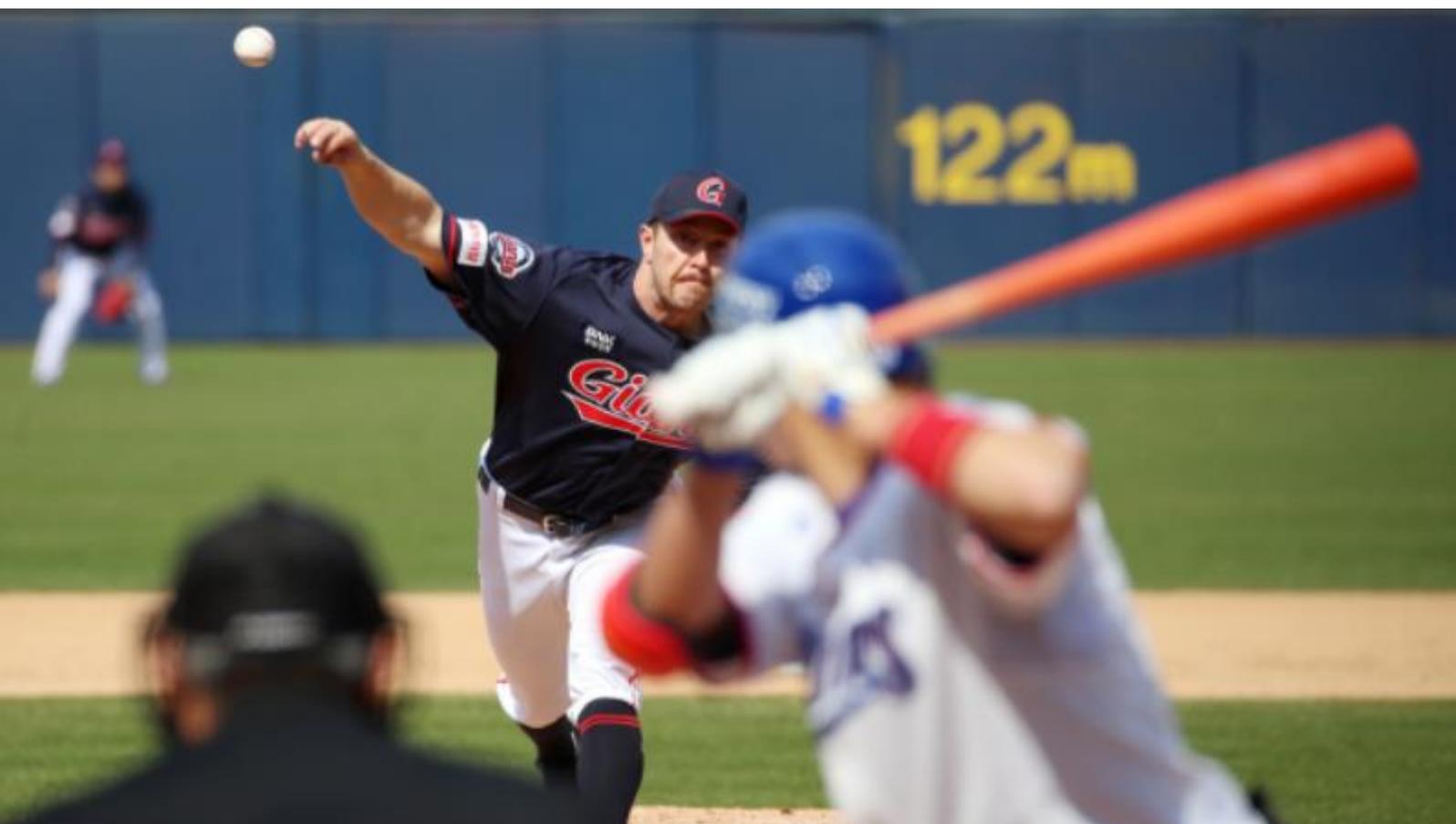# COVID-19, Testing Time for
RESILIENCE

In recovering from COVID-19: Korean experience

May 3, 2020

The Government of
the Republic of Korea

Main pictures

Pre-season professional baseball game
Between Busan Giants and Daegu Lions
April 27, 2020 in **Daegu city**,
most severely affected city in Korea

Season opening game is scheduled
May 5, 2020 in Korea

COVID-19, Testing Time for
RESILIENCE

In recovering from COVID-19: Korean experience

May 3, 2020

(to be updated)

The Government of
The Republic of Korea[1]

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COVID-19, Testing Time for Resilience
In recovering from COVID-19: Korean experience

President Moon Jae-in chairs Korean government Cabinet meeting and discussed the economic measures.
(Cheongwadae (presidential office), April 28, 2020)

"The longer the implementation of measures drags on, the greater damages and the more difficulties people and businesses will face. In this unprecedented crisis situation, decisions should be made boldly, and they should be carried out rapidly and accurately. I ask you to accelerate the implementations."

President Moon Jae-in
Republic of Korea

As President Moon Jae-in of the Republic of Korea said, "the impact of the health and economic crisis caused by COVID-19 is the first of its kind." In order to overcome this crisis, it is very important to make joint efforts at both regional and national level, as well as globally. This paper is a summary of Korea's social, military, political and economic responses against COVID-19 from January to April 30, 2020.

SUMMARY

SUMMARY

The momentum of the COVID-19 is spreading widely. It began with the crisis of health and quarantine, but has not stopped at the first phase. It imposes economic burdens and difficulties worldwide. COVID-19 does not distinguish regions, countries, and continents, and poses great difficulties for both rich and developing countries. The economic fallout of this crisis could create major stressors, particularly in fragile societies, less developed countries and those in transition. It will have particularly devastating impacts for women and vulnerable. In addition, the impact on the four sectors is likely to be significant. In addition to the economic impacts, COVID-19 also poses great challenges in various fields such as society, health, education and the military.

First, in response to economic challenges, the Korean government focus on three areas in terms of international economic cooperation amid the pandemic. The government is working to first address the challenges that businesses face in trade because of the entry ban of other countries, in addition to providing strong support to businesses in their export activities and export financing. In May, measures to promote overseas infrastructure construction will also be announced to support development and contracting of large-scale projects. Second, to control new risks in trade under such difficult circumstances, and to strengthen the bilateral cooperation with major countries, Korea will closely monitor the potential risk factors where conflicts may arise so that businesses can avoid additional burden. Lastly, the Korean government plans to be prepared for the new global order and changes in the global value chain in the post-COVID-19 era by diversifying markets, expanding trade and broadening overseas investment, as well as securing manufacturing supplies against the changing global value chain.

Second, in response to education challenges, the Korean government has provided online content to enable students to continue learning with the help of their parents and prepare themselves for the new semester, with the goal of reducing the learning gap prior to the actual start of school, after the postponement of school year at primary, junior high, and high schools due to the coronavirus outbreak. Moreover, the government has laid the groundwork for practical online learning by establishing systems in preparations for online classes during this period. All students have been learning online since primary, junior high, high schools started online curricula on April 20, 2020.

Third, despite fear of virus spread, Korea become the only country that held a general election during the height of the COVID-19 pandemic. Despite worries over infections caused by the coronavirus, the Korean government pushed ahead with the election. The government recognized that the spread of the virus had begun to ease off and that the direct form of democracy adopted by Korea is a basic right given to the public. The Korean public cast their votes in spite of the risk of transmission in order to exercise their right to vote, complying with quarantine guidelines set by the government. As a result of this, the voting rate in the general election stood at 66.2 percent, the highest figure in 28 years.

Fourth, in response to working and business challenges, the government implemented three-shift remote work from March 16 as part of the effort to avoid further contagion in regional areas and avoid any vacuums in the implementation of government work as there was an increase in the number of confirmed patients among civil servants. Under this non-face-to-face working environment, which was built based on a range of ICT technologies including Cloud Mobile, government officials have been working just as efficiently as if they had showed up at the office.

Fifth, Korea was successful in slowing down the COVID-19 transmission utilizing digital technology and without strict border control or movement restrictions. All eyes are on the various measures taken by the Korean government to limit transmission, including innovative methods like the drive-thru and walk-thru testing, extensive testing, quick diagnosis, and the use of ICT to inform and track confirmed cases. Through these, Korea was able to flatten the spread curve of virus without taking draconian measures.

Sixth, the Korean government was able to successfully tackle the panic buying phenomenon by launching an Inter-governmental Mask TF chaired by Vice Minister of Finance, conducting public procurement for the entire production of masks, expanding production capacity, and utilizing digital technologies in allocation and distribution process.

And seventh, Covid-19 was also big testing time for military services. When the national infectious disease crisis level was elevated to 'Red' as COVID-19 spread to local communities, MND (Ministry of National Defense) approached the COVID-19 situation as equivalent to wartime and actively executed preventive measures to support governmental efforts. MND solved hospital bed shortage problems by quickly remodeling military hospitals including the Armed Forces Daegu Hospital and newly established and operated the Defense Rapid Support Group to process requests from local governments and government institutions. MND also shortened training periods for medical personnel including medical officers for their rapid deployment to local settings.

Connecting the world to combat coronavirus

1. Introduction

1. Introduction

"We are facing a global health crisis unlike any in the 75-year history of the United Nations — one that is spreading human suffering, infecting the global economy and upending people's lives."

UN Secretary-General António Guterres

"Global cooperation is essential to the containment of the COVID-19 and its economic impact, particularly if the outbreak turns out to be more persistent and widespread. To be adequately prepared, now is the time to recognize the potential risk for fragile states and countries with weak health care systems."

IMF Managing Director Kristalina Georgieva

"This crisis is first and foremost a health crisis which has forced governments to take unprecedented measures to protect people's lives,"

WTO Director-General Roberto Azevêdo

Due to the COVID-19 pandemic, the world economy is expected to experience an economic slump more serious than anticipated. According to the International Monetary Fund (IMF), the global economy is expected to grow at -3% (much worse than during the 2008–09 financial crisis) while global trade volume also grows at -11%, raising concerns over an economic recession like no other in history. In this regard, the changes in international economic conditions such as the drop in the global trade volume and the limited cross-border

Figure 1-1 World Economic Outlook of April 2020 (IMF)
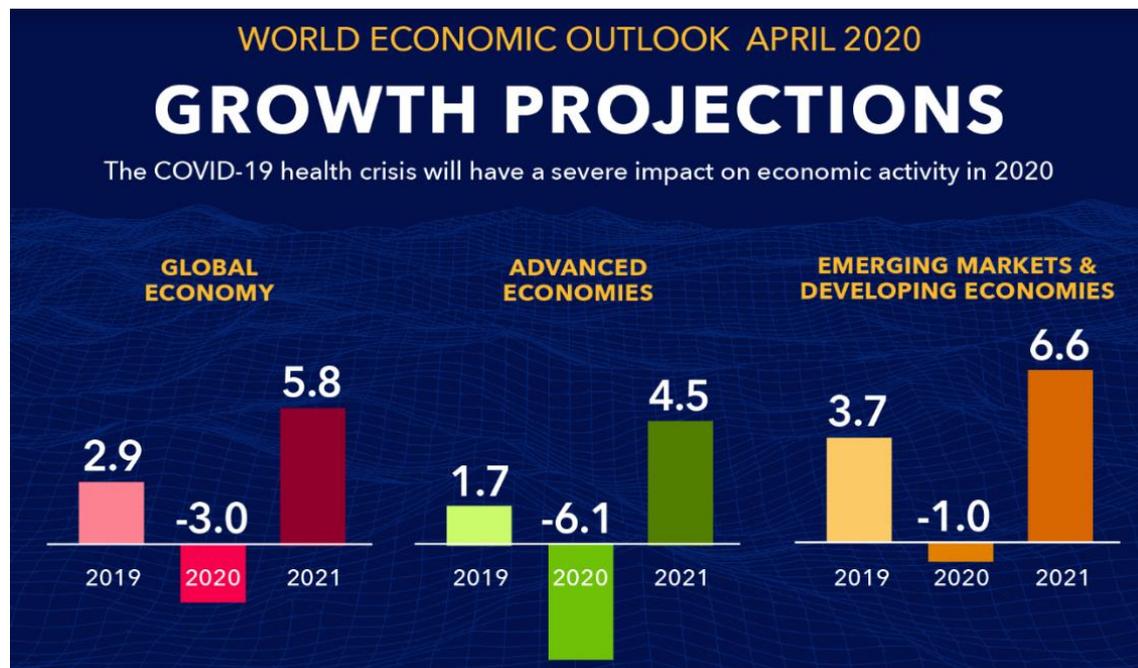
According to the World Trade Organization, World merchandise trade is set to plummet by between 13 and 32% in 2020 due to the COVID-19 pandemic. Nearly all regions will suffer double-digit declines in trade volumes in 2020, with exports from North America and Asia hit hardest. Trade will likely fall steeper in sectors with complex value chains, particularly electronics and automotive products. A 2021 recovery in trade is expected, but dependent on the duration of the outbreak and the effectiveness of the policy responses.

Figure 1-2 World merchandise trade volume, 2000 – 2022 (WTO)

Index, 2015=100
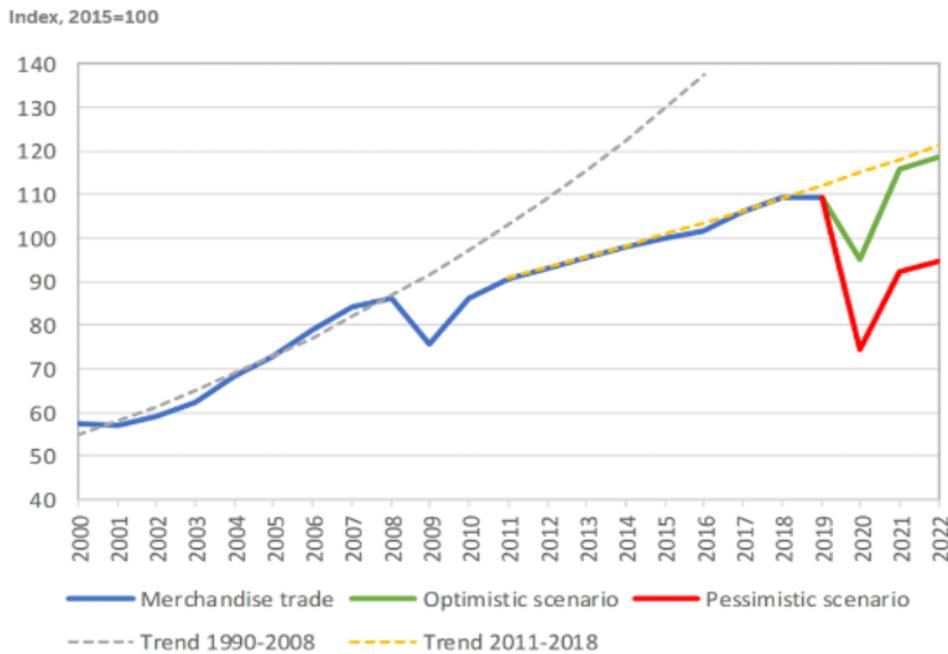
Figure 1-3 Ratio of world merchandise trade growth to world GDP growth, 1990-2020 (WTO)

% change and ratio
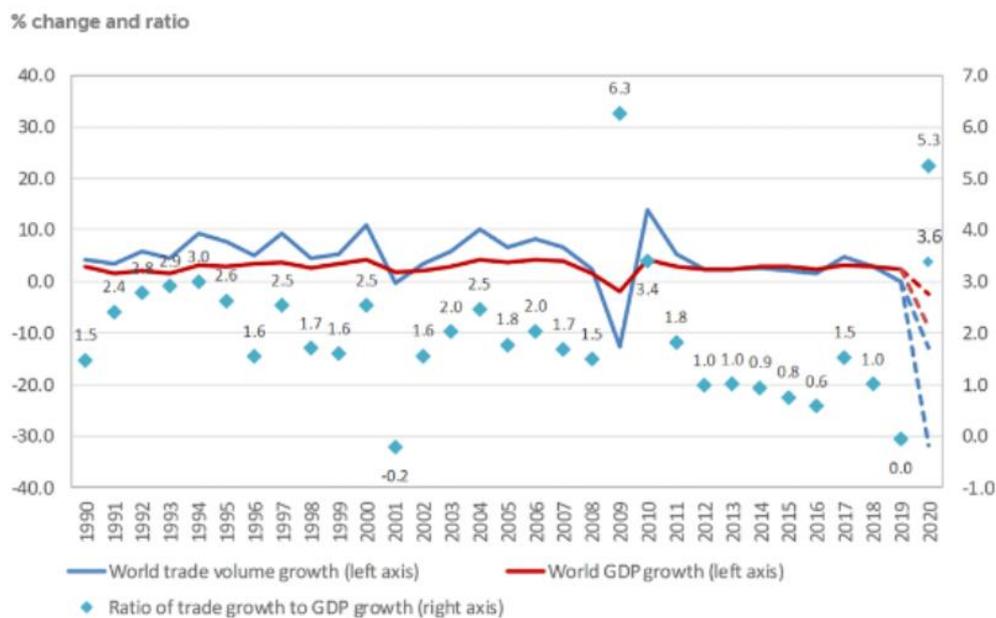
Figure 1-4 IMF World Economic Outlook by regions (IMF)

The momentum of the COVID-19 is spreading widely. It began with the crisis of health and quarantine, but has not stopped at the first phase. It imposes economic burdens and difficulties worldwide. COVID-19 does not distinguish regions, countries, and continents, and poses great difficulties for both rich and developing countries. The economic fallout of this crisis could create major stressors, particularly in fragile societies, less developed countries and those in transition. Because, economic instability will have particularly devastating impacts for women and vulnerable. In addition to the economic sector, the impact on the four sectors is likely to be significant. In addition to the economic impacts, COVID-19 also poses great challenges in various fields such as society, health, education and the military.

Figure 1-5 Global school closures status by COVID-19 (UNESCO)
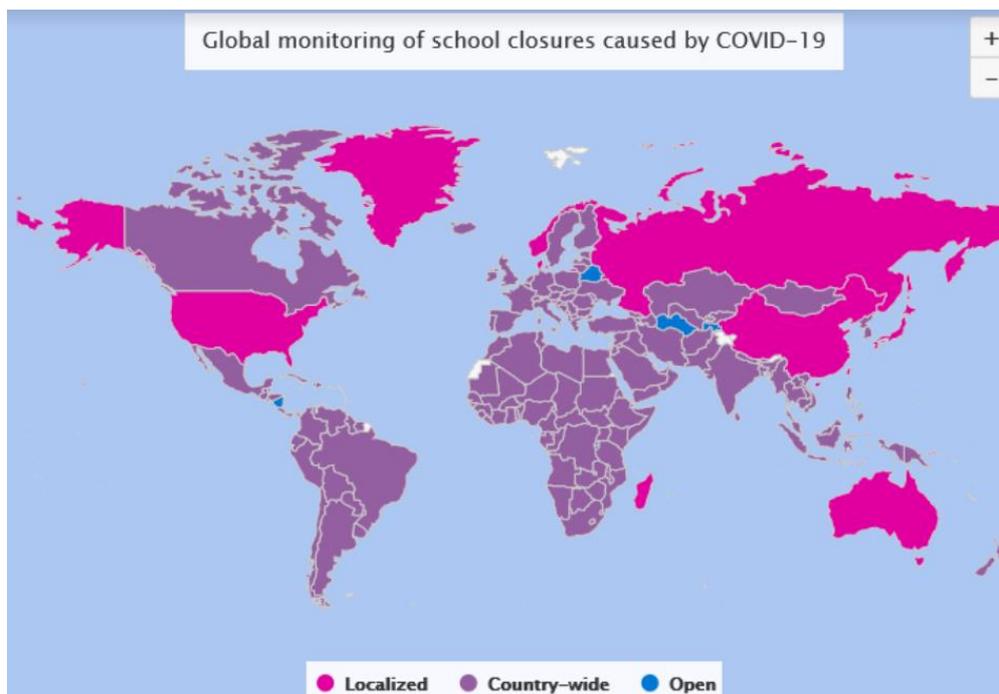
First, COVID-19 is causing significant hardship on education. Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic. These nationwide closures are impacting over 90% of the world's student population. Several other countries have implemented localized closures impacting millions of additional learners in their efforts to mitigate the immediate impact of school closures, particularly for more vulnerable and disadvantaged communities, and to facilitate the continuity of education for all through remote learning. Unfortunately, one of the most tangible outcomes of COVID-19 is the ever-increasing socio-economic gap between learners, with some of the most vulnerable children bearing the greatest impacts.

Second, COVID-19 is disturbing very fundamental of democracy, an election. In 2020, elections are planned for major countries. Parliamentary elections are held in Australia, France, India and Korea. Also, US Presidential and Congressional elections are scheduled in November. Voters standing in line close to each other, handling ballots and using touch screens make for a potentially toxic stew of community transmission of the novel coronavirus (COVID-19). However, a postponement of elections or referenda, or the decision to proceed with a vote – even with mitigation measures – can create political tensions and undermine legitimacy of elected officials around the world. Election officials and policymakers must give full attention to possible mitigation strategies.

Figure 1-6 General election was held in Korea (April 15, 2020)

Third, the COVID-19 outbreak is changing the workplace landscape. An increasing number of companies are allowing their employees to work from home to prevent the further spread of the virus. While there have been growing calls for introducing the "smart work" system, many countries has yet to fully adopt the new way of working. Attention is drawn to whether it will take firm root in the midst of the COVID-19 pandemic.

And the COVID-19 brought whole new enemy to our military. Responding to the COVID-19 pandemic became the top task of the military in all countries. A new coronavirus cases were confirmed in four U.S. aircraft carriers. On the French nuclear-powered aircraft carrier 'Charles de Gaulle', coronavirus confirmed, and the operation was stalled. Recently, the biggest topic of NATO's Spring 2020 Innovation Challenge was not the military strategy, but the coronavirus response. With the spread of coronavirus, militaries from around the world have huge challenges in supporting the decision-making of military leaders and delivering logistics and supplies to isolated individuals and teams without infection and spread of virus.

Figure 1-7 Aircraft carrier USS Theodore Roosevelt

We would like to introduce Korea's efforts to achieve resilient recovery, in a situation where coronavirus still has serious impact on education, work, society, and the military beyond health and economy. Korea's fight against the pandemic is still ongoing with possible resurgence. While it is premature to provide the answer in responding COVID-19, the following information can be understood as a one of lessons and experiences in tackling COVID-19.

2. Testing time for policy makers

2. Testing time for policy makers

Due to the COVID-19 pandemic, the world economy is expected to experience an economic slump more serious than anticipated. According to the International Monetary Fund (IMF), the global economy is expected to grow at -3% while global trade volume also grows at -11%, raising concerns over an economic recession like no other in history. In this regard, the changes in international economic conditions such as the drop in the global trade volume and the limited cross-border activities will bring an immense impact on the Korean economy, which is highly dependent on the external factors.

Korean government plans to strengthen its policy on international economic affairs focusing on maintaining the export capacities, sharing the country's COVID-19 prevention and treatment programs to expand cooperation with foreign countries, building stronger bilateral partnerships with other countries, and preparing for the post-COVID-19 era. By preemptively responding and managing various external factors, the government will support businesses in their export activities and expansion abroad.

At the same time, the World Bank warned that if consumption and investment do not recover quickly after the pandemic, the developing countries may face an even greater economic recession. The World Bank predicts the production of developing countries this year to shrink for the first time since 1960 by 2%. The Korean government plans to strengthen the strategic support for developing countries that are expected to face economic difficulties and continue to build partnership with these countries. Korea will do so by supporting health-related projects in developing countries, suspending debt payments for low income countries and by drastically increasing the ODA for the countries included in the new northern and southern policies of Korea.

Figure 2-1 Ratio of World merchandise trade growth to world GDP growth, 1990-2020
(source: WTO, April 8, 2020)
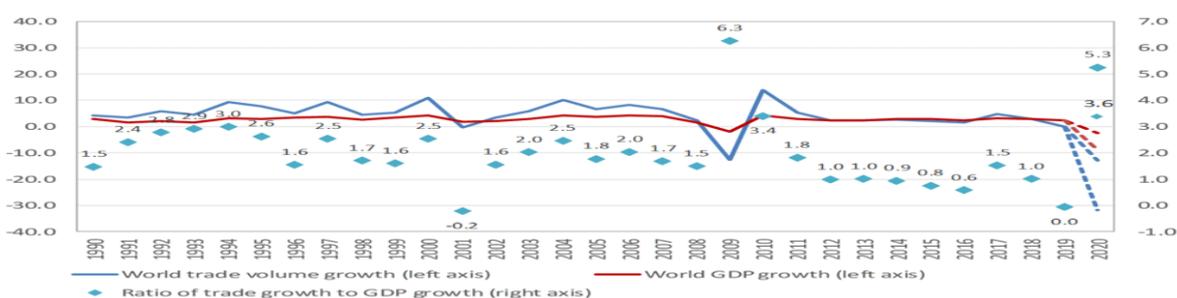
2.1 Outlook on Global Economic Recession and the Impact on Korean Economy

As of April 27, a total of 2.9 million people have tested positive to COVID-19, with about 0.2 million deaths. In addition to the health-related impacts, the lockdown of countries and cities, and restricted cross-border mobility of goods and human resources also result in extensive

impact to the global economy. According to the World Trade Organization (WTO) outlook, the world commodity trade will drop by 13% to 32% in 2020.

The World Bank is particularly concerned about the negative influence of the economic recession on developing countries. Unlike developed countries with firm economic structures, developing countries that are more vulnerable to external impacts will react more sensitively to external shock. Based on this, the World Bank predicts a 2% reduction in the production of developing countries. The IMF also predicts challenging economic situation worldwide, with a global economic growth of -3% and a 11% reduction in world trade volume.

Table 2-1 World Economic outlook projections (IMF, April 20, 2020)

		Projections	
	2019	2020	2021
World Output	2.9	−3.0	5.8
Advanced Economies	1.7	−6.1	4.5
United States	2.3	−5.9	4.7
Euro Area	1.2	−7.5	4.7
Germany	0.6	−7.0	5.2
France	1.3	−7.2	4.5
Italy	0.3	−9.1	4.8
Spain	2.0	−8.0	4.3
Japan	0.7	−5.2	3.0
United Kingdom	1.4	−6.5	4.0
Canada	1.6	−6.2	4.2
Other Advanced Economies[2]	1.7	−4.6	4.5
Emerging Market and Developing Economies	3.7	−1.0	6.6
Emerging and Developing Asia	5.5	1.0	8.5
China	6.1	1.2	9.2
India[3]	4.2	1.9	7.4
ASEAN-5[4]	4.8	−0.6	7.8
Emerging and Developing Europe	2.1	−5.2	4.2
Russia	1.3	−5.5	3.5
Latin America and the Caribbean	0.1	−5.2	3.4
Brazil	1.1	−5.3	2.9
Mexico	−0.1	−6.6	3.0
Middle East and Central Asia	1.2	−2.8	4.0
Saudi Arabia	0.3	−2.3	2.9
Sub-Saharan Africa	3.1	−1.6	4.1
Nigeria	2.2	−3.4	2.4
South Africa	0.2	−5.8	4.0
Memorandum			
European Union[5]	1.7	−7.1	4.8
Low-Income Developing Countries	5.1	0.4	5.6
Middle East and North Africa	0.3	−3.3	4.2
World Growth Based on Market Exchange Rates	2.4	−4.2	5.4
World Trade Volume (goods and services)	0.9	−11.0	8.4
Imports			
Advanced Economies	1.5	−11.5	7.5
Emerging Market and Developing Economies	−0.8	−8.2	9.1
Exports			
Advanced Economies	1.2	−12.8	7.4
Emerging Market and Developing Economies	0.8	−9.6	11.0

The Korean economy, which is highly dependent on export activities, is also likely to be greatly influenced by the gloomy outlook on the world economy. Korea's export has decreased by 26.9% in April (as of April 20) compared to the previous year, which already shows that this concern is becoming a reality.

2.2 Korea's Policies on International Economic Affairs in Responding to COVID-19

Deputy Prime Minister Hong Nam-ki presided over the 213th Ministerial Meeting on International Economic Affairs held on April 27, and discussed the three focuses with which the government will work on international economic policies amid the COVID-19 pandemic.

Figure 2-2 Deputy Prime Minister Hong Nam-ki chairing the Inter-Ministerial Meeting on International Economic Affairs (April 27, 2020)

The Korean government focus on three areas in terms of international economic cooperation amid the pandemic.

The government is working to first address the challenges that businesses face in trade because of the entry ban of other countries, in addition to providing strong support to businesses in their export activities and export financing. In May, measures to promote overseas infrastructure construction will also be announced to support development and contracting of large-scale projects. Second, to control new risks in trade under such difficult circumstances, and to strengthen the bilateral cooperation with major countries, Korea will closely monitor the potential risk factors where conflicts may arise so that businesses can avoid additional burden. Lastly, the Korean government plans to be prepared for the new global order and changes in the global value chain in the post-COVID-19 era by diversifying markets, expanding trade and broadening overseas investment, as well as securing manufacturing supplies against the changing global value chain.

Figure 2-3. Vice Minister of Economy and Finance Kim Yong-beom meeting with board members of exporting businesses (April 21, 2020)

Active Developing Country Support

Because developing countries not only lack the health-related and medical infrastructure, but also are vulnerable to capital outflow and ODA reduction, the Korean government plans to provide active support for these countries by suspending debt payments and providing more ODA.

Over 400 million dollars will be provided through the Economic Development Cooperation Fund (EDCF) by end of this year to target healthcare projects against COVID-19 in developing countries. A total of over 110 million dollars of repayments on loans for 26 low income countries will be suspended, while the size of the Export-Import Bank of Korea's foreign subsidiary capital will be tripled to 400 million dollars.

In addition, the amount of ODA for countries in Korea's new northern and southern policies will be 7 billion dollars for the next 3 years. This amount has doubled compared to the previous 3 years to provide stronger support for the target countries.

ODA for New South will include ICT aid taking into consideration recipient countries demand, landmark projects and model projects to help develop mid-to long-term partnership. ODA for New North will include aid as priming of economic cooperation, and aid to help address issues recipient countries are most concerned about, such as healthcare and climate change.

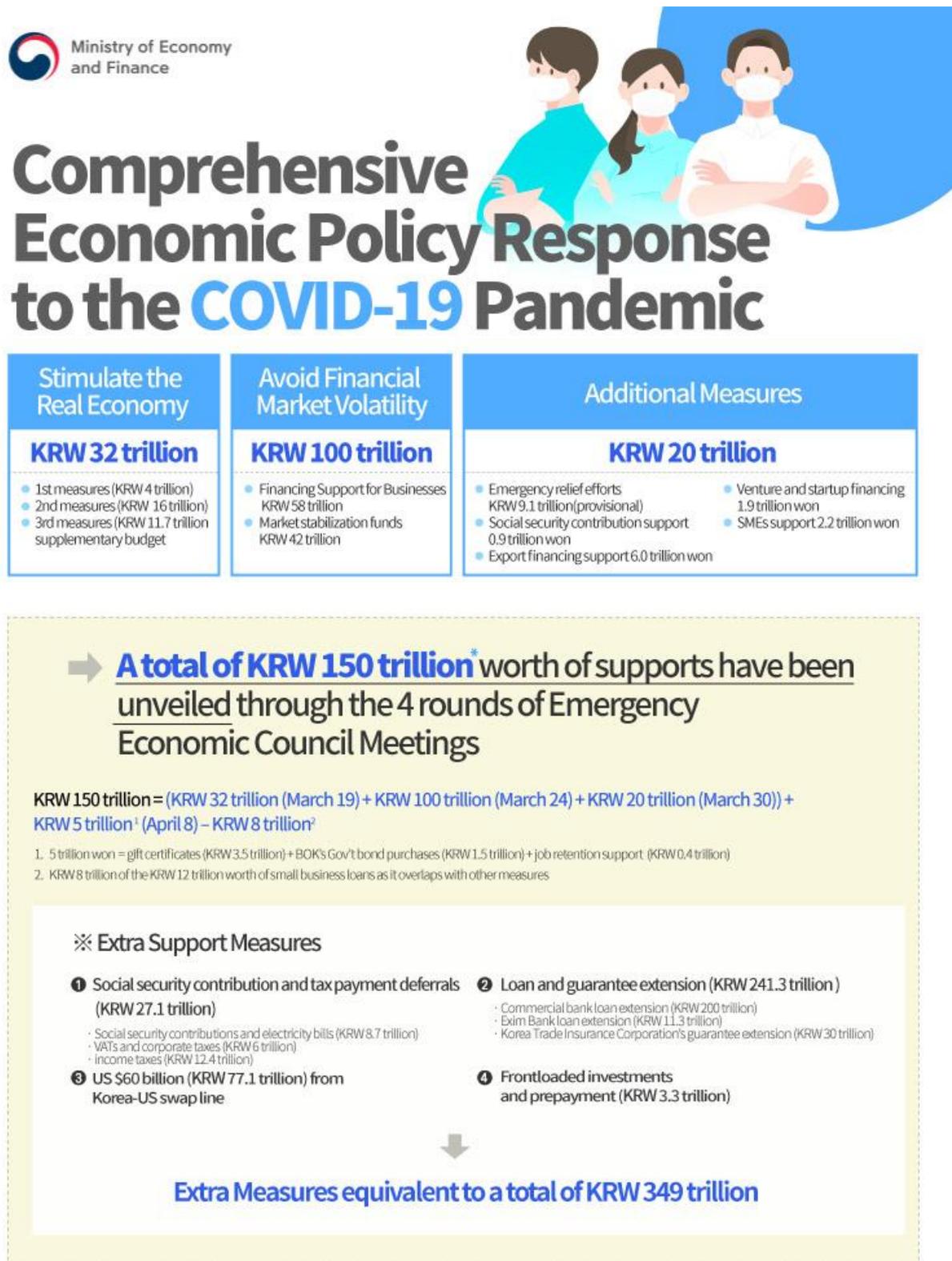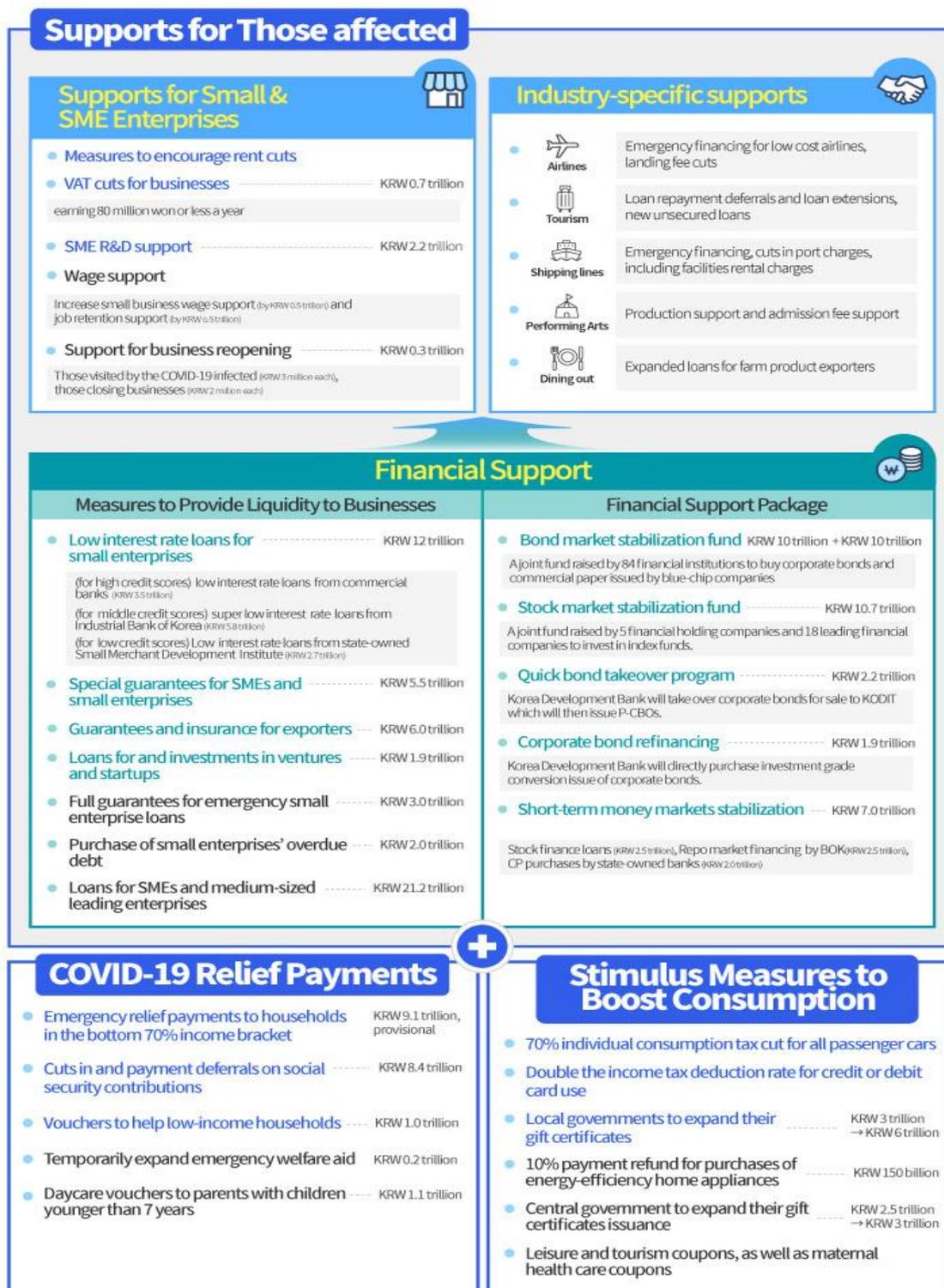**Figure 2-4. Comprehensive Economic Policy Response to the Covid-19 Pandemic**

Ministry of Economy and Finance

Comprehensive Economic Policy Response to the COVID-19 Pandemic

Stimulate the Real Economy	Avoid Financial Market Volatility	Additional Measures
KRW 32 trillion	**KRW 100 trillion**	**KRW 20 trillion**
• 1st measures (KRW 4 trillion) • 2nd measures (KRW 16 trillion) • 3rd measures (KRW 11.7 trillion supplementary budget	• Financing Support for Businesses KRW 58 trillion • Market stabilization funds KRW 42 trillion	• Emergency relief efforts KRW 9.1 trillion(provisional) • Social security contribution support 0.9 trillion won • Export financing support 6.0 trillion won • Venture and startup financing 1.9 trillion won • SMEs support 2.2 trillion won

➡ **A total of KRW 150 trillion** worth of supports have been unveiled through the 4 rounds of Emergency Economic Council Meetings

KRW 150 trillion = (KRW 32 trillion (March 19) + KRW 100 trillion (March 24) + KRW 20 trillion (March 30)) + KRW 5 trillion [1] (April 8) – KRW 8 trillion [2]

1. 5 trillion won = gift certificates (KRW 3.5 trillion) + BOK's Gov't bond purchases (KRW 1.5 trillion) + job retention support (KRW 0.4 trillion)
2. KRW 8 trillion of the KRW 12 trillion worth of small business loans as it overlaps with other measures

※ Extra Support Measures

❶ Social security contribution and tax payment deferrals (KRW 27.1 trillion)
· Social security contributions and electricity bills (KRW 8.7 trillion)
· VATs and corporate taxes (KRW 6 trillion)
· income taxes (KRW 12.4 trillion)

❸ US $60 billion (KRW 77.1 trillion) from Korea-US swap line

❷ Loan and guarantee extension (KRW 241.3 trillion)
· Commercial bank loan extension (KRW 200 trillion)
· Exim Bank loan extension (KRW 11.3 trillion)
· Korea Trade Insurance Corporation's guarantee extension (KRW 30 trillion)

❹ Frontloaded investments and prepayment (KRW 3.3 trillion)

⬇

Extra Measures equivalent to a total of KRW 349 trillion

Figure 2-5. Supports for affected sectors

Supports for Those affected

Supports for Small & SME Enterprises

- Measures to encourage rent cuts
- VAT cuts for businesses — KRW 0.7 trillion
  earning 80 million won or less a year
- SME R&D support — KRW 2.2 trillion
- Wage support
  Increase small business wage support (by KRW 0.5 trillion) and job retention support (by KRW 0.5 trillion)
- Support for business reopening — KRW 0.3 trillion
  Those visited by the COVID-19 infected (KRW 3 million each), those closing businesses (KRW 2 million each)

Industry-specific supports

- Airlines — Emergency financing for low cost airlines, landing fee cuts
- Tourism — Loan repayment deferrals and loan extensions, new unsecured loans
- Shipping lines — Emergency financing, cuts in port charges, including facilities rental charges
- Performing Arts — Production support and admission fee support
- Dining out — Expanded loans for farm product exporters

Financial Support

Measures to Provide Liquidity to Businesses

- Low interest rate loans for small enterprises — KRW 12 trillion
  (for high credit scores) low interest rate loans from commercial banks (KRW 3.5 trillion)
  (for middle credit scores) super low interest rate loans from Industrial Bank of Korea (KRW 5.8 trillion)
  (for low credit scores) Low interest rate loans from state-owned Small Merchant Development Institute (KRW 2.7 trillion)
- Special guarantees for SMEs and small enterprises — KRW 5.5 trillion
- Guarantees and insurance for exporters — KRW 6.0 trillion
- Loans for and investments in ventures and startups — KRW 1.9 trillion
- Full guarantees for emergency small enterprise loans — KRW 3.0 trillion
- Purchase of small enterprises' overdue debt — KRW 2.0 trillion
- Loans for SMEs and medium-sized leading enterprises — KRW 21.2 trillion

Financial Support Package

- Bond market stabilization fund — KRW 10 trillion + KRW 10 trillion
  A joint fund raised by 84 financial institutions to buy corporate bonds and commercial paper issued by blue-chip companies
- Stock market stabilization fund — KRW 10.7 trillion
  A joint fund raised by 5 financial holding companies and 18 leading financial companies to invest in index funds.
- Quick bond takeover program — KRW 2.2 trillion
  Korea Development Bank will take over corporate bonds for sale to KODIT which will then issue P-CBOs.
- Corporate bond refinancing — KRW 1.9 trillion
  Korea Development Bank will directly purchase investment grade conversion issue of corporate bonds.
- Short-term money markets stabilization — KRW 7.0 trillion
  Stock finance loans (KRW 2.5 trillion), Repo market financing by BOK (KRW 2.5 trillion), CP purchases by state-owned banks (KRW 2.0 trillion)

COVID-19 Relief Payments

- Emergency relief payments to households in the bottom 70% income bracket — KRW 9.1 trillion, provisional
- Cuts in and payment deferrals on social security contributions — KRW 8.4 trillion
- Vouchers to help low-income households — KRW 1.0 trillion
- Temporarily expand emergency welfare aid — KRW 0.2 trillion
- Daycare vouchers to parents with children younger than 7 years — KRW 1.1 trillion

Stimulus Measures to Boost Consumption

- 70% individual consumption tax cut for all passenger cars
- Double the income tax deduction rate for credit or debit card use
- Local governments to expand their gift certificates — KRW 3 trillion → KRW 6 trillion
- 10% payment refund for purchases of energy-efficiency home appliances — KRW 150 billion
- Central government to expand their gift certificates issuance — KRW 2.5 trillion → KRW 3 trillion
- Leisure and tourism coupons, as well as maternal health care coupons

3. Testing time for schools & educators

3. Testing time for schools and educators

After the decision to postpone the beginning of the school year at primary, junior high, and high schools due to the coronavirus outbreak, the Korean government has provided online content to enable students to continue learning with the help of their parents and prepare themselves for the new semester, with the goal of reducing the learning gap prior to the actual start of school. Moreover, the government has laid the groundwork for practical online learning by establishing systems in preparations for online classes during this period. All students have been learning online since primary, junior high, high schools started online curricula on April 20, 2020.

Meanwhile, universities have been recommended to delay the commencement of classes by up to four weeks. As of the end of April, they are currently offering online classes instead of in-person group classes until the coronavirus pandemic ends.

3.1 Decision on school delays

Decision on online classes and postponing the start of the school semester

Before the regular semester was supposed to begin in early March, the Korean government reviewed the need to delay the semester to prevent the further spread of COVID-19. On February 23, the start date was postponed by one week from the original date of March 2 to March 9. However, it was inevitable that schools would have to close for a longer period as the coronavirus spread across the world in early March. Based on the increase in new cases, the government further pushed back the start date to April 8, with the aim of avoiding possible secondary infections in school and implementing social distancing.

Universities calling off the new school year

As universities were set to begin the new semester in early March, it was predicted that there would be a huge influx of overseas students coming from countries, such as China, which has reported one of the highest infection rates in the world. The government recommended that each school have the option of postponing its start date by up to four weeks in an effort to stem secondary contagions through universities across regional areas. Accordingly, all campuses have delayed the new semester by two or four more weeks.

3.2 Operating a platform for information exchange among teachers and providing online content during school closures

The government has created a range of measures to close learning gaps and prepare students for the new semester during these unexpected school closures following COVID-19.

Assigning homeroom teachers and providing curriculum guidance

To begin, homeroom teachers were assigned in the first week of March when primary, junior high, and high schools usually start. Students were able to access future curriculum plans. This has helped ease anxiety among students and parents arising from delays in the school start date. Furthermore, online learning programs for autonomous learning were provided free or charge to primary, junior high, and high school students. The platforms involve Edunet and EBS video clips.

Offering online textbooks and giving student feedback

Digital textbooks, including video clips and test questions, were provided online starting from the second week of March. Homeroom teachers uploaded preview homework to an online classroom titled 'School-on' in order to encourage student participation and enable students to receive feedback. 'School-on' was designed for teachers to create an online classroom and have easy access to essential information for teaching and guidance. Through comprehensive learning support on the website http://onschool.edunet.net, this platform makes it possible for teachers and students to interact with each other.

Figure 3-1. Main screen of the School-on (online schooling) website
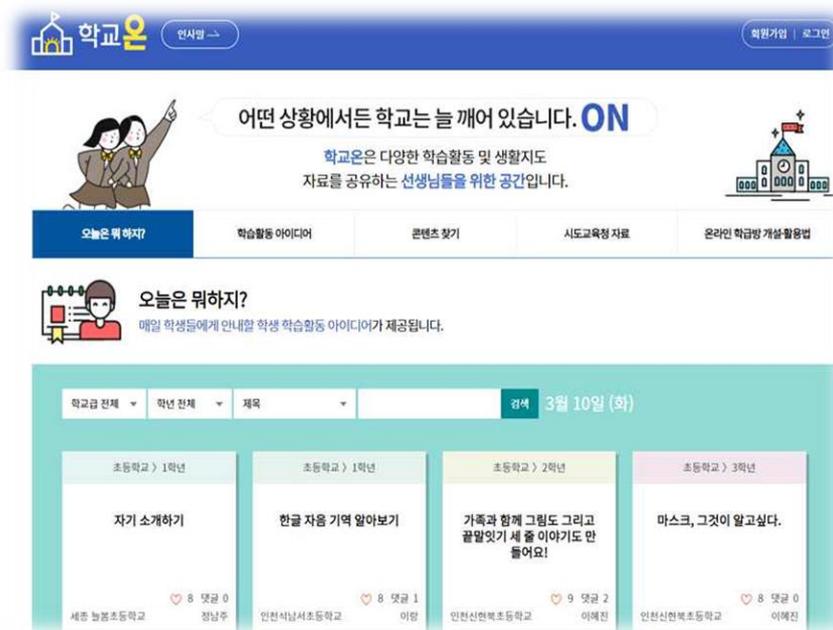
Teachers created their own websites in several city and district offices of education, which are separate from platforms on a central government level. These websites offer learning materials by school year and weekday, streaming services, and You-Tube videos. The internet-based curricula have encouraged more active participation from students.

Daegu Metropolitan Office of Education

Teachers voluntarily built an online website called "Go to school.COM' to promote solidarity between newly assigned homeroom teachers and students and enhance trust in public education through learning support programs. On this website, students get resources in sections dedicated to each school year and can access online content such as streaming art classes where students can directly participate.

Figure 3-2. Initial screen of 'Go to school.COM' learning materials
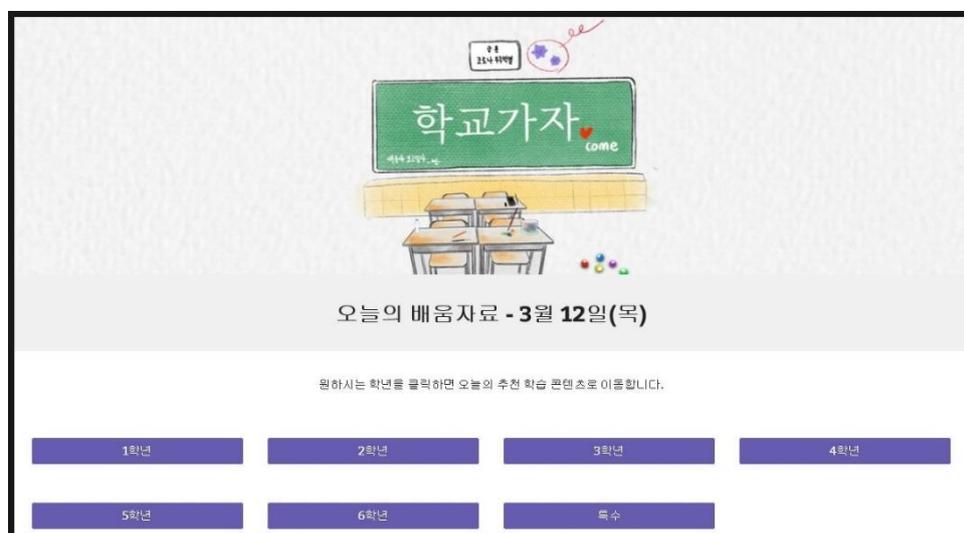
Figure 3-3. Initial screen of 'Go to school.COM' learning materials

Jeollanamdo Office of Education

The school of Creative Convergence Education in Jeollanamdo Province developed an online learning platform named ' Jeollanamdo Province Classroom On. COM' Instead of one-directional online content, this website adopted a questionnaire system where teachers can communicate with students as the class progresses. Students can use the program via the internet and an application without a separate log-in procedure, making it available nationwide.

Figure 3-4. Initial screen for each log-in
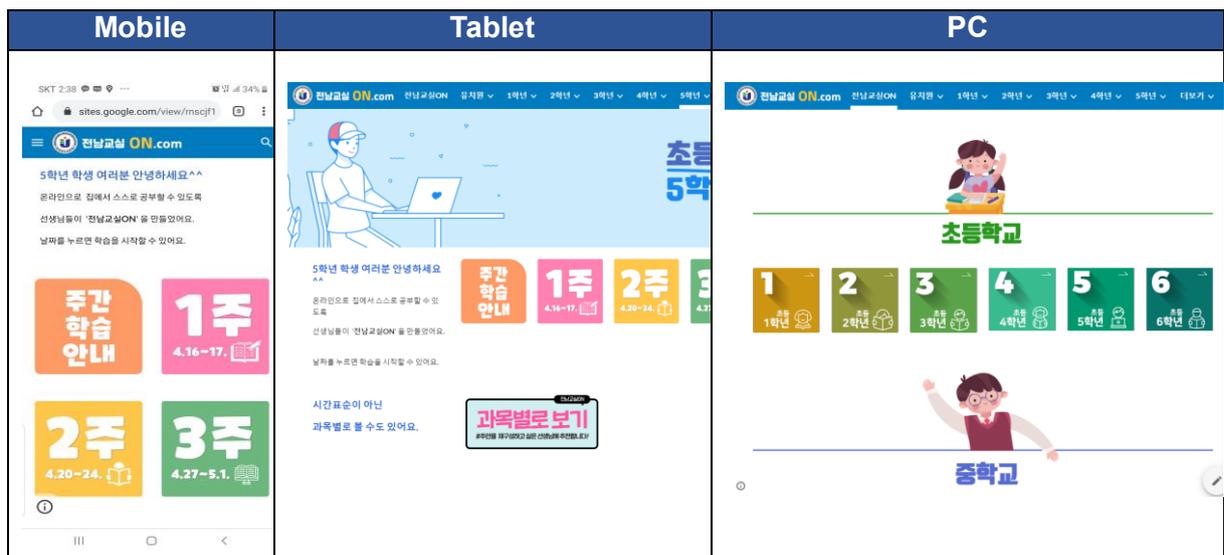
Figure 3-5. Map of the current level of nationwide distribution
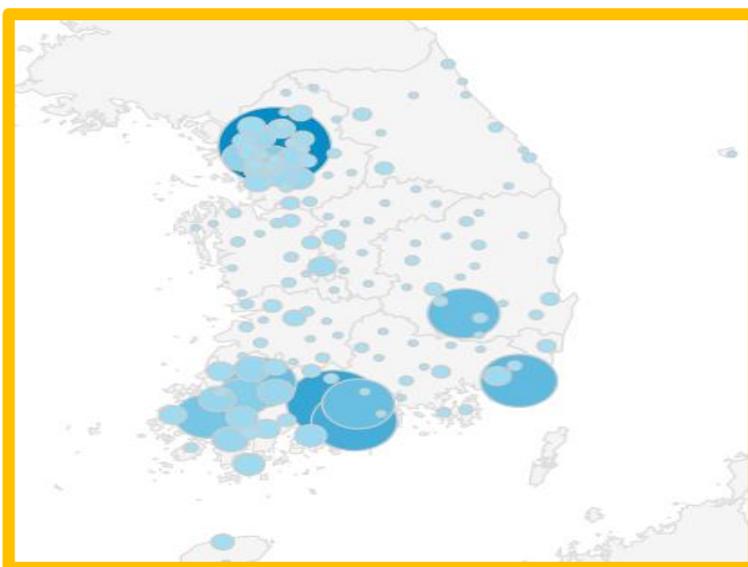
3.3 Measures to recognize remote classrooms in preparation for the beginning of online classes

Given the current COVID-19 circumstances, it is impossible for students to meet for in-person classes. In light of this, there are limitations to delaying the beginning of the new semester for a short period of time. Therefore, it is imperative that Korea create guidelines through which schools can successfully begin online classes and make use of remote classrooms. With this in mind, the Korean government incorporated the concept of digital classrooms and classroom management into the current educational law that covers primary and junior high schools. The objective of this revision is to take current education methods to the next level in a future-oriented manner. These efforts include converting traditional offline education into a mix of both online and offline education.

For example, digital classrooms are broken down into interactive, content-based, and task-focused classrooms. Schools are allowed to select a type from among these options on the level of academic content, how burdened students feel about their studies, and the school's conditions. In principle, school grades are given according to attendance and level of student participation after the beginning of in-person group classes. All this has eased worries about online classes among both parents and students.

Online Education

Phased beginning of online school

On April 9, online classes began for third graders at junior high and high schools. Despite the decline in newly confirmed COVID-19 cases, there were worries over further transmissions in regional areas caused by the new semester. In response to the crisis, online schooling was chosen by the government to bridge learning gaps through remote education. However, problems could still occur despite meticulous preparation. For example, there could be system overload if all students participate in online classes at once. To ensure the stability of servers, the government launched different online schools at different times for primary, junior high, and high school education. As of April 20, all online primary, junior high and high schools had begun.

Figure 3-6. Education Minister taking part in an opening ceremony for online schools

Staggered schedule for beginning online classes in 2020

(April 9, 2020) Online classes begin for third-year students in junior high- and high schools

- Orientation period ends on April 10

(April 16, 2020) Online school starting day for fourth to six graders in primary school, first- and second-year students in junior high- and high schools

- Orientation period ends on April 17

(April 16, 2020) Online class starting day for first-, second-, and third-year students in primary schools

A range of educational activities tailored to students in each school year

In particular, TV education platforms accompanied by remote classrooms provide a wide range of audiovisual programs, such as traditional subjects, arts, music, painting, and science. The conversion to TV programs and tele-learning helps students adapt to classrooms using only their smartphones. These programs are tailored to students in each stage of growth and development. Furthermore, four hundred thousand e-Books have been donated to students who find it difficult to go to schools or public libraries due to COVID-19. Each student can read four electronic books for one month.

Figure 3-7. E-library posture during on-line schooling

Guaranteeing education equality through support for low-income families

Meanwhile, the government has lent without cost approximately 316,000 smart devices to students from low-income families, including tablets owned by schools and offices of education, in an attempt to help students receiving an online education.

The government has also taken measures to embrace all students across the board in online education so that they can connect to learn remotely and participate in online classes. These efforts involve granting unlimited data access to parents, teachers, and students who use online education programs without any concerns about data limits or telephone bills.

Online lectures at universities

Universities have moved online after they decided to close their campuses for up to four weeks to stop the spread of the COVID-19. Each school made the decision to conduct online classes in accordance with their circumstances and courses. It is recommended that universities obtain digital equipment, including video recording, to provide recorded classrooms or real-time classes online. As of the end of April (which is part of the social distancing period), universities are holding classes remotely.

Seoul National University is using remote classrooms 1) in the format of real-time online classrooms, 2) utilizing video recording, and 3) assigning homework and having discussions. All remote classrooms are linked to the university's online learning systems and are in progress.

Figure 3-8. Equipment for recording online lectures at Seoul National University

Seoul National University created a learning environment that can be simultaneously accessed by up to 11,000 through an expanded system. The school also set up a task force in support of remote classrooms to help make remote learning more efficient. Furthermore, it handles questions and problems faced by remote classroom users in real time at call centers and via email.

In order to avoid discriminating against students with disabilities, the school provides real-time shorthand during real-time lectures if the student registers for this service in advance. When using a recorded lecture, students are given shorthand notes after the class. For requesting ghostwriting support, ghostwriting materials are given after the class. Materials are also provided in braille.

In principle, exams are taken online in order to prevent additional transmissions. The issue of mid-terms was left up to individual lecturers. However, finals must be taken. Schools formulated detailed guidelines in an attempt to prevent confusion between professors and students.

Figure 3-9. Website for supporting remote classrooms (source: Seoul National University)

4. Testing time for democratic election

4. Testing time for democratic election

Korea's general elections were successfully completed during the coronavirus pandemic

Korea is the only country in the world that held a general election during the height of the COVID-19 pandemic. Despite worries over infections caused by the coronavirus, the Korean government pushed ahead with the election. The government recognized that the spread of the virus had begun to ease off and that the direct form of democracy adopted by Korea is a basic right given to the public. The Korean public cast their votes in spite of the risk of transmission in order to exercise their right to vote, complying with quarantine guidelines set by the government. As a result of this, the voting rate in the general election stood at 66.2 percent, the highest figure in 28 years.

The 21st general election for lawmakers in the National Assembly was held. A general election is held every four years in Korea. A total of 300 members are appointed, including 253 lawmakers from local districts and 47 proportional representatives. A total of 29.13 million or 66.2% of the 43.99 million eligible voters, took part in the voting.

As of 1st May,2020, Korea's health officials have concluded that there was no local transmission of the virus during the general election. Not one case related to the election has been reported during the 14 days of incubation period, according to the Korea Centers for Disease Control and Prevention.

Figure 4-1. President Moon and First Lady are casting vote at General Election (Apr. 15, 2020)

Elections went as planned despite the coronavirus pandemic. After the registration for prospective candidates on December 17, 2019, the list of overseas voters was confirmed on March 15, 2020. Candidate registration ended on March 27. Afterward, a list of ordinary and residence voters was compiled on March 28 and finalized on April 3. Advance polling was held from April 10 to 11, and the general election took place from 6 am to 6 pm on April 15.

Nationwide, ordinary citizens cast their votes in 14,330 polling stations. Votes were counted at 251 counting stations. Advance votes were cast at 3,508 polling stations. In these general elections, special advance polling stations were established in eight regions to guarantee voting rights for those who became infected with the virus and were isolated in living and treatment centers. Voters cast their ballots at polling stations in schools located in the given districts or town offices (community centers), which have jurisdiction over the smallest administrative units. Public facilities, such as train stations or libraries, and private buildings, such as galleries or restaurants, were also used as polling stations.

Figure 4-2. Polling stations (from right to left: temperature check, disinfect your hands with hand sanitizer, present your social security number, receive a voting paper, cast your ballot, and leave the polling station) (Yonhap News)

4.1 Principles for voting and counting in response to COVID-19 under the National Election Commission (NEC)

With the goals of creating quarantined polling stations that ensure public safety and implementing voting and counting procedures in a way that prevents the further spread of the virus and stop contagions, the NEC has strictly followed the following basic principles:

- The government guarantees the exercise of voting rights for confirmed patients. To this end, residence voter registration is permitted for coronavirus patients. There has been an increasing number of registering early voters.

- The government implemented measures to help patients vote who are subject to movement restrictions and became infected with the virus after the registration period expired.

- The government also guaranteed the voting rights of those who came into contact with the self-quarantined persons, and overseas arrivals who were subject to movement restrictions up until Election Day on April 15.

Category of voting methods in general election in Korea

1. Absentee voting

If you cannot go to a polling station due to severe disability or live in a hospital, nursery home, or detention center, you can register for early voting during the period from March 25 to March 28. You will receive a ballot paper via mail from an election management committee in the given district, and vote from the place where you are staying.

2. Overseas voting

Overseas compatriots or those who reported as overseas absentees cast their votes in polling stations during the voting period from April 1 to April 6 in polling stations for overseas Korean residents set up in official residences.

3. Voting on ship

Sailors on deep-sea fishing boats and outbound ferries cast their votes via facsimile, including electronic fax machines installed at polling stations on ships during the period from April 7 to April 10.

4. Advance polling

Without a separate registration, voters who cannot cast their votes on election day voted at advance polling stations over a two-day period five days before election day. One of these advance polling stations is established in every town, township, and neighborhood. All voters were eligible to vote in advance at polling stations nationwide, regardless of their residence location. In this general election, a total of 3,508 polling stations (3,484 polling stations in towns, townships, and neighborhood as well as 24 polling stations consisting of 16 in military facilities and eight in living and treatment centers).

5. Voting on election day

Voters cast paper votes in designated polling stations in the given district where their residency is registered on election day from 4 pm to 6 pm on April 15. In this general election, 14,330 polling stations were built across the nation.

4.2 National code of conduct for casting ballots (Election Commission)

The NEC set the national code of conduct for casting ballots as the following in order to ensure a safe voting environment free from the coronavirus.

- Prepare your ID before you go to the polls or advance polls.
- Try not to go to polls or advance polls with your children.
- Wash your hands carefully for more than 30 seconds with soap before you go to polls.
- Put on a mask before voting or advance voting.
- Check for a fever at the entrance of a polling or advance polling station, and wear vinyl disposable gloves after disinfecting them.
- Maintain a one-meter distance from other voters inside or outside of polling or advance polling stations.
- Refrain from non-essential talking inside or outside of polling or advance polling stations.
- Lower your mask only for personal identification at polling or advance polling stations.
- If you have a fever, vote at a temporary polling station and visit a clinic after voting.
- Wash your hands carefully for more than 30 seconds with soap and running water after returning home.

4.3 Scenario in preparation for a possible shutdown of polling stations due to COVID-19

(Measures in case of a shutdown at advance polling stations)

If an advance polling station shuts down a day before the commencement, this place can still be utilized as an advance polling station if it completes disinfection services and causes no harm to public safety. If it is necessary to change an advance polling station, it will be replaced by another location. Temporary polling tents will be set up on locations such as school grounds. If an advance polling station is closed during the period of advance polling, the chairman from the given district, city, or county commissions will make the decision on suspending its operation. If voting is suspended at a polling station, a notification will be posted on the website along with the location of nearby advance polling stations, and guidelines will be posted online. The voting management officer seals the slot of a voting box in the presence of an advance polling observer, glues, and attaches the special sealing paper, and transfers it to committees from districts, cities, and counties in the given district.

(Measures in cases of shutdowns at polling stations)

If a polling station is closed a day before election day, the station can still be utilized if the polling station completes disinfection and causes no safety problems even if the closure order is not lifted until the polls open. If changes of location are inevitable, the polling station will be

changed, or temporary tents will be established or operated on the school grounds. If polling stations are closed on election day, it would be best to secure an alternative location near the original location. Under the oversight of election observers, voting boxes, signposts, ballots, and a list of voters will be transferred to the new polling stations. Elections will go as planned that way. Without alternative polling stations, it is still important to continue voting procedures after establishing a temporary tent nearby.

(Measures after the shutdowns of polling stations)

If a polling station is shut down, it will be impossible to change polling stations even if an alternative location has been secured because there is no way to set up facilities and provide supplies. Accordingly, facility managers should be asked to restrict entry from outsiders during the period the polling station is rented for. This measure should be taken in advance so as not to close the polling station. The next step is to make sure there is a place where voting boxes can be received and stored. After the shutdown is lifted, the counting of votes will begin in the given voting counting station.

Figure 4-3. Polling stations under quarantines (Yonhap News)

4.4 Preventive measures to counter COVID-19 at polling stations

In order to prevent the virus from spreading through polling stations, workers at the stations directed voters to maintain distance or at least one meter between each other both in and outside of polling or advance polling stations. Voting clerks who checked people's temperature waited at the entrance when the polling station was crowded. Voters were allowed to enter polling stations once the number of people had been reduced. Furthermore, voting clerks sterilized voting equipment, signposts, and voting boxes with disinfectant tissues as often as they could. The NEC directed both voters and voting clerks and observers to avoid unnecessary conversations.

In addition, Korea also conducted thorough quarantine and disinfections in polling stations. Polling or advance polling as well as voting counting stations were disinfected immediately after being set up. We disinfected polling stations prior to and after polling and vote counts as well as after the end of casting advance ballots on the first election day. The priority was on facilities that were needed for use by others, including senior centers and schools. We disinfected places that were used by many people including the interior and exterior of polling and advance polling stations, as well as voting counting stations, the routes taken by users, (including the hallways), restrooms, and elevators. We used air pressure sprayers to disinfect the surfaces   of such facilities as well as Ultra Low Volume (ULV) to kill floating germs. The disinfectant used allows the facilities to be used within six hours of being disinfected

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Notification service for waiting times for each polling station in Sejong

Sejong City, the administrative capital where the government complex is located, has provided a notification services through a GPS-based smart portal named 'Sejong N' to let voters know how long they will have to wait. The portal is aimed at helping shorten the waiting time for voting and reduce contacts between voters.

A test run with Sejong N was conducted in early April. Voters use their PCs or phones to log Sejong N and check the location of polling stations, wait-time, and voting rates. They were also be able to compare and check the waiting time for voting in nearby polling stations. Voters practiced social distancing and cast their ballots at polling stations that were less crowded during the times when not many people visited.

4.5 Support for general voters

The NEC announced the 'National Code of Conduct for the Public Going to Polls.' Voting instructions were sent to all households where voters live after the code of conduct was announced. The commission also sent the same code of conduct when delivering election notices to soldiers and police officers. Moreover, 'The National Code of Conduct for Voting' was posted on the Korea Broadcasting on Voting and the NEC website, as well as social media, TV programs, and newspapers.

The commission released a video clip on safe voting related to the coronavirus outbreak and educated voters about the election. The video clip was uploaded to a YouTube channel and used to train voting clerks working at polling and advance polling stations. The video covered exterior and interior quarantines for polling and advance polling stations, disinfection services, voting and advance voting procedures, and the procedures for handling voters at temporary polling stations who have a fever or respiratory symptoms.

For same voting and advance voting, the NEC prepared the following. Voting and advance voting officials, including managing officers, clerks, and observers, wore masks and medical gloves. The professional staff who checked people's temperature wore face protecting gear, masks, and medical gloves. Voting and advance voting management officers designated voting clerks who were in charge of checking the medical conditions of people suffering from a fever or respiratory symptoms.

The principles for tackling COVID-19 were incorporated into the establishment of polling and advance polling stations. In other words, signs were attached to inform voters to maintain a one-meter distance from each other. Furthermore, the routes taken by voters with a fever or respiratory symptoms were separated from ordinary voters. In addition, a box for the disposal of single use vinyl gloves was set up at the exit of polling and advance polling stations.

Figure 4-4. Voting procedures (National Election Commission)

| Queue for voting | Temperature check |
| Hand disinfection & wearing plastic gloves | ID check and casting a vote |

Voting and advance voting procedures

① All voters must wear a mask when visiting polling or advance polling stations.

② Voters should keep a distance of at least one meter from others inside or outside of polling stations.

③ The person in charge of checking temperature (voting clerk) checks all voters for a fever at the entrance of polling and advance polling stations.

④ Ordinary voters without symptoms enter polling or advance polling stations after they use hand sanitizer and put on disposable vinyl gloves.

⑤ Voters lower their mask to voting officials for ID verification and keep the mask on while voting.

※ If voters refuse to take off their mask for ID verification, they may not vote. ID verification is an exception to the rule that masks must be kept on at all times.

⑥ Have your ID checked and sign with disposable vinyl gloves on ⇨ Receive voting paper ⇨ Voting at polling stations ⇨ Putting ballot paper in a voting box

⑦ Voters who finished voting throw away the vinyl gloves in the box for disposable vinyl gloves and leave the polling station.

Voting procedures at temporary polling stations for voters who have a fever or respiratory problems

① Voters put on disposable vinyl gloves after using hand sanitizer.

② For ID verification, the voter's birth certificate or social security number is checked.

③ The voting clerk writes down the names of voters in the relevant field on the list of voters (in the signature section at advance polling stations), issues the voting paper (including return envelopes for advance voters outside of the district) and temporary polling stations envelope to voters.

※ Voting management officers must register "voters who must cast their ballots at temporary polling stations" in the reference section of a list of candidates and manage the current status of voters using temporary polling stations.

④ Voters cast their votes alongside of an observer.

⑤ Voters must put the ballot in an envelope at the temporary polling stations and deliver it to a voting clerk.

⑥ A voting clerk accompanied by an observer transfers the task to a voting management officer. The officer puts his paper ballot in a voting box in the presence of an observer.

※ Take precautions not to let the content of the paper ballot be seen when putting the ballot in the voting box.

⑦ A voting clerk can inquire about symptoms by calling a public healthcare center, the 1339 hotline, or local number plus 120, and must instruct voters to follow the guidance of the given institutions.

⑧ A voting clerk must use sanitizer tissues, disinfect voting equipment and temporary polling stations, and ventilate the places.

Persons in charge of checking for a fever (or voting clerks) responding to voters

When a person does not have a fever

① Checking for a fever	▸ Let me check your body temperature. Since it is a non-contact thermometer, check the voter's temperature without touching their forehead, wrists, or the rear side of ears. ▸ If the request is refused, request their cooperation by explaining the objectives for checking for a fever under the government guidelines (the guidelines for responding to COVID-19 at group facilities and multiple-use facilities).
② Explaining the result	‣ No symptoms. Please keep a distance of more than one meter from the person in front. Inform the voter that they should have their ID ready to make the process more convenient.
③ Use hand sanitizer and put on disposable vinyl gloves	‣ Following the instructions of the voting guide, sterilize your hands with hand sanitizer deployed at the entrance or inside the polling stations, and put disposable vinyl gloves on.

When there is a fever

① Checking for a fever	‣ Let me check your body temperature. Since it is a non-contact thermometer, check the voter's temperature without touching their forehead, wrists, or the rear side of ears.
② Explaining the result	‣Your body temperature is above 37.5 degrees Celsius so you have a fever. You will have to vote at a temporary polling station so we ask for your cooperation in this regard. (Contacting the voting clerk in charge of the temporary polling station) (Explaining how the voter will be transported to the temporary polling station) ‣ **(If the voter refuses,)** Ask for cooperation by explaining the goals of a temporary polling station. **(If the voter continues to refuse,)** Report it to a voting management officer ⇨ The officer will ask for cooperation ⇨ Ask for understanding from any voters waiting inside a polling station and allowing the voter with a fever to cast his/her ballot first ⇨ Disinfect and ventilate the given polling station
③ A person in charge of checking for a fever (or a voting clerk at a temporary polling station)	‣"Please wash your hands carefully with the hand sanitizer provided inside and put disposable vinyl gloves on both hands." ‣"Take a seat and fill out the identification form." (Afterwards, cast your ballot following the procedures for voters with a fever or respiratory symptoms)
④ Answer to inquiries about polling stations	‣"Please contact the 1339 hotline, a local number plus 120, or a public healthcare center in your district for information about your symptoms, and follow their instructions."

4.6 Support for voting from home for confirmed coronavirus patients

The Korean government allowed patients to vote at home or in the hospital where they are staying for the purpose of helping them exercise their voting right and prevent further spread of the virus.

Under Article 38 Paragraph 4 of the Public Election Act, "People are unable to move due to a severe disability or are staying in a hospital, nursery homes, or detention facility" can participate in absentee voting. On March 5, 2020, the NEC permitted voters who are self-isolated at home or in a hospital or living and treatment center to cast absentee voters if they became infected with COVID-19 before the end of the absentee voting registration period. After the decision, the NEC called on relevant institutions to ask for cooperation from the heads of institutions and facilities that accommodate confirmed COVID-19 patients.

The registration period for absentee voting spans a total of five days from March 24 to March 28. Voters will be eligible as long as registration via regular mail is received by the head of the municipality by 6 pm on March 28, 2020. In principle, voters must submit a hard copy of the form for registration. However, the heads of districts, cities, and counties confirm may decide to accept a copy of the registration form submitted via email, fax, Kakaotalk (mobile messenger), or text, and add them to the list of registered residence voters. In other words, hospital heads, the Minister of Health and Welfare, the heads of districts, cities, and counties checked the names for confirmed coronavirus patients in hospital and the self-quarantined at home or living and treatment centers, and compared this with the list of registered absentee voters. Staff responsible for handling registration for handling registration forms submitted by mail should wear a mask and gloves and use hand sanitizer as often as possible.

The major guidance by the NEC in relation to absentee voting

□ **Providing guidance and registration papers on absentee voting for confirmed patients**
  ▶ Sending notices on absentee voting registration and registration forms to those in hospital, or staying at living and treatment centers, or the self-quarantined after becoming infected with the virus.

□ **Information on persons in charge of confirming the registration for absentee voting**
  ▶ **(Hospitalized patients)** After receiving confirmation from the head of the hospital where patients are hospitalized, report the registration to the head of the district, city, or county.
  ▶ **(Those in living and treatment centers)** After receiving confirmation from the head of the city or province which established the center, report the registration to the head of the district, city, or county.
  ▶ **(The self-quarantined)** Skip the procedure for conforming with the head of the smaller administrative unit and report the registration to the head of the district, city, or county. When the report is submitted to the head of the district, city, or county, they will check the list of confirmed patients and confirm whether the individual is eligible for absentee voting.

※ If a confirmed patient is staying in a hospital or living and treatment center but cannot receive approval from the head of the given facility, the eligibility of his/her registration can be checked by the head of the district or county.

□ **Information on absentee voters**

▶ Wear a mask or disposable vinyl gloves during absentee voting (including when receiving the voting paper).

▶ After voting, send the return envelope to the official in charge of the hospital or facility

□ **Cooperation with hospitals**

▶ Take steps to ensure that voting papers are accurately delivered to absentee voters

▶ Disinfect or sterilize the return envelope before mailing it (or handling it over at a posting office).

Confirmed patients who were self-quarantined at facilities after the term of registration expired on March 28 were allowed to vote at special advance polling stations. The special advance polling stations were designed for coronavirus patients with mild symptoms. A total of eight polling stations were built in living and treatment centers, as well as places such as corporate training centers, university dormitories, and forest lodges that isolate coronavirus patients and support their lives and treatment. The special advance polling stations were open for one day from April 10 to April 11 at living and treatment centers.

Figure 4-5. Voting scenes (source: NEC)

| Casting a vote | Casting a vote |
| Wearing Level-D protective clothing | Sanitizing envelopes |
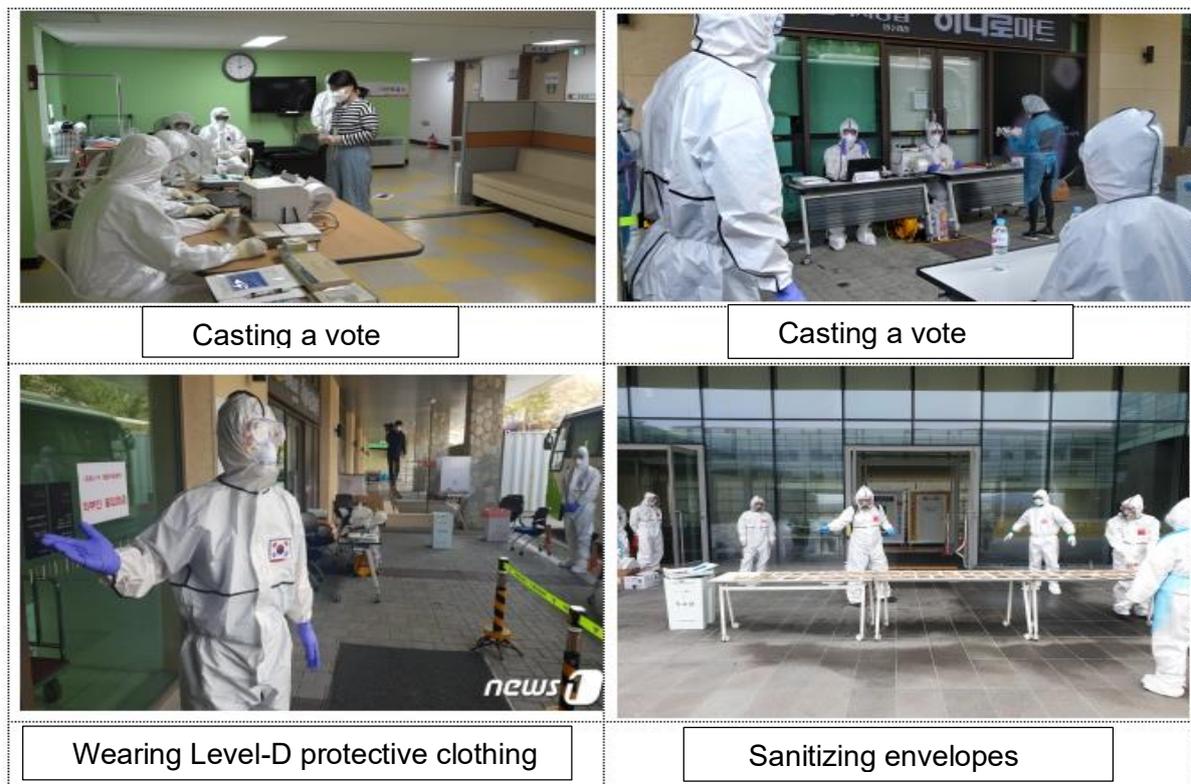
They chose to run for four or eight hours based on the number of voters. Eligible voters included confirmed patients, medical staff, and administrative workers. Among workers on a two-week shift, medical and administrative workers were not allowed outside so they were eligible to cast their ballots. Advance polling outside of the districts where people lived was permitted to prevent transmissions through papers. Voters' return envelopes were disinfected. Voters were able to use Wi-Fi. Meanwhile, there were different times for medical and support staff to cast their votes.

To counter contagions, the locations for polling stations were chosen in consideration of the paths taken by voters. Voting was held outside most of the time. The staff in charge of the polling stations was comprised of one advancing voting officer (from the NEC), four voting clerks (two from the NEC and two from the given facilities), and two observers. In addition, voting management officers and clerks wore level-D protective gear similar to medical professionals and supervised procedures. Items used at advance polling stations, such as signposts or stationery were destroyed after use at the given facilities, while advance voting equipment, voting boxes, polling equipment, and return mail envelopes were disinfected or sterilized at the given facilities and transferred to other locations.

Voting procedures at special advance polling stations

① Each person moves to a special polling booth via an internal announcement system or guidance by a voting clerk so that the path taken by confirmed patients does not cross that of ordinary citizens without symptoms.

② Confirmed patients wear a mask, enter the polling booth, use hand sanitizer, and wear disposable vinyl gloves.

③ Voters present their IDs, sign their names for identification, receive their paper ballots, and cast their ballots.

　※ For ID verification, use a signature pen while wearing disposable vinyl gloves. The use of unmanned (fingerprint) personal identification machine is restricted.

④ Voters put the voting paper into an envelope for return, seal it, and put it into a voting box, then throw away the vinyl gloves in the return box, and return to their wards.

⑤ Voting clerks in charge of confirmed patients should have the next person wait while the previous person votes so that there is no delay.

⑥ The advance voting box should be opened in the presence of voting observers. The number of return envelopes is checked for accuracy and then transferred to a post office.

4.7 Support for voting among the self-quarantined

Self-quarantined persons who had travelled to overseas countries or come into contact with confirmed patients were permitted to leave their house to vote. Under these rules, 11,511 of the 13,789 self-quarantined cast their ballots.

Those who came into contact with confirmed patients or overseas travelers had their movement restricted until April 15. The voting exception applied to those who were notified of the self-quarantine from municipalities or their local public healthcare center between April 1 and 6 pm on April 14. In other words, those who were quarantined on election day did not have a fever or respiratory symptoms and could commute to a voting location in less than 30 minutes (one way). Civil servants specialized in self-quarantines at municipalities confirmed whether those patients wished to vote and whether they were eligible to do so. The list of voters was reported to committees from districts, cities, and counties and voting management officers by 7 pm on April 14.

To help the self-quarantined vote, civil servants in charge at municipalities went text messages to applicants to inform then that they were permitted to leave their house from 5:20 pm to 7 pm on April 15, and to give them a specific arrival time and waiting location. These voters were required to inform the public servant in charge when they departed for the polling station and permitted to travel on foot or via their own vehicle with a mask on. These voters arrived at the given polling station before 6 pm on election day, were given numbered tickets for the self-quarantined by persons in charge, and kept two-meter distance from each other in line. Voting took place at special polling stations built separately from general polling stations. The special polling stations for the self-quarantined were set up outside or in places that were well ventilated. Voting clerks at temporary polling stations put individual protective gear ten minutes before the deadline. Personal protective gear includes protective clothing, eye protection, masks, medical gloves, and shoe overs.

Voting Procedures for the self-quarantined

① When ordinary voters have finished voting and left the venue, voting papers, envelope, and the list of self-quarantined voters are taken to the temporary polling station along with a designated voter.
   - The list of names of self-quarantined persons also gives a list of numbers in sequence (via an attached piece of paper).
   - The voting paper number equivalent to the person's number was signed by a voting management officer. The numbered tickets were already perforated.

② Voting clerks asked the persons in charge to direct each self-quarantined voter to enter a temporary polling station in the sequence of the numbered tickets.

③ They put on a mask and disposable vinyl gloves after using hand sanitizer and then enter the temporary polling station (without checking for a fever).

④ Voting clerks at temporary polling stations check the voter ID and ask them to sign or seal the list of voters (Attachment 5).

⑤ Voting paper and envelope are given to the person and they are instructed to move to the next polling station.
   - Staff disinfect the items touched by voters, such as pens, with sanitizer tissues after they move to the polling booth.

⑥ The completed voting paper is placed inside the temporary polling station envelope and delivered to the voting clerk, then the voter throws away the disposable vinyl gloves in a trash bin for the disposal of these gloves, disinfects their hands with hand sanitizer, and leaves the venue.
   - Voting clerks disinfect signposts and voting equipment with sanitizer tissues whenever voters finish their ballots.

⑦ Once all the self-quarantined have finished voting, the temporary polling station envelopes are brought back to the (regular) polling station with the list of voters accompanied by the voting observers.

⑧ Voting clerks at temporary polling stations take the paper ballots out of the envelope in the presence of voting management officers and observers. Take precautions to keep the voting results confidential.

⑨ Voting clerks at temporary polling stations take off their personal protective gear and dispose of the disposable vinyl gloves and protective gear.

Figure 4-6. Voting by the self-quarantined (NEC)

| Queue for voting | Casting a vote |

The NEC and municipalities in charge of elections appointed public officials specialized in self-quarantines for each polling station and continued to monitor them through the app. Public officials from several municipalities supported voting by the self-quarantined and supervised to ensure there were no irregularities. For example, police arrested one self-quarantined individual in Seoul who sought to vote after the time limit, refused to leave, and obstructed the transfer of voting papers. In Gwangju, a police officer escorted a self-quarantined the person who had a history of avoiding quarantine and was likely to not return home after voting. This happened after the police station received a request from the Gwangju local government regarding the case.

4.8 Quarantine measures in polling stations to slow the spread of virus

There were worries over the spread of the coronavirus, as many people were together in a confined space. In order to counter the contagion, more spacious facilities were secured as polling stations. Seats were adjusted so that voting counting departments were in larger areas. Voting counting facilities were constructed to keep the optimum distance between staff members and voting counting clerks. Seats for voting counting clerks were 1.5 meters away from people in the front row, while spaces on both sides were kept as wide as possible. Workers also used tape to mark an oversight section and helped observers maintain enough distance from voting counting clerks. Quarantine tickets for disinfection were attached at the entrance of voting counting places or buildings. Moreover, they ran ventilations installed at polling stations. In the case of polling stations without any properly operating ventilators, they borrowed temporary ventilators.

Workers checked voters and voting counting officials for a fever at the entrance or outside of the polling stations before they could enter. Thermal Imaging Cameras (TICs) were installed at inspection locations when available. When checking for a fever, those with symptoms were barred from entering the polling stations. They were instructed to seek medical treatment and were asked to visit public healthcare centers and screening places at medical institutions.

Examples of support for voting by the self-quarantined

   Daejeon city conducted a complete survey of all 891 people in quarantines or staying at home. Of them, 288 people expressed in voting, and 239 people actually cast their ballots. 147 public servants from City Hall were employed as special agents to help and educate them about voting locations, transportation methods, and recommendations. The civil servants also educated health check-ups and checked if any self-quarantined persons had left their house without approval. *Busan city* sent three emergency texts to those who wished to vote and asked them to wear a mask, use their own vehicles or travel on foot, and report their departure and arrival through the self-quarantine app. *South Gyeongsang Province* used ambulances or cars used by the county office to help self-quarantined people travel to polling stations. *Jeju Island* appointed a civil servant in charge of voters in self-quarantines and voters cast their voters in the presence of the person in charge.

   Vote counting officials were asked to wear a mask and keep it on while they were inside polling stations. Snacks were distributed to vote counting agents and they were asked to refrain from conversations while eating. Voting observers were told to maintain a suitable distance. Vote counting observers and medial officials only watch from designated places. To this end, a code of conduct for vote counting officials was announced through vote counting broadcasting facilities. Hand sanitizer was placed in locations inside or outside of polling stations so that voters could disinfect their hands as frequently as possible. Machines and equipment, such as entrance doorknobs, voting equipment such as voting paper sorters, screening counters, etc. were wiped with sanitizer tissues and disinfected.

   If a person was suspected of having a fever during the vote counting, the person was rechecked for a fever. If the person turned out to have symptoms, he/she was treated the same as voters with symptoms. Observers had the authority to ask voters to leave the venue if they threatened safety of others by, for example, speaking loudly without a mask in violation of NEC warnings

Figure 4-7. Guidance stickers in front of polling stations enforcing social distancing in Gwangju City(left) and Seoul(right) (Gwangju Daily and Yonhap News, respectively)

Figure 4-8. Counting agents with masks, gloves, and face masks on

Figure 4-9. All-source situation room for the general election

Figure 4-10. Promotional poster for voting procedures in response to COVID-19 (NEC)

Voting procedure for COVID-19

Upon arrival with masks → Temperature check → Hand disinfection → Wear plastic gloves → Keep one meter distance → Present ID card and lower mask briefly → Receive ballot → Fill in ballot → Insert ballot into ballot box

- Polling stations are regularly sterilized and ventilated
- If a voter has a high temperature or respiratory problem, he/she is guided to cast a vote at a temporary ballot box

5. Testing time for safe & smart working

5. Testing time for safe and smart working

5.1 'Smart Work' and non-face-to-face working environments

The government implemented three-shift remote work from March 16 as part of the effort to avoid further contagion in regional areas and avoid any vacuums in the implementation of government work as there was an increase in the number of confirmed patients among civil servants. Under this non-face-to-face working environment, which was built based on a range of ICT technologies including Cloud Mobile, government officials have been working just as efficiently as if they had showed up at the office.

Figure 5-1. The concept of non-contact working environments and components
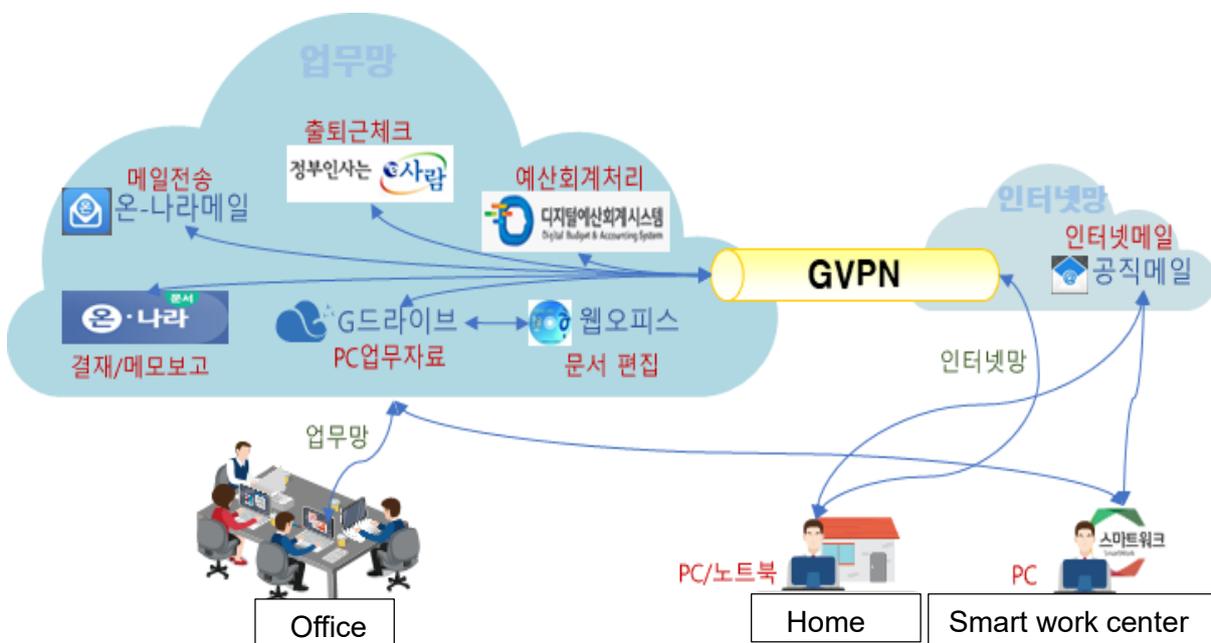
Category	Components (Functions)
Work systems	**G Drive** (storage for work materials), **G Office** (for writing documents), **On-Nara documents** (for reporting/approval) /**Mail/I-Um** (PC video conference), **e-Person** (checking attendance at work), **Digital budget and accounting system** (for dealing with budgets and accounting), **Work portal for each institution, etc.**
Network	**National information and communication network** (called the network for work), **the internet network**, **GVPN, etc.**
Terminal	**PCs**, **laptops**, **tablets, etc.**

The non-contact working environment refers to an environment for administrative work, including writing or reporting documents and requesting approval, where employees can log onto a network for work through a Global Virtual Private Network (GVPN) at any time even outside of the office during a business trip or when working remotely.

5.2 The concept of GVPN and procedures

With Virtual Private Network technologies being used, the GVPN delivers a service for public servants to access the government administrative systems while on domestic overseas business trips or at home through the internet. The GVPN is used as a certification tool so civil servants who received Government Public Key Infrastructure (GPKI) can log onto the service.

※ GPKI refers to an electronic signature-based certification method to check IDs from government institutions and public servants and prevent document forgery.

Figure 5-2. Concept of the GVPN
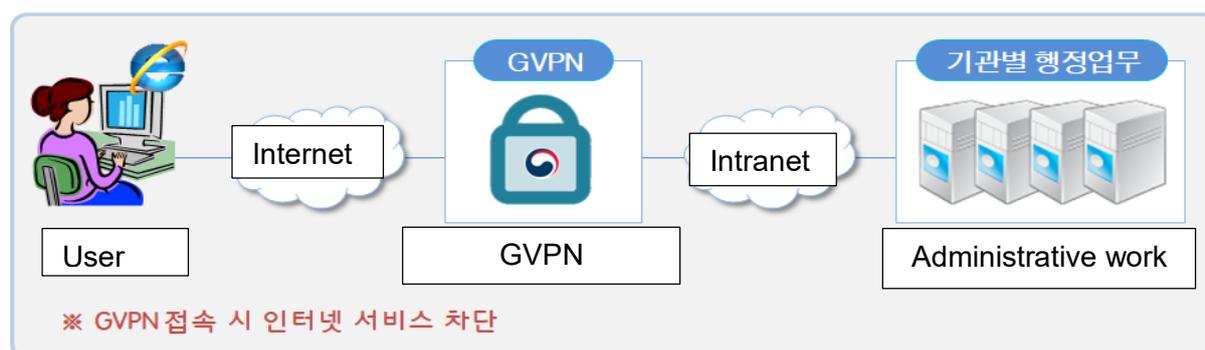
Working through the GVPN

· GVPN can be used only for permitted work related to work management systems (including a program named Harmony), PC video conference, and digital budget and accounting systems.

· In particular, it cannot be used for services such as messengers and Web-hard versions due to security risks.

5.3 Supports in relation to COVID-19 (GVPN)

1) Expanding systems and optimizing resources

- Expanding the number of Web users from two to five and VPN licenses from 24,000 to 40,000, an increase of 16,000

- Optimizing load distribution methods named SLB from hash to wash and web server traffic

- Increasing the maximum network capacity (national information telecom networks and VPN broadband from 1G to 4G)

2) Support for GVPN use among employees working from home

- Distributing signup guidelines, user manuals, and FAQs

- Training for using GVPN via video conference for workers in institutions at the Sejong Government Complex (three times, 92 workers from 21 government bodies)

- Workers who work from home at call centers from 9 am to 6 pm over the weekend

3) Monitoring the daily system use volume (trends in additional or fewer subscribers, use traffic, simultaneous log-ins, and networks)

- During heavy traffic hours with the highest number of people logged onto the internet simultaneously (between 8 am and 10 am), focused monitoring every 10 minutes (simultaneous or total connections), etc.

Preparation for working from home

- Use of MS Windows 7 or an upgraded version (Windows 10 recommended), PC with Internet Explorer 11
- When necessary, install office programs, including Hangul, PDF Viewer, and Microsoft Office
- A network environment where internet users rely on wired LAN or Wi-Fi, or LTE (4G or 5G)
- Install GPKI and GVPN SW on your laptop after registering on GVPN
- Upload administrative materials from your PC to the network for working on the G Drive

Figure 5-3. Procedures for using GVPN

① **Registration for use**	② **Enter information**	③ **Use approval**	④ **GVPN log-in**	⑤ **Log onto work**
Log onto GVPN	Agree to the use or collection of personal information	Request approval from persons in charge of GVPN	Approval from persons in charge of institutions and GVPN log-in	Use approved administrative work

①		Log onto www.gvpn.go.kr on the internet network and click 'register new users.'
②		User enters personal information after consenting to the collection of personal information → Enter organization information → Register work purposes (PC video conference, On-Nara Knowledge, G Drive, G Office, On-Nara Documents, and digital budget and accounting systems) → Sign up for GPKI certificate-based composite certification → User registration completed * When employees require registration of On-Nara documents or the writing or editing of work materials, they can use G Drive to request approval.
③		Employees can ask for approval through GVPN via a telephone call to the person in charge (in the department of information and statistics) after completing the request for user approval and composite certification.
④		Log onto www.gvpn.go.kr during remote work or a business trip after receiving approval from the persons in charge at the relevant government body and log in with the GPKI certificate. * Log-in process: Select "certificate + composite certification' on the right side of the website → log onto the GVPN.
⑤		After logging onto GVPN, you can select the work system (work portal or G Drive, etc.) on the right side bar.

5.4 Cloud-based G Drive and Web Office

Cloud-based systems, a core part of non-contact working environments, are provided by SaaS. G Drive is a cloud storage service where users can save and access work materials on their office PCs at any time and from any location. The voting management officer seals the voting box in the presence of an advance polling observer, applies guidelines and attaches a special sealing paper, then transfers it to the committee in the given district, city, or council.

Components of G Drive document box

- My document – personal document / work document
- Share folder in a department – work plan / reports / references
- On-Nara folder – related document
- Joint work folder – document necessary for joint work among organizations

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Web Office is a Web compiling service that enables users to read or compile work related materials on Web browsers, without installing document compiling programs on their terminal. As long as you can use the internet, you can revise documents regardless of the terminal environment. Furthermore, Web Office serves the function of simultaneous compilation through which several people can edit a document together. This creates a working environment where workers can edit documents as if they were meeting face to face.

5.5 Electronic approval and document distribution

The government built the common foundation for Cloud services in 2016, and has put together an administrative system, which is used across all administrative institutions. Of these services, On-Nara Document 2.0 integrates electronic approval request systems, which were previously managed separately by each government institution. This system ranges from the production of documents to distribution. On-Nara Document 2.0 categorizes and manages documents based on the Business Reference Model or BRM. Even before the coronavirus outbreak, all processes from document release, approval requests, and distribution were managed electronically through the On-Nara Document System. For this reason, employees were able to continue working without any difficulties when work systems at government bodies were shifted to non-contact working environments.

Document 24 is a document distribution service for the public that is run by the Ministry of Public Administration and Security (MPAS). This system helps ordinary people, companies, and organizations submit public documents via the internet at any time regardless of the working hours at government agencies. This service has grabbed attention since its set-up because users do not have a deadline for printing documents, thereby saving on printing, transportation, and labor costs. Public documents can be received and transmitted to all destinations, including private companies, so the program has helped the public settle welfare payments or pay fines during the social distancing period without any hassle.

*1.245 million documents were distributed in the first year since this system was launched in September 2018.

## 5.6 Mail, messenger, and PC video conferences

Workers should be able to share ideas even in non-contact working environments, as if they were face to face. Mail services, which are generally used at work, were divided into On-Nara Mail, which makes it possible to receive and send mail only within the administrative network, and a public servant integration mail service that is used for contacting outside organizations. The program fulfilled the dual goals of promoting cooperation and maintaining security.

The messenger offers different services based on work methods on purpose. It consists of On-Nara messenger, which is used across all government bodies, and a mobile messenger Barotalk which can be accessed by outside organizations. Some institutions use one messenger for their headquarters and another messenger for communication with government bodies under their umbrella.

In the non-contact working environment, PC video conferences are a popular way to save time and costs incurred by the relocation of the Government Complex to Sejong. It only takes screens, speakers, microphones, and an internet connection for people to participate in virtual meetings without any complicated procedures. They can communicate with each other, view each other's screens and share conference materials at the same time. This helps participates stay focused and feel as if they are part of the meeting. Internal meetings without participation from external organizations can be held in a safer and more convenient manner by logging onto a PC video conference. Remote workers can also access the administration network and be part of meetings.

In addition to office PCs and individual terminals, PC video conferences can also be connected to a video conference room so that workers can hold a plenary meeting. A total of 708 video conference rooms are established in the Blue House, National Assembly, and smart work centers, allowing for maximum convenience.

Figure 5-4. Video conference room network (as of March 31, 2020)
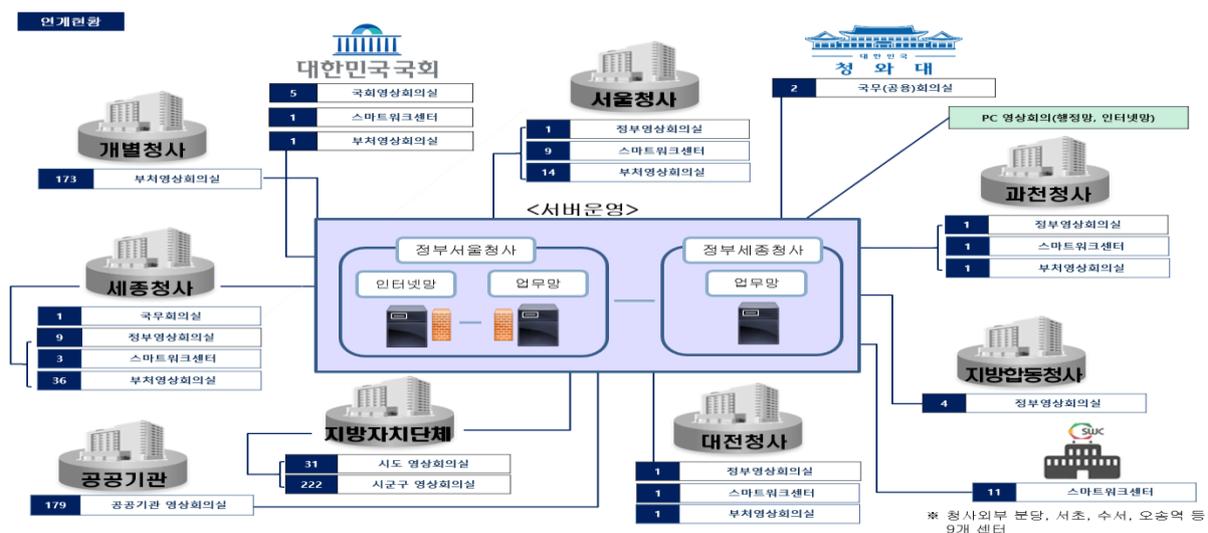
5.7 Use of non-contact working environments

The government has encouraged working from home to implement social distancing because of COVID-19. The number of GVPN subscribers skyrocketed 221% in a month. The department in charge of GVPN focused on monitoring traffic every ten minutes from 8 am to 10 am in order to provide a stable online service. During the remote working period, the department checked daily system use, increases in subscriber numbers, traffic, and the number of simultaneous users. It is predicted that there will continue to be strong demand for the services. Servers and network capacities were expanded so that more than 100,000 public officials (more than 75 percent of civil servants serving at central administrative agencies) can work from home.

* Increase in the number of GVPN subscribers due to the coronavirus outbreak/ 19,000 in December 31, 2019 to 90,000 in April 7, 2020, a 374% increase

Table 5-1. Operation of GVPN

Category	Subscribers (as of April 7)	Daily users			
		Second week of March	Third week of March (Group 1)	Fourth week of March (Group 2)	First week of April (Group 3)
Total	**90,327**	**18,323**	**39,317**	**55,572**	**52,452**
Central governments (66)	63,040	14,332	32,857	40,767	37,802
Municipalities (245)	27,287	3,991	6,460	14,805	14,650

· The average rate of using resources is 20% for CPU and 25% for memory, maintaining stable functions.
· The network bandwidth (four gigabytes) is stable with 770 Mbps on average.

User manuals and FAQs have been distributed to users who feel unfamiliar with remote work and non-contact working environments despite social distancing. Workers from government bodies in the Sejong Government Complex have learned how to use online systems and been encouraged to work from home. In addition, the operation of call centers to help employees working from home has been extended during weekdays. All these efforts have helped employees focus on work at home without any difficulties or inconveniences.

Traffic for video conferences has surged due to COVID-19. The government has also taken the special temporary measure adding 3,500 licenses for simultaneous users.

Figure 5-5. Trends in the use of systems comprising non-contact working environments
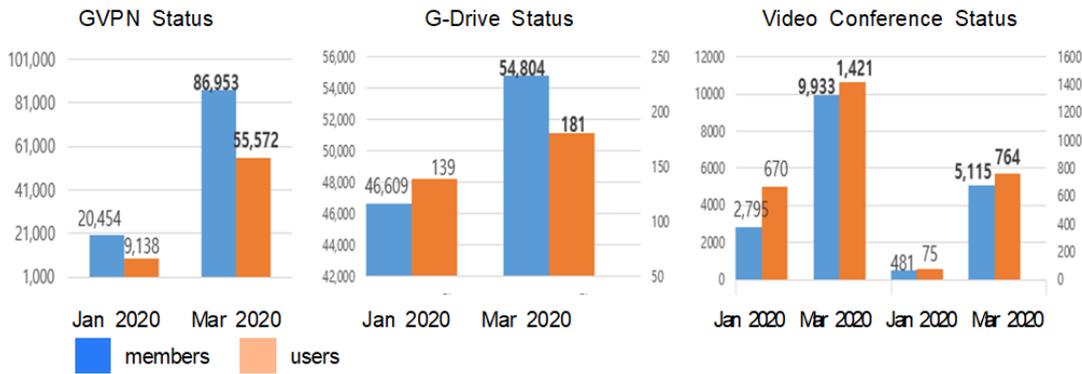
## 5.8 Managing attendance and security principles for remote workers

Remote workers record the times that they begin and end work (before 9 am and after 6 pm, respectively) in a public servant personnel electronic system called e-Person. Unlike in the past when employees would fill out an employee attendance card or punch a time card machine, employees now log onto the system with their own accounts to record attendance. If workers save the times, they are automatically recorded on the server. This makes impossible for individuals to register a time on behalf of another person. Employee attendance can be managed in a more transparent and precise way. Vacations or leaving work early can be requested and dealt with by e-Person, which allows for strict oversight over work performance and attendance.

Figure 5-6. Personnel management electronic system for public servants (e-Person)

The biggest concern is data security. Work confidentiality must be maintained even in the absence of a defined space such as an office. Remote workers have abided by data security guidelines such as the 'Work Management Guidelines for Public Servants in Tackling COVID-19' and 'National Data Security Guidelines.'

▶ Install the latest security software on your PC or laptop.

▶ Save materials used during work in G Drive and delete them all from your PC.

▶ Security codes are set for confidential materials at the stage when they are created.

▶ Use remote work, avoid handling personal information and managing confidential documents.

▶ During remote work, avoid handling personal information and managing confidential documents.

▶ If you are inactive for a period of time, you will be automatically logged out and the screen will be locked.

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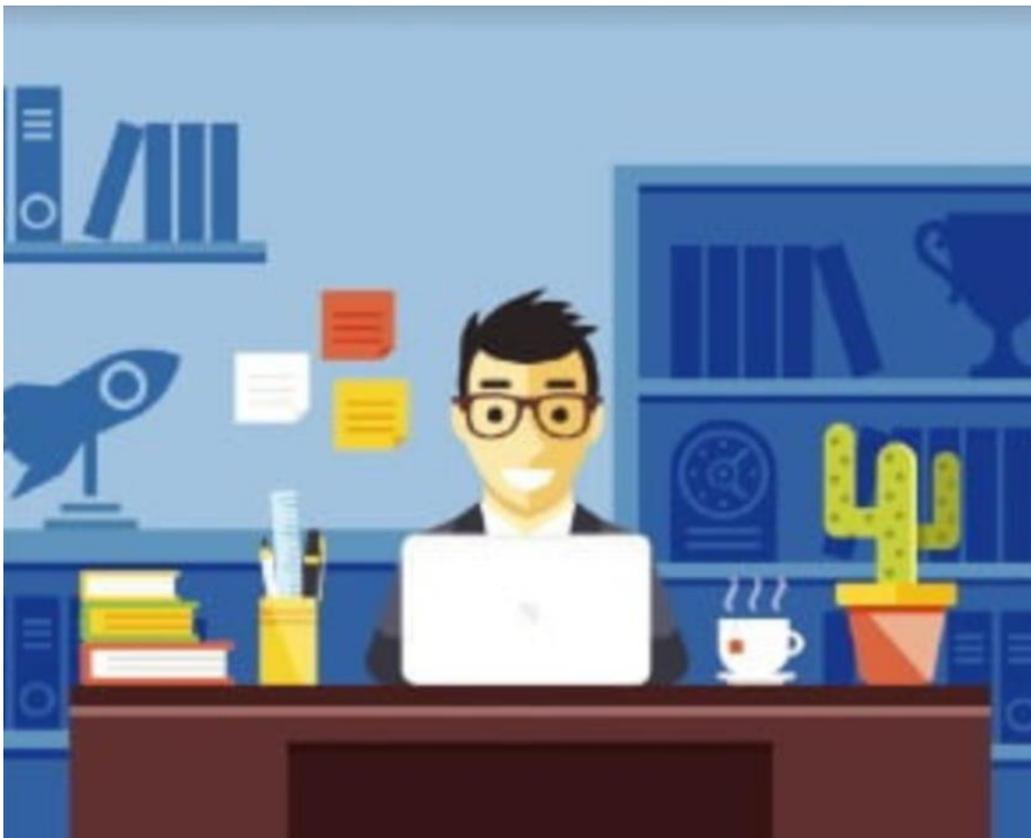
6. Testing time for epidemiological survey

6. Testing time for epidemiological survey

6.1 3T's based on ICT, 'K-quarantine' Prevention of COVID-19

Korea was successful in slowing down the COVID-19 transmission using advanced ICT and without strict border control or movement restrictions. All eyes are on the various measures taken by the Korean government to limit transmission, including innovative methods like the drive-thru testing, expansive testing, quick diagnosis, and the use of ICT to inform and track confirmed cases. Responding to the requests from countries around the world including the G20, as well as key international organizations such as the World Bank (WB), the Asian Development Bank (ADB) and the Organization for Economic Cooperation and Development (OECD), the Korean government plans to prepare a 'K-standard' model to share Korea's actions against the pandemic.

 # South Korea showed it's possible to contain COVID-19 without shutting down economy.(NYT, U.S.A)
 # The Moon government's deft handling of a global pandemic that has taken on nightmarish proportions elsewhere has drawn praise from health experts and policymakers worldwide, with many citing it a model. "Let's follow South Korea"(WP, U.S.A)

Figure 6-1. Webinar of Deputy Prime Minister Hong with World Bank (April 17, 2020)

Countries around the world are particularly interested in the enormous number of testing that Korea has conducted on both those with symptoms and those who have been in contact with confirmed patients. As of April 24, 2020, Korea has conducted over 590,000 tests, the highest in the world relative to the population, and over 900,000 tests including redundant tests.
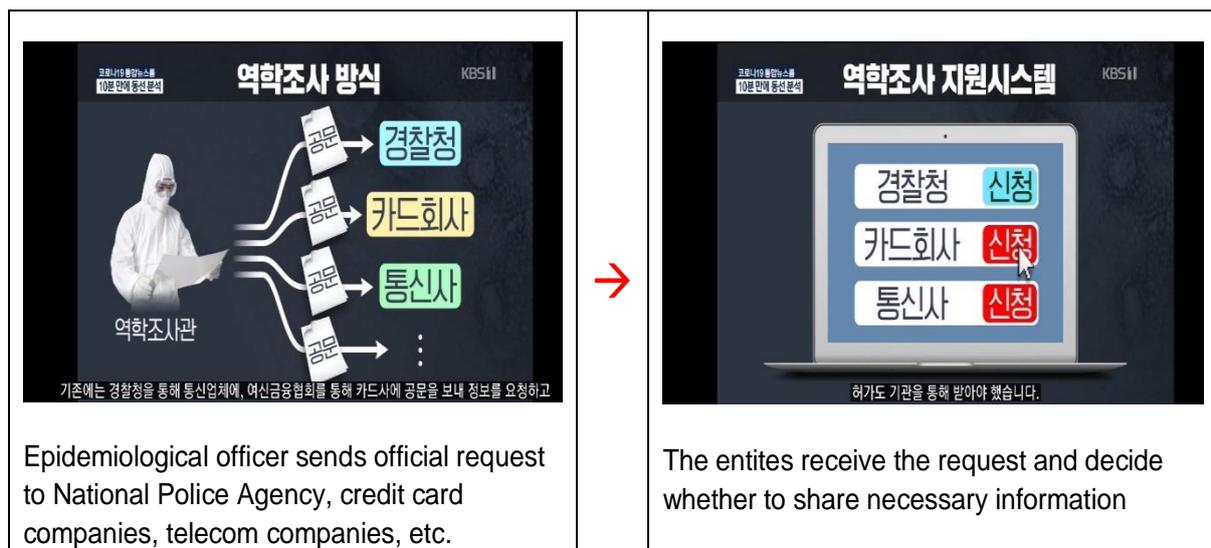
Drive-thru and walk-thru testing stations are a shining example of innovative idea. Drive-thru testing stations were first introduced in Korea and have since been adopted around the

world. The US and Germany announced that they will be introducing similar types of testing stations, while CNN praised the idea, saying that it was one of the best action against COVID-19. Currently, 612 testing stations and 71 drive-thru stations have been installed to allow easy access to suspected patients. With 118 labs to analyze the specimen, the daily testing capacity of Korea is currently at 20,000 and the results become available on the same day. Large-scale analysis of data through the use of AI is also being done.

6.2 Epidemiological Investigation Support System

Epidemiological investigation support system for COVID-19 automates the epidemiological investigation based on the Act on Preventive and Management of Infectious Diseases. Developed by the Ministry of Land, Infrastructure and Transport in cooperation with Korea Centers for Disease Control and Prevention and Ministry of Science and ICT, it is based on the data hub technology that collects and processes urban data. After being launched for test operation on March 16, it was transferred under the control of Korea Centers for Disease Control and Prevention and officially began its operation on March 26.

Figure 6-2. Changes in Contact Tracing Methods

Epidemiological officer sends official request to National Police Agency, credit card companies, telecom companies, etc.	The entites receive the request and decide whether to share necessary information

(Time required for contact tracing reduced **from 24 hours to 10 minutes**)

This system significantly reduced the time required for contact tracing from 24 hours of manually collecting and analyzing the data, in addition to the paperwork and individually contacting the 28 government ministries for cooperation to just 10 minutes as the big data on GPS data and credit card transactions are computerized and automated. This system also enhanced accuracy of the investigation and reduced the amount of work for the epidemiological investigators, making it possible for them to quickly conduct large number of investigations.

Against the world's spotlight on Korea's support system for epidemiological investigation, and the consequent requests from about 50 foreign correspondents for interviews and information on the system, the ministry that developed the system, the Ministry of Land, Infrastructure and Transport, hosted a briefing session for foreign reporters on April 10. Reporters from Russia, Spain, the U.S. and other countries asked questions on this system, whether Korea plans to share it with other countries and measures to be taken if the system is abused. The list of questions and answers is attached below. The Korean government plans to engage in technical cooperation with other countries and international organizations showing interest in the system.

Figure 6-3. Online Briefing for Foreign Correspondents (April 10, 2020)

[Reference] Key Q&A with foreign correspondents

Q1. Is the system applied to all confirmed patients? Are the patients notified when their personal information is used? Is the system used to trace routes of those isolated in the designated facilities or those who are under self-quarantine? (KBS, Jong-bin Kim)

A1. Korea does not use the system for all confirmed COVID-19 cases. Only the information of the confirmed patients who officials in charge of epidemic investigation regard necessary for further collection of personal information is collected through the platform. When the officials make the decision, we then proceed to request information through this platform. Before initiating the request for personal information through this system, we notify the affected person during the interview with officials that their information will be retrieved for the epidemic investigation. As for the credit card payment information, the credit card company will notify their customer before they provide the information. As for those in self-quarantine in public-self quarantine facilities or at their own homes, we apply/use the system for some cases where officials regard such a practice is necessary.

Q2. Is everybody's information in Korea uploaded automatically to this official common data platform 24/7, or is it uploaded from the different databases (CCTV, Phone companies, Card companies, etc.) only after a positive case is confirmed and an authorized KCDC official requests that the information is uploaded? When you mention that "an epidemiological survey or should decide whether additional collection of personal information is needed", could you mention an example of what kind of additional information this would be? (Spain)

A2. The system collects personal information of the confirmed cases which are determined by the health officials (epidemiological investigators) as requiring additional information. In short, the system does not collect information of all confirmed patients. The information used includes the location data from telecommunications companies and credit card records. CCTV footages are not included, as they have higher risk of privacy invasion. We request information in order to clarify missing links in the patient's imperfect memory, and to know whether the patient had shown symptoms when contracting the virus, etc. If the date of occurrence is confirmed and the movement tracks are simple and clear, the request for additional information is not made. If the date of occurrence is confirmed but the movement tracks need to be further clarified, the information from the 1~2 days before the occurrence date is collected. If the patient cannot remember the date of occurrence and the movement tracks, the information from previous 15 days (the maximum incubation period of the virus) may be requested.

Q3. Does Korea believe that it has the most developed technology in COVID-19 Management System? (Compared to China, Singapore, as The Office Director of Skolkovo Beijing, the biggest Innovation Center in Russia has commented) The question in point is, who gets the authority to manage such system. This kind of

system could be misused in a democracy, but in a democratic society the public has the power to change the one in control. In the long term, many countries will develop similar level of capability. And a new competition will arise between the countries that misuse such power and those who do not. Do you agree with this prospect? And what are your opinions on the application of the system?(Russia)

A3. This is a very philosophical question, I guess. There are similar prospects indeed made about this system, and there are maybe some opinions that disagree with such a prospect. Technology itself is neutral, which makes it even more important for the users to have the right mindset. I read an article from the Financial Times, it was written by Yuval Harari. The writer said that we are at a crossroads because of COVID-19 where countries should choose the path of whether they would side with a democracy or autocracy, or whether they would go down the path of nationalism or globalism. And as for your question, I believe that with right citizenship, right mindset, we can use this system or new technology in a way that we wish. And Korea adopted the COVID-19 Smart Management System because we had our legal institution revised first, after the 2015 MERS outbreak, when we started to realize that sometimes we should prioritize public safety or public health before privacy.

Q4. As a matter of fact, I understand that several journalists have asked similar angle but I will be rather more blunt and ask about the privacy law and abuse of information and ability surveillance - what systematic measures are designed to prevent any abuse, please? thanks in advance.(U.S.A)

A4. The system only collects and uses personal data under the legal basis, and also abides by the due process for collection and disposure of personal data. We manage the information based on the existing legal grounds. The system incorporates VPN, exclusive log-in system, and double log-in process in order to prevent hacking. Only the officials who are granted access to the system (the epidemiological investigators) can read information. All access records are logged, minimizing the possibility of information misuse. Also, KCDC can acquire personal information only after getting the approval from other relevant authorities, such as the Korea National Police Agency. There are other systems to manage the use of personal information, such as the Personal Information Protection Act and the Personal Information Protection Commission, a government organization under the President's Office.

Q5. In addition, I would also like to get a bit more info about what the exact standards are for eventually ending these expanded surveillance powers. And will this determination be made by KCDC? (U.S.A)

A5. A clear standard will be set up by KCDC, taking into consideration diverse factors such as the national alert level on COVID 19.

Q6. 1st Q: Is this new platform planned to be connected to electronic bracelets tracking system for incoming visitors? 2Q: How this or other systems can track asymptomatic cases? Does it use AI n other technologies of 4th industrial revolution?(Russia)

A6. No. This system's purpose is completely different, and we do not have any plans to apply this system to the wrist band tracking system. Big Data and AI technologies are applied in general. The system uses the Smart City Data Hub technology which allows real-time process/analysis of large-scale urban data. Also, machine learning technologies are incorporated in the system.

Q7. Ministry of Health and Welfare and Ministry of the Interior and Safety have been operating smartphone application to manage self-quarantines effectively. Please let us know if the information from those apps could be utilized on the Smart City System. What do you expect the advanced technologies used in this Smart City System such as big data will contribute transition to living quarantine in Korea? (Reuter)

A7. The technology used for the system is the Smart City Data Hub technology, which can combine data from different fields to generate meaningful new information. For example, when combining weather information and traffic data, new services can be generated. Besides, we're still thinking about new ways to utilize the data hub in daily life.

Q8. Are you going to share this system with other countries? (Bangladesh)

A8. "Go alone to go fast, go together to go far" COVID19 is a global challenge, and we plan to share this system on request from other countries. However, as each country has different legal and institutional basis about personal information, we will help them in consideration of such differences.

Q9. Foreign media praises this system of Korea, saying that it is better than similar systems of other advanced nations. Does the Korean government also think that this system is the best of its kind, compared to other nations? (Russia)

A9. The system is not equipped with exceptionally high level of technology. However, it was possible to develop a high-performance system in a short period of time by utilizing the outcome of the Smart City System research that has previously been done. Korea's system gains competitive edge not just because of our technical excellence, but also because we had set up the Smart City System in advance, that can be used to utilize personal information for speedy epidemiological investigation in the event of an infectious disease crisis.

# 7. Testing time for tackling panic buying

7. Testing time for tackling panic buying

7.1 Panic buying of face mask

The first case being confirmed in Korea on January 20 began an instability in the supply and demand of masks, which was resolved in the early to mid-February as the COVID-19 situation seemed to come to an end. However, with the mass infection around Daegu and Gyeongbuk starting on February 19, the shortage in masks became full-blown. Despite the emergency measures of the government to stabilize the supply and demand of masks, the instability continued.

Figure 7-1. The status of out-of-stock rate, online price(red line) and offline price(green line)
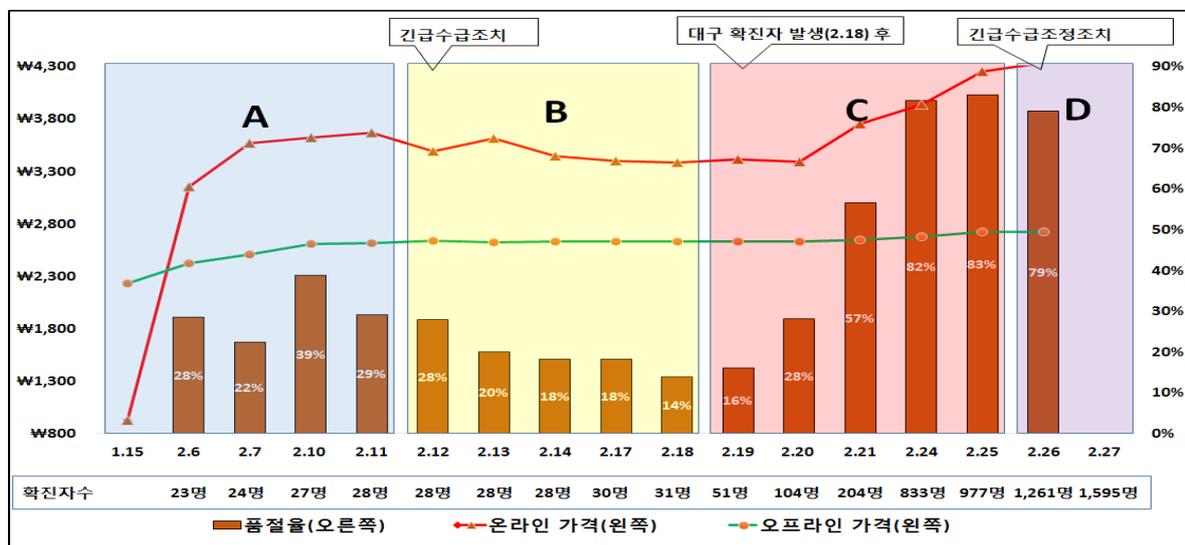
- (A) online price surged in the early phase
- (B) online and offline price stabilized due to the emergency supply measures
- (C) out-of-stock rate increased sharply after the first confirmed case in Daegu

The government introduced various measures from end of January to end of February including an emergency joint meeting of relevant ministries on January 30, the formation of joint inspection team to conduct daily inspections and to handle reports on unfair sales of masks starting on January 31, announcement of the ban on hoarding of masks on February 5, and the first and second sets of emergency measures to adjust supply and demand on February 12 and 26, respectively.

Inspection of the Mask Supply

Despite the extensive measures taken by the government, public anxiety deepened and the lack of mask supply officially became a social problem near end of February. President Moon emphasized the need to visit and check the problems on site, and the Ministry of Economy

and Finance set up its own workforce, independent of the joint government inspection team, to inspect the mask supply chain. Ministry of Economy and Finance formed a 64-person workforce within a day and began visiting and inspecting factories and authorized sellers on the next day, on February 28. The Deputy Prime Minister, who is also the Minister of Economy and Finance, also visited these manufacturing companies to listen to their difficulties.

The on-site inspection workforce visited the stores authorized for sales of public masks, manufacturing factories, and the distribution hubs to inspect the situation on production and distribution, and the difficulties in the supply and demand of raw materials. As a result of such efforts, the work force inspected 751 sites from February 28 to March 9, and allowed the on-site inputs to be appropriately reflected in policies.

Mask Inspection Workforce by the Ministry of Economy and Finance	Deputy Prime Minister Hong visiting the Production Line (March 9)

7.2 Measures to stabilize the mask supply

Even the second set of emergency measures to stabilize the supply and demand of masks had little impact. A stronger action was required. The government announced another set of measures that reflect the comments from relevant ministries, authorized sellers, the Korean Pharmaceutical Association, and the manufacturing companies. These measures included an increase in the ratio of publicly supplied masks from 50% to 80%, the 5-day rotation system that allows an individual to purchase 2 masks a week, utilization of the existing Drug Utilization Review (DUR) system to limit the weekly mask purchase to 2, streamlining the procurement of publicly supplied masks through the Ministry of Procurement, and incentives provided to mask manufacturing companies.

Taskforce to Stabilize the Supply and Joint Inspection Team

The Ministry of Food and Drug Safety was initially responsible for the supply of masks but against deepening instability, the Ministry of Economy and Finance temporarily assumed the main responsibility. On February 28, a task force was launched within the ministry to stabilize the mask supply, and later, this task force was expanded into an inspection team of joint efforts between the private and public sectors. The joint inspection team was in operation for 19 days from March 4 to 22, and the 34 members of the team from relevant ministries and private

companies handled issues on mask supply, including the supervision of the total supply of masks, monitoring the situation on securing and distributing masks, and signing contracts to procure masks.

7.3 Production and Supply of Masks after the Measures

As a result of the efforts above, the overall situation on mask production and supply was stabilized. In terms of production, over 11 million masks were produced beginning in the second week of March, and by the first week of April, an average of 11.75 million masks are being produced in a day. In terms of supply, 8.18 million masks are being supplied

In terms of supply, 8.18 million masks were supplied daily during the first week of April, about 71.5% increase from the previous month. In terms of pharmacies, the supply rose by about 140.9% compared to the previous month with a supply of 6.65 million masks a day.

Figure 7-2. Daily production of masks
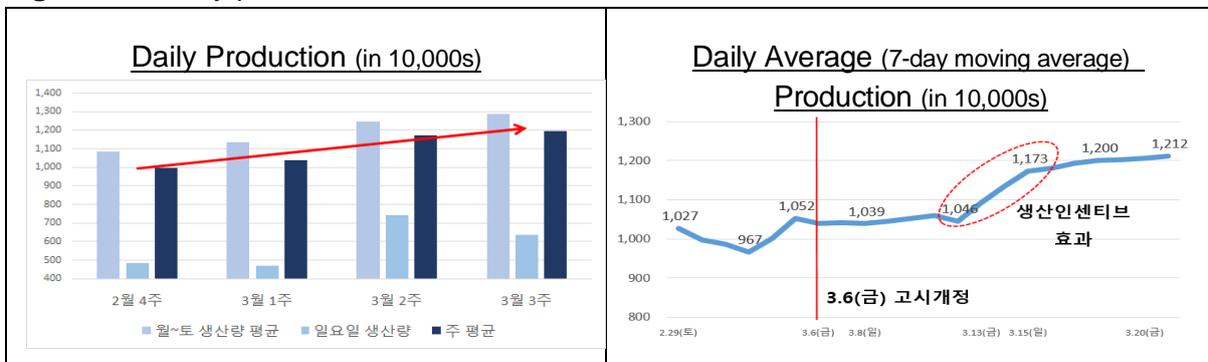
- Daily production of masks stably increased
- Daily average of mask production increased after the establishment of notification on March 6. Incentives on production also increased daily average production.

Figure 7-3. Daily supply of masks
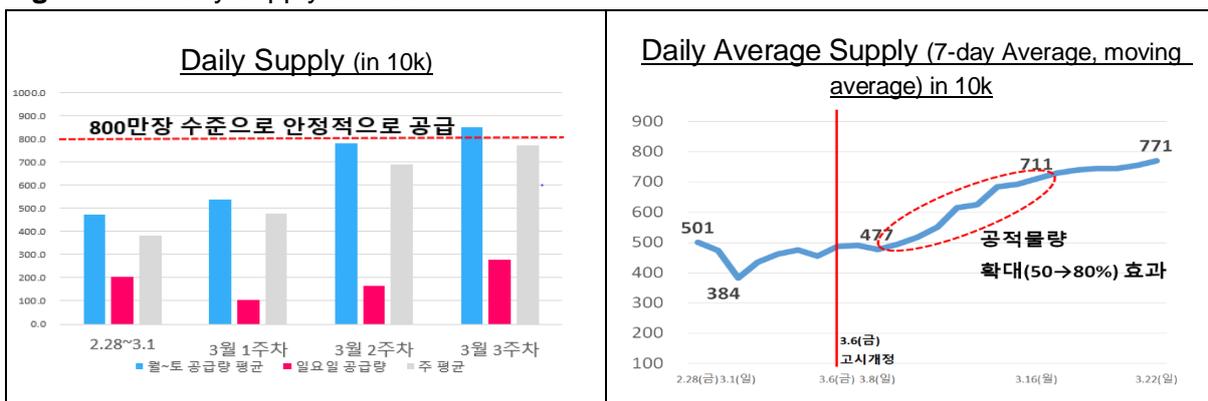
- Daily supply became sufficient about 8 million masks in a week
- Daily average supply increased after 6th March due to the enlargement of publicly supplied masks (50%→80%)

7.4 Key points in stabilizing the supply of masks

The key points in the measures introduced by the Korean government to stabilize the mask supply can largely be summarized into 3: policy perspective, contribution from the private sector and governance.

Policy Perspective

In terms of policy, the government stabilized the demand by setting clear principles such as the 5-day rotation scheme to address both the insufficient volume of production from the supply side as well as the consumer anxiety arising from hoarding of masks. The 5-day rotation scheme flattened the demand over the week, and preventing the purchase of more than 2 masks at other locations reassured the public of a fair supply system. These measures ultimately eased the anxiety of the citizens, thereby dispersing and stabilizing the demand.

In addition, the bulk signing of contracts with manufacturing companies through the Public Procurement Service provided the companies with proper incentives. This allowed authorized sellers to focus on distribution and sales of masks, while manufacturing companies focused on production, leading to a huge increase in production volume.

Increasing the public sales of masks to 80% not only helped secure stable supply of masks but also allowed the maintenance of an efficient distribution network. In addition, by limiting the proxy purchase of masks, the government prevented a rapid decrease in inventory.

Lastly, mobile applications were developed, allowing consumers to check the real-time inventory volume of masks. This helped disperse the same day demand of consumers in a region, and at the same time, minimized the inefficiency of consumers visiting pharmacies with no stock and of pharmacies responding to customer inquiries about stock.

Contribution of the Private Sector

A mature sense of citizenship was a key factor in successfully stabilizing the mask supply, as citizens followed the mask purchasing principles and even offered their weekly ration of masks to others requiring a mask more urgently. Pharmacists also cooperated actively with the government policies by voluntarily opening their pharmacies over the weekend to allow more people to buy the publicly supplied masks.

Production and distribution companies also cooperated with the government to put in all possible efforts in producing and distributing the masks day and night and throughout weekends.

In addition, innovative ideas and products of the private sector helped the supply of masks. Various types of masks that help sanitation such as disposable masks and cotton masks with filters began appearing in the market against the demand unmet by publicly supplied masks.

Governance Perspective

In terms of governance, the government-wide efforts played a key role in stabilizing the mask supply. All relevant ministries were involved with extraordinary determination to stabilize the mask supply, and what was decided in meetings were implemented right away.

Furthermore, the Vice Minister of Economy and Finance himself began chairing the meetings with relevant ministries to ensure efficient decision-making process. Meetings were held twice a day if they were necessary, and key issues between ministries were resolved immediately. Manager-level public officials participated in the discussions with other ministries directly instead of waiting for the results of working-level reviews, and decided on matters quickly through top-down methods.

Lastly, the task force within the Ministry of Economy and Finance to stabilize the mask supply and a joint work force between private and public sectors made it possible to take actions quickly and efficiently. For example, a mask distributor commented that certain pharmacies want more of the children's size masks, which are normally low in demand. The Ministry of Food and Drug Safety conducted a survey on the demand, and the Ministry of Economy and Finance checks the supply and prepares a measure to provide more masks for children.

8. Testing time for military services

8. Testing time for military services

COVID 19 came up as a national security threat as the infectious disease has shown global prevalence and spread to local community levels in the Republic of Korea. In response, the Korean government elevated the level of infectious disease crisis alert to 'Red,' which is the highest. ROK military has also proactively executed strong response measures to prevent an influx of the disease into the military.

First, the ROK military has urgently remodeled its Armed Forces Daegu Hospital to a designated infectious disease hospital in order to solve the bed shortage problem in Daegu and Gyeongsangbuk-do area. The military increased the number of engineers from 25 to 100 and transitioned 100 regular beds to 303 negative pressure beds only in 7 days, massively contributing to securing the government's conditions to treat confirmed patients. Furthermore, it boldly shortened the required military training periods for service members with medical specialties and deployed them to the COVID 19 response frontline like Daegu, actively practicing its duty of protecting the lives and possession of civilians in the most dangerous areas. Especially, the newly commissioned nurse officers, who had early graduation· commission ceremony, were dispatched to Daegu in a timely manner in March when the number of confirmed cases was skyrocketing. The military also conducted large-scale decontamination and sterilization operations in Daegu and Gyeongsangbuk-do area.

At times, innovative technologies preemptively adopted by the military were handed down to health authorities. ROK military introduced a sample gathering examination(Pooling technique) to diagnose a large pool of people including the newly recruited personnel. Some media reports demonstrated concerns to the technique that was quite unfamiliar at the time. However, the technique was later introduced as an official examination method for the citizens after KCDC(Korea Centers for Disease Control and Prevention) verified the accuracy and utility of the methodology with epidemics prevention experts and medical institutions.

Figure 8-1. In response to COVID-19, Armed Forces Nursing Academy launches a support campaign to support citizens

Figure 8-2. Military medical personnel serving their mission at Daegu Hospital, a designated infectious disease hospital

Such military endeavors obtained great results in contagion prevention and suspension of the disease. No additional COVID-19 confirmed case is reported in the military since after March 22, and further efforts are being made to suspending further contagion throughout enlistment processes by identifying infected people without symptoms. ROK military will continue to maintain robust military readiness posture to guarantee national security and to protect the lives and safety of citizens.

Figure 8-3. Captain Kim Hae Ju, with a bandage on her nose with a canker due to long time use of masks

8.1 Whole-of-Government Support for COVID-19 Response

> The national infectious disease crisis level was elevated to 'Red' as COVID-19 spread to local communities. MND(Ministry of National Defense) approached the COVID-19 situation as equivalent to wartime and actively executed preventive measures to support governmental efforts. MND solved bed shortage problems by quickly remodeling military hospitals including the Armed Forces Daegu Hospital and newly established and operated the Defense Rapid Support Group to process requests from local governments and government institutions. MND also shortened training periods for medical personnel including medical officers for their rapid deployment to local settings.

Medical Staff Support

ROK military provided active medical personnel supports to local governments and government institutions. The support was prioritized first for quarantine stations at airports and sea ports. Around 300 military doctors and nursing officers were supported daily to private hospitals and temporary living facilities the military provided a total number of 27,179 medical personnel from January 27 to April 27.

The military also boldly adjusted military trainings for public health doctors in order to prevent any failure of medical personnel provision at site.

1) Training periods were adjusted for the newly appointed 750 public health doctors and they were employed earlier than planned to conduct medical response on site.

2) For 96 volunteers among the on-site support medical personnel who were designated for commission, MND shortened military trainings required for their commission to delay their enlistment date and extend their period of medical support on site in order to minimize medical support shortages.

3) Commission ceremony for Armed Forces Nursing Academy seniors previously planned on March 9 was held earlier on March 3 instead. MND deployed the 75 newly commissioned nursing officers to Armed Forces Daegu Hospital to contribute to treatment in Daegu and Gyeongbuk areas.

While all draft physical examinations were suspended due to COVID-19, medical staff of the Military Manpower Administration, who normally conducts the examinations, were deployed to the drive-thru screening centers in Seoul. For 4 days from March 3 to 6, a total of 10 medical staff (4 each day) provided their medical service to help contain the viral transmission. This was the first time ever in the history of Military Manpower Administration that medical staff of the administration provided medical support to areas other than draft physical examination.

Bed Support

The military solved bed shortage problems in Daegu and Gyeongbuk areas and proactively supported hospital treatments of confirmed patients by transitioning Armed Forces Daegu Hospital and Armed Forces Daejeon Hospital into designated infectious disease hospitals in addition to their provision of negative pressure beds from Armed Forces Capital Hospital.

Figure 8-4. Medical support provided by the medical staff for physical examination at drive-thru screening centers

Screening Center 1	Screening Center 2	Health Interview
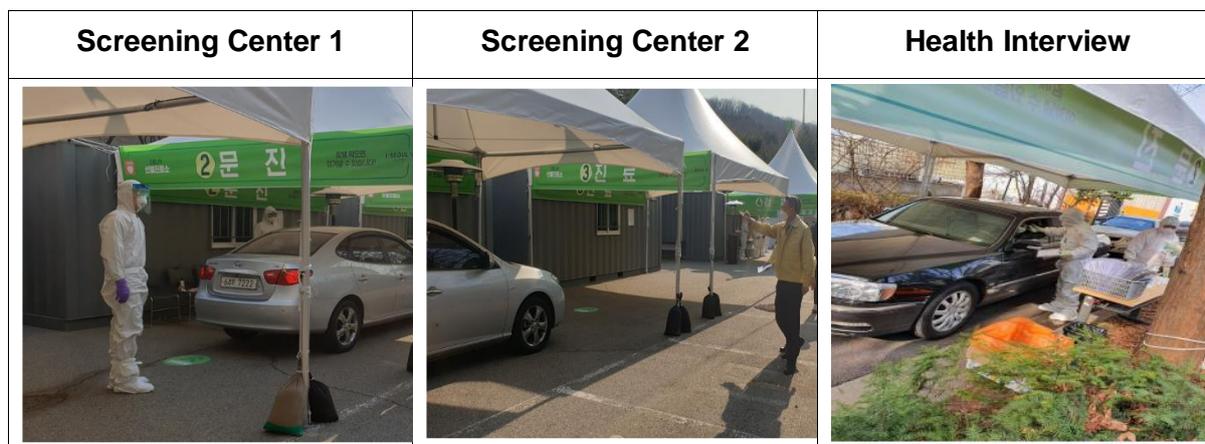
1) As the Armed Forces Daegu Hospital became a designated infectious disease hospital on February 23, it underwent a remodeling comparable to a military operation. It installed partitions and movable negative pressure generators in 3 floors with open spaces, transitioning 100 regular beds into 303 negative pressure beds in only 7 days. 25 engineers were involved in the beginning, but the number was augmented to a maximum of 100; for medical personnel, 130 people including 75 newly commissioned nursing officers were provided for hospital management. Armed Forces Daegue Hospital treated a total of 313 confirmed patients in Daegu and Gyeongbuk area from March 5 to April 27.

2) Armed Forces Daejeon Hospital had been operated as a hospital exclusively taking charge of COVID 19 suspected cases within the military since the beginning phase of COVID 19 response. Later, upon request by Central Emergency Headquarters, it became a designated infectious disease hospital by February 21, managing 88 infectious disease beds. Armed Forces Daejeon Hospital managed a total of 72 negative pressure beds that include 10 negative pressure beds and additional 62 negative pressure generators provided by the Central Emergency Headquarters, treating a total number of 47 confirmed patients from February 24 to April 27.

Decontamination Support

To contribute to the suspension of the disease following increases in COVID-19 confirmed cases, MND provided a total number of 26,000 personnel and 19,000 equipment for facilities with large floating populations and roads including hospitals, temporary living facilities, and express terminals from February 24 to April 28.

The CBRN command, which specializes in CBRN protection, provided decontamination supports to high-risk facilities and facilities with dense populations by utilizing special equipment used in CBRN missions. Especially, it provided support to colleges that could not gain support despite confirmed cases, and to designated national infectious disease hospitals. The command largely contributed to protecting the health and dissolving anxieties of citizens through its 'Decontamination Delivery.'

Moreover, during the period in which the government is preparing for a 'Distancing in Daily Life' system, ROK military is further investigating and providing support to facilities that need decontamination, such as schools, kindergartens, retirement homes, libraries, and sports facilities. The military will maximize its efforts to safely return the lost space and everyday life, which were previously taken away by COVID-19, to the people.

Figure 8-5. Personnel Support for Daegu, COVID-19 epicenter in Korea

Figure 8-1. Decontamination Support for Facilities with Confirmed Cases

Facility/Administrative Personnel Support

ROK military's range of support extended from medical support further to the various points such as decontamination centers and temporary living facilities.

1) A total number of 32,300 personnel, which is equivalent to a daily number of 447, was provided for administrative support including decontamination and translation to nation-wide 20 places such as Incheon International Airport since January 28, the Lunar New Year period.

2) KDLI of Joint Forces Military University was provided as a temporary living facility for Korean residents in Wuhan, China. 3rd team consisting of 140 residents stayed in KDLI.

3) Starting from support for the three groups of Korean residents from Wuhan, about 930 administrative personnel were provided for temporary living facilities for residents from Iran, Spain, and Italy.

4) 60 drivers for sample collection of the religious group 'Shincheonji' members, and 80 temporary screening center administrators were provided. Additionally, in support of 13 military life consultant volunteers, 5,820 people were provided for consulting for 8,430 people suffering from psychological anxiety due to self-quarantine.

5) A total number of 13,620 were provided to 61 facilities including treatment facilities for patients with light symptoms, temporary spaces for people with symptoms, and temporary living facilities for travelers from abroad.

Operating the National Defense Rapid Support Group

The ROK Armed Forces supports restoration and stabilization efforts following natural or artificial disasters. To this end, local defense units and local governments maintain an Integrated Defense Committee, even throughout peacetime, serving to strengthen close cooperation. However, with the onset of COVID-19, local defense units were faced with new support tasks including requests from local governments that surpassed current capabilities (e.g. nationwide transportation of masks, increased need for preventative measures in Daegu City etc.). Government authorities such as the Ministry of Food and Drug Safety requested personnel and equipment to aid enterprises in mask production and transportation. In response, the MND expediently stood up the 'National Defense Rapid Support Group' in order to increase the speed and efficiency of COVID-19 responses. Through such Rapid Support Group, the MND established a support system in terms of prevention, transportation, resources, and personnel, while designating units of responsibility for each region (Daegu and Gyeongbuk, Seoul and Gyeonggi, Chungcheung, etc.) in order to increase accessibility of support. The Rapid Support Group was assessed to have maximized the speed and efficiency of support through its 'One-Stop Support System,' which integrated the evaluation of support needs and the employment of support methods.

Figure 8-7. Organizational Structure of the National Defense Rapid Support Group
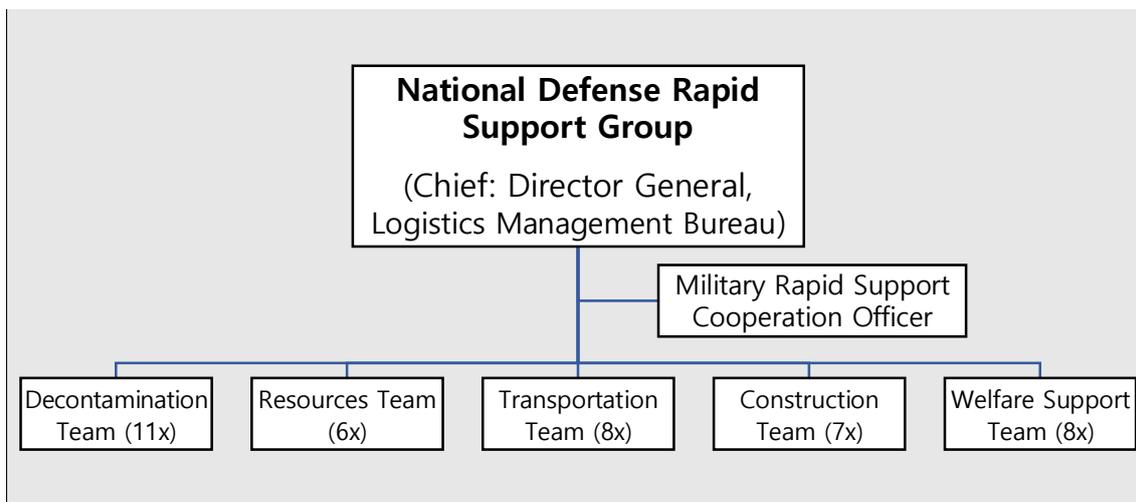
Providing Publicly-Funded Masks

Providing sufficient number of masks to people was an issue of utmost importance amid the aggravating COVID-19 situation. Due to other countries' restriction on mask export, the Korea's entire demand for mask had to be met by domestic companies. Moreover, mask production rate for weekends was low at 70% percent compared to regular weekdays. To cope with this condition, the National Emergency Management Agency requested MND a personnel support for mask production and distribution. Upon this request, MND not only provided production manpower to mask producers and but also deployed administrative personnel for mask wrapping and small-sized pharmacy support, shaping ideal conditions for mask purchase.

The Military Manpower Administration introduced the social work system in 2008 to enhance the fairness in carrying out obligatory military service and to respond to the rising demand for social service by utilizing human resources of the country. Social work personnel are the persons called up to serve in the fields public interest to support social service duties and administrative duties, etc. related to social welfare, health, medical service, education, culture, environment, safety, etc. necessary for public interest pursued by State agencies, local governments, public organizations and social welfare facilities. With the COVID-19 outbreak in Wuhan, China in December 2019, and the growing pandemic, the Korean government raised the national crisis level to 'serious' on February 23, 2020. As a result, people began lining up outside pharmacies to purchase masks that can help the viral transmission.

Against this backdrop, on March 8, 2020, the Headquarters for Central Disaster and Safety Countermeasures held a virtual meeting, where all relevant ministries recognized the need to work together as one to end the pandemic. On March 9, 2020, the government introduced the 5-day rotation scheme to stabilize the mask supply.

Small pharmacies operated by just one pharmacist, however, were short-handed against the growing customer needs for masks in addition to preparing and selling general pharmaceuticals. Against such backdrop, the Military Manpower Administration deployed social work personnel to support the pharmacies that are short-handed because of the 5-day rotation scheme.

To protect the social work personnel from COVID-19, local governments provided protective gears such as masks and gloves, and those with chronic or underlying respiratory disease such as lung conditions or asthma were excluded from deployment. The social work personnel were deployed through the following process: the local governments assess the needs of the pharmacies in its jurisdiction and then selected potential staff from a pool of social work personnel. The Ministry of Food and Drug Safety, the Korean Pharmaceutical Association and local governments all worked together to provide personnel support, and the deployed staff would go to the organization he serves first and then to the designated pharmacy during busy hours to provide information to customers about the 5-day rotation scheme and to assist sales of masks.

With the deployment of social work personnel during the busy hours, people no longer had to wait in line at pharmacies to purchase publicly supplied masks. Efficient utilization of social work personnel during the times of national crisis to ensure wellbeing of the public built the public's credibility in the social work personnel system. About 60,000 social work personnel are serving with full commitment at health clinics, medical institutions, subway stations and other social welfare facilities. From March 11, 2020, a total of 346 social work personnel has been deployed to assist pharmacies selling publicly supplied masks and have directly contributed to the government's efforts to put an end to the COVID-19 pandemic.

Figure 8-8. Matching and placement of a social service worker
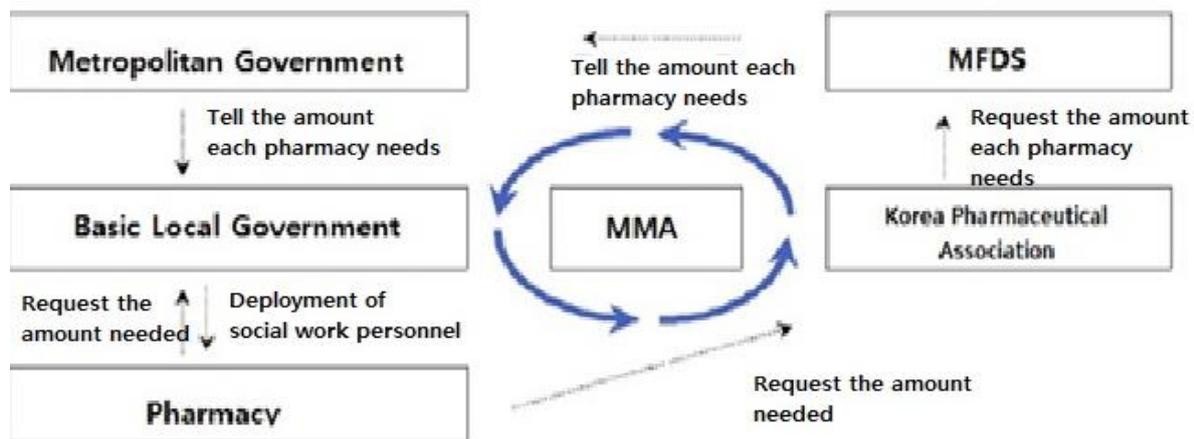
Transportation Support

Obtaining transportation vehicles was difficult in areas that have seen large confirmed cases like Daegu and Gyeongbuk because a 14-day quarantine was required for those areas upon entry. In response, the military distributed masks to citizens in a very timely manner by providing transportation teams. It also provided transportation with its aircraft to bring surgical gowns produced by Korean producer located in Myanmar when international delivery was limited. In addition, the military also provided timely transportation support for masks and decontamination suits for decontamination personnel, and supplies for self-quarantine facilities

Farming Support

Domestic farmers had employed foreign laborers due to a shortage of workers. Amid such situation, extended periods of COVID-19 and stricter regulations of entry that was adopted globally worsened the situation for the farms. Especially, as such condition continued throughout April a critical period in agriculture, Ministry of Agriculture, Food, and Rural Affairs and other local governments requested for temporary personnel support. Since then, MND, has actively supported military manpower to domestic farms up to a level that would not damage the private job market, prioritizing areas with low infection probabilities.

8.2 Interdicting Infection Within the Military

> With many service members living communally, the military is especially vulnerable to the proliferation of infectious diseases and viruses. As follows, there is a dire need to not only prevent initial infiltration of the services, but also to establish preventative measures in case confirmed cases do occur. In order to manage the situation, the Ministry of National Defense (MND) organized the 'COVID-19 Response Center' under the Minister's purview to timely review the status of military responses and implement timely measures including service and quarantine guidelines. In addition, sample pooling was adopted and utilized as an innovative diagnostic method, enabling expedited testing of large groups such as trainees. Its efficiency was highly recognized later and was officially adopted as the national health authority's testing methodology.

Operating Countermeasures Headquarters

MND installed the Countermeasures Headquarters under the purview of the Vice Minister on January 27. Initially, the relevant health offices managed the situation and oversaw coordination with related parties, with personnel, logistics, education and training, and public affairs playing a supporting role. However, following the aggravation of situations, as it was seen by the elevation of the alert status from Orange to Red, the necessity for organizational expansion and reform of the response system came to the fore. Consequently, the MND has elevated the organization to the Ministerial level and organized an additional control team for cooperation with Central Disaster and Safety Countermeasures Headquarters, constructing a system that enables focused and systematic situational responses.

Strengthened Service Management Standards

The MND implemented a preemptive and strict unit management measures to stop the virus' influx into the military. Beginning February 22, all service members were restricted from using vacation days, off-base leaves (daytime and overnight), and visits. Such measure was conducted a month ahead of the health authority's 'Strengthened Social Distancing' guidance. Physical examination for enlistments were also put on hold to suspend influx of virus from new people. In addition, new enlistment from the Daegu and Cheongdo was suspended for 2 weeks. Residents from special infectious disease management areas were put in a 2-week quarantine and to resume participation in training, conditional on their lack of symptoms.

Draft Physical Examination by the Military Manpower Administration

All male citizens of Korea must be listed in military service in accordance with the Constitution and the Military Service Act. Persons liable for military service undergo a draft physical examination when he turn 19 years old to determine whether he is capable of performing military service.

In 2020, the draft physical examination was conducted on about 300,000 persons starting on February 3. However, after the government raised its alert on the COVID-19 to the highest level on February 24, all examinations have been suspended. The Military Manpower Administration, which is responsible for these examinations, has been preparing to resume examinations to ensure sufficient number of military personnel and to address civil complaints about those waiting for examinations.

As the number of new cases continued to decrease, a limited number of tests were performed starting on April 13. And as the government relaxed its social distancing guidelines on April 20, all 10 of the examination centers around the country resumed their operation. Despite the seriousness of the COVID-19 situation, the Military Manpower Administration has prepared the following measures to safely provide draft physical examinations while limiting the possibility of transmission.

First, viral transmission during examination is restricted by checking for symptoms in advance.

Those scheduled for examination are first contacted to fill out and submit a questionnaire on his symptoms before the date of his examination. The questionnaire includes detailed information on travel history outside the country, possible contact with confirmed patients, and other health-related questions. Based on the questionnaire, those who may possibly be infected are notified to postpone his examination. On the day of the examination, those receiving examination are closely monitored at entry and during the examination to limit viral transmission.

① The Military Manpower Administration operates its own screening booths by installing temporary tents outside the examination centers.

- Thermal image cameras are installed to measure body temperature, and those with fever

(over 37.5℃) are instructed to return home

- If someone is suspected to be infected, based on the questionnaire on health conditions including on travel history outside the country or to an area of mass infection, he is instructed to return home.

② All those performing and undergoing examination are required to wear a mask (filter of KF80 or higher) and to sanitize their hands.

③ The body temperature of the staff performing the examinations are also measured twice a day (once before beginning his shift), and the measurements are recorded and managed systematically to prevent transmission among the staff.

Figure 8-9.   Military System to sort out individuals who may be infected
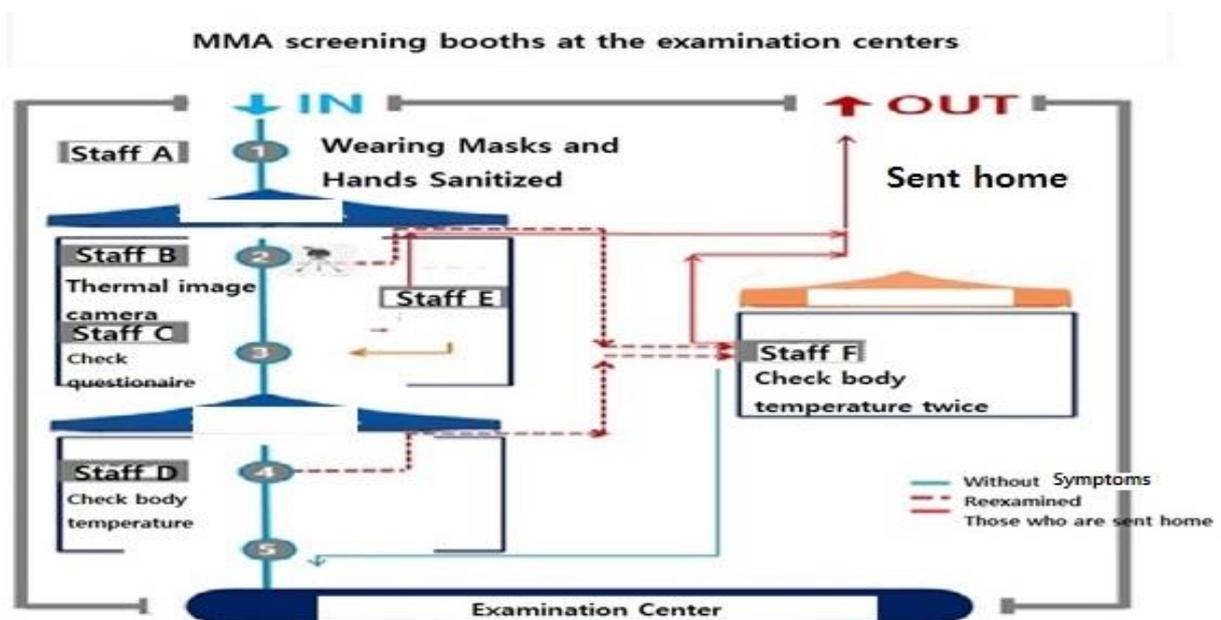
Second, a safe environment is ensured throughout the examination process.

① In order to prevent viral transmission through droplets, a safe distance (at least one meter apart) is maintained at all times throughout the examination process, and partitions have been installed between the staff conducting the examination including medical staff, and those undergoing examination.

② Safety of those undergoing examination is ensured by providing masks, plastic gloves, hand sanitizers and other disinfectant materials. The covers used in eye examinations are replaced with paper covers, and a single-use sheet is placed on the scale when measuring height and weight.

③ In the examinations that require person-to-person contact, such as collecting blood samples, all participants are required to put on acrylic mask on top of the regular mask (KF80s filter or above).

④ Posters on personal hygiene guidelines (washing hands and cough etiquette) have been placed around the examination centers.

⑤ Changing rooms, sinks, door knobs, handrails, computer keyboards are being cleaned frequently, and the building itself is also disinfected at least twice a day (morning and afternoon).

Third, person-to-person contact is minimized in the examination process keeping with the social distancing guidelines.

① Those undergoing examination must keep a safe distance (at least 1 meter) with others.

② Instructions are given to allow only one person in the changing room at a time, and to space out the lockers used (at least 4 empty lockers in between). Those being examined are seated with a seat in between during the examinations for both physical and mental health, and in a zig zag line when waiting in line for x-ray and blood samplings.

③ The wearing of a mask is monitored throughout the examination, and an isolation area is prepared to quarantine those with fever (over 37.5℃) or respiratory symptoms.

Fourth, a guideline against COVID-19 is prepared for higher efficiency and consistency of work.

These guidelines for the examination centers include:

① tighter prevention measures such as mandatory wearing of masks, strict personal hygiene measures including washing of hands, installation of partitions to prevent viral transmission through droplets and disinfection of the entire examination center (twice a day)

② prevention of viral transmission within the examination centers by operating a screening center under the jurisdiction of the Military Manpower Administration

③ social distancing measures throughout the entire examination process from entering the examination center, using the changing rooms, and undergoing physical and mental examination.

④ If someone undergoing examination shows suspected symptoms, all examinations must be stopped, and the said person must be tested for COVID-19. If a person undergoing the examination or others visiting the place test positive, all examinations must be stopped immediately, with disinfection of the building and epidemiological study performed.

Applying Strengthened Quarantine Standards

The MND, considering that group life is a distinct characteristic of a military, has executed(as of January 27) a 'preventive quarantine' guideline. The guideline contains stricter standards than the ones contained in the health authority's and is meant to suspend the very source of group infection. This strict guideline put not only ① people who made secondary contact with confirmed patients, ② people who have returned to base and show symptoms and epidemiological relevance, ③ residents and visitors from special infectious disease management areas, but even ④ travelers from abroad and those who have made secondary contact with them in quarantine. Because of an execution of such preemptive and proactive solution, the military was able to minimize the number of confirmed cases despite the units' group life. No additional confirmed cases have occurred in the ROK military since after March 22.

Table 8-1. Standards and Methods of Quarantine

Category	Health Authority's Standard for Quarantine	MND's Preventive Quarantine
Quarantine Standard	① Confirmed patient ② Individual who has made contact with the confirmed patient ③ Doctor patient ④ Individual who shows symptoms and is subject to investigation ⑤ Individual who has returned from abroad in fourteen days	① Individual who has made a secondary contact with the confirmed patient ② Individual who returned to base with symptoms and has epidemiological relevance ③ Residents and visitors from the special infectious disease management areas ④ Individuals who visited foreign countries or made contact with family members that visited foreign countries
Quarantine Method	1 individual in 1 room	1 individual in 1 room rule(cohort quarantine when limited), wear masks, monitor symptoms twice a day, take immediate action upon finding of symptoms

Emphasis on Hygiene Guidelines

Even with countermeasures in place, the spread of infection cannot be blocked if individuals do not adhere to hygiene guidelines. On February 27, the military created and disseminated preventative guidelines and instructions for a hygienic barracks culture tailored to the unique characteristics of military life. This was followed by the issuance of everyday guidelines for individual hygiene and infection prevention, as well as increased supervision guidelines for high-risk facilities within the military such as call centers, digital training facilities, and religious institutions. These guidelines were released on March 4 and March 13 respectively.

Also, as the government's keynote of 'strengthened social distancing' was adjusted to 'social distancing' by April 20, the military has handed down 'Barracks life 3·6·5' on April 22 as the basic guideline to be adhered to throughout the entire phases of 'social distancing' and the future 'daily decontamination(daily distancing).'

Table 8-2. Standards and Methods of Quarantine Basic Rules for Barracks Life 365

Unit Decontamination (3)	Public Decontamination (6)	Individual Decontamination (5)
① Designate decontamination mangers ② Practice flexible working hours ③ Build visitor log system	① Daily ventilation and sanitization ② Locate and use hand sanitizers ③ Practice healthy distancing (1 ~ 2m) ④ Check temperature before entry into base ⑤ Put others first ⑥ Stay away from densely populated facilities	① Wear masks daily ② Wash hands for 30 seconds ③ Adhere to cough etiquette ④ Use your own items ⑤ Report once symptom is found

Introduction of Integrated Sample Analysis, the Efficient Way for Group Examination

The military had a special need for testing methods that could quickly diagnosis infections for enlistees as enlistment of Daegu and Gyeongsangbuk-do residents resumed. The Defense Medicine Research Center proposed an introduction of a sample pooling method. This method was to increase testing efficiency by mixing samples of 4 individuals at once, differentiated by the previous method that only test one sample. Apparently, there were skeptical views to the unfamiliar testing method. However, the military introduced the method with its results of sufficient validation and further proposed the Korea Center for Disease Control and Prevention (KCDC) to adopt it. As Korean Society for Laboratory Medicine verified that up to 10 samples may be mixed for testing, the KCDC announced on April 9 that it will use the testing method for collective testing of regional societies, proving its usefulness.

Utilizing the Latest ICT in Response to COVID-19

The military has actively utilized the most advance technologies and ICT of the private sector to respond to COVID-19.

1) A doctor in charge of improvements on information of medical treatment at the Armed Forces Medical Command utilized his personal expertise to develop 'COVID Severity Categorizer' app. This app helps medical staff on site to easily categorize patients based on guidelines provided by the Central Disaster and Safety Countermeasures Headquarters. He also developed an app for regular individuals, 'Corona 19 Check-up App,' a self-diagnostic app that informs an individual whether he or she should take a diagnostic test at screening centers or public health centers based on the symptoms. These two apps were selected as two of the 'Ten Global Corona-Related Technology' by the US ICT works(foreign Investigation community).

2) The effort of the Medical Command extended to the development and operation of the 'Health Defender' application, an app that helped build system for individual health management through regular sharing of staff's health conditions with administrators, which enables the administrators to manage the conditions of their people without additional care.

3) The military was already undergoing a project on remote medical service by introducing fixed-type and movable-type remote examination equipment. The movable-type remote examination equipment is a system built on LTE wireless communication network that enabled remote medical service even in patient transit on ambulance. As the need for remote medical service, which is an untact service, increased also in the private sector due to the outbreak of the coronavirus, the military expanded the range of its use to include individuals for screening care and individuals in preventive quarantine for suspension of further infection.

4) Especially, the military has moved a clinic-level treatment facility to Cheonan and Jincheon temporary living facilities, where Korean residents from Wuhan spent their time in quarantine, just in one day. This increased preparedness against general examination and treatment needs in emergent situations. Moreover, along with movable clinics, the military installed remote medical service equipment for remote care. By doing so, a pregnant woman was able to receive remote treatment consultations with obstetrician from the Armed Forces Capital Hospital.

Results of Intercepting Infection Within the Military

Thanks to robust preemptive measures, the military was able to make substantial achievements in stemming infection within its ranks. New cases were identified at a rate of 26 people over a period of 7 days in mid-February, March saw the curve beginning to stabilize and after March 23 there were no more confirmed cases.

Figure 8-10. Status of Confirmed COVID19 Cases Within the Military
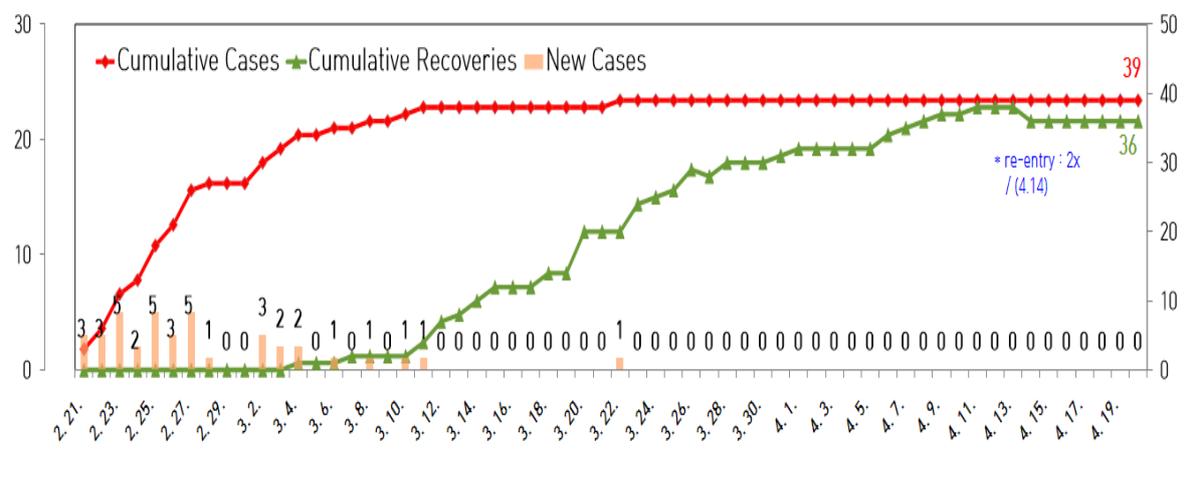
8.3 Maintaining Military Readiness

Under any circumstances, the military must complete its fundamental mission to safeguard national security, as well as the lives of the people. As such, a variety of measures were implemented to maintain a steadfast readiness posture even as COVID-19 continued to spread. Rigorous preventative mechanisms were put into place for critical elements of operations, and operational activities were modified to best fit the circumstances of each unit. Furthermore, units in overseas deployment were afforded stable employment via waterproof preventative measures and smooth rotation.

Implementation of Prevention Measures for Operational Elements

Intensive prevention and interdiction measures were put into place for critical military facilities including C2 offices and emergency standby offices. In addition, backup facilities were arranged so that C2 and emergency standby operations would continue smoothly even following contamination of their original facilities.

Also, standby assets and surveillance and response assets were preemptively separated by time and location so that partial contamination would not compromise the entirety of the force on standby.

Figure 8-11. Defense Minister at Senior Leader Conference on COVID-19 Response (March 9)

Modified Execution of Operational Activity

Operational activities were selectively executed under the discretion of general officer-level commanders.

1) Counter-infiltration and localized provocation response training were held on-base and under strict observance of preventative guidelines. The timeframe, scale, and methodology were tailored to the circumstance of each unit.

2) Monitoring and circulation at all levels were carried out mostly by commanding officers to minimize personnel movement. Also, response measures to the warming season and subsequent growth in shrubbery were taken incrementally while avoiding civilian contact and implementing strict preventative measures.

3) Other off-base operations also planned to minimize contact with civilian presences, and essential tasks like reinforcement construction for the onset of spring and natural disasters common during summertime were pursued selectively.

Figure 8-12. Army, Reviewing Security Operations of DMZ (April 6, 2020)

Support for Units Deployed Overseas

Robust prevention measures including emergency response training and base decontamination, as well as the continuous issuance of COVID-19 prevention guidelines, were implemented for the approximately 1,000 personnel deployed overseas for the purposes of UN peacekeeping activities (South Sudan Hanbit Unit, Lebanon Dongmyeong Unit), participation in multilateral forces (Somalia Cheonghae Unit), and defense exchange and cooperation (UAE Akh Unit). Each unit continued basic operations like surveillance, reconnaissance, and restoration support, while limiting other activities like civilian-military operations in order to distance the units from the surrounding environment. Medical resources including masks, COVID-19 testing kits, and protection suits were also supplied in a timely manner. Moreover, service conditions were improved for mitigating stress levels stemming from prolonged isolation and strict control. Sports and entertainment equipment were provided and ships received increased video call capacity. In addition, close coordination with the UN, host nations, and transit nations allowed the swift return of the Hanbit Unit, allowing service members' right to participate in the 21st general election in Korea and the scheduled discharge of some of the members. All this was achieved in a time when host nations were limiting movement as a result of the global spread of COVID-19. Also, in order to ensure safety during personnel rotation, future rotations will be placed in isolation for over two weeks before deployment and all members will receive PCR tests.

Figure 8-13. Base Decontamination (March 20, 2020)

Figure 8-14. Wearing Masks on Duty (March 27, 2020)

8.4 Other Action Measures

Military Medical Consultation for Korean Citizens Abroad

Many of the Korean citizens abroad were not able to move from their residences due to movement control that followed the global spread of COVID-19. In countries with deficient medical resources, they could not receive medical treatments and had to stay home even after they were confirmed to be infected. To protect Korean citizens abroad, the Ministry of Foreign Affairs requested 'tele medical consultation' from the MND to utilize military doctors. Upon request, the military doctors at the Armed Forces Medical Command doctors exclusively designated for remote medical care utilized video calls to provide 'tele medical consultation.' Through video calls, the military doctors checked health conditions of confirmed patients, provided detailed information about the disease, gave public health education for prevention of infection, and held general disease consultations to play a family doctor role for Korean citizens abroad. The military doctors started giving this 'tele medical consultation' to residents in Shandong, China, then to Germany, United States, UAE, Russia, and more. They have additional plans to hold medical consultations in the future as well.

Nationwide Support Campaign

The 'SNS Relay support' that began at the graduation, commission ceremony of the ROK Air Force Academy developed further into the 'nationwide support campaign.' This support campaign, in conjunction with the slogan '#Cheer up Korea' originated at the ROK Air Force Academy and was carried over to the Korea Military Academy, Korea Army Academy at Yeong-Cheon, Korea Armed Forces Nursing Academy, then ultimately to global star BTS. This later grew into a nationwide campaign participated by many celebrities including soccer player Son Heung-min, film director Bong Joon-ho, and DJ Bae Cheol-soo.

9. Testing time for resilience

9. Testing time for resilience

9.1 Sports

The Korean government prepared various measures to support the sports sector against the COVID-19 pandemic. Many sports organizations put their seasons on hold or ended the season early. Basketball and volleyball season were being cancelled, while soccer and golf leagues postponed the opening of a new season.

Baseball, the most popular league in Korea, responded more carefully, monitoring the pandemic. The Korea Baseball Organization was to begin its regular season on March 28 under normal circumstances, but had to put its season on hold due to the spread of the coronavirus. As the daily increase of new cases fell to around 10 mid-April, the KBO started preparing the new season opening on May 5.

The KBO first prepared a comprehensive manual to prevent transmission of COVID-19 and shared with the athletes and league authorities. This manual included guidelines on 1) measuring temperature and using hand sanitizers when entering public areas such as the stadium, living quarters, locker rooms, etc., 2) minimizing contact while dining together by seating in a line facing one way, in a zig-zag line, or in smaller groups, 3) requiring mask wearing except during games or in training, and 4) minimizing contact among the athletes as well as other workers by separating the entry and exit routes. In addition, a system was prepared to test and put under quarantine if someone develops symptoms.

Prior to the season opening, KBO began practice games for a week from April 21 to 27. Each of the 10 teams played 4 games against one another. The total of 20 practice games were held without spectators, but were broadcasted on line.

Figure 9-1. Practice game on April 27 without spectators and a camera man broadcasting it online

Figure 9-2. Full disinfection of the stadium before a game

The KBO plans to hold the season opening on May 5 without spectators, and closely monitor the daily increase of new cases to allow gradual admission of spectators. Understanding that continuing games with no spectators may shake the foundation of the baseball industry, the KBO decided to allow admission to about 20 to 25% of the total capacity of the stadium once the COVID-19 spread subsides, and to increase the number of admission step-by-step. The KBO also established clear principles to strictly regulate the viral transmission by 1) thoroughly disinfecting the stadium, 2) requiring spectators to wear a mask at all times, and 3) keeping a safe distance in queue.

The KBO cancelled the All-Star festivities originally scheduled for July, and reduced the scale of postseason semifinals from best-of-five to best-of-three series. The KBO has decided to maintain the number of games at 144 for each team, while reviewing an alternative plan to reduce the number if someone is to test positive during the season. As shown above, the Korean government and the sports industry are preparing step-by-step plans in close monitoring of the COVID-19 situation.

9.2 Support for small and medium enterprises

The Korean government also prepared measures to support small and medium enterprises (SMEs) against the damage they faced in export. The global spread of COVID-19 led to cancellation of key exhibits*, and prevented Korean nationals from travelling, which resulted in various challenges for exporters.

In response, the government is working with export-related government agencies (Korea SMEs and Startups, KBIZ Korea Federation of SMEs and Korea International Trade Association) on hosting virtual consultations to support companies affected by the cancellation of exhibits and other promising SMEs in their expansion abroad.

The government is planning to hold the virtual consultations online for 400 SMEs meeting at least twice a month (total of 10 times) over the period of 4 months from April to July. The government plans to invite 30 to 40 buyers from abroad and 30 to 50 SMEs to each session and to effectively matching buyers to SMEs, and providing consultation and follow up measures.

More specifically, the support measures include 1) a virtual meeting system to support consultation for exporters and connecting them with buyers abroad, along with translation service provided by a trade-specialist, 2) distribution service to help SMEs ship samples abroad, and 3) an expert on exporting provides advisory services to assist the process after the meeting (e.g. contract signing, reselling through an online shopping mall, etc.)

Table 9-1. Outline of virtual consultations to support exporters

Period	April to July (10 times over the 4 months, at least twice a month)
Participants	Approx. 400 companies (20 to 50 buyers and 30 to 50 exporters per meeting)
Details of Consultation	Virtual consultation of exporting activities and the follow up measures regarding signing contracts, etc.

The first virtual consultation meeting for export was held on April 23 at the Korea SMEs and Startups Agency and Korea International Trade Association. The first session was open to the top 5 promising companies for consumer goods, disinfection companies and K-beauty companies that lead the new Korean wave. A total of 22 buyers from 9 countries, including Suning, the largest on and offline retailer in China, Jindong, the second largest e-commerce company in China, and Interbat, the 5th largest pharmaceutical company in Indonesia, participated. These buyers were particularly interested in testing kits, anti-contamination clothing, and other goods related to the COVID-19 situation, and had a lively meeting with 50 Korean SMEs.

Table 9-2. Key buyers that participated in the first virtual consultation meeting for export

No.	Buyer	Business Type	Country	Key Sourced Items
1		Online/Offline Retailer	China	Largest online and offline retailer in China *Products against the pandemic (Goods to prevent transmission)
2		E-commerce	China	Largest E-commerce company in China *Products against the pandemic (Goods to prevent transmission)

3	Interbat Industri Farmasi	Import/Distribution	Indonesia	Fifth largest pharmaceutical company in Indonesia
				*Health and beauty products
4	Hanjoy	Distribution of general goods	Vietnam	Subsidiary of Tay Ninh Corp, a trading company
				*Korean foods and beauty products

The Korean government hopes that these consultation meetings will offer a solution against difficulties the SMEs face in expanding and promoting their products abroad, and help regain vitality in export.

Figure 9-3. Virtual meeting with buyers

9.3 Promotion of local produce : drive-thru shop

There has been a campaign throughout the country to purchase local produce through drive-thru stations. Supported by local governments, this supports local vendors of agricultural products who faced a huge drop in their sales because of the COVID-19 situation. It provides a win-win situation for both the vendors and local residents, as the vendors sell their products in this difficult time and consumers purchase local produce at a discounted price, all without the concern over COVID-19 transmission.

Korea Forest Service operated a drive-thru for wild edible greens at a public parking lot from April 27 to 29 in Daejeon city. Because most of these produce that are in season from April to May are sold through local festivals, the COVID-19 pandemic and the cancellation of the festivals left the local businesses in a crisis. Against such situation, the Korea Forest Service decided to support local businesses through drive-thru stations that allow them to sell their produce while maintaining a safe social distance.

Seosan city in Chungnam province operated a drive-thru for local agricultural produce from March 25 to 27 to promote consumption of the eco-friendly produce, which could no longer be used in school lunches since schools were closed because of COVID-19, and strawberries that could no longer be exported. It was a local resident's idea to hold such an event, and others helped promoting the event through social media. Local government agencies such as the Seosan city government, the local Office of Education and the Junior Chamber purchased large amounts of produce to help local farmers.

Goyang city in Gyeonggi province operated a drive-thru for eco-friendly agricultural products in March. The eco-friendly vegetables and mushrooms sold at the drive-thru were all sold out within an hour. Gimpo city put together a BBQ set with Korean Beef and vegetables at its drive-thru event.

Pohang city in Gyeongbuk province, located by the ocean, worked with the local fish farm association to prepare and sell raw fish dishes at an open square near the beach. Cars lined up even before the sales began, and everything was sold out very quickly. The sharp drop in fish price before this event recovered a certain amount, thereby providing economic relief to the local fishermen.

Figure 9-4. Drive-thru sales of Fisheries (Pohang city)

Figure 9-5. Drive-thru sales of agricultural products (Korea Forest Service)

Transportation

Social distancing in the transportation sector includes recommending the users to purchase tickets without face-to-face interactions, and installing additional ticketing machines to meet rising demand. In addition, when someone makes a reservation, the person is seated to the window seat to maximize the distance to other riders.

Near end March, **Gyeonggi province** installed ticketing machines for its residents returning to Korea and taking the bus to Gyeonggi province (6 totals with 3 machines at each terminal of Incheon Airport) to prevent spread of the virus. Users are given a bus ticket home after submitting the area of residence, time and seats, in addition to the resident registration number or the passport number to verify identity. If the user needs further transportation services to return home from a base point terminal, the system also provides the option to make reservations for additional transportation methods. It is expected to minimize human-to-human contact and therefore reduce possibility of transmission.

Figure 9-6. Ticketing machine for buses to Gyeonggi province at Incheon Airport

Korea Rail (KORAIL) minimized the possibility of seating two persons next to each other by seating everyone on window seats to meet the social distancing guidelines. Such actions will reduce the possibility of transmission by keeping a safe distance between users.

Figure 9-7. A couple seated 2 seats apart because window seats were given to users.

Religious Activities

The Korean government has also implemented social distancing policies against religious activities. The government restricted religious group from meeting in person to eliminate possible mass infection, and instead recommended services be held online or as drive-in. Online services are where the religious service is held online through channels such as YouTube. The members of the congregation join the channel to listen to religious messages. Drive-in services are held when the members of the congregation stay parked in a parking lot and tune into the radio stations in their cars. To support virtual religious services, the government offered technical training via phone on how to record and send video clips and data services (in cooperation with the telecommunication network) to religious groups with less than 200 members. Also, to support drive-in services, the government temporarily allowed small power radio stations. Thanks to these efforts, many churches and other religious bodies held online and drive-in services on April 12, the Easter Sunday.

Figure 9-8. Online services and drive-in services at a church in Seoul

9.4 Dining

The government is also promoting policies to transmission and to keep a safe distance when dining at restaurants. Some of the local governments held campaigns for restaurants to keep a safe space between tables.

Pocheon city in Gyeonggi province began this campaign to keep a safe distance between tables in 200 restaurants near the residence of a confirmed patient. The local government handed out paper placemats to be placed appropriately to guide customers to sit while keeping a safe distance from others. This allowed customers to sit on one side of the table and to keep at least a 2-meter distance with other customers.

Figure 9-9. Paper tablemat placed in restaurant tables in Pocheon

The Korean government implemented diverse set of social distancing policies to prevent further spread of COVID-19.

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ANNEX

1. FOLLOW-UP MEASURES OF SOCIAL DISTANCING

1. Social distancing in daily life : Businesses

EMPLOYEES

■ Stay home if sick

○ Check whether employees have a body temperature above 37.5 degrees Celsius or are suffering from respiratory symptoms such as a cough or sore throat.

○ If employees have a fever or respiratory symptoms, or returned from overseas travel or an overseas business trip in the past 14 days, they are required to work from home, take sick leave or a leave of absence, and be absent from work.

○ If people become unwell in the workplace with coronavirus symptoms, they should tell their employer, put on a mask, and go home.

○ They can take advantage of flexible working hours, including remote work or flex-time work, and holiday entitlements such as family care leave, annual leave or sick leave.

■ Keep a healthy distance from co-workers

○ It is best to hold workshops, education, or employee training via online or video conferences, and employees should follow personal hygiene guidelines during face-to-face meetings.

○ Employees should keep a two meter distance from their co-workers.

○ They should refrain from carrying out activities at work such as team-building vocalizing activities.

○ When using the company restaurant, they should sit in rows or in a zigzag pattern, avoid conversations where possible, and cover their mouths when talking.

■ Ventilation and disinfecting surfaces are essential.

○ Surfaces such as tables, keyboards, mice, and telephones need to be regularly disinfected.

○ Office and work centers should be ventilated.

- Wash your hands as often as you can and observe coughing etiquette

  - Employees must wash their hands (with sanitizer), comply with respiratory coughing etiquette, and avoid touching their face with unwashed hands.

  - They should avoid bodily contact, including shaking hands.

  - They should use personal mugs, teaspoons, and other individual items.

- Maintain close relationships despite physical distancing

  - It is recommended that employees avoid small group gatherings, club activities, or corporate dinners and return home soon after work.

- Rest lounges should not be used by several people at once.

EMPLOYERS

- Rest at home if sick

  - Businesses must require employees to check their body temperature using noncontact-type thermometers or Thermal Imaging Cameras (TIC).

  - If someone in the workplace has a fever or respiratory symptoms, or returned from an overseas travel or overseas business trip in the past 14 days, they should be allowed to work from home, take sick leave or a leave of absence, and be absent from work.

  - When necessary, these guidelines should be incorporated into employment rules.

  - If someone has coronavirus symptoms at work, employers should send them home immediately.

  - Employers should create a working environment where employees can freely use flexible working hours or vacations without any penalties.

- Keep a sufficient distance between workers

  - Restrict domestic or overseas business travel.

  - An online platform or video conference can be used for holding workshops, education or employment training. Employees should follow personal hygiene guidelines during in-person meetings.

  - Employees should maintain a distance of two meters, or at least one meter, from each other by adjusting the location or direction of monitors, tables, workstations, or using idle spaces.

  - Employees should be discouraged from performing activities at work that may involve the expulsion of droplets of spit, including team-building vocalizing activities.

  - Companies should set up transparent dividers between seats in the company restaurant and request workers to sit in rows or in a zigzag pattern if possible.

- Companies should ventilate and disinfect their offices.

  - Personal cleaning or disinfectant equipment must be distributed or made available.

  - Companies must ventilate or disinfect work places twice every day, in consideration of the size of the office or workplace.

- Employers must also wash their hands and practice coughing etiquette.

  - Companies are required to post bulletins or instructions or provide education on hand washing, the use of hand sanitizer, and respiratory hygiene and cough etiquette.

  - Given the current circumstances, companies can choose to either distribute/provide masks and hygienic items or provide financial support for employees to purchase them.

- **Maintain close relationships despite physical distancing**

  - Companies must create a work environment that minimizes small group gatherings, club activities or corporate dinners and encourages employees to return home soon after leaving work.

  - Rest lounges should not be used by many employees at the same time.

  - Companies may set up a temporary conference room to receive outsiders who visit their work centers.

- **Employers should designate a department or person in charge of quarantines.**

  - Employers need to establish communication channels for quarantine cooperation. For example, they could appoint a person in charge of quarantines or contact officials in charge at public health centers.

  - If more than five employees become sick with coronavirus symptoms at work, companies should instruct them to be tested for COVID-19. If there are additional confirmed patients, they must report the possibility of group contagion.

  - The employee who is responsible for managing quarantines at work should create quarantine guidelines by taking into account the company's level of confinement, density, and work procedures.

2. Social distancing in daily life : Meetings

■ General principles

    ○ Video conferences or conference calls should be used if possible.

    ○ Companies should improve the working environment to make it possible to hold video conferences or conference calls.

    ○ For in-person meetings, companies should choose a spacious location that is easy to ventilate and can guarantee physical distance.

    ○ A small number of participants and efficient progress will shorten the time required for a meeting.

■ Please stick to the following guidelines for in-person meetings or conferences.

    ○ Attendees who have traveled overseas in the past 14 days or have a fever or respiratory symptoms such as a sore throat, coughing, breathing difficulties, lethargy, a headache, or muscle pain, should be asked not to participate in meetings.

    ○ The organizer or moderator should check the participants for a fever or respiratory symptoms prior to a meeting.

    ○ Bodily contact such as shaking hands prior to or after a meeting is not permitted.

    ○ An easy-to-access hand sanitizing station should be provided so that participants can use the hand sanitizer as often as possible.

    ○ Participants should use a wide meeting room that is well ventilated, and the room should be ventilated before the meeting.

    ○ Attendees should keep a distance of two meters from each other. Even if the space is narrow, leaving at least a one-meter space between people is a must.

    ○ Unless the one or two meter distancing or hourly ventilation is possible, in-person meetings should be avoided. When there is no choice but to hold a face-to-face meeting, all participants should be required to wear a mask and keep it on while talking.

    ○ As long as participants are one or two meters away from each other and ventilation is practiced, it is up to each individual person to choose whether to wear a mask.

3. Social distancing in daily life : Civil petition windows

■ Civil servants or employees

  ○ Workers in charge of civil services or petitions are required to wear a mask.

  ○ Civil petitioners or workers meeting face to face with petitioners should stay two meters, or at least one meter, away from each other.

  ○ Government agencies must ventilate their offices more than twice every day.

  ○ Workers should minimize their risk of infection by strictly following the behavior guidelines and personal hygiene practices.

  ○ For instance, this includes wearing a mask, washing hands frequently and avoiding contact with anyone with a fever or respiratory symptoms.

  ○ If a worker in charge of civil petitions is suspected of having caught the coronavirus, has a fever or cough or has been overseas in the past 14 days, the government agency may request the given employee not to show at the office. In this case, the worker will work remotely or be allowed to take a leave of absence.

  ○ The given civil servant will go to work upon recovering after observing the symptoms for three or four days.

  ○ Body temperature should be checked more than twice at work. If a person appears to develop coronavirus symptoms, he/she will consult with health authorities and seek medical treatment.

  ○ The office needs to establish a reporting system to identify employees with suspected symptoms or maintain a file of work details in preparation for the occurrence of a confirmed case.

  ○ Employees should be allowed to freely use flexible working hours and annual leave. Government agencies will offer alternative work arrangements for quarantined employees.

■ Civil service or petition windows

① Appoint a department head who is responsible for civil petitions as the head of quarantine management. He/she will have full responsibility for managing quarantine and preventive measures.

√ If more than five employees are suspected of having coronavirus symptoms, they will be tested for COVID-19. It is important to make sure that the possibility of group contagion is reported to a nearby public healthcare center if more suspected cases occur.

√ If Government agencies should have hygienic items such as hand sanitizer on hand at civil service reception decks, automatic machines, shared spaces, or restrooms. The best precautionary practices agencies can take are to disinfect entrance doors on a regular basis and put an anti-virus film on the door.

√ If Government agencies should have hygienic items such as hand sanitizer on hand at civil service reception decks, automatic machines, shared spaces, or restrooms. The best precautionary practices agencies can take are to disinfect entrance doors on a regular basis and put an anti-virus film on the door.

√ Civil service offices and shared spaces should be disinfected more than twice per week. It is important to keep the floors safe and clean with disinfectants.

* For more information on how to use disinfectants or disinfect surfaces, please refer to the 'guidelines on disinfecting group facilities or multi-use facilities in response to COVID-19.'

√ Government bodies may implement measures in line with their specific circumstances, but such measures should involve fixing a transparent partition to civil service windows, restricting entrance from visitors not wearing a mask (if necessary, providing disposable masks), and locking down entrances except for the central door.

√ Thermo body temperature cameras are used to check body temperature. There should be a waiting room for anyone with a fever. It may be necessary to keep a ledger of such individuals.

② Working closely with related government agencies

√ Public institutions, such as public healthcare centers, police stations, fire stations, and medical institutions, should maintain emergency contact systems and respond immediately to contingencies.

√ If a person at a civil service office becomes sick, report it to a public healthcare center in the district and ask the person to wait in an isolated space.

√ If workers at civil service centers test positive, report it immediately to a public healthcare center in the district. In order to limit the further spread of coronavirus, implement every possible quarantine measure, including the temporary closure of facilities, entrance prohibitions, self-isolation, and disinfectants.

* For more information refer to measures for facility quarantines on Page No. 125.36 of the 'guidelines in response to COVID-19' published by the Central Disaster and Safety Countermeasures Headquarters (CDSCHQ).

③ It is important to reduce in-person contact by promoting the use of automatic services for issuing civil documents, including Government 24 Hours, unmanned machines or electronic certificate issuers.

■ Training or posters outlining hygienic guidelines for employees should be posted at civil service windows for visitors

○ All workers at civil service windows should be trained in COVID-19 preventive guidelines, hand washing and complying with coughing etiquette.

○ Leaflets or posters should be posted in key locations throughout facilities to educate people about hygienic principles such as hand washing and cough etiquette in order to prevent the spread of the virus.

* For such bulletins, make use of the materials updated on the Korean Centers for Disease Control and Prevention (KCDC).

※ For any other aspects of quarantines or disinfecting services, refer to the third comprehensive version of the 'response guidelines for using group or multiple-use facilities in response to COVID-19' published by CDSCHQ on March 25 or the '3-1 comprehensive version of response guidelines for disinfecting group or multiple-use facilities for tackling COVID-19' published by CDSCHQ on April 2.

4. Social distancing in daily life : Public transportation

■ Passengers

○ People suffering from a fever or respiratory symptoms or who have travelled internationally in the past 14 days should stay inside and avoid non-essential use of public transport, and wear a mask when travelling via public transportation to go to a hospital where necessary.

○ Those at high-risk for severe illness from COVID-19 are: Pregnant women, people 65 years and older and people with chronic illnesses. They should avoid using public transit except for when absolutely necessary.

○ When these people take public transportation, they must follow the quarantine guidelines. Otherwise, they are not allowed to use public transit.

○ When using public transit, wear a mask if possible and follow coughing etiquette.

○ For public transport with reserved tickets, purchase a ticket for a seat with an empty seat on the left or right side.

○ Maintaining a two-meter, or at least one-meter, distance from others is a rule.

○ Masks are compulsory for passengers in public transit, where it is difficult to maintain distance from others.

○ Try to avoid expelling any droplets of spit by refraining from talking loudly or shouting, talking non-essential telephone calls or engaging in conversations in train compartments, vehicles or elevators.

○ Strictly follow personal hygiene practices such as washing hands properly or using hand sanitizer before and after using public transportation.

○ While on board public transport, passengers should comply with instructions from employees, such as putting on a mask.

○ When talking a taxi or using a delivery service, choose an app payment method or non-contact delivery.

○ Wait for the next train when carriages are full during rush hour. on the Korean Centers for Disease Control and Prevention (KCDC).

- **All staff and persons in charge**
  - A representative in charge of quarantines should be appointed. This person should establish cooperation channels for quarantines by, for example, obtaining an emergency contact number for the person in charge at a local public healthcare center.
  - If an employee experiences a fever or respiratory symptoms or has travelled overseas in the past 14 days, the person is not allowed to show at the office. An employee with coronavirus symptoms should be asked to leave work immediately.
  - Staff should be given greater scheduling freedom under flexible work arrangements (including flexible working hours or legally mandated vacation days) if possible or replacement workers should be utilized.
  - When travelling via public transportation, passengers are asked to stay two meters, or at least one meter, from each other. Passengers in overcrowded buses or trains are instructed to keep a safe distance as much as possible.
  - If a train cabin or bus is crowded and it is difficult to maintain a one-meter distance, passengers are advised to take the next train or bus.
  - Masks or disposable gloves are compulsory for public transit operators who come into contact with passengers. Employees at call centers or offices should keep a physical distance from their co-workers or sit in cubicles separated by partitions.
  - For seat allocation, leave a seat in between seats for passengers travelling via railway, airliners, or express/intercity buses by allowing priority access to window seats.
  - To reduce overcrowding on public transport, identify rush hours and adjust the train or bus allocation schedule accordingly.
  - For transport facilities or public transit, shorten the quarantine cycle if possible.
  - Enforced quarantines should be implemented during rush hour and it is important to disinfect surfaces such as entrance doors and chairs.
  - For public transit where ventilation is feasible, ventilate regularly for more than 15 minutes before or after operation.
  - Hand sanitizer gel should be available in public transport facilities, and such facilities should be disinfected or ventilated frequently.
  - When reserving a ticket or calling a taxi, passengers are encouraged to switch to automatic payments that do not involve in-person contact.
  - Freight transport, including delivery, should be shifted to non-contact delivery methods if possible.
  - Passenger guidelines for preventing coronavirus transmissions can be conveyed via electronic displays or announcements.

5. Social distancing in daily life : Restaurants, cafes, and study cafes

■ Users

- ○ Users must abide by posted quarantine guidelines and instructions from facility managers, or else may be excluded from such facilities.

- ○ Visitors should limit their time spent in restaurants or cafes.

- ○ Keep a safe distance of two meters, or at least one meter, while queuing.

- ○ Take precautions to maintain a gap of two meters, or at least one meter, between seats, and stay away from others who are not part of the group.

- ○ Visitors are recommended to sit in a row or zigzag pattern instead of across from each other.

- ○ It is safer to order takeout food or use food delivery services.

- ○ Before or after eating or after using the bathroom, please be sure to wash your hands, follow coughing etiquette, and avoiding touching your face with your hands.

- ○ Do your best not to talk while eating, or cover your mouth while doing so.

- ○ Use your own personal plate to eat served food.

■ All staff and persons in charge

- ○ An appointed staff member charged with quarantines should establish channels for quarantine cooperation, such as emergency contact numbers.

- ○ Managers should post quarantine recommendations in their facilities an instruct visitors to follow such guidelines.

- ○ Any employee who is sick with COVID-19 symptoms such as a fever or respiratory problems or has travelled overseas in the past 14 days is required to stay out of the workplace.

- ○ Employees may use annual leave if needed at their employer's consent, while employers are required to find sufficient replacement staff.

- ○ If more than five workers show symptoms over a four or five day period, these suspected patients should be tested for COVID-19. Places with a number of suspected

cases should report the possibility of a group contagion to a public healthcare center in their district.

○ Staff who serve guests are required to wear a mask.

○ There should be a gap of two meters, or at least one meter, between visitors and the counter staff member. Non-contact equipment or a transparent partition will help them avoid sitting face to face.

○ Establishments are advised to increase the distance between tables by up to two meters, or at least one meter, set partitions between tables, or prohibit the use of same fixed-type tables.

○ Establishments should help visitor sit apart by erecting partitions on tables or placing chairs facing the same direction or in a zigzag pattern.

○ Large-scale events are recommended not to be held.

○ Restaurants should play it safe by promoting takeout or conducting as much 'non-contact' food delivery as they can.

○ When customers come to wait in line, restaurants can use number tickets or suggest keeping a distance of one meter from others waiting in the line.

○ Provide public sinks where visitors can wash their hands with water and soap, and help them find the location.

○ As the threat from the coronavirus grows, provide hand sanitizer gel throughout facilities so that staff and guests can use it regularly.

○ Staff should be provided with training regarding effective personal hygiene and the need for social distancing.

○ Restaurants should provide personal plates, ladles, or tongs for serving so that customers can each serve their own food.

○ When natural ventilation in these settings is possible, keep windows open at all times. When it is impossible to keep the windows open, ventilate the room by opening the door and windows regularly (more than twice every day).

○ Cafes or restaurants should disinfect surfaces, facilities, and equipment that is often touched by people, including tables, chairs, and the doorknobs of entrance doors.

○ All surfaces in the facilities must be thoroughly sterilized more than once per week.

6. Social distancing in daily life : Large Distribution Facilities

* Department Stores, Large Supermarkets, Multi-shopping Complex, Super Supermarket, Outlets

VISITORS

○ Those with fever or other respiratory symptoms, and those with travel history outside the country in the past 14 days should not visit the facilities.

○ The high-risk individuals (who are pregnant, over 65 years of age, or chronically ill) should refrain from visiting.

○ Visitors must fully participate in the quarantine measures (getting the temperature checked, wearing a mask and using hand sanitizer) before entering these facilities.

○ Visitors should keep a 2-meter distance with others, or at least 1-meter distance while wearing a mask, when browsing or waiting in line at check-out.

○ The number of shoppers per household should be kept at a minimum (1 person from each household if possible).

○ Use hand sanitizers or gloves before handling shopping carts or baskets.

○ Refrain from testing cosmetic products directly on the face or lips. Instead, test on the back of one's hand, and sanitize or wash hands afterwards.

○ If possible, use electronic forms of payment through the mobile, QR codes, NFC or credit cards).

○ Follow practices to prevent viral transmission by washing hands frequently and observing cough etiquette

※ Also follow the above guidelines when visiting restaurants or cafes within these facilities.

Workers and Managers

○ Those with fever or other respiratory symptoms, and those with travel history outside the country in the past 14 days should not come into work, or go home as soon as symptoms appear (temperature and other health conditions should be checked twice a day).

○ Allow flexible working hours and time off.

o Designate someone for infection control and build an emergency contact network with health clinics and hospitals in the region.

o If more than 5 of the workers show symptoms within 4 to 5 days, they should be instructed to be tested. If more workers start showing symptoms, report the possibility of mass infection.

o Check for fever or other respiratory symptoms at the gate

  - Restrict visitors with fever or respiratory symptoms at entry

  - Advise visitors to keep a 2-meter distance with others

o Refrain from events that can attract a crowd of visitors (e.g. limited offers, signing events)

  - If such an event is necessary, find ways to disperse the crowd.

o Refrain from actions that can lead to droplet transmissions such as loud soliciting, and instead, use intercom announcements and information leaflets.

o Workers must wear a mask at all times and keep a 1-meter distance when in contact with visitors.

o Suspend or minimize sampling of food, beverages and cosmetic products.

  - Take necessary measures to properly discard sampling waste (e.g. toothpick, cups, napkins, etc.) without viral transmission.

o Use floor decals and other signs to advise visitors to keep at least a 2-meter distance with others at entry and at check-out

o Instruct workers to also keep at least a 2-meter distance from shoppers and install clear partitions if necessary.

o Leave hand sanitizers at gate, bathrooms, elevators, escalators and lobby, and near shopping carts/baskets for customers to use.

o Frequently sanitize surface regularly touched by customers (buttons, handles, etc.) including the shopping carts/baskets.

o Recommend the use of electronic or non-contact payment methods.

o Minimize the use of play areas and other community spaces within the facility. Make sure that distance is kept between visitors if such space is used.

7. Social distancing in daily life : Outdoor Activities

○ Those with fever or other respiratory symptoms, and those with travel history outside the country in the past 14 days should not visit an amusement park.

○ The high-risk individuals (who are pregnant, over 65 years of age, or chronically ill) should refrain from visiting such places.

○ Visitors should keep a 2-meter distance with others, or at least 1-meter distance while wearing a mask, when outside, or when in line.

○ Follow practices to prevent viral transmission by washing hands frequently and observing cough etiquette.

○ Refrain from body contact (handshake or hugs) and other actions that can lead to droplet transmissions (singing or screaming).

○ Participate in the quarantine measures (checking for fever or respiratory symptoms) when entering.

○ Buy tickets online in advance.

○ Refrain from using public facilities with risk of transmission (e.g. drinking fountains).

○ Avoid crowded areas and unnecessary contact with others.

○ Keep to the right to avoid crossing path with the person coming opposite way.

※ Also follow the above guidelines when visiting restaurants or cafes within these facilities.

8. Social distancing in daily life : Public toilets

USERS

○ Keep the place clean for others.

○ Wear a mask when the bathroom is crowded and keep a 2-meter (at least 1-meter) distance when waiting in line.

○ Those with fever or respiratory symptoms, and those with a travel history outside the country in the past 14 days should refrain from using pubic bathrooms.

○ Follow personal hygiene practices to prevent viral transmission (i.e. washing hands and observing cough etiquette)

○ Wash hands with soap under running water for more than 30 seconds.

○ Close the toilet lid before flushing to prevent possible spread of droplets.

○ Flush waste materials in the toilet. Things that cannot be flushed should be discarded in the waste bin to keep the place clean.

FACILITY MANAGER

■ Disinfection and other measures to prevent viral transmission

○ Designate the facility manager as the person responsible for preventive measures.

■ If possible, consign disinfection works to a specialized company

○ Frequently disinfect both inside and outside of the facility to prevent viral transmission.

○ Do not use spray disinfectants as this may aerosolize infectious pathogens.

○ Instead, wipe using a cloth wet with disinfectant (Sodium Hypochlorite diluted to 500ppm to 1000ppm) to ensure coverage of all surfaces.

○ Disinfect all areas frequently touched (door knobs, light switches, toilet cover and lid, toilet flush buttons, sinks, faucets, hand dryer, diaper changing stations, and handles for accessible toilets) as well as the floors, windows and walls.

○ Disinfect from one end to the other end, making sure not to contaminate the area already disinfected.

○ Allow enough time to dry the disinfectant before reopening the facility.

○ Notify users that the facility is being cleaned with a sign or a line outside.

■ Sanitation and facility management

○ Furnish additional waste bins and empty them frequently.

○ Regular cleaning and management of the facility (urinals, toilet bowls, sinks, diaper changing station, and hand dryer)

○ Make sure soap, paper towels, and hand sanitizers are always stocked.

○ Ventilate frequently.

○ Frequently make sure the facilities are functioning.

◈ This guideline must be followed when cleaning and disinfecting a bathroom used by a confirmed patient. The said facility must reopen only when all infectious pathogens are cleared (the time may vary depending on the type of disinfectant used).

■ PR

○ Actively promote personal hygiene practices to users.

- Washing hands with soap under running water for over 30 seconds, keeping the bathroom clean, wearing a mask in public bathrooms, maintaining a 2-meter distance when waiting in line, closing the lid before flushing the toilet, and requesting suspected patients to refrain from using

- Use floor decals to mark the 2-meter distance while waiting in line.

- If the space allows, it is recommended that a partition is installed to separate entrance and exit routes.

○ Train janitors to follow appropriate sanitation guidelines (through documents instead of unnecessary group meetings).

9. Social distancing in daily life : Museums and art galleries

Visitors

- Those with fever or other respiratory symptoms, and those with travel history outside the country in the past 14 days should not enter.

- The high-risk individuals (who are pregnant, over 65 years of age, or chronically ill) should refrain from visiting.

- Visitors should keep a 2-meter distance with others, or at least 1-meter distance, while viewing or when in line.

- Follow practices to prevent viral transmission by washing hands frequently and observing cough etiquette

- Participate in the quarantine measures (checking for fever or respiratory symptoms) when entering.

- Refrain from body contact (handshake or hugs) and other actions that can lead to droplet transmissions.

- Keep distance in crowded areas such as the lounge, cafe or shops.

WORKERS AND MANAGERS

- Those with fever or other respiratory symptoms, and those with travel history outside the country in the past 14 days should not come into work, or go home as soon as symptoms appear.

- Designate someone for infection control and build an emergency contact network with health clinics and hospitals in the region.

- If more than 5 of the workers show symptoms within 4 to 5 days, they should be instructed to be tested. If more workers start showing symptoms, report the possibility of mass infection.

- Check for fever or other respiratory symptoms at the gate.

- Ban entry of those showing symptoms and those with travel history outside the country in the past 14 days, and advise the high-risk individuals (who are pregnant, over 65 years of age, or chronically ill) to refrain from visiting.

- Allow flexible working hours and time off.

- Prevent a crowd by limiting the number of visitors through a reservation system

- Install signs advising visitors to keep at least 2-meter distance with others.

- Offer online services using relevant equipment and staff training.

- All workers must wear a mask and instruct visitors to wear a mask.

- Avoid contact with visitors and prepare a guideline for workers to keep a 2-meter distance with others.

- Leave hand sanitizers, tissues and lid-less waste bins at gate and around the building to allow visitors to dispose of used tissues without touching the bin.

- Frequently sanitize surface regularly touched by visitors (buttons, handles, etc.).

- Refrain from special events but when necessary, participants must keep a 2-meter distance between seats.

- Advise workers to use personal electronics (e.g. laptops, tablet PCs).

- Open the windows and ventilate for 15 minutes every morning and night.

- Instruct workers to give some time before using common areas such as the staff lounge after one another.

- Set up a quarantine space for visitors or workers showing symptoms, and prepare a code of conduct for when there is a suspected patient.

- Inform workers on the necessity of social distancing and personal hygiene.

2. COVID-19 TIMELINE IN KOREA

Dec 31, 2019	Cluster of cases of pneumonia of unknown origin was reported to China National Health Commission
Jan 3, 2020	Korean government raised the alert level to Blue(level 1 out of 4-level national crisis management system)
Jan 12, 2020	Coronavirus was named 2019-nCoV, and Chinese scientists shared the genetic sequence of the virus internationally.
Jan 20, 2020	First confirmed case of Coronavirus, a 35-year-old female, Chinese national, residing in Wuhan, Hubei province. She was detected with fever upon arrival at Incheon International Airport, and was confirmed positive for coronavirus.
Jan 20, 2020	Korean government raised the national alert level to Yellow (level 2)
Jan 23, 2020	Chinese government locked down Wuhan, the center of the outbreak.
Jan 28, 2020	Korean government raised its infectious disease alert level to Orange (level 3).
Jan 30, 2020	WHO declared the coronavirus a global public health emergency
Jan 31, 2020	COVID-19 test kits based on the virus' genetic code released by China had been distributed to local government labs across Korea.
Feb 4, 2020	Korea began banning entry of all foreign nationals who had been to China's Hubei province in the past two weeks
Feb 7, 2020	COVID-19 test kits became available in private hospitals.
Feb 12, 2020	WHO declared an official name for the new coronavirus - COVID 19
Feb 20, 2020	Number of confirmed cases in Korea reached 100, and first death occurred.
Feb 21, 2020	Korean government declared 'Special Management Region' in Daegu and Cheongdo.
Feb 23, 2020	Korean government raised its infectious disease alert level to Red(level 4) and ordered schools to start the new semester one week later on Mar 9, from Mar 2.
Mar 1, 2020	Korean government divided confirmed patients into four groups and only the sickest and elderly were sent to hospitals. The young and asymptomatic went to dormitories.
Mar 2, 2020	Korean government delayed the start of the new semester to Mar 23.
Mar 4, 2020	Korean government proposed an 11.7 trillion won extra budget bill.
Mar 5, 2020	Korean government declared 'Special Management Region' in Gyeongsan.
Mar 9, 2020	Korean government applied special entry procedures for those from Japan.
Mar 10, 2020	A cluster of confirmed cases appeared in a Seoul call center.
Mar 11, 2020	WHO declared COVID-19 a pandemic
Mar 17, 2020	Korean government delayed the start of the new semester to Apr 6.
Mar 19, 2020	Korean government applied special entry procedures for all foreigners.
Mar 22, 2020	Korean government began implementing stricter rules on social distancing

3. LIST OF ECONOMIC MEASURES

1. Small- and medium-sized enterprises (SMEs) and Micro-business owners

Fiscal support	Tax relief
· Support programs provided to normalize the operations of affected stores that were visited by confirmed patients · Support for rental fees for micro-business owners (providing a 50% tax relief cut when building owners reduce rental fees for micro-business owner tenants, and rental fees cut for buildings owned by the government and public organizations) · Emergency relief fund for affected SMEs · Provision for maintaining employment and labor costs	· Extending the deadline of filing and paying internal and local tax returns, postponing tax investigations, and applying a grace period for collecting taxes and any arrears · Reducing the tariff for the emergency procurement of key parts via airlines
Financial support	**Administrative support and other support**
· Expanding lending support (via loans and guarantees) · Underwriting greater level of accounts receivable insurance and lowering insurance premiums · Enlarging the size of P-CBO issuance and relaxing its requirements	· Expediting customs procedures for raw and sub-materials, and helping to identify alternative procurement services · Streamlining importing screenings · Extending contract/delivery periods for goods procured by the government

2. Export Industries

Fiscal support	Tax relief
· Offering exporting vouchers · Helping to establish online exhibitions	· Prolonging the deadline for tariff collections, and allowing payments in installments · Expediting tax refunds · Putting off tariff investigations
Financial support	**Administrative support and other support**
· Reprieving bankruptcies filed by insolvent exporting companies · Reducing the spread on deferred payments of bills bought in foreign currency · Extending the expiration period of import L/C	· Operating trouble-shooting help centers

3. Local Economy

Fiscal support	**Tax relief**
・ Emergent budget execution in local areas for the first of this year ・ Issuing additional local gift certificates and offering a larger discount on them ・ Designating areas for special management such as Daegu and Gyeongbuk Province, and providing special support worth 1.7 trillion won	・ Suspending tax investigations in local areas ・ Helping to pay local taxes in installments and postponing due dates for tax payments
Financial support	**Administrative support and other support**
・ Applying the prime rate on initial lending ・ Backing local governments and municipalities that are propping up local SMEs (through loans and guarantees)	・ Reducing the bidding time period when purchasing masks ・ Running an on-site center and an inspection force for reporting unfair practices pertaining to sanitary aid and quarantine products

4. Airline and Shipping Industries

Fiscal support	**Support for fees and penalties**
・ Lowering the usage rate of port and airport facilities ・ Reducing rental fees for passenger terminals	・ Extending the deadline for penalty payments newly incurred by airliners ・ Longer period for reducing fees for Aircraft Certification Systems (ACS)
Financial support	**Administrative support/Miscellaneous**
・ Emergency lending targeting LCCs, passenger ships, and stevedoring companies ・ Introducing a public guarantee program on operational leases for airliners ・ Injecting liquidity when companies confirm a reduction in freight or cargo volume	・ Postponing the retrieval of unused operation rights/slots, and increasing per-time slots ・ Distributing operational rights for mid- and long-distances, and helping to open non-service routes ・ Extending the due date for vessel screenings

5. Tourism, Restaurant and Service Industries

Fiscal support	**Tax relief**
・ Pushing ahead with modernizing facilities including tourism special zones and cultural properties ・ Easing requirements for subsidies for employment stability ・ Providing disinfection services to companies that confirmed patients visited	・ Cutting asset taxes imposed on accommodative facilities ・ Extending the due date of patent rights payments from duty free shops and permitting installment payments
Financial support	**Administrative support/Miscellaneous**
・ Temporarily introducing preferential non-collateral financing ・ Greater coverage for general loans and applying the prime rate to more borrowers	・ Helping to address disputes related to cancellations and requesting refunds ・ Distributing posters explaining tailored responses to dining industries

6. Workers / Consumers

Fiscal support	**Tax relief**
・ Adopting five consumption coupons (for jobs, vacation, cultural events, tourism, and childbirth) ・ Providing support for living expenses for vulnerable groups ・ Expanding support for employees suffering from delayed wages ・ Granting living expenses for the self-quarantined	・ Temporary increases in tax relief for the special excise tax and income tax ・ Putting off the period of value-added tax refunds targeting hotels accommodating foreign tourists ・ Easing the burden of social security insurance premiums and electricity bills
Financial support	**Administrative support and other support**
・ Strengthening financing for living expenses for job seekers	・ Escalating support for costs related to civil litigations for pursuing unpaid wages ・ Further vocational training for job seekers

4. FREQUENTLY ASKED QUESTIONS (FAQ)

Q (TRACE) What is the criteria for classifying someone as a "contact" (a person who has been in contact with a confirmed case)?

☞ The criteria is determined based on an exposure assessment conducted by the Epidemiological Investigation Team. The scope of exposure starts on the day before the confirmed patient started showing symptoms, taking into account the symptoms of the confirmed patient, whether the confirmed patient was wearing a mask, and the risk level of exposure (location of contact, duration of contact, etc.).

Q (TRACE) What happens if you are classified as a contact?

☞ You should isolate yourself for 14 days from your last potential exposure. You will receive a self-quarantine notice from the Head of the Health Service, be informed of the self-quarantine guidelines, and be assigned a clerk who will check in with you twice a day to check for fever and other symptoms until you are released from self-quarantine to check for fevers and symptoms.

Q (TRACE) What are the self-quarantine guidelines?

☞ First, separate yourself from other people and frequently ventilate rooms by closing the doors and opening the windows. If possible, stay in a place where you can have a separate bathroom and wash basin to yourself.

☞ If you use a public bathroom or wash basin, make sure you disinfect the area with bleach or other household disinfectants before other people use them. Use your own personal items, including towels, dishware, and mobile phone. Wash your clothes and bedding separately. Eat alone and make sure to separate your dishware from everyone else's.

Q (TRACE) Is violating a self-quarantine order punishable by law?

☞ Failure to cooperate with quarantine orders may result in a criminal penalty (maximum fine of three million won). Upon the promulgation of the Infectious Disease Control and Prevention Act (passed by the National Assembly on February 26, 2020), violations may be penalized by a prison sentence of up to one year or a fine of up to 10 million won.

Q (TRACE) Are living expenses provided during the self-quarantine period?

☞ Yes, your expenses will be covered during the self-quarantine period and you will be on paid leave. For details, contact your Community Service Center.

Q (TEST) Who is eligible to get tested?

☞ In accordance with KCDC guidelines, patients classified as suspected cases and Patients Under Investigation (PUI) may get testing. There is no need to get tested out of simple anxiety. We ask

that you trust the expert advice of your physicians.

Q (TEST) Difference between a suspected case and a Patient Under Investigation?

☞ Suspect cases are people with high risks of having been infected after coming into contact with a confirmed case. Although the risk level is not as high as PUIs, people are classified as suspected cases based on their travel history and physician's opinion.

☞ PUIs must report their symptoms. Even though an epidemiological survey will not be conducted and a self-quarantine notice will not be issued, Patients Under Investigation must follow the same measures as confirmed patients.

Q (TEST) Where can I get tested?

☞ You can get tested at COVID-19 screening centers that are equipped to collect samples. The following link provides a list of COVID-19 screening centers (in Korean) where you can get tested. (Link) http://www.mohw.go.kr/react/popup_200128.html or call the 1339 hotline.

Q (TEST) How is the test performed?

☞ Samples are collected by physicians, nurses, and medical technicians at designated locations (COVID-19 screening centers). Nurses and medical technicians will collect samples under the guidance of physicians. Two types of samples are collected, during which you may experience some discomfort/pain.

Q (TEST) How long does it take to get the DNA test results back?

☞ You can expect to get your results back one to two days after testing.