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South Korea's COVID-19 Response: Prepared Up to a Point

Asia was the first continent hit by what quickly evolved into a global pandemic. In its Online Series, Hanns Seidel Foundation traces the spread of COVID-19 in different Asian Countries and highlights its political and social consequences of the virus. Coming up next, El Eunyoung Lee will discuss the impact of COVID-19 in Korea.

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Introduction

When the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) - later referred to as COVID-19 - was first detected in Wuhan, China in 2019, it did not take long for the virus to reach South Korea. The country announced its first case on January 20, 2020 (Ministry of Health and Welfare [MOHW], 2020). There are several aspects about South Korea that could have spelled disaster for the country during this global pandemic: its proximity to China, the densely populated urban cities, the decision to leave borders open, and the lack of strict lockdown measures seen in other countries, to name a few. Despite this, one and half years after the first case, South Korea moved from being the second most infected country after China, to today having one of the lowest numbers of cumulative cases and deaths, when compared to other countries seriously hit by the pandemic. As of July 13, 2021, with a population of around 51 million, South Korea has registered a total of 169,146 confirmed COVID-19 cases and 2,044 deaths (World Health Organization [WHO], 2021a). Compare this with the UK with a population of around 66 million, and similarly isolated geographically - which has, as of July 13, 2021, registered a total of 5.1 million confirmed cases and 128,425 deaths (WHO, 2021b).

South Korea experienced its first wave of infections following the positive test result on February 18, 2020 of a woman in Daegu, the country's third most populous city. The Daegu

outbreak, associated in large part with gatherings of the Shincheonji Church, resulted in a steep incline in cases for the country. Just 40 days after the first confirmed case, the daily number of cases reached its peak of 909 cases, up nearly 500 cases from the previous day, making it at the time the second worst hit country after China (Cha, 2020). In response, the government undertook massive measures to contain the spread of the virus as much as possible, utilizing past pandemic experience and the latest technology, and eliciting major public and private efforts. The results of these measures have been largely positive when compared to other regions. Between January 3, 2020 and July 8, 2021, the country exceeded 1,000 daily new cases 16 times, and for the same period the country averaged 296 daily new cases (WHO, 2021a). While early in the pandemic, the government's efforts to contain the spread were successful - due in large part to its preparedness and forward-thinking – it seems to have become a victim of its own success. Following the discovery of a vaccine for COVID-19, the government dragged its feet in procuring the doses for its population, resulting in the country falling behind in vaccinating its population. The consequences of this are now being observed with recent increases in daily new cases and new social distancing measures being put in place that go beyond the previously defined highest tier.

How did South Korea manage to respond so effectively in containing COVID-19? What caused its hesitation to procure the newly discovered vaccine – the only truly effective way to end the pandemic? One argument is that the South Korean society's recent and traumatic memories of the Middle East Respiratory Syndrome (MERS) outbreaks in 2015 along with experience from the 2003 outbreak of SARS, led both the people and government to respond astutely toward the disease. We posit that in addition to South Korea's past experience of viral outbreaks, certain cultural tendencies, and the country's particular history have culminated in the comparatively successful results of the country's containment strategy - and delay in vaccination procurement.

Containing COVID-19: lessons from the past

The strategies deployed and the implementation process executed by the South Korean government to fight the pandemic were largely shaped by the country's previous experiences with other outbreaks such as the pandemic influenza A/H1N1 in 2009 and, more recently and significantly, MERS in 2015. This meant that well before the COVID-19 pandemic reached South Korea, the government had policies and plans in place to respond to such an event and relevant experience in dealing with similar situations. Overall, South Korea's strategies and implementation can be characterized as: early and quick, strong and coordinated, technology driven, and balanced. While it is beyond the purview of this report to describe in detail every policy put in place during the pandemic, the following section aims to present an overview of the range of strategies implemented to demonstrate these characteristics.

Early and quick

When the first cases of COVID-19 were detected in China in December 2019, South Korea - like several other Asian countries responded almost immediately to the potential public health threat (Cheung, 2020). Before COVID-19 had even reached its borders. quarantine, and screening measures were enhanced for individuals entering South

Korea from Wuhan, China (Cha, 2020). Anticipating the need to rapidly increase detection capacity, the government quickly coordinated with diagnostic kit manufacturers and fast-tracked the emergency use approval of COVID-19 diagnostic kits (Ministry of Economy and Finance [MOEF], 2020, p. 73). Hundreds of screening centres - including drive-through ones - were swiftly set up, enabling the country to ramp up testing capacity. Between February 2020 and April 2020, the capacity for daily COVID-19 tests increased from 3,000 to 20,000. Finally, from an early stage, separate diagnosis and treatment centres were established to mitigate the risk of transmission from suspected cases to other patients in medical facilities (MOEF, 2020, p. 70).

Strong and coordinated

Early on in the pandemic, South Korea took a high-level and government-wide coordinated approach. Chaired by the prime minister, daily meetings of the Central Disaster and Safety Countermeasure Headquarters took place. These meetings were attended by high-level representatives of national ministries and city and provincial governments, and they facilitated the identification of problems and efficient decision-making (Ministry of Foreign Affairs [MOFA], 2020, October 7, p. 30). For example, in response to the face mask shortage in the country, the government took the decision to ban exports and manage the entire process of production, logistics, and distribution of face masks, stabilizing the supply (Min-kyung, 2020). Six regional medical clusters were formed from the country's 17 provinces to effectively pool medical resources, staff, beds, and reduce bureaucratic hurdles (MOFA, 2020, October 7, p. 31). Coordination with the private sector also took place in response to the pandemic. To effectively implement the track and trace policy, data held by mobile providers, credit card companies, and transportation companies were used to track the movements of certain patients to control the spread of COVID-19 (MOEF, 2020, p. viii).

Technology driven

South Korea, already known for being at the forefront of various technologies, utilized IT innovations to implement key aspects of its strategies to contain COVID-19. For example, to implement the test and trace aspects of its containment policy, the country quickly established drive-through screening stations, developed QR codes for tracking mobility, and started using ICT and AI to distribute information about confirmed patients' movements and infection routes. Several additional apps were developed to facilitate self-quarantine and self-diagnostics both for people in the country and for those arriving from abroad. Other technologies were used to facilitate changes in society which occurred because of the pandemic. Some examples are social distancing through video conferencing, reading medical images using AI and recreating drugs, diagnosing using ICT, epidemiological surveys, patient management, and gene amplification test methods to reduce the time needed to obtain diagnostic results (MOEF, 2020, pp. 85-90).

Balanced

With regards to social restrictions put in place to contain COVID-19, the South Korean government tried to strike a balance between control and prevention measures, minimizing damage to the economy, and easing people's daily lives. On June 28, 2020, the country introduced its five-tier Social Distancing System, based on the rate of COVID-19 cases (MOFA, 2020, October 7, p. 19). Each level had varying degrees of social restrictions associated with it. For a majority of the time the Social Distance Level has stayed around Level 2 in the Seoul area (the part of the country with the strictest measures). Mask wearing in public transport was implemented by May 2020 (Park, 2020). Events seen as high-risk, including protests, mass gatherings, concerts, and stadium games with spectators, were prohibited early on. The closing hours for restaurants and cafés were also restricted to varying degrees depending on the severity

of cases at the time. At the same time, companies were able to decide for themselves which policies to implement with regards to working from home (most utilized a mixed scheme), bars and restaurants were never fully closed, and while the number of people allowed to gather was restricted, it was never fully prohibited. This meant people in South Korea could lead relatively normal lives, when compared to social restrictions imposed on societies in Europe or the United States. Many people still went to work at their offices regularly (though over fewer days, choosing to work from home for some of the week), people could eat at restaurants or meet at cafés with friends and family (both indoors and outdoors), and people could travel both within the country and abroad (though when they returned to South Korea they would have to undergo a two-week quarantine). Despite the comparatively loose restrictions, small businesses and insecure workers still suffered heightened financial pressure. In response, throughout the pandemic the government passed several financial stimulus packages as support, US\$12.2 billion in the spring of 2020 and approving an additional US\$6.5 billion in September 2020 (Larsen, 2020).

Politics, public health awareness, and K-pop: factors supporting COVID-19 measures

Both institutional and cultural factors in South Korea contributed to the government's implementation of COVID-19 measures and to slowing the progression of the virus in the country. One critical factor was the wellestablished National Health Insurance System (NHI), which enabled the government's 3T (Test-Track-Treat) Strategy. The NHI ensures universal access to testing and treatment (MOEF, 2020). Without the threat of a financial burden for visiting a testing facility, the people responded well to calls to be tested. South Korea accomplished a universal health coverage system in 1989 and combined it into a single-payer system in 2000. Additionally, the NHI system utilized exceptional information and communications technology (ICT) to secure transparency and liability (Shin et al., 2015). This ICT-based NHI system enabled the government to efficiently trace confirmed cases and monitor the population.

In addition to institutional characteristics, there are cultural traits and societal tendencies, resulting from the country's particular history, that have also contributed to supporting government measures. One major factor is the ongoing war on the Korean Peninsula, which has led people to be largely obedient towards authority. People often disregard the state of war which has become an inherent aspect of South Korea's reality, in part due to the country's rapid economic growth and the absence of active military conflict for the last 70 years or so. However, the fact is the Korean Peninsula is still at war with itself, and this reality is a driving factor behind people's behaviour towards the government – whether they themselves are aware of it or not.

Despite an armistice being signed on July 27, 1953, there have been hundreds of ceasefire violations, and tensions between the two Koreas have remained high. Add this to North Korea's nuclear weapons programme and Kim Jong-Un's often aggressive rhetoric towards South Korea, and it is not hard to see why generations of Korean families still to this day persistently worry about escalation to war. Thus, the mindset of Korean people is different from the mindset of those living in a country without conflict. Just as European citizens have in the past had to give up certain freedoms and rights to the government in exchange for protection during war, people in South Korea have done the same. The main difference is that the country has been in a perpetual state of war for over 70 years. This duration has caused people in this country to be more accustomed to relinquishing certain freedoms in return for protection when under threat – even threats that go beyond war. That can be seen in the current pandemic, which - like in most countries - is seen as a national threat.

Historically, under national threats, South Korean people have responded obediently to requests by the authorities and willingly sacrificed basic certain rights. During this pandemic, the South Korean population did not hesitate to give up their personal information to restaurants and institutions. There was little to no resistance to government requests to install QR codes and tracking apps on their mobile devices, despite the incursions into the right to privacy these would entail. One historical example illustrating South Korea's social characteristic of individual sacrifice to save the country is the gold-collecting campaign in 1998. This unique episode in South Korea's history demonstrates the country's experience in terms of overcoming a national crisis – this one financial in nature – through the efforts of ordinary civilians. During Asia's 1998 financial crisis, South Korea was unable to escape becoming indebted to the International Monetary Fund. The 1998 gold-collecting campaign was a national sacrificial movement, in which regular citizens willingly donated their gold (a traditional present celebrating a child's first year) to help repay South Korea's debt to the IMF. This shows South Koreans' experience in sacrificing themselves to save the country and pull the country out of crisis (Gun, 2007). Scholars have likened this cultural tendency to South Korea's Confucian tradition, which encourages a submissive attitude towards authority. For over 500 years, Korea was ruled as a Confucianism-based monarchy – the Joseon Dynasty. This strongly influenced family, education, philosophy, religion, social and political systems, and daily life (K.-O. Kim, 1996). A popular Korean proverb, "the nail that sticks out gets hammered down", helps demonstrate the country's collective social characteristics.

Contributing both to institutional changes and societal shifts, the recent trauma of the 2015 MERS outbreak led people to be highly compliant regarding government public health policies and significantly increased the government's capacity to tackle future outbreaks. The MERS outbreak here was the largest one

outside the Middle East and took the country by surprise, because South Korea is not a developing country, and it had a well-established health infrastructure. The MERS outbreak served as a horrifying teaching tool, raising awareness among the general population that unknown contagious diseases (like MERS) can spread out even without symptoms, and can have deadly consequences that can threaten lives. Before the outbreak, people had little knowledge about infectious diseases. In South Korea, 38 people died and 180 clinical cases were found (WHO, n.d.-a). Following the outbreak, there was greater public awareness of the threat of infectious disease outbreaks in the country. In the government, new policies and laws were passed to increase preparedness for future health risk. Most notably, the wake of the MERS outbreak brought about the development of South Korea's contact-tracing infrastructure, today one of the world's most advanced systems and an integral part of the success of the 3T strategy (Kuhn, 2020).

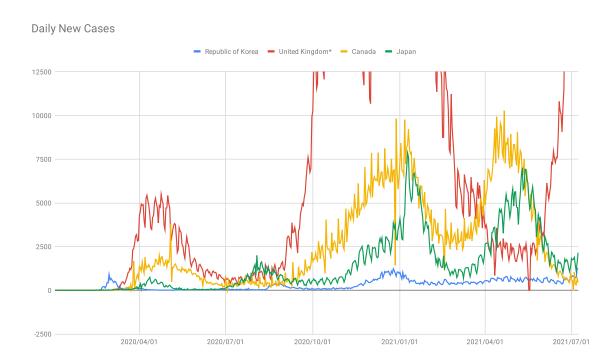
In addition to the public awareness of the nature and danger of infectious diseases, people in South Korea also (somewhat serendipitously) show less resistance to wearing face masks. This is because of air pollution problems the country has been experiencing in recent years. The increase of yellow dust in the air on certain days has led people here to wear face masks out of habit, to protect their upper respiratory system from the micro dust. In the wake of the COVID-19 pandemic, when the government first provided guidelines around wearing face masks on public transportation (and later in all public places), people quickly and near-ubiquitously complied. In addition, face masks have even become a fashionable item here. K-pop stars have often worn them in public to escape from the public eye, making younger generations open to wearing face masks to imitate the celebrities.

These traits and historical experiences contributed towards society's cooperation with and minimal resistance to the measures put in place. When the Korean government announced that people should wear face masks and use hand sanitizer, Korean people cooperated. These preventive behaviours in public (advised social distancing), and non-pharmaceutical public health interventions (hand sanitizer, washing hands, and wearing masks) have helped to inhibit human-to-human transmission of respiratory infectious diseases (Aledort et al., 2007). In South Korea, wearing a face mask in public has been considered one of the most efficient preventive measures and seems to have been one of the major contributing factors in containing the spread of COVID-19 (S. Lim et al., 2020).

Assessment of the measures

Public compliance with the measures put in place were relatively high throughout the pandemic. While a months-long debate was taking place in Europe and North America over the efficacy of face masks, in South Korea the shift to wearing face masks seemed to occur overnight. Despite the government only issuing mandatory face masks in all public spaces in August 2020 (The Korea Times, 2020), by May 2020, according to one article, an estimated 63% of the population were already wearing masks outdoors; another international survey reported that 94% of respondents were already wearing face masks outdoors (S. Lim et al., 2020). The country's previous experience with MERS and good public awareness of how transmission of respiratory disease can occur, coupled with the familiarity of wearing face masks due to the air pollution problems of recent years, likely contributed to the quick uptake of mask wearing throughout society. In addition to face masks, it was clear to see the differences in a society heeding government advice to stay at home as much as possible and limit social gatherings. Anyone who had visited Seoul before the pandemic would have found the city unrecognizable had they returned during the pandemic. At the time of the second wave, around August 2020, the hustle and bustle of famous shopping streets and neigh-

Figure 1: Daily number of new COVID-19 cases.
*United Kingdom data goes beyond the scope of the chart.
Source: WHO, n.d.-b

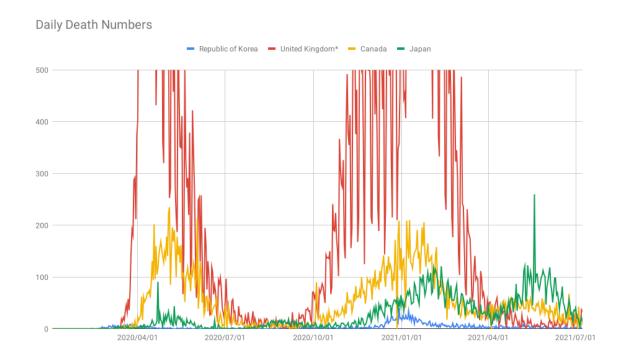


bourhoods had all but disappeared in Seoul, the capital that housed around half the population. To this day, previously busy streets and neighbourhoods popular with the youth are seemingly operating at a quarter or half of their capacity – not because of government regulations, but because people are simply not showing up.

The compliance of the South Korean people with measures put in place, in addition to the government's aggressive pursuit of their 3T (Test-Track-Trace) containment strategy, was largely hailed as a success, both domestically and abroad. Throughout the pandemic, numbers of daily new cases stayed comparatively low, even during periodic waves that hit the country. Following the end of the initial wave, from April 2020 to August 2020, daily new cases almost never surpassed 100 (WHO, 2020). From August 2020 to June 2021, there have been three additional waves, during which daily new cases – at the peak – hovered near or well below 1,000. The United Kingdom - a somewhat comparable country with a population of around 66 million and mostly separated from neighbouring countries – in comparison, during its first wave recorded daily new cases ranging from 3,000 to 5,000, and during its worst wave had daily new cases reaching as high as 81,000 (see Figure 1 and Figure 2).

The government's efforts to balance the needs of the economy and public health requirements were also comparatively successful. Throughout the entire pandemic, society was never fully locked down. Up until June 2021, of the government's five-tier Social Distancing System, the highest level (Level 3) was never implemented. This level would have included, among other measures, restrictions in operations for all facilities other than essential industries, and mandatory workfrom-home orders for all non-essential workers (Central Disaster Manager Headquarters [CDMH] & Central Disease Control Headquarters [CDCH], n.d.). It was often reported that the government was hesitant to implement this strict level because of concerns over the

Figure 2: Daily number of COVID-19 associated deaths.
*United Kingdom data goes beyond the scope of the chart.
Source: WHO, n.d.-b



impact such measures would have on the economy. This concern seems to have paid off; compared with other OECD countries – referred to by The Economist as a group of mostly rich countries – South Korea had the smallest drop in GDP when comparing 2020 to 2019 – only 1% (Stangarone, 2021).

Social and political consequences of the pandemic in South Korea

While the negative impact on the economy – heavily based on high-tech export industries – was mitigated to an extent, industries inside the country, particularly the service and tourism sectors, have been suffering from prolonged economic losses. Unemployment rates have shown clear disparities between different groups of the population. Overall, younger workers in their twenties, and women (across all age ranges), have experienced higher rates of increase in unemployment throughout the pandemic (Y. Kim, 2021b). In response, the government passed a series of financial stimulus packages aimed

at supporting small businesses and financially vulnerable individuals.

Despite the financial support provided by the government, the long duration of the pandemic, paired with growing criticism of the government's late actions in procuring vaccines, has resulted in some growing discontent with President Moon Jae-in and the Democratic Party. Elections that took place in April 2021 saw President's Moon's Democratic Party expelled from mayoral positions in two of the country's largest cities (Seoul and Busan), forecasting a potential loss for the party in the upcoming 2022 election. Interestingly, the most cited reason for this loss was not COVID-19 but other issues in the country, including the government's failure to sufficiently improve housing and real estate policies, and corruption and scandals associated with the party (Borowiec, 2021, May 7). This is indicative of the comparatively smaller consequences COVID-19 has had thus far on South Korean society. While young workers (in their twenties and thirties) were the hardest hit by unemployment during this period, this trend predates the COVID-19 pandemic; similarly, South Korean women have long suffered some of the lowest employment rates among the OECD countries (Y. Kim, 2021a).

Social distancing in society

There have, however, been several other changes in society that were direct consequences of the pandemic. One such change was the decrease in protests that occurred throughout this time. "Walking the streets of Seoul on any given day, it is impossible to avoid scenes of protest," one journalist reported in a 2019 article describing the country's protest culture (Rohimone & Wyeth, 2019); in 2018 alone, there were an estimated 68,000 demonstrations (Overseas Security Advisory Council [OSAC], 2020). The social distancing measures, which restricted large gatherings, have resulted in a noticeable decrease in protests throughout the country. Like several other countries, there was also a rapid spread of the working-from-home culture throughout South Korea. While the government never made working from home mandatory, advice to minimize the number of people in offices was strongly followed by companies. One survey showed that 88% of companies had implemented partial or full work-from-home policies, and more than half of the firms polled reported plans to continue some form of work-from-home policy even after the pandemic ends (Lee, 2020). Another tangible shift was the decrease - or disappearance – of hoesik, a common Korean workplace tradition of late-night binge drinking with managers and subordinates. Whether or not hoesik comes back after the pandemic is yet to be seen, though nearly half of workers recently surveyed said they would not want them to start again (Nam, 2021).

Elevated on the world stage

Another potential consequence of the pandemic is the elevation, on the world stage, of South Korea in terms of its performance. Its early success in containing the spread of the virus has earned the country praise from around the globe. During the February 2020 wave of cases, the world looked at South Korea as a warning, with articles titled, "How South Korea's Coronavirus Outbreak Got so Quickly out of Control" (Borowiec, 2020, February 24). Fast forward just a few months and articles started being published looking to the country and its policies as an example, with articles with titles such as: "How South Korea Triumphed, and the US Floundered Over the Pandemic" (Shorrock, 2020) and "COVID-19 Has Crushed Everybody's Economy - Except for South Korea's" (Larsen, 2020). In 2021, for the first time, South Korea attended the G7 Summit as an observer (Smith, 2021). South Korea's presence at the meeting was described by observers as signalling the country's growing role in international affairs.

Policy shifts on vaccines

Perhaps most significantly for the country's own preparedness for future pandemics, a shift in vaccine strategy has also occurred because of the pandemic. One thing that has been made painfully clear for countries around the globe is the importance of vaccines - and vaccine sovereignty - in addressing public health crises. Amid growing disappointment at the government dragging its feet in vaccine procurement - now causing the country to lag in its vaccination rollout the government is pursuing policies and programmes aimed at increasing the country's capability to domestically produce vaccines, specifically mRNA vaccines (MOHW, 2021). In June 2021, a special government-sponsored consortium to develop mRNA vaccines was launched (C. Lim, 2021). In May 2021, following a bilateral summit between the two countries, President Moon and President Biden announced a US-South Korea Vaccine Partnership. Soon afterwards, American vaccine producers Moderna and Novavak announced plans to manufacture vaccines in South Korea thanks to a government deal that was struck (Widakuswara, 2021). The private sector in the country also seems to be responding to

this call; as of June 2021, 17 companies had reached out to the government for support on developments of mRNA industry, four have reported they will be starting mRNA clinical trials in 2022 (C. Lim, 2021), and companies such as Hanmi Science are reportedly aiming to grow into a global vaccine hub under a WHO vaccine hub scheme (Choi, 2021). Despite the growing interest both in the government and the country's biopharmaceutical sector for mRNA vaccine development and production, South Korea still lacks key technology and has yet to receive end-to-end RNA vaccine production technical transfer from the original RNA vaccine developers, indicating the need for further actions to progress in this field.

What COVID-19 means for South Korea: moving forward

South Korea is a nation that grew from overcoming crises, from the Korean war, authoritarianism, financial downturns, man-made industrial disasters, and several public health emergencies. These crises have continually strengthened the country's capacity and enhanced the level of the nation. Most relevant to the current pandemic is the painful social expenditure that MERS caused both the people and the government of South Korea but which led them to exhibit the strength and self-sacrifice required to contain COVID-19 better than in other parts of the world. However, as a victim of its own experience, the government's underestimation of the current pandemic caused its slow-moving action in purchasing vaccines at an early stage. As has been shown with the most recent outbreak and quick spread of the delta variant, without reaching herd immunity in a population through vaccine, the COVID-19 pandemic cannot end. The COVID-19 pandemic has put South Korea's ready-made public health crisis plans to the test, and they have emerged as effective in respect of its stated aims: containment of the spread of the virus. The pandemic has also shown the direction in which the country should head, to further enhance its pandemic

preparedness. As a country reputed to be on the cutting edge of technologies, it seems only natural that it would aim to take advantage of the newest developed technology such as RNA vaccines. As this current COVID-19 pandemic has shown, vaccines are necessary for epidemic preparedness for future pandemics.

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FOOTNOTES

1 The Shincheonji Church has been characterized as an eccentric and secretive religious sect whose members often deny affiliation. The secretive nature of membership may have made it more difficult for authorities to track and trace attendees of the Church's gatherings.

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