

Analysis of Government Interventions to Address Hazard: A Case Study of Covid-19 Pandemic in ASEAN

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Abstract: This study provides a review of government interventions policies and measures used to address hazard with the case of the COVID-19 pandemic in the Association of Southeast Asia Nations (ASEAN). This study focuses on four government interventions such as policy interventions, social restrictions and lockdown measures, economic interventions, and health policies. Based on the literature reviewed, this study reveals that the lockdown played a crucial role in breaking the COVID-19 pandemic chain. Countries that delayed the implementation of lockdown experienced an increase in the number of COVID-19 cases. On the other hand, countries that proactively hastened the lockdown were able to reduce the number of cases. Furthermore, health and medical facilities such as the availability of Personal Protective Equipment (PPEs), Intensive Care Units (ICUs), and ventilators were important in alleviating the pressure on the health systems. Overall, ASEAN countries initiated similar approaches such as economic stimulus packages, to boost their economies and to minimize the negative economic impact of COVID-19. Generally, all the countries practiced social distancing, wearing of face masks, as well as testing and contact tracing. There were partial and full movement control of the population (lockdowns) as well as closure of international borders educational institutions, and restaurants and entertainment hubs to flatten the pandemic curve and break the COVID-19 chain. This study believes that tester kits were also crucial in detecting earlier cases which probably resulted to the increase in the number of active cases. However, lack of tester kits probably accounted for the overstated number of active cases. This study also believes that quarantine zone was more efficient than home quarantine. Although it is now post pandemic, this study is important as a lesson learnt for future mitigation strategy and reduce the impact of hazard.

Keywords: COVID-19, ASEAN, government interventions, economy, social, health.

1. INTRODUCTION

Hazard is define as a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation [42]. Covid 19 pandemic is considered as hazard that disrupt human activities, economy, loss of life, social and well-being of people all around the world. Hazard may occurs at anytime and anywhere thus risk reduction strategy is inevitable.

The outbreak of COVID-19 pandemic that spread around the world and sickened millions of people first emerged in the city of Wuhan in Hubei province, China. It was officially made known to the World Health Organization (WHO) on 31 December 2019 [44] and the outbreak was declared as a public health emergency of international proportions on 30 January 2020 [45]. On 11 March 2020, WHO declared the outbreak of the deadly virus, as a pandemic, which makes it the first-ever pandemic caused by a coronavirus [46].

According to the report by World Health Organization [44], the global tally as of 31 December 2021 revealed 291,665,414 confirmed illnesses and 5,510,467 deaths. The outbreak of COVID-19 forced millions of people into a lockdown as health care systems in many countries were struggling to cope. Regionally (WHO regions¹), Americas registered the highest number of cumulative confirmed covid cases of more than 29 billion and cumulative deaths of more than 800 million as of 31 December 2021. This was followed by Europe with more than 23 billion of confirmed cumulative cases and more than 507 million deaths. Among others WHO regions, South East Asia witnessed more than 12 billion cumulative cases while death tally crossed 189 million as of 31 December 2021. Moreover, South East Asia region was followed by Eastern Mediterranean region, followed by Western Pacific and Africa. These are shown in the figure 1 and figure 2.

Even though countries with a higher population, such as India, tend to have greater numbers of confirmed cumulative cases of more than 34 million and fatalities of four hundred eighty one thousand eighty as of 31 December 2021. There are various other contributing factors including a country’s demographic profile such as population age structure [11], male gender [23] and the presence of comorbidities such as diabetes, hypertension, and cholesterol levels [53]. One study showed that COVID-19 death rates and risks are highly associated with older people, particularly those who are aged above 80 years [11]. For instance, with almost 24% of its population are over 65 years old, Italy was tremendously affected by the outbreak compared to China [24].

Globally, the government in many countries combated the unprecedented outbreak of COVID-19 with an unprecedented response [25]. The sudden emergence and rapid spread of the COVID-19 outbreak led to substantial pressure for all countries including developed and developing countries, with the latter mostly unprepared. In contrast to Middle East Respiratory Syndrome coronavirus (MERS-COV) and Severe Acute Respiratory disease (SARS-COV) that were efficiently controlled, the COVID-19 diffusion seems difficult to contain. Consequently, this prompted an array of responses and measures from governments across the globe. The general measures executed to slow the spread of the virus include social distancing, contact tracing, bans on big events and mass gatherings, restrictions on population movement, closure of schools and universities, among others.

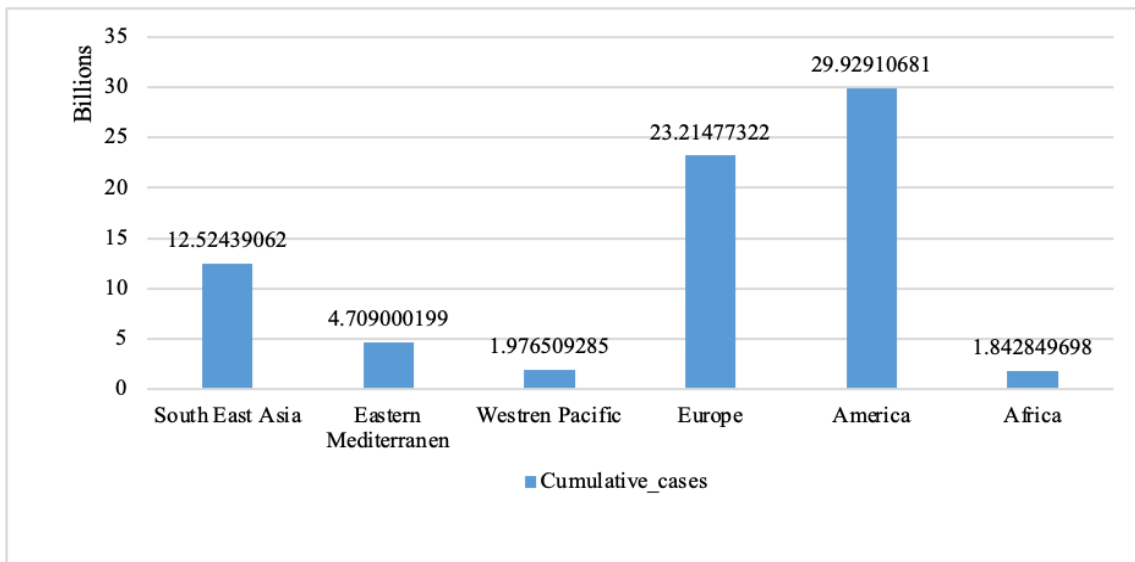


Figure 1: Number of confirmed cumulative cases of COVID-19 as of 31 December 2021 in WHO Region

Source: [44].

¹ WHO regional offices: WHO Member States are grouped into six WHO regions -- Regional Office for Africa (AFRO), Regional Office for the Americas (AMRO), Regional Office for South-East Asia (SEARO), Regional Office for Europe (EURO), Regional Office for the Eastern Mediterranean (EMRO), and Regional Office for the Western Pacific (WPRO).

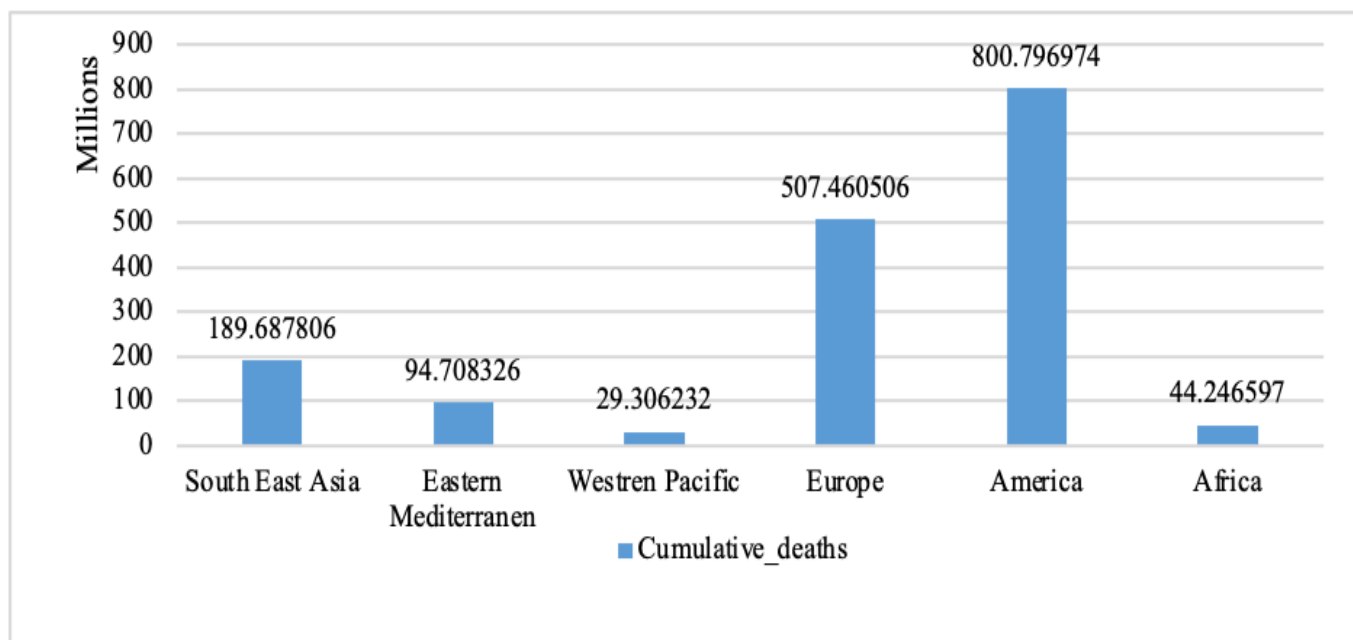


Figure 2: Number of confirmed cumulative deaths as of 31 December 2021 in WHO regions.

Source: [49].

Lockdowns, movement control, circuit breakers and other forms of restrictions were challenges to all governments worldwide, particularly to sustain for a long-term period. In many countries, the governments were caught in an enormous dilemma in their decision in allowing restrictions and lockdowns to be eased for the sake of economic recovery and growth. Nevertheless, WHO warned that lifting lockdowns and restriction prematurely was risky since it was capable of sparking a resurgence of infections, which could eventually cause even more severe and prolonged damage to the economy prior to lockdowns. Although government interventions through various restrictions may not be enough to contain the outbreak of COVID-19, nonetheless, these were indispensable. Without such public interventions, the deadly virus would have created more havoc worldwide, causing a higher death rate. Thus, we have witnessed unprecedented government interventions throughout the world in which various intervention policies and strategies were formulated. Though there were slight heterogeneity in the policies across regions and countries, they do share one commonality, which is to eliminate the virus from being transmitted.

Even though the Asian region was the first region hit hard by COVID-19, including its ASEAN members' (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam), however, ASEAN countries experienced a low number of confirmed cases and death rates per capita than other regions. As of end of December 2021, confirmed covid 19 cases were 148,766,29 while number of deaths in the ASEAN were recorded at 304,718. Brunei, among the ASEAN region, exhibited the lowest number of confirmed total cases and total fatalities. As of 31 December 2021, Brunei reported a cumulative total of 15,420 cases and 61 deaths. Among the ASEAN nations, Indonesia reported the largest number of overall COVID-19 cases and fatalities, followed by the Philippines, Malaysia, and Thailand. In comparison, the United States has reported a higher number of total confirmed cases and deaths in comparison to the ASEAN region. As of December 31, 2021, the total number of confirmed cases in the United States was 53,534,286, while the number of total deaths stood at 819,055 [49]. If this trend holds, there are multiple contributing factors that might have come into play. These could be due to the demographic or geographic profiles or through effective government interventions formulated in the ASEAN countries. Regardless of which factors that might have contributed significantly, this study is more interested to observe the effective government interventions formulated to combat the virus in ASEAN. Generally, the present study aims to provide a review on government interventions in ASEAN, particularly to provide answers to the following questions; i) what are the policies and measures implemented by government in ASEAN to manage the outbreak of COVID-19? and ii) Why are these policies and measures crucial to controlling the outbreak?

Table 1: COVID-19 statistics in ASEAN countries as of 31 December 2021.

S.No	Country	Total Cases	Total deaths
1	Brunei	15470	61
2	Laos	111060	372
3	Cambodia	120493	3012
4	Singapore	279405	828
5	Myanmar	530834	19268
6	Vietnam	1731257	32394
7	Thailand	2223435	21698
8	Malaysia	2758086	31487
9	Philippines	2843869	51504
10	Indonesia	4262720	144094
	Total	14876629	304718

Source: [48].

2. LITERATURE REVIEW

This section reviews the interventions and measures to curb the risk as well as to control the spread of the COVID-19 pandemic in ASEAN. The literature section is divided into 4 sub-sections namely: i) Government intervention policies; ii) Social restrictions and lockdown measures; iii) Economic interventions; and iv) Health policies.

Government Intervention Policies

There is a diversity of socio-cultural and political differences among ASEAN which make the member countries to address various problems by themselves [26]. The pandemic outbreak has urged the governments worldwide to look from the public health point of view and devise intervention policies that can progressively control the threat of the multiplication of cases on national boundaries and within neighbouring nations. Vietnam and Singapore were successful in controlling the greatest threat of COVID-19 by enforcing containment and preventive measures such as tracking, tracing and testing [31]. These intervention policies served as guidance to the other ASEAN and beyond. On the other hand, one of the main policy interventions by the Malaysian and Thailand governments was border controls as a preventative measure to manage the spread of the virus.

On the 13th of January in the year 2020, a 61-year-old Thai lady became the first person in Southeast Asia to be diagnosed with the virus. Thus, first case of COVID-19 in Southeast Asia was reported on the 13 January 2020 [7]. In Singapore, it was reported on the 23 January 2020. Singapore is among the countries that had more imported cases due to foreign workers and migration in their country [34]. The reliance of Singapore on migrant workers in different sectors such as shipping, construction, and maintenance made it difficult for the country to practice social distance as these workers reside in dormitories. This led door to open for potential cases of COVID-19 [12]. Singapore witnessed a sudden flow of new COVID-19 cases shortly after earlier control and battle against the pandemic. This unexpected surge was because of migration of workers and their accommodation. Singapore's government intervened to manage the outbreak in the country by doing stringent tests on a vast scale of suspected cases and tracing and tracking of people who were in close contact with an infected person. The close contacts were strictly home quarantined by the government until they get cleared [12]. The government decided to impose a partial lockdown with its territory on 7th April. The imposed law was so strict that the country fine the individuals up to S\$10,000 and/or up-to six months of prison if the individuals left home unwanted [19].

Indonesia is one of the most COVID-19 affected countries due to limited resources and a poor population. On 24th March, the president of Indonesia, Joko Widodo, decided not to initiate a lockdown in the country [39]. This may reflect a misconceived decision policy by the government in efforts to manage the spread of COVID-19. This delayed lockdown in the country could be the one of the reasons in making an Indonesia as one of the highest fatality rates

caused by the COVID-19 pandemic among ASEAN nations. The Indonesian government soon realized the dire need for a lockdown. Consequently, on April 10, the country implemented a partial lockdown.

Malaysia is one of the countries that successfully managed the pandemic crises and in curbing the number of COVID-19 cases. The government announced a curfew-type lockdown called the "Movement Control Order (MCO), which was implemented in phases. The first phase of the MCO started on 18 March 2020, to 31 March 2020. The second phase of the MCO started from 1 April 2020, to 14 April 2020, while the third phase started on 15 April 2020, to 28 April 2020. These gradual extensions were intended to provide space and time to healthcare workers to fight the pandemic. It also helped to alleviate the burden of hospitals and prevent the spread of COVID-19 amongst the general population [3].

Generally, the implementation of the MCO was to ensure that people stay at home and only the head of the family was allowed to go out to buy essential needs. MCO was a serious government intervention to break the COVID-19 chain. Thus, fines and prison sentences were imposed on the people who violated the MCO. Meanwhile, in Thailand, a state of emergency was declared by the government on 26 March 2020, and the partial lockdown was imposed in Bangkok and other nearby cities to manage the COVID-19 crises in the country. Similarly, like Thailand, the government of the Philippines implemented a home quarantined policy, which was announced by the president of the Philippines Mr. Rodrigue Duterte. The quarantine took place from 16 March 2020, to the end of April 2020 covering 50% of the country's population. The government has developed a plan to mitigate the psychological impacts of COVID-19 which was family-oriented and focused. The strategy included the provision of preparation facilities to COVID-19 infected family members, special care for aged members, especially for people who are more than 60 years. The plan served as social capital for civilian of the Philippines [12].

Other ASEAN members such as Brunei, Vietnam, Cambodia, Myanmar, and Laos, recorded a small number of COVID-19 cases as compared to ASEAN member discussed above as of 8 September 2020. The small number of COVID-19 cases in these nations is relatively small due to small economic activities when compared to Singapore, Indonesia, Malaysia, Philippines, and Thailand [30]. Despite having fewer COVID-19 cases and the lowest fatality rate in these nations, the governments of these countries took mandatory measures to fight the COVID-19 pandemic.

Vietnam performed relatively well, and the major contributors in the combat against the COVID-19 pandemic were early risk assessment, coordination between population and government, as well as immediate government action to reduce the risk of spreading the virus. Vietnam had managed to control the situation by taking several measures, and this resulted in the recovery of active positive COVID-19 cases with total deaths of 32,394 patients as of 31 December 2021. This figure is relatively low as compared to other ASEAN members such as the Philippines with total deaths of 51,504 and Indonesia with 144,094 [49]. The Vietnamese government-maintained cooperation with citizens and implemented preventative measures such as checks and self/public health quarantine, wearing of masks, health status declarations, closure of schools, and social distancing [22]. From January 2020, massive tests were implemented in Brunei, and travelling out of and within the country was prohibited since 15 March 2020 [10]. Brunei citizens returning from abroad were kept in isolation and quarantined at several quarantine facilities available around the country.

As of 31 December 2021, Cambodia had recorded 120,493 COVID-19 cases [49]. The Cambodian government had taken proactive measures to prevent the spread of the virus when a spike in COVID-19 infections occurred in early March 2020. The government decided to close educational institutions, entertainment spots, and allowed limited social gatherings. Additionally, the government suspended foreign visas, the New Year celebrations, and declared a nationwide state of emergency. The citizens of Cambodia were restricted to movement from one place to another, and the health sector received more economic resources to avoid further health issues. Cambodia's government policies have proven to be successful in controlling the spread of the virus and curbing the social panic among the masses [17].

Myanmar confirmed its first two COVID-19 cases on 23 March 2020, which were imported cases involving a 36-year-old man returning from the US and other 26-year-old returning from the UK [40]. Myanmar recorded 530,834 confirmed coronavirus cases and 19,268 total deaths as of 31 December 2021 [49]. Myanmar announced safety measures that it imposed curfews in some cities, gatherings of five or more people, and unnecessary outing from homes was prohibited. However, factories were allowed to operate after careful inspections particularly

pharmaceutical and food factories. Visa extensions procedures were conducted digitally for foreigners, investment was made to state-owned factories that produce pandemic related products.

Laos reported its first two COVID-19 cases on 24 March 2020, which was declared by the Vice Minister of Health Dr Phouthone Muongpak, in an emergency press conference [43]. The government of Laos in response to the pandemic established the “Task Force Committee” with the objective of preventing and controlling the outbreak and spread of the coronavirus. The government ordered the closure of borders nationwide while international border checkpoints remained operational. Visas were suspended, visa exemption for enlisted countries were cancelled, and self-isolation and quarantine were made mandatory under strict supervision for 14 days for inbound travellers. Workers returning to Laos from abroad were also required to self-quarantine for 14 days [54]. As of 31 December 2021, Laos recorded 11,1060 total confirmed coronavirus cases and 372 total deaths in the country.

Social restrictions and lockdown measures

The sharp hike in COVID-19 cases in ASEAN made it mandatory to impose a nationwide lockdown. The lockdown has proven to be successful in controlling the spread of coronavirus as ASEAN witnessed a sharp decrease in COVID-19 fatalities after nationwide lockdowns in the respective countries. Thailand dropped to only a few COVID-19 cases, while Malaysia was able to conditionally reopen most of its sectors to normal operational status with several preventative measures in place. Though the Movement Control Order (MCO) proved to be an effective way of curbing the spread of the virus, it has been costly for ASEAN, such as Malaysia, which is an economy of US\$365 billion and each day of MCO saw the economy lost up to US\$550 million [1]. However, this study believes the MCO was not good for economy but it is crucial to flatten the pandemic curve. To add, government was supposed to spend more budget on health due to the rising active cases. One lesson learnt on the significance of a prompt lockdown without any delays was the case of Indonesia, who decided not to implement lockdown in the early stages of the pandemic. Consequently, Indonesia had one of the highest coronavirus fatality rates in the world, which reflects misconceived proactive policy intervention by the government. Indonesia reported 8230 recorded deaths from COVID-19 as of 8 September 2020, which was the highest number of deaths in the ASEAN region. However, Indonesia soon realized the importance of a lockdown and implemented a partial lockdown on 10 April 2020, to curb the spread of the pandemic [12]. Moreover, Indonesia remained the country with the highest number of confirmed cases and deaths (see table 1) as of 31 December 2021.

The Philippines had the second highest COVID-19 cases and deaths after Indonesia with confirmed cases reaching at 284,3869 and deaths reaching at 51,504 as of 31 December 2021 [49]. The Philippines witnessed a record jump in COVID-19 cases and then decided to declare a lockdown to halt the spread of the virus. The health workers also pleaded for stricter measures to reduce overcrowding of cases in hospitals. As mentioned earlier, lockdown comes at a huge economic cost. For example, the Philippines economy went into a recession with a 16.5% decline in its economic activities [2].

Thailand recorded 222,3435 COVID-19 cases as of 31 December 2021. The rapid increase in COVID-19 cases in Thailand resulted in a nationwide lockdown to protect the population from the pandemic. A nationwide curfew was declared by the Thailand government on 3 April 2020. And the citizens were instructed to follow mandatory precautionary measures such as wearing face masks, maintaining social distancing, and remaining at home from 10:00pm to 4:00am. The number of new cases of COVID-19 continued to fall after the curfew was declared compared to before the curfew. Thus, the lockdown had a positive impact on the fight against the COVID-19 outbreak in Thailand [9].

Singapore’s battle with the COVID-19 pandemic has been seen as a model by many countries. Despite the higher number of infections in the country, its death rate was lower than other ASEAN members. Singapore in the early stages of infection avoided a complete lockdown due to its higher cost and negative consequences on the economy. Singapore’s government was very quick and came up with a plan to defend the country before even a virus hit. About 900 Public health preparedness clinics (PHPC) were set up by the Singaporean government by mid-February after the first confirmed case on 23 January. Infected people were hospitalized in the purpose-built clinics, contact tracing and tracking of close contacts were followed rigorously, and social media and messaging Apps were used to update citizens with daily information [6]. The government of Singapore imposed strict measures due to the increase in COVID-19 cases in the country. In these measures Casinos and theme parks were closed albeit food streets, markets,

hospitals, transports, and banks remained open. Effective 7 April 2020, government ensured that hawker centres, food courts, and all coffee shops and restaurants only provided take away and delivery services, and banned sitting of customers in the restaurants. Moreover, the pre-schools and centres were also closed to curb the spread of the COVID-19 [4].

Table 2: Lockdown timeline in ASEAN countries

Country	1 st phase		2 nd phase		3 rd phase		Title
	Starts	Ends	Starts	Ends	Starts	Ends	
1. Singapore	07-Apr	04-May	21-Apr	01-Jun	-	-	Circuit breaker
2. Indonesia	10-Apr	-	14-Sep	-	-	-	Large-scale social restrictions [LSSR]
3. Philippines	15-Mar	14-Apr	-	-	-	-	Community quarantine/enhanced community quarantine [ECQ]
4. Malaysia	16-Mar	25-Mar	14-Apr	28-Apr	29-Apr	12-May	Movement Control Order
5. Thailand	3-Apr	Apr-15	-	01-Jul	-	31-Jul	State of emergency
6. Vietnam	21-Mar	-	01-Apr	-	-	-	Nationwide isolation
7. Myanmar	28-Mar	-	07-Apr	21-Apr	-	-	Restrictive and Preventive measures
8. Brunei	15 Mar	-	-	-	-	-	Restrictive and Preventive measures
9. Laos PDR	30-Mar	-	-	-	-	-	Lockdown
10. Cambodia	17-Mar	30-Mar	01-Apr	07-Apr	-	16-Apr	Lockdown

Source: [authors' own compilation].

Table 2 shows that after witnessing a hike in COVID-19 cases, Singapore decided to take strict preventive measures to curb the spread of the pandemic. Consequently, on 3 April, Lee Hsien Loong, the Prime Minister of Singapore, announced nationwide partial lockdown and named it as a "Circuit Breaker". The 'circuit breaker' was implemented nationwide on 7 April 2020. The non-essential workplaces were closed while essential workplaces remain open. The schools began online home-based learning and wearing of face masks were made mandatory to overcome the risk of more infections. However, the 'circuit breaker' was extended from 21 April 2020 to 1 June 2020 after recording a higher-than-expected rise in cases in the country.

The Singaporean government planned a three-phased reopening of the country and ended the circuit breaker, phase 1 (named safe reopening) started on 2 June 2020, phase 2 (safe transition) started on 19 June 2020, and the last phase 3 (called safe nation) will last until the discovery of an effective treatment, medication, or vaccine for COVID-19 [36; 51; 50; 29]. Indonesia continued fighting with the COVID-19 pandemic and kept practising the large-scale social restrictions (LSSR) which include closure of public places, limiting travelling and public transport. LSSR initially started on 10 April 2020 in the capital city of Jakarta. The Indonesian president Joko Widodo decided to avoid the full lockdown and mildly criticized the regional leaders who were in favour of full implementation of lockdown. As a result, different regions and states implemented different restrictive measures [39; 21; 14].

Philippines imposed two types of lockdowns namely community quarantines (less strict), and enhanced community quarantines (ECQ-strictest/full lockdown). Initially, the Philippine's president Duterte announced 'community quarantine' on March 12, 2020 for Metro Manila. The community quarantine covered 16 cities and one municipality starting from 15 March 2020 to 14 April 2020. Under community quarantine, traveling through land, air, and sea from Metro Manila was suspended with few exceptions. International restrictions were also imposed on those coming from COVID-19 infected countries, and guidelines for social distances were also announced [8; 13; 37].

Malaysia has very strict and organized movement control since the emergence of COVID-19 cases in the country. The federal government of Malaysia had implemented preventative measures, namely nationwide lockdown known as 'Movement Control Order' (MCO). The MCO was implemented in three phases, such as phase 1, which started from 16 March 2020 to 25 March 2020. In the phase 1, mass movements and large religious, sports, cultural and social gatherings were prohibited. Besides markets were closed, traveling abroad was sanctioned, tourists' entry to Malaysia was also restricted, and public and private educational institutions and offices were closed. Similarly, an extension was made and phase 2 started from 14 April 2020 to 28 April 2020 while phase 3 was extended from 29 April 2020 to 12 May 2020. As active number of new and active cases declined in Malaysia, the government relaxed several MCO measures and conditional MCO came into effect on 13 May 2020 to 9 June 2020. After conditional MCO (CMCO), measures were further relaxed and recovery MCO (phase 2) started from 10 June 2020 to 31 August 2020 followed by recovery MCO [phase 3] starting from 28 August 2020 to 13 December 2020 [5; 25]. However, in September, the number of COVID-19 cases in Malaysia began to rise due to both local and import clusters. The number worsen due to the Sabah election, which took place on the 26 September 2020. The election was called due to dissolving of the state assembly.

In the wake of the rising number of local transmissions, Thailand imposed a state of emergency in which the government was given additional powers to control the COVID-19 situation and curb the outbreak. The state of emergency lasted for a short period, from 3 April 2020 to 15 April 2020 and then later extended for various periods. Thailand has extended the state of emergency till 30 September 2020.

Likewise, Vietnam implemented nationwide isolation rather than a proper lockdown starting from 21 March 2020 to 1 April 2020, while Myanmar and Brunei did not impose a lockdown but rather practiced restrictive and preventative measures to control the spread of the virus. Laos PDR announced a lockdown on 13 March 2020, while Cambodia imposed lockdown in phases such as phase 1 which started from 17 March to 30 March 2020; phase 2 from 1 April 2020 to 7 April 2020, and the last phase 3 was announced after 7 April 2020 until 16 April 2020.

Economic interventions

The government budget is one of the most important tools in times of disasters and crises, such as the COVID-19 pandemic. Among all the ASEAN members, Singapore announced short-term corporate tax rebates, fiscal injections for businesses, and government sales tax (GST) to minimize the impact of COVID-19 on the economy [15]. In just months, Singapore announced four stimulus packages, withdrew sovereign reserves of US\$3.55 billion, and on 26 March 2020, a US\$33.7 billion package was approved to battle the negative economic consequences of the COVID-19 [35].

During the COVID-19 crisis, Indonesia announced a stimulus package worth US\$8.725 billion, to compensate economic losses, which was announced on 13 March 2020 [18]. In February, a second stimulus package of US\$725 was announced to support the tourism sector, particularly aviation and property. Additionally, the Indonesian government took care of the poor and low-income households by announcing a total of US\$324 million to support survival in the pandemic crises [27].

Three stimulus packages were announced by the Malaysian government to provide support to the economy, and to offset the negative economic impacts of the pandemic. The first package was worth US\$4.8 billion, the worth of the second stimulus package was US\$57 billion, and US\$1 billion was the worth of the third package which exclusively focused on SMEs [28]. Thailand announced a stimulus package worth US\$58 billion, which accounts for an approximate of 10% of GDP country, to support industries, soft loans, and corporate bonds [41]. The package was aimed to give relief and lower the burden on the economy caused by the COVID-19 pandemic. Moreover, Vietnamese government approved US\$ 7.7 billion packages to support businesses, people, and households that were severely affected by the pandemic [16]. Myanmar government declared a US\$71.6 million package intending to support loans while tax payment and tax exemption were made easier for businesses [32]. Other ASEAN members also declared stimulus packages to support COVID-19 hit economies such as Cambodia announced US\$70 million, Laos announced US\$ 1.12 million, and Brunei with US\$176.26 million [16].

ASEAN has witnessed some 148, 766, 29 COVID-19 cases and the total number of deaths in ASEAN stands at 304,718 as of 31 December 2021. Indonesia has the highest number of total number of confirmed cases and deaths, while the Philippines has the second-highest number of total confirmed cases and deaths. ASEAN members have

taken the following preventive measures to curb the spread to the COVID-19. There were nationwide social distancing, wearing of face masks, testing and tracking, partial and full movement control of the population [lockdowns], closure of border and educational institutions closure of restaurants and entertainment hubs. Furthermore, ASEAN members also announced economic stimulus packages to boost their economies and minimize the negative impact of COVID-19.

Table 3: Stimulus Packages Announced by Countries

S.No.	Country	Stimulus Package	Date announced	Worth
1	Singapore	First stimulus package – "Unity Budget"	1-Feb	S\$4 billion
		Second stimulus package – "Resilience Budget"	Mar-20	S\$48 billion [US\$33.7 billion]
		Third stimulus package – "Solidarity Budget"	5 April	S\$5.1 billion [US\$3.6 billion]
		Fourth stimulus package – "Fortitude Budget"	26-May	S\$33 billion [US\$23.2 billion]
2	Indonesia	1st stimulus package	25-Feb	US\$742.6 million
		2nd stimulus package	13-Mar	US\$8 billion
		3rd stimulus package	18-Mar	US\$1.8 billion
3	Philippines	1st stimulus package	30-Mar	PHP209.9 billion
4	Malaysia	1st stimulus package	27-Feb	US\$4.8 billion
		2nd stimulus package [caring package]	27-Mar	250 billion ringgit [US\$57 billion]
		3rd stimulus package	Jun-20	35 billion ringgit [US\$8.1 billion]
5	Thailand	1st stimulus package [Phase I]	4-Mar	100 billion baht [US\$3.2 billion]
		2nd stimulus package [Phase II]	24-Mar	117 billion baht [US\$3.56 billion]
		3rd stimulus package [Phase III]	7-Apr	1.9 trillion baht [US\$58 billion]
6	Vietnam	fiscal support package [incentives]	Feb	VND 284 trillion
7	Myanmar	Support package	18-Mar	MMK100bn [\$71.6m]
8	Brunei	Stimulus Package	1-Apr	BND450 million
9	Laos PDR	Monetary and Fiscal Measures	2-Apr	US\$ 1.12 million
10	Cambodia	Monetary and Fiscal Measures	25-Feb	US\$70 million

Source: [16; authors' own compilation].

Table 3 shows the stimulus packages announced by each ASEAN member. Singapore has announced four stimulus packages in just four months collectively worth approximately S\$90.1 billion [16]. While Indonesia has announced three stimulus packages worth US\$742.6 million, US\$8 billion, and US\$1.8 billion respectively [20]. The Philippines declared the first stimulus package "Bayanihan 1" on March 30, 2020, to compensate negative impacts of COVID-19 worth more than PHP209.9 billion [16]. Malaysia and Thailand have announced three stimulus packages to support their economies, Malaysia's three stimulus packages collectively worth approximately US\$ 69.9 billion while Thailand's stimulus packages collectively worth US\$64.76 billion. Vietnam announced incentives (fiscal support package) in February of value VND 284 trillion, Myanmar also declared a support package worth US\$ 71.6 million on March 18, 2020. Similarly, Brunei announced its first stimulus package worth BND 450 million on March 18, 2020,

while Loa PDR and Cambodia took monetary and fiscal measures worth US\$1.12 million and US\$70 million to support the economies greatly hit by the COVID-19 pandemic (for updated data on fiscal measures by ASEAN countries, see [16]).

Health Policies

The COVID-19 pandemic posed a great threat to health care systems around the world. Since the number of confirmed cases were growing at an exponential rate, shortage of personal protective equipment (PPEs) and limited health facilities, such as ICUs and ventilators, had put huge and unprecedented pressure on the health system. Indonesia's healthcare system faced the greatest challenge as the medical supplies and hospital capacity were short along with the increasing death rate of health workers. Due to this inadequate capacity of the combined hospitals to accommodate large numbers of COVID-19 patients, the Indonesian government responded by converting four apartment towers in Jakarta into emergency hospitals to treat COVID-19 infected patients. On 23 March 2020, Indonesia received medical supplies from China and Singapore to support the health care system [31].

The Philippines has the highest number to total confirmed cases in the ASEAN, despite health officials acknowledging the implementation of limited COVID-19 testing. This shows that the actual number of cases may have been understated due to limited testing. A special session was held by the Philippines Congress to expand the government's authority on the control of telecoms and transport, private utilities, businesses, and to declare hotels and other places for handling COVID-19 patients. The confirmed cases had suddenly increased at a rapid pace in Malaysia and the government declared more than 400 new sites such as community colleges, public universities, centres, and hotels as quarantine zones. In order to support the Malaysian healthcare system and reduce pressure on hospitals, the "COVID-19 Pandemic Fund" was launched by Mercy Malaysia, which was helpful in achieving the essential needs of marginalized groups in the country [31].

Thailand's Prime Minister chaired a meeting session, in which "Command Centre for the Management of the COVID-19 Situation", was set up to respond to the pandemic at the immediate level to avoid the spread of the virus and take control of the crises. The surgical masks of 1,000,000/day, 1.5million N95 masks, 1.9 million personal proactive equipment, and pills such as Favipiravir and Remdesivir were supplied to hospitals by the Ministry of Public Health for treatment of COVID-19 patients. Moreover, free tests were also conducted on patients with symptoms [31].

3. CONCLUSION

This study believes that the lockdown plays a crucial role in breaking the COVID-19 pandemic chain. For any hazard which can be spread so fast such as Covid-19, lockdowns is the first method need to be done by the government. Countries, such as Indonesia that delayed the lockdown experienced increase in the number of deaths. Conversely, countries that proactively hastened the lock down had successfully reduced the number of deaths. Countries, such as Malaysia and Cambodia, declared a lengthy lockdown to control the spread of the pandemic. Other than lockdowns, different countries used different terminologies, such as the movement control order as circuit breaker (Singapore), large-scale social restrictions (LSSR) (Indonesia), Community quarantine/enhanced community quarantine (ECQ), Movement Control Order (Malaysia), state of emergency (Thailand), Nationwide isolation (Vietnam), Restrictive and Preventive measures (Myanmar and Brunei), Lock down (Laos and Cambodia).

Based on a comprehensive review, this study found that only Malaysia, Thailand and Cambodia had a third phase lockdown, which were supposed to end somewhere between April-July. However, other countries had initiated the 2nd phase of lockdown, such as Singapore (end by 1st of June 2020), Thailand (end by 1st July 2020), Myanmar (end by 21st April 2020) and Cambodia (7th April 2020). Countries such as Philippines, Brunei and Laos only stated its first phase of MCO and did not explicitly state the end of the lock down period.

This study also found that health facilities was another challenge when combating the COVID-19 pandemic. Shortage of personal protective equipment (PPEs) and limited health facilities, such as ICUs and ventilators, has put huge and unprecedented pressure on the health system. Indonesia's health care system faced the greatest challenge as the medical supplies and hospital capacity were short-changed along with the increasing death rate of health workers. To add, tester kits were also crucial to detect earlier and lead to the increase in the number of active cases. On the other hand, a lack of tester kits was probably responsible for the understated number of active cases. Hence, each

government need to allocate some budget for risk reduction strategies in case any hazard occurs that need to have strategic measures.

We believe that quarantine centre is more efficient than home quarantine. In Philippines, due to limited number of hospitals and quarantine centres, private utilities, businesses and hotels and other places used to handle COVID-19 patients. In Malaysia, community colleges, public universities, centres, and hotels are converted to quarantine zones. In Indonesia, four apartment towers in Jakarta were converted as emergency hospitals for treating the COVID-19 patients.

Overall, ASEAN practiced similar approaches, economic stimulus packages were announced as a government intervention to boost their economies and minimize the negative impact of COVID-19 on the economies. In general, all ASEAN countries had commenced social distancing, wearing of face masks, testing and contact tracing, partial and full movement control of the population (lockdowns), border and educational institutions closures followed by the closure of restaurants and entertainment hubs to flatten the pandemic curve and break the COVID-19 chain. Although lock down led to economic lost, it is believed that government needed to spend more budget for treating the COVID-19 patients if the active cases were increasing.

For future research, this study recommend how government and stakeholders should handle economic activities for different sectors to lower the impact of Hazard. As during hazard, most of economic activities need to be stooped or switch to online (only suitable for some industries). To avoid policy Apathy issues, collective actions and bottom up policy measures need to be taken into account. It is a great challenge for government to balance both mitigation and economic stability during hazard.

4. ACKNOWLEDGEMENT

This Research was supported by Ministry of Higher Education Malaysia for Transdisciplinary Research Grant Scheme (TRGS) with Project code: 203.PSOSIAL.67616002

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DOI: <https://doi.org/10.15379/ijmst.v10i4.2372>

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