse transparent communication and good governance regardless of levels of development, and above all, to reflect and take steps to prepare ahead for the next yet-to-be-known pandemic.

At the same time, significant systemic uncertainty persists, as evidenced by the recent political instability that continues to unfold in Myanmar. In addition, for all countries, the long-term consequences of both the disease itself and the impact of lockdown measures such as social isolation and schooling interruptions on affected populations are still unknown, raising the distant specter of future physical, mental or social costs yet to be realized. As the situation continues to evolve, it is important to recognize that lessons from this pandemic will remain to be fully learned over decades to come, both for Southeast Asia and the rest of the world.

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