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# TOWARDS ACHIEVING “TWO PARALLEL OBJECTIVES” DURING THE COVID-19 PANDEMIC IN VIETNAM: A RESPONSE STRATEGIES ANALYSIS

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**Abstract.** Vietnam has been suffering and will most likely continue to suffer from the devastating effects of COVID-19 on health, economy, and society in the coming months and years. This study aims to analyze key response strategies against this pandemic in the Vietnamese context. The findings indicated that primary factors have contributed to preventing the COVID-19 success, including a well-developed public health system, a decisive central government, and a proactive containment strategy based on comprehensive testing, tracing, and quarantining. Consequently, Vietnam is trying to achieve “two parallel objectives” during COVID-19; the first goal is pandemic prevention and control in order to protect community health, and the second one is socio-economic recovery and development. This study analyzed the eight primary strategies of the Vietnamese government in order to achieve these “two parallel goals” during the COVID-19 pandemic. In addition, a postCOVID-19 socio-economic response and recovery framework including five strategic pillars was recommended. These findings are expected to provide useful insights for developing appropriate intervention strategies in Vietnam and other similar countries worldwide.

**Keyword:** COVID-19, Vietnam, government, strategy, control.

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## Introduction

The outbreak of the COVID-19 pandemic is posing unprecedented challenges (Zhu et al., 2020). This emerging pandemic has been described as a global nightmare because it has shocked healthcare systems and has had far-reaching socio-economic consequences (Tran et al., 2020). The vast majority of emerging markets and developing economies will decline because of the pandemic, and it will also cause lasting damage to labor productivity and potential output. The latest data shows that the global economic recovery has slowed down, although there have been signs of improvement since the middle of this year (The World Bank Group, 2020). Given the rapid spread of the COVID-19 pandemic and the massive negative consequences, research on COVID-19-related issues is critical for developing proactive and comprehensive public health interventions to combat the pandemic (Hoang, Hoang, Khuong, La and Tran, 2020). COVID-19 has had an impact on communities, businesses, and organizations all over the world, inadvertently influencing financial markets and the global economy. The supply chain has been disrupted as a result of uncoordinated governmental acknowledgments and lockdowns. Lockdown restrictions significantly reduced factory output in many countries, while quarantine and self-isolation policies reduced consumption, demand, and utilization of goods and services (Maria et al., 2020).

Many studies have attempted to assess the impact of COVID-19 on different industries in the economy (Açıkgöz and Günay, 2020; Albu et al., 2020; Aziz, Othman, Lugova and Suleiman, 2020; Caraka et al., 2020; Dev and Sengupta, 2020; Gautam and Hens, 2020; Ibn-Mohammed et al., 2021; Lahcen et al., 2020; Sharif, Aloui and Yarovaya, 2020; Vinod and Sharma, 2021; Walmsley, Rose and Wei, 2020; Y. Zhang, Diao, Chen, Robinson and Fan, 2020). In the finance industry, the rapid spread of the COVID-19 has had a significant impact on global financial markets (Brown, Rocha and Cowling, 2020; Goodell, 2020; Wójcik and Ioannou, 2020; Zheng and Zhang, 2021). It has created an unprecedented level of risk, resulting in significant losses for investors in a very short time (D. Zhang, Hu and Ji, 2020). The tourism industry is currently one of the hardest hit by the COVID-19 outbreak, with effects on both travel supply and demand (Baum and Hai, 2020; Beck and Hensher, 2020; Couto et al., 2020; Flew and Kirkwood, 2021; Foo, Chin, Tan and Phuah, 2020; Madani, Boutebal, Benhamida and Bryant, 2020; Sigala, 2020; Škare, Soriano and Porada-Rochoń, 2021; Uğur and Akbıyık, 2020). The World Travel and Tourism Council has warned that as a result of COVID-19, 50 million jobs in the global travel and tourism sector may be jeopardized (Maria et al., 2020). For the health sector, the COVID-19 pandemic has posed unprecedented challenges to healthcare systems around the world (Johnson et al., 2020; Khoury and Karam, 2020; Lampe et al., 2020; Lasalvia et al., 2021; Lundberg, Hillebrecht, McKenna and Srinivasan, 2020; Maria et al., 2020; Misra-Hebert et al., 2020; Nabi, 2020; Sechi et al., 2020). One of the most serious vulnerabilities of healthcare systems around the world is the risk to healthcare workers. Given that the majority of healthcare workers are unable to work remotely, strategies such as the early deployment of viral test-

ing for asymptomatic and/or frontline healthcare staff are critical (Tanne et al., 2020; Tolbert, 2020). Furthermore, many other industries have been impacted by the COVID-19 pandemic, including the real estate and construction industry (Afkhamiaghda and Elwakil, 2020; Al Amri and Marey-PÄ, 2020; Alenezi, 2020; Araya, 2020; Gamil and Alhagar, 2020; Nguyen, Nguyen, Dinh and Chu, 2021; Tam, Ngoc, Toan and Quy, 2021), transport industry (Abu-Rayash and Dincer, 2020; Arellana, Márquez and Cantillo, 2020; Cochran, 2020; Loske, 2020; Rahman, Rahim, Ahmad and Hafizuddin-Syah, 2020), sports industry (Sarto et al., 2020; Wong et al., 2020), food industry (Loske, 2020; Mayasari et al., 2020; Roe, Bender and Qi, 2021; Yu, Liu, Wang and Feil, 2020), agriculture industry (Adhikari, Timsina, Khadka, Ghale and Ojha, 2021; Huang, 2020; Siche, 2020), petroleum and oil (Bildirici, Bayazit and Ucan, 2020; Meher, Hawaldar, Mohapatra and Sarea, 2020; Tahir and Batool, 2020).

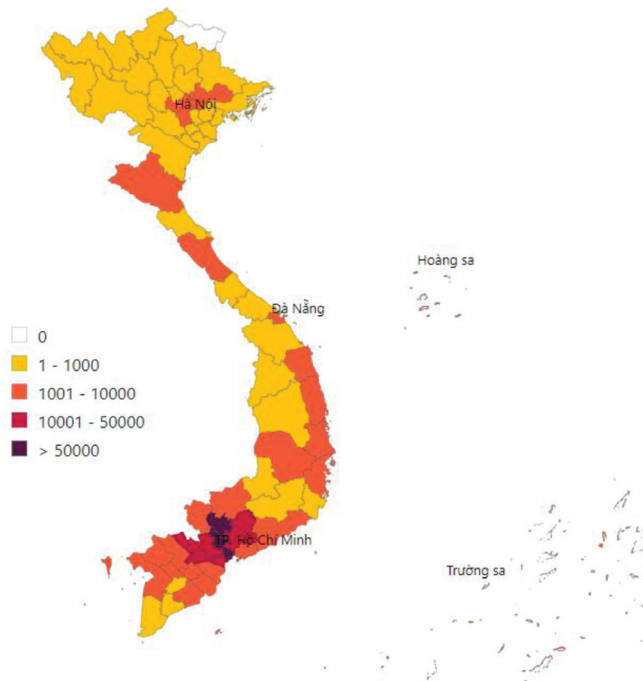
The Government of Vietnam quickly recognized the pandemic’s devastation. The Wuhan, China, the experience was quickly recognized, and it became clear that the only way to deal with this challenge was to reduce the number of people who became infected and slow the spread of the virus (Trevisan, Le, and Le, 2020). Virus prevention and control strategies are quickly introduced by the Vietnamese government such as isolating cases, mandating quarantine for exposed persons, encouraging physical separation, improving handwashing measures, and increasing community mask use (Wilder-Smith and Freedman, 2020). As a result, Vietnam is trying to achieve “two parallel objectives” during COVID-19.

The first goal is pandemic prevention and control to protect the health of the population, and the second one is socio-economic recovery and development. To achieve this, besides the involvement of significant support from the whole community, the effort of the Vietnamese government plays an important role to make Vietnam one of the countries that are overcoming this pandemic. This study aims to analyze the Vietnamese government’s strategies to combat the COVID-19 pandemic. The findings would provide useful insights for developing appropriate intervention strategies in Vietnam and other similar countries around the world.

## Background of COVID-19 in Vietnam

On January 23, 2020, the first COVID-19 positive case was discovered in Vietnam (Phan et al., 2020). As of October 2, 2021, there were 797,709 confirmed cases across the country. Of these cases, 636,081 cases have recovered, and 19,393 have died. Figure 1 depicts a summary of the distribution of COVID-19 cases across the country by October 2, 2021.

Vietnam began preparing for the epidemic as soon as the first case was discovered in China, in mid-December 2019. The Vietnamese government ordered measures to prevent and combat the spread of the disease in the country and warned Vietnamese citizens to avoid visiting areas where outbreaks occurred. To date, the four phases of the COVID-19 pandemic in Vietnam can be described in Table 1.



**Figure 1. Summary of COVID-19 confirmed cases across Vietnam by October 2, 2021**

**Source:** The figure was generated from the General Department of Preventive Medicine: <https://ncov.vncdc.gov.vn/> (accessed October 2, 2021).

*Table 1*

**The COVID-19 pandemic waves in Vietnam**

Wave	Time	Outbreak length	No. of community cases	Peak	Description
1	23 January – 6 April 2020	85 days	106	30 March 2020	The first cases discovered in Ho Chi Minh City (HCMC) from two people from Wuhan (China), the disease spread to other 13 localities
2	25 July – 1 December 2020	129 days	554	31 July 2020	The epicenter was in Da Nang, and the source of infection was in Hospital C in the city
3	28 January – 25 March 2021	57 days	910	31 January 2021	This outbreak started in Hai Duong in a person who tested positive after entering Japan, and the true source of the infection was unknown. The epicenter was in Hai Duong, this city accounted for nearly 80% of the total number of cases
4	27 April 2021 – ongoing	Ongoing	700,000+	July – September 2021	Numerous outbreaks were discovered in 62 localities, most of which were unrelated to each other. This surge occurred due to the more transmissible Delta variant

**Sources:** Completed by the authors (- hereinafter, unless otherwise noted).

Beyond the spread of the disease and efforts to quarantine it, the COVID-19 pandemic has had far-reaching economic consequences. Concerns have shifted from supply-side manufacturing issues to a decline in business in the service sector as the SARS-CoV-2 virus has spread around the world. The pandemic resulted in the largest global recession in history, with more than one-third of the world’s population placed on lockdown at the time. Vietnam, like the rest of the world’s economies, was hard hit by the outbreak due to a slowdown in private and national industries, a drop in stock exchanges, and a decrease in the number of incoming tourists, resulting in hundreds of thousands of people struggling to find work and relying primarily on unemployment benefits to survive. In the first two months of 2020, 3,000 businesses were forced to close, according to government data (Welle, 2020). Vietnamese economic growth, on the other hand, is expected to exceed the Asian average of 2.2%. Despite the slowdown in economic activity and the risks posed by the pandemic, Vietnam’s GDP growth rate is expected to remain among the highest in the Asia-Pacific region, according to an Asian Development Bank report (Vietnamese, 2020) (as provided in Fig. 2). In November 2020, the IMF predicted that Vietnam would be the only country in South East Asia to grow in 2020 (News, 2020). The World Bank published a report in March 2021 that predicted Vietnam to be one of the fastest growing economies in East Asia and the Pacific region with a projected growth rate of 6.6 percent in 2021 (BaoNhandan).

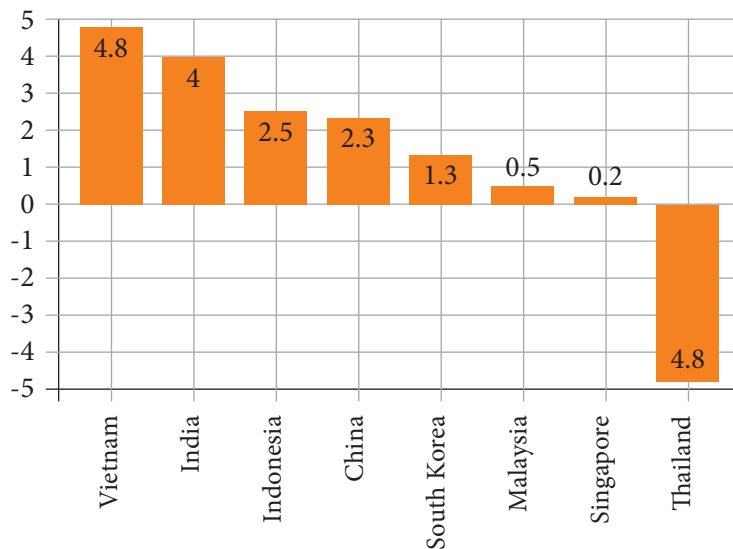


Figure 2. 2020 GDP growth forecast by Asian Development Bank, %

Sources: Asian Development Bank (ADB) (VnExpress, 2020).

With a risk assessment conducted just after the first reported cases in China in January 2020, Vietnam responded “early and proactively” to the pandemic. One of the reasons Vietnam was able to act so quickly and keep the number of cases so low is that the country experienced a SARS epidemic in 2003 and hu-

man cases of avian influenza between 2004 and 2010. As a result, Vietnam had the experience as well as the infrastructure to take appropriate action. Many key containment decisions were made in Vietnam in a matter of days, whereas governments in other countries took weeks. Even though Vietnam is a highly centralized country, several key decisions were made at the local level, which contributed to the quick response (Data, 2021). Furthermore, social solidarity and unity played an important role in combating this pandemic. These sentiments imply a self-sacrificial attitude on behalf of the larger community, a value that can be explained in part by Vietnam's socialist history and decades-long struggle for sovereignty. People may be willing and prepared to accept more restrictive measures to save lives in a severe crisis (Trevisan et al., 2020). Because willingness to embrace social distancing has been credited with aiding in the containment of COVID-19 in Vietnam, investigations into the underlying motivation should recognize nationalism and solidarity as important, but not sole, determinants of effectiveness (Van Nguyen et al., 2020). Rather than relying on medicine and technology, the Vietnamese government has implemented a widespread public surveillance system, and a well-respected public military force. A national one-party mechanism and powerful military-security forces assist the government in making and enacting decisions quickly. Vietnam also has a strong surveillance culture, with neighbors reporting any wrongdoing to local police. Pandemic experiences have resulted in the long-term development not only of institutional preparedness, but also of "social memory," which has been shown to be useful in nudging people to adopt protective behaviors and to follow official regulations and guidelines in other COVID-19 response contexts.

## Materials

This study analyses the response strategies of the Vietnamese Government to the COVID-19 pandemic based on the data collected from official policy documents, academic journal publications, and news from official resources related to the COVID-19 issues. This analysis is based on an extensive review of a database of Vietnam's policies, academic papers, reports, briefs, and presentations from members of concerned organizations, and the credibility of data sources in Vietnam. The government documents and technical guidelines issued by the state government and the Ministry of Health, a national body responsible for the management and coordination of COVID-19-related activities, were reviewed in this study. Documents, including a timeline of COVID-19 spread in Vietnam, were digitally collected. COVID-19 policy response letters or technical guidelines issued by the Prime Minister, the Ministry of Health, and other ministries relevant to the COVID-19 pandemic were the inclusion criteria for this review. Besides, Google was used to search for grey literature and relevant official websites. Documents focusing on national regulations in response to the COVID-19 pandemic were included as inclusion criteria. Local governments' official COVID-19 response documents, academic articles, official reports of technical agencies, and official newspaper articles were used to analyse the Vietnamese government's strategies to respond to the pandemic outbreak.



## The response strategies of the Vietnamese government against the COVID-19 pandemic

Even before the first fatal case in China and just a few days after China confirmed an outbreak of a novel coronavirus, on January 3 (Huynh, 2020; Organization, 2020), the Vietnamese government issued a decision to tighten the border quarantine between Vietnam and China. Before the confirmation of the first case, the policy response focused on assessing the threat and formulating guidelines and plans as preventive measures for the upcoming battle against the newly discovered disease (La et al., 2020). On January 23, 2020, Vietnam’s first COVID-19 positive case was discovered (Phan et al., 2020). Following that, regulations focused on reducing risks from inbound passengers while also containing the disease within the country. Emergency measures, preventive efforts, travel restrictions, and market control were among the policies. In addition, the central and local governments launched a number of emergency responses and preventative steps. These included calls for more local cooperation as well as specific tasks for several ministries and agencies.

The outbreak is still reasonably under control in Vietnam, because of the government’s sustained swift and proactive measures. The stringency index, which simply reflects the severity of counter-measures, has evolved to match with critical pandemic progression milestones (T. P. T. Tran, Le, Nguyen, and Hoang, 2020). The strategies of the Vietnamese government make a significant contribution to achieving “two parallel goals” during COVID-19. This section will analyze the key points of the Vietnamese government’s responses to this pandemic.

### ***Enhancing the capacities of COVID-19 testing***

Real-time reverse transcription-PCR was used to test the presence of SARS-CoV-2 in nasopharyngeal and throat swabs (RT-PCR). Vietnam developed a SARS-CoV-2 RT-PCR diagnostic kit, which received Conformité Européenne certification in April 2020 to meet local testing supply needs. Other diagnostic testing products developed in the United States, such as primers and probes and antibody tests, were also stockpiled. To expand the testing laboratory network, staff training and technical assistance were provided (T. V. Nguyen et al., 2021). The current COVID-19 testing capacity of Vietnam has been improved substantially, rising two- to threefold compared with the previous outbreaks. The laboratories nationwide are now capable of testing 100,000 single samples per day, and the capacity can increase by five- to tenfold for pool testing. Vietnam has mastered sufficient testing techniques to detect and diagnose SARS-CoV-2 coronavirus, including the Read time RT-PCR for confirmatory testing, rapid antigen testing, and rapid antibody testing. There are 175 testing labs capable of conducting coronavirus tests nationwide at present, including 125 carrying out confirmatory tests. Compared to previous outbreaks, Vietnam’s testing capacity has improved “very quickly” in this fourth wave of COVID-19 infections (V. s. M. o. Health, 2021a).

Vietnam has made headlines for its efficient response to the outbreak, despite limited resources, committed leadership, and an entrepreneurial-spirited

society. Furthermore, Vietnam was one of the first countries to develop and export affordable test kits to Europe. COVID-19 has resulted in a never-before-seen global test of state capacity, particularly the ability of countries to protect their citizens' well-being. One of the key determinants of a country's ability to effectively mitigate the pandemic's aftermath is the widespread mobilization of various segments of society to respond to the crisis. It is about how effectively the state can marshal innovation, and in this case, testing. For these reasons, the case of Vietnam's development of low-cost test kits provides useful insights into the larger issue of COVID and state capacity. As of May 2021, Vietnam had 180 laboratories capable of testing for COVID-19 using RT-PCR with a maximum capacity of 238,000 tests per day (V. s. M. o. Health, 2021a). Health officials are currently preparing to extend testing capacity to additional hospital laboratories, including provincial and military hospitals, with further training ongoing, for preparedness in case of future widespread transmission. During the outbreak in Hai Duong province, instead of mass testing on every person in the infected area, authorities used a variety of strategies including targeted testing of higher risk groups as well as random testing of households and inpatients. Testing capacity can also be increased with guidance issued on pooling of lower risk specimens, up to 10 specimens at most.

#### ***Border controls, border closures, and entry bans***

Vietnam began tightening border controls in early January to prevent the arrival of COVID-19 cases. At all international airports and official land border crossings between China and Vietnam, Vietnam has instituted a policy of taking passenger temperatures with non-contact thermometers (T. V. Nguyen et al., 2021). The Vietnam Civil Aviation Authority halted all flights to Wuhan, where the first case of COVID-19 was discovered, on January 23. Besides, at all points of entry, such as land crossing points, seaports, and airports, Vietnam has also taken strict measures to prevent the spread of the illness. Immigration officers (airports), military (land crossing points or borders), and health officers who have been sufficiently trained in infection prevention and control by competent health agencies were all involved in COVID-19 control at points of entry (L. T. Tran et al., 2021). Electronic medical declaration forms have been required for all travelers entering Vietnam since March 21, to aid in the identification of suspected cases for testing and quarantine. Passengers with fever, who reported a history of fever, cough, or shortness of breath, or those who had been in contact with a known COVID-19 patient in the 14 days before arrival in Vietnam were screened, identified, and segregated at border crossings. Passengers at risk were sent to a designated hospital for a mandatory two-week quarantine period. During this time nasopharyngeal and throat swabs were collected and tested for COVID-19. Passengers who arrived in Vietnam before March 14 without symptoms or exposure were given an educational sheet on how to report signs and symptoms of illness. These travelers were allowed to enter the country but they were quarantined in their homes or hotels for 14 days and supervised by health workers from local communal health stations. The Vietnamese government subsidized the cost of quarantine for all travelers who landed in Vietnam until the



end of August. Passengers were responsible for covering quarantine expenses beginning in September 2020 (T. V. Nguyen et al., 2021).

Facing the complicated developments of the COVID-19 pandemic in the world with the appearance of new strains of SARS-CoV-2, studying and re-evaluating the incubation period of COVID-19 were conducted. Consequently, On May 5, 2021, the Ministry of Health issued the Official Dispatch 600/CD-BCD on adjusting the time of concentrated isolation, the management time after the end of concentrated isolation, and tests for COVID-9 prevention. Particularly, the time of concentrated isolation for cases subject to concentrated isolation is adjusted from at least 14 days to at least 21 consecutive days in the concentrated isolation area from the date of entry into the isolation area or the last contact with a person infected with COVID-19; collecting samples for COVID-19 testing at least 3 times on the first, 14th, and 20th days of concentrated isolation; and reducing the time for health monitoring at home and accommodation from 14 days to 7 days after the end of concentrated isolation and taking samples for testing on the 7th day (counting from the end of concentrated isolation) (M. o. Health, 2021b).

### ***Quarantine, lockdown, and social distancing***

The WHO has no universal guidelines for the use of curfews, restrictions, and lockdown measures. The level and scope of these measures should be determined by individual countries based on their circumstances and priorities. Compulsory quarantine, visa suspension, border closure, and social distancing were common in Vietnam and were critical COVID-19 measures. Because the Vietnamese government was aware of this pandemic threat, it strictly enforced quarantine measures. Citizens entering the country from epidemic countries such as China, Korea, Italy, and Iran in the first and second waves were required to complete a health declaration and undergo medical quarantine. The newly confirmed cases were mostly foreigners and Vietnamese citizens who had recently returned from Europe or had direct contact with positive patients (Tran et al., 2020). As a result, precautionary measures such as isolation and quarantine were implemented to halt the spread of the disease. The Vietnamese government announced a mandatory quarantine for all passengers from all countries and regions upon entry to Vietnam on March 21, 2020. Passengers with diplomatic or official passports should undergo quarantine for 14 days from the arrival date at their embassy or place of residence if they were in a normal health condition, had no signs of illness, and were guaranteed by the embassies or representative offices who ensured the quarantine conditions. The prediction that widespread COVID-19 transmission would occur, endangering individual and population health and eventually exhausting Vietnam’s societal and economic system prompted the implementation of nationwide lockdown recommendations from April 1 to April 15, 2020. Self-isolation was one of the measures, and people were allowed to leave their homes only for food and medicine. The gathering of more than two people was also prohibited, as was the requirement of a two-meter distance between people in public areas. Factories, businesses, and service establishments that produce and provide essential goods were allowed to remain open, but must adhere to strict health regulations (Minister, 2020b). After

15 days of national social distancing, the government divided the country into “high-risk,” “at-risk,” and “low-risk” zones on April 16 in order to take appropriate precautions. The lockdown period was extended for one week in 12 high-risk cities and provinces, including Hanoi, Da Nang, and HCMC. Domestic travel by all means of transportation was prohibited during that period, and non-essential services were closed. This strategy had a significant negative impact on the Vietnamese economy and people’s lives.

Aside from international travel restrictions, Vietnam imposed domestic movement restrictions in March 2020, during the peak period of the first wave. During the national social distancing period, the tourism industry was closed in some areas beginning on March 9 and then nationally in April. Another stringent measure was the school shutdown, which lasted from February 6 to early May. National social distancing was imposed on March 28, when the country had 171 cases and 8 new cases, and was lifted on April 22, when no new cases were reported within a week. The social distancing order, like that of many other countries, restricted most ordinary activities, including unserved unserved public transportation and non-essential business activities. People were required to stay at home and work from home, and they were only permitted to leave the house for essential activities. Educational institutions have shifted to remote on-line learning platforms, with participation increasing throughout the academic year. Similar to other Asian countries (Kwok et al., 2020; Wu, 2020), educational facilities remained closed until May 4. With the increasing spread of outbreaks detected in the large cities of Hanoi and HCMC, a ban on indoor gatherings of 20 or more people and public gatherings of 10 or more people was issued in late March. Non-essential businesses such as restaurants, bars, beauty salons, barbershops, hair salons, massage parlors, spas, and gyms were closed, as were entertainment, cultural, and sporting events held in public places. A physical distance of 2 meters was also recommended. Many businesses and government agencies have made the wise decision to allow their employees to work from home, which not only reduced the risk of disease transmission but also kept people employed. Furthermore, both intra-provincial and inter-provincial bus and railroad services were halted. Besides, on March 16, 2020, the wearing of a mask became mandatory in public places in Vietnam. The public was also encouraged to wash their hands frequently and disinfect surfaces and objects in order to prevent the virus from spreading.

### ***Enhancing the capacity of the healthcare system***

The Ministry of Health (MOH) and its drastic efforts in delivering rapid and decisive responses on all fronts, from research, prevention, screening, to diagnosis and treatment of COVID-19, have largely contributed to the effective results of the epidemic control to date. After the WHO announced that a series of patients with pneumonia of unknown etiology had been reported in Wuhan, China, on December 31, 2019, the Vietnamese government suspected the emergence of a highly infectious and lethal disease. As a result, only 7 days after this announcement, health system preparedness efforts in Vietnam were launched, beginning with a national risk assessment on January 7, 2020. Based on this assessment, it was determined

that there was a high risk of this unknown disease being imported into Vietnam due to the large volume of daily population movement between China and Vietnam. Vietnamese health system managers and other related ministries developed and widely disseminated a national COVID-19 Response Plan and Technical Treatment and Care Guidelines on January 16, 2020 (T. V. Nguyen et al., 2021). When the COVID-19 outbreak hit Vietnam on January 30, a National Steering Committee and 45 Rapid Response Teams were formed to prevent and control the outbreak (Health, 2020; Minister, 2020a).

In addition, Vietnam has made significant advances in scientific research and development related to COVID-19. On February 7, Vietnam became one of the few countries that successfully cultured and isolated the novel coronavirus strain in the laboratory, laying the groundwork for future vaccine research and development, as well as effective COVID-19 prevention interventions. The MOH launched an online-based medical examination and treatment system on April 18 to assist hospitals in remote areas with counseling, consultation, imaging diagnosis, pathology, and other services. Vietnam successfully manufactured the virus detection test kit on March 5, 2020 (RT-PCR and real-time RT-PCR) (T. P. T. Tran et al., 2020). Besides, to ensure health system capacities during the pandemic’s complicated development, the government issued several decisions requiring rapid production of medical equipment and suspending exports of anti-COVID-19 drugs (Office, 2020). In Vietnam, people who had confirmed COVID-19 infection were immediately hospitalized. COVID-19 is classified as a group A infectious disease in Vietnam, making this practice legal. This category includes highly contagious diseases, which can cause outbreaks, and are potentially fatal. For domestic cases, field investigation teams from provincial disease control centers, district health centers, and local governmental authorities identified and interviewed anyone they had contact within the previous 14 days (T. V. Nguyen et al., 2021).

In July 2021, the Vietnamese Ministry of Health implemented a new COVID-19 treatment regimen in response to the appearance of the Delta variant and a rapid increase in the number of cases during the fourth epidemic. According to the Ministry of Health, more than 80% of patients had only a mild fever, cough, fatigue, and no pneumonia and recovered in about a week. All patients with no or mild symptoms will be treated in the general ward under the new treatment plan. Severe and life-threatening conditions require treatment in the intensive care unit. Because there are currently no effective specific antivirals or medications available to treat COVID-19, an individualized treatment plan should be provided, especially in severe cases. The Ministry of Health categorizes hospital discharge requirements into three levels, with the shortest treatment duration being 10 days. In addition, the Ministry of Health has changed how patients are monitored after they leave the hospital. At home, patients must measure their body temperature twice a day. It is necessary to notify the medical facility if the temperature is above 38 degrees for two consecutive measurements or if there are any abnormal clinical symptoms immediately (V. s. M. o. Health, 2021b). The Ministry of Health approved the use of the antiviral drug Remdesivir for COVID-19 treatment in August 2021, and Favipiravir is also being considered.

### ***Improving field hospital competencies***

Da Nang city announced on July 31, 2020, that using Tien Son Sports Center in Hi Châu District as a temporary field hospital to assist the city's hospitals in dealing with the rising number of COVID-19 patients in the area. The sports center has a total area of 10,000 m<sup>2</sup> (110,000 sq ft) and a capacity of 2,000 beds (VnExpress, 2021a). In response to the COVID-19 outbreak in Hai Duong province in January 2021, two field hospitals with a combined capacity of 600 beds were established in the northern province of Hai Duong within 24 hours. The first one was built in Chi Linh City medical center and is staffed by 45 doctors and approximately 70 nurses who can treat 200 patients. The second, with 210 beds, was converted from the Hai Duong Medical Technical University (VnExpress, 2021c).

Vietnam has approximately 2,000 ICU doctors and approximately 16,000 ICU beds by 2021. In Ho Chi Minh City, a three-tiered care pathway for people infected with COVID-19 was established on August 16, 2021, with a plan for 60,000 beds, including 1,700 ICU beds. Binh Duong province has 22 treatment facilities with a total of 15,627 beds and 2,851 medical staff by August 2021. The provincial government implemented a three-tiered care pathway, with the first level treating over 6,000 mild or asymptomatic patients and the second level treating nearly 7,000 patients with moderate symptoms. The third, at Binh Duong General Hospital and Binh Duong COVID-19 Emergency Resuscitation Field Hospital, cares for 586 severe and critical patients (VietnamTelevision, 2021). Long An province also used a three-tiered care system, with district hospitals serving as levels 1 and 2, and Long An General Hospital, Long An Tuberculosis and Lung Disease Hospital, and Hai Nghia Regional General Hospital serving as levels 3 and 4. The MOH assisted the province in establishing a 500-bed intensive care unit. Dong Nai province has 150 ICU beds for COVID-19 patients and is building a 200-bed facility. The National Lung Hospital in Hanoi assisted Dong Nai in the establishment of a new 380-bed intensive care unit (VnExpress, 2021b).

### ***Financial and economic support***

The Vietnamese government provided a social protection package that included severance pay for workers who lost their jobs as a result of the COVID-19 pandemic, allowance for individuals on social assistance and those from low-income and near-poor households, incentives for domestic business households, and tax breaks and interest rate reductions for companies affected by the epidemic. The Vietnamese government passed a VND62 trillion (\$2.6 billion) financial assistance package on April 10, 2020, to directly assisting people in need as a result of the COVID-19 pandemic. This aid package will benefit workers who have to postpone their labor contracts, part-time workers who are unemployed but have not received unemployment benefits, enterprises that have no revenue or no financial sources to pay salaries, employers, individual business households, and people who have rendered meritorious services to the nation. However, the disbursement of the assistance package continues to be fraught with difficulties and delays due to a variety of factors. The Vietnamese government has issued and is implementing a multi-sectoral response to address the social and economic impact of the crisis. Table 2 below summarizes the government's policies to support affected people and enterprises in response to COVID-19.

Table 2

### The COVID-19 financial support packages

Support policy	Budget (USD)	Description
Fiscal package to support enterprises	7.8 billion	Tax deferece and delayed payment of land use tax and rent for affected enterprises
Loans with zero interest rate to pay workers salary	10.2–43.1 million	Loans with zero interest rate for affected enterprises
Social protection package	2.7 billion	Cash transfer for 3 months (April, May, and June 2020) for people with merit, poor and near-poor households, affected workers, and household businesses
Electricity price reduction	475 million	10% reduction in electricity price from April to June 2020; free for all households and businesses, health and quarantine facilities
Credit package of Commercial banks	12.3 billion	Loans to less/least affected enterprises but need investment capital after COVID-19. Heavily affected enterprises can also borrow if the ability to repay can be proven
Banks reduce interest rates		Banks reduced interest rates and exempted or reduced fees for making transactions

The unprecedented aid package is expected to benefit more than 20 million people and is seen as critical in ensuring social security and ensuring that “no one is left behind” during COVID-19. VND 11.98 trillion had been distributed as of August 22 to 12.06 million people and 13,725 household businesses (Do et al., 2021). According to the Ministry of Finance, by late September 2020, approximately 12.65 million people would have received social protection assistance, with a total expenditure of approximately US\$540 million for this program (T. P. T. Tran et al., 2020).

In addition, preferential economic policies and relief measures have been implemented in response to this pandemic’s negative socioeconomic impacts on businesses, society, and individuals (P. B. Tran et al., 2020). On February 7, the Ministry of Finance announced a list of medical supplies that would be tax-free until the end of the epidemic, including face masks, hand sanitizers, and protective suits (Finance, 2020). As a result, tax payments were exempted or deferred in some cases, and electricity tariffs were reduced for three months for individuals and businesses affected by COVID-19 (Minister, 2020c; Taxation, 2020). Isolated people in health care centers and concentrated quarantine facilities are entitled to an allowance of around 80000 VND per person per day (approximately \$3.4), and all direct medical costs for Vietnamese citizens are covered. According to the Ministry of Labour, Invalids and Social Affairs (MOLISA), more than 11 million people from an approved list of 15.8 million vulnerable people and 6,196 household businesses will have received more than 11 trillion VND (USD 477 million) in social assistance by June 29, 2020. However, MOLISA’s reports highlighted some key challenges in implementing this package, such as complicated procedures resulting in late cash delivery and limited local funds (30–50 percent of total local funds) in poor provinces. A rapid assessment of the COVID-19 social assistance package



conducted by the Department of Social Protection with all provinces in May 2020 revealed that informal workers, small businesses, and families with children had difficulty accessing this package due to complex registration and screening procedures. As a result, novel approaches will be required to boost consumer spending and reduce the vulnerability of those who lost their jobs and earnings as a result of the pandemic (Ministry of Labour, 2020).

### ***Improving the information campaign during the pandemic***

Recognizing the importance of the media during the pandemic, in January 2020 the Vietnamese government released a mid-term plan for communicating health risks for the 2020–2025 period. The plan includes a section on communication strategies during a public health crisis, which served as the foundation for communication during the COVID-19 outbreak in Vietnam (T. V. Nguyen et al., 2021). The government has carried out some information and communication campaigns to keep the public informed of the most recent and transparent developments in this pandemic. The Ministry of Information and Communications issued Directive No. 05/CT-BTTTT on the implementation of the new coronavirus outbreak prevention and control on February 2, 2020 (Communications, 2020). Information is provided via text messaging for each mobile subscriber; videos and short films are produced to disseminate anti-nCoV information on social networks such as Facebook, Zalo, Youtube, and Lotus; the hashtag #ICT\_anti\_nCoV has been introduced to raise awareness; information is disseminated through the media such as newspapers, radio, and television; collaboration and communication between hospitals and health facilities is ensured and improved; network security is ensured; and “fake” messages are corrected immediately. On March 9, 2020, the Ministry of Information and Communications and the Ministry of Health launched two apps: the ‘NCOVI’ app for Vietnamese people and the ‘Vietnam Health Declaration’ app for all visitors entering Vietnam; and the contact tracing application ‘Bluezone’. These applications provide information to help trace suspected COVID-19 cases (Communications, 2020). Based on the information gathered from these applications, the healthcare system could provide the most timely and effective medical assistance possible. Furthermore, this is an official channel for competent state agencies to send disease prevention recommendations to users. According to a report from the Ministry of Information and Communication, the Bluezone application had been downloaded by approximately 14.9 (14%) of the 96.2 million people in August 2020. Bluezone identified a risk notification as being in an F1 or F2 group by matching a user’s movements to those of all index (F0) individuals and suggested general technical guidance for the user (T. V. Nguyen et al., 2021). In addition, MOH collaborated with WHO to create infographics with questions and answers about nCoV infection prevention. MOH created infographics based on COVID-19 preventive measures recommendations for specific subjects such as drivers and passengers on public transportation. Aside from the aforementioned websites and applications, various communication campaigns were also launched on social media, television, radio, and in newspapers to educate the public on prevention measures. Messages were tailored



to encourage people to adopt prevention behaviors, to identify people at high risk of infection, and to direct people with symptoms or a history of exposure to seek health care, declare their status, and be tested.

### ***Vaccine development and vaccination program***

The National Institute of Hygiene and Epidemiology in Hanoi announced on February 7, 2020, that it had successfully cultured and isolated the new SARS-CoV-2 coronavirus in the laboratory, making it the fourth country to do so. According to the institute, the achievement would allow for faster COVID-19 test results, implying that thousands of samples could be tested per day. Vietnam declared in May 2020 that their COVID-19 vaccine was developed after scientists successfully generated the novel coronavirus antigen in the laboratory. The vaccine was developed by scientists at VABIOTECH in Hanoi and Bristol University, and it will be tested on animals and evaluated for safety and effectiveness before going into production. According to the National Institute of Hygiene and Epidemiology, developing a vaccine that is safe for humans will take at least 12–18 months. Vietnam is currently researching four COVID-19 vaccines produced by Nanogen, Vabiotech, Polyvac, and the Institute of Vaccines and Medical Biologicals (IVAC). The second Vietnam-produced COVID-19 vaccine (COVIVAC), developed by the Institute of Vaccine and Medical Biologicals (IVAC), began a human clinical trial on January 21, nearly two months ahead of schedule. Since May 2020, IVAC has been researching the vaccine and conducting preclinical trials in India, the United States, and Vietnam with the results demonstrating safety and efficacy in the experiment, fully meeting the conditions for researching with human participants (BaoNhandan, 2021). On September 8, 2021, Deputy Minister of Health Tran Van Thuan met with Xenothera of France to discuss collaboration for the third phase of clinical trials of the XAV-19 COVID-19 treatment drug, as well as the transfer of production technology to Vietnam. This medication is used to both prevent the virus from developing and neutralize the virus and reduce inflammation in patients (BaoLaodong, 2021).

The COVID-19 vaccination campaign in Vietnam is an ongoing immunization campaign against the COVID-19 in response to the ongoing pandemic in the country. Vaccination began on March 8, 2021, after Oxford–AstraZeneca’s COVID-19 vaccine was licensed on January 30, 2021, and will continue throughout the year, to vaccinate 80 percent of the population by June 2022. On March 23, 2021, the Sputnik V was approved for use. On June 4, 2021, Sinopharm COVID-19 vaccine was approved for emergency use, while Pfizer–BioNTech COVID-19 vaccine was approved on June 12, 2021. The COVID-19 vaccination program in Vietnam began on March 8, 2021, with medical workers in Hanoi, Ho Chi Minh City, and Hai Duong province receiving the AstraZeneca vaccine (M. o. Health, 2021a). With over 150 million doses, this is the country’s largest immunization campaign to date. In June 2022, Vietnam is expected to reach its vaccination coverage target of 80% (ONISHI, 2021). Although Vietnam has been a success story in disease prevention and outbreak control, the country’s COVID-19 vaccination program is considered slower than that of other Asia-Pacific countries (Reuters, 2021).

## Recommendations to socioeconomic response and recovery in post-COVID-19

The COVID-19 pandemic is much more than a health crisis; it affects the entire country of Vietnam, affecting nearly every aspect of social and economic life. As a result, developing a response and recovery plan is critical to firmly anchoring the socio-economic response to COVID-19 in national COVID-19 response and long-term development plans, and leaving no one behind. It is also intended to reduce the country's vulnerability to the pandemic by facilitating a transparent, human-rights-compliant, gender-sensitive, and effective recovery process, with a focus on populations for whom the emergency has exacerbated pre-existing marginalization, inequalities, and vulnerabilities. Hence, a post-COVID-19 socio-economic response and recovery strategies should be developed as soon as possible by the Vietnamese Government. This socio-economic response framework should consist of five strategic pillars aimed at protecting the needs and human rights of people affected by the pandemic, with a particular emphasis on the most vulnerable and marginalized groups and individuals at risk of being left behind.

First, protecting health services and systems during the crisis: recovering better necessitates a new perspective on how to achieve the success on health care, which includes emphasizing the links between health and nature. Steps toward recovery include: assisting primary care systems in regaining a stronger and more resilient position; strengthening monitoring and information systems, including assisting rights holders in understanding recovery needs; improving the health system's capacity to respond to public health emergencies (Barnett, Rosenblum, Strauss-Riggs, and Kirsch, 2020); assisting civil society and the private sector to optimize services and better meet people's needs.

Second, social protection and basic services: building on the increased coverage during the COVID-19 response, redesigning social protection systems to be more responsive to shocks, including climate shocks, and strengthening care systems to respond to the needs of women and men, as well as vulnerable and marginalized groups throughout the recovery process should be prioritized.

Third, protect jobs, small and medium-sized enterprises, and the informal sector workers: the recovery phase should highlight the scope and limits of existing productive development strategies, drawing attention to the potential of green economy solutions, e-commerce, and the digital economy. Redoubling efforts to create green and sustainable jobs should be part of a better recovery. Increasing fiscal spending on public employment programs in order to promote greater labor market resilience in the face of future crises, while combating discrimination and addressing inequalities. Ensuring decent work and equal treatment in terms of rights and benefits for workers in various contractual arrangements, self-employed individuals, and unpaid caregivers.

Fourth, macroeconomic response and multilateral collaboration: evidence must guide the macroeconomic response to COVID-19 and multilateral collaboration. This evidence should include a rapid assessment of the potential impact of the crisis (to quantify the spending required to contain it); an assessment of the fiscal space available for increased spending; and an analysis of policy priorities and avail-

able policy measures, given Vietnam’s financing and implementation constraints. It should invest in health, education, social protection, long-term infrastructure, and crisis preparedness, while steering economic recovery toward a significantly more sustainable and carbon-neutral path. Examine strategies to reduce inequalities, and assess the human rights and gender implications of proposed economic reforms. Facilitate multilateral and regional collaboration on issues such as data, technology innovation, and transfer, closing the digital divide, sustainable finance, debt management, and crisis preparedness; and making a concerted push for debt repayment suspension.

Fifth, social cohesion and community resilience: the urgent response to the COVID-19 pandemic necessitates the consolidation – rather than the marginalization – of critical ongoing processes of social dialogue, civic participation, and democratic engagement, including gains in gender equality over the past decades. Communities must be at the center of all efforts to strengthen social cohesion. A better recovery will rely on annual assessments that will aid in identifying structural vulnerabilities and inequalities. This will provide opportunities to reverse the trend of shrinking civic space, institutionalize community-led response systems, promote social dialogue, empower local governments for inclusive decision-making, scale-up community, and city-level resilience, and strengthen legal and institutional frameworks.

These five major strategic pillars are linked by an emphasis on environmental sustainability, gender equality, and the need for faster recovery. Developing a better future after the pandemic requires immediate social and economic interventions to increase resilience to future shocks (Bali et al., 2020; Dzigbede, Gehl, and Willoughby, 2020; Egypt, 2020; Moldova, 2020; Rosenbloom and Markard, 2020).

## Conclusion

Vietnam is one of the countries in the world to conduct intensive surveillance and lockdown operations for all newly confirmed COVID-19 cases. To date, multiple effective measures have been critical in combating the COVID-19 pandemic in Vietnam, such as swift government action, strict border control measures, widespread community participation, increased testing capacity, and effective social measures. This paper described a summary of valuable successful actions from Vietnam’s COVID-19 strategies to respond to the COVID-19 pandemic. This can be useful for policy-makers, researchers, and practitioners to improve the response around the world.

The Vietnamese government’s strategies for combating the pandemic could be viewed as an effective model for limited-resource settings. Eight main strategies were identified and analyzed, including: (1) enhancing the capacities of COVID-19 testing; (2) border control, close and entry ban measures; (3) quarantine, lockdown, and social distancing; (4) enhancing the capacity of the healthcare system; (5) financial and economic support; (6) improving field hospital competencies; (7) improving information campaign during the pandemic; and (8) vaccine development and vaccination program. Furthermore, the post-COVID-19 socio-economic responses and recovery strategies were recommended with five primary strategic pillars, in-

cluding (1) protection of health services and systems during the crisis; (2) social protection and basic services; (3) protection of jobs, small and medium-sized enterprises, and the informal sector workers; (4) macroeconomic response and multilateral collaboration; and (5) social cohesion and community resilience.

It is noted that the socioeconomic background, cultural environment, political frameworks, and legal structures are different in Vietnam compared to other countries may limit the wide applicability of the measures described here. Specific challenges for a given country, on the other hand, must be identified and addressed promptly to successfully promote health, prevent transmission, and respond to the COVID-19 pandemic. Furthermore, because this pandemic is spreading at such a rapid pace and at such a complex level, combating the outbreak has become a more difficult mission for Vietnam and other countries worldwide.

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