Evidence-based Responses to Flatten the Epidemic Curve and Sustain Economic Vitality: KOSTAT Lessons from the Crucible of COVID-19

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Acknowledgements

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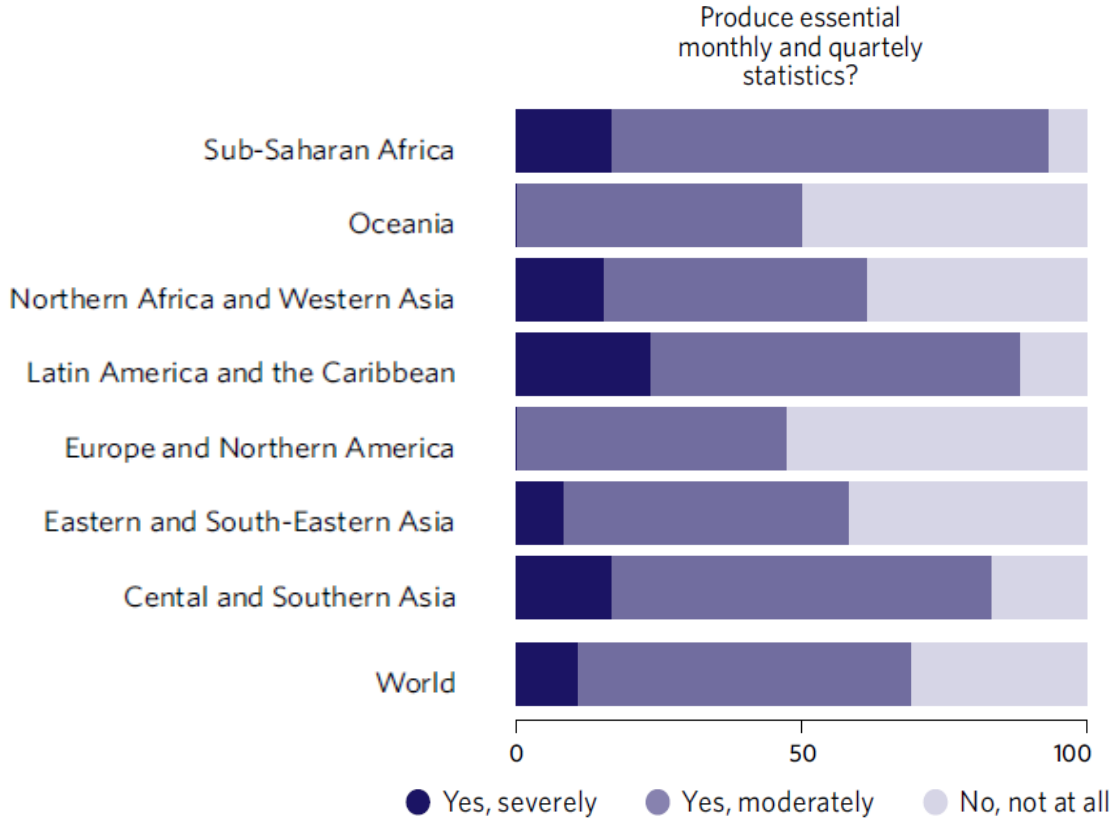


*UN & World Bank Survey
(122 countries responded)

2. Monitoring SDGs during COVID-19

UN SDGs Report 2020

- ✔ Challenges in collecting data and accomplishing the SDGs by 2030
- ✔ Investments in data innovation

The need for data innovations in the time of COVID-19

The importance of timely, quality, open and disaggregated data and statistics has never been as clear as during the COVID-19 crisis. Such data are critical in understanding, managing and mitigating the human, social and economic effects of the pandemic. They are also essential for designing short-term responses and accelerated actions to put countries back on track to achieve the SDGs.

Many of the data challenges encountered during the first five years of SDG implementation are severely limiting COVID-19 responses. These include the lack of basic health, social and economic data. To make matters worse, the crisis is disrupting routine operations throughout the global statistical and data system, with delays in planned censuses, surveys and other data programmes.

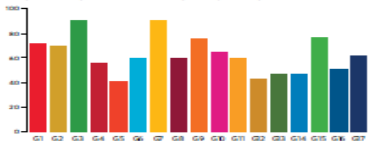
In response, members of the statistical community have quickly set up mechanisms to ensure operational continuity by adapting and innovating data production methods and processes. Assessments of statistical operations around the world show that investments and support for data innovations are urgently needed. These will help to both inform policy responses to the crisis and support SDG acceleration efforts over the coming decade.

Serious data gaps remain in assessing country-level progress towards the SDGs

Over the years, good progress has been made in increasing the availability of internationally comparable data for SDG monitoring. However, huge data gaps still exist in terms of geographic coverage, timeliness and the level of disaggregation required. Moreover, challenges remain in compiling and disseminating metadata to document the data quality of SDG indicators at local and national levels.

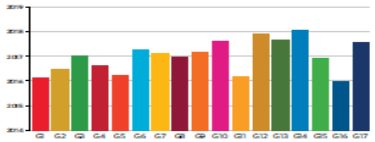
An analysis of the indicators in the Global SDG Indicators Database (https://unstats.un.org/sdgs/indicators/database) reveals that for 4 of the 17 goals, less than half of 194 countries or areas have internationally comparable data. This lack of country-level data is particularly worrisome for Goal 5 (gender equality), where on average only about 4 in 10 countries have data available. Country-level data deficits are also significant in areas related to sustainable production and consumption (Goal 12) and to climate action (Goal 13). What's more, even countries with available data have only a small number of observations over time, making it difficult for policymakers to monitor progress and identify trends.

Data coverage: proportion of countries or areas with available data (weighted average across indicators), by Goal (percentage)



In addition, a large number of SDG indicators are available only with a significant time lag. For instance, in at least half of countries or areas in the database, the latest data point available for poverty-related indicators (Goal 1) is for 2016 or earlier. A similar situation is found for indicators on gender equality (Goal 5), sustainable cities (Goal 11) and peace, justice, and strong institutions (Goal 16).

Data timeliness: the most recent year available (weighted average of the median country by indicator), by Goal



The pandemic is jeopardizing the production of data central to the achievement of the SDGs

As Governments attempt to contain the spread of the coronavirus, field data collection operations are being disrupted. This is limiting the ability of many national statistical offices to deliver official monthly and quarterly statistics as well as the data necessary to monitor progress on the SDGs.

A recent survey conducted by the United Nations and the World Bank (with responses from 122 countries) shows that the pandemic has affected the operations of the vast majority of national statistical offices: 65 per cent of headquarters are partially or fully closed, 90 per cent have instructed staff to work from home, and 96 per cent have partially or fully stopped face-to-face data collection. In sub-Saharan Africa, 97 per cent of countries surveyed indicated that the production of regular statistics was affected, and 88 per cent of countries in Latin America and the Caribbean indicated that they were having difficulty meeting international data reporting requirements.

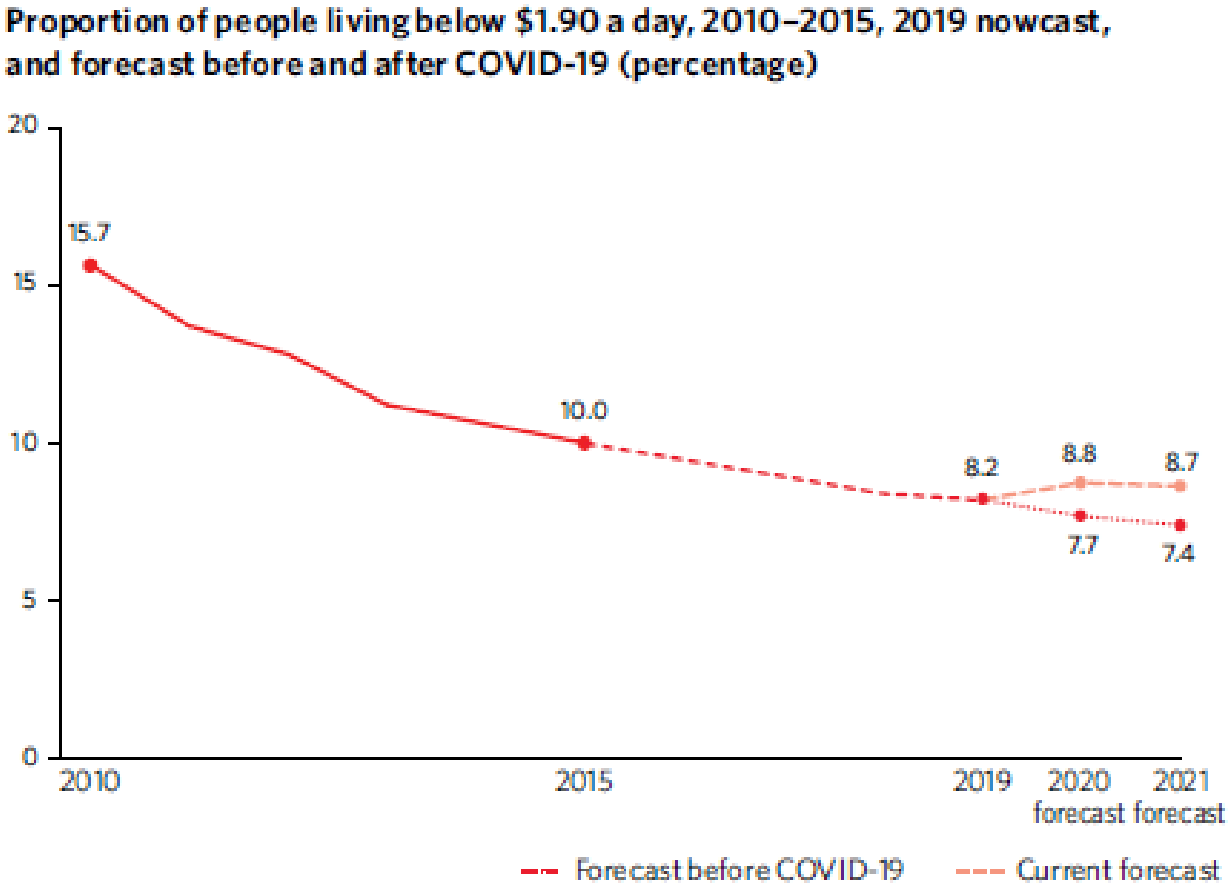
According to survey results, 9 in 10 national statistical offices in low- and lower-middle-income countries have seen funding cuts and are struggling to maintain normal operations during the pandemic. In fact, 73 offices – 61 per cent of those responding to the questionnaire – expressed the need for external support in addressing challenges associated with COVID-19. Priority areas cited included technical assistance and capacity-building, financial aid, and software for remote data collection.

If these needs are not filled, they will have a lasting effect on countries' ability to produce timely and disaggregated data for a large number of SDG indicators. In other words, the COVID-19 pandemic is not only creating a massive setback in the realization of the 2030 Agenda for Sustainable Development, but it is also exacerbating global data inequalities. The statistical community and donors must urgently provide technical and financial support to national statistical offices most in need.

Monitoring SDGs during COVID-19

Indicator 1.1.1 Population below the global poverty line

- Global poverty rate is expected to reach 8.8% in 2020, which is the first rise since 1998.



Monitoring SDGs during COVID-19

Indicator 4.1.2 Completion Rate (Primary and Secondary Education)

- More than 190 countries closed the school and 90% of students were out of school.
- Remote learning has highlighted the global digital divide issue.
  (Household computer ownership in Europe is 78% while 11% in Africa)

BEFORE COVID-19

PROGRESS TOWARDS
INCLUSIVE AND EQUITABLE QUALITY
EDUCATION WAS **TOO SLOW**

OVER 200 MILLION CHILDREN WILL
STILL BE **OUT OF SCHOOL** IN 2030

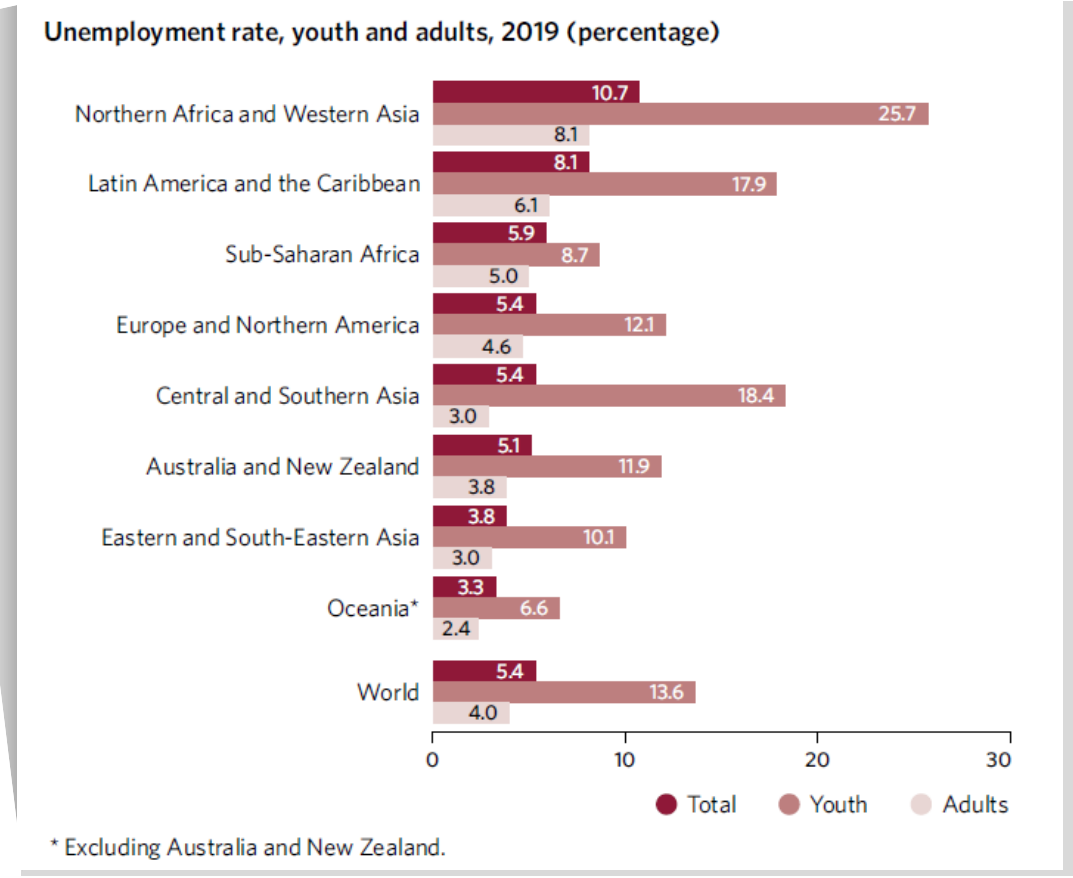
COVID-19 IMPLICATIONS

SCHOOL CLOSURES KEPT
90% OF ALL STUDENTS OUT OF SCHOOL
REVERSING YEARS OF PROGRESS ON EDUCATION

Monitoring SDGs during COVID-19

Indicator 8.5.2 Unemployment Rate

ILO estimates that global working hours could drop by 14% in the second quarter of 2020, which is equivalent to approximately 400 million full-time workers doing a 48-hour work week.



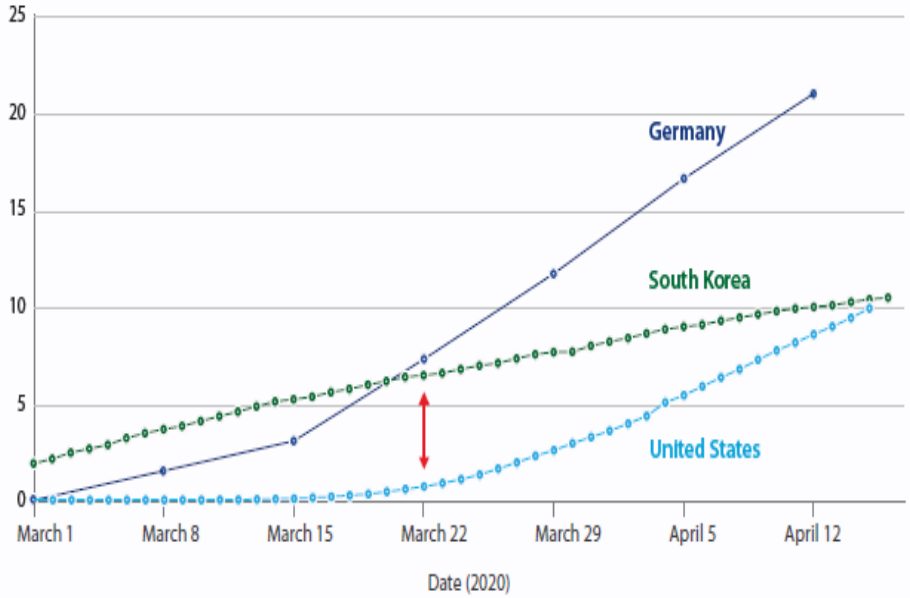
Monitoring SDGs during COVID-19

Global Health Security Index & Cumulative Covid-19 Tests per 1,000 population (left)
Covid-19 early performance indicators for the OECD countries (right)

Figure 4

Despite good performance in the 2019 Global Health Security Index on "Detection and Reporting," the United States took longer than Germany and South Korea to test its population during the Covid-19 pandemic.

Cumulative Covid-19 tests per 1,000 population



Performance in Global Health Security Index, November 2019
Category 2: Detection and Reporting

COUNTRY	RANK	SCORE
United States	1	98.2
South Korea	5	92.1
Germany	10	84.6

US gap in Covid-19 tests performed in March

Source: Official sources collected by Our World in Data

COVID-19 and SDGs Monitoring

Global Health Security Index & Cumulative Covid-19 Tests per 1,000 population (left)
Covid-19 early performance indicators for the OECD countries (right)

Covid-19 pilot Index and performance indicators for the OECD countries

Rank	Country	Covid Index	Deaths Per Million	Effective Reproduction Rate (ERR)	Epidemic Control Efficiency (ECE)	ERR Decline	Mobility Decline
1	South Korea	0.90	5.00	0.76	0.63	0.36	0.10
2	Latvia	0.78	9.34	0.95	0.29	0.63	0.24
3	Australia	0.76	3.88	1.06	0.27	0.67	0.24
4	Lithuania	0.75	17.85	0.90	0.15	0.61	0.36
5	Estonia	0.75	46.14	0.94	0.21	0.73	0.31
6	Japan	0.73	5.08	1.25	0.29	0.70	0.16
7	Slovenia	0.72	49.18	0.83	0.07	0.78	0.46
8	Slovak Republic	0.72	4.77	0.96	0.07	0.74	0.42
9	New Zealand	0.71	4.34	0.80	-0.03	0.86	0.44
10	Norway	0.71	42.17	1.13	0.18	0.72	0.30
11	Greece	0.71	14.07	0.99	0.07	0.62	0.43
12	Denmark	0.70	92.00	1.11	0.19	0.73	0.29
13	Czech Republic	0.70	26.53	1.11	0.11	0.67	0.33
14	Finland	0.69	49.13	1.18	0.12	0.65	0.32
15	Hungary	0.68	43.48	1.14	0.06	0.63	0.32
16	Austria	0.65	70.13	1.16	0.00	0.58	0.44
17	Israel	0.64	29.04	1.22	-0.06	0.82	0.42
18	Luxembourg	0.64	166.13	0.95	-0.07	0.78	0.50
19	Germany	0.63	90.86	1.38	0.07	0.70	0.31
20	Switzerland	0.63	181.13	1.23	0.06	0.78	0.37
21	Poland	0.63	21.36	1.34	-0.05	0.52	0.38
22	Sweden	0.61	319.99	1.36	0.21	0.60	0.19
23	Netherlands	0.58	316.63	1.30	0.08	0.72	0.32
24	Canada	0.56	134.74	1.51	-0.10	0.63	0.37

Source :SDSN 2020 Report

3. KOSTAT's Response to the Pandemic

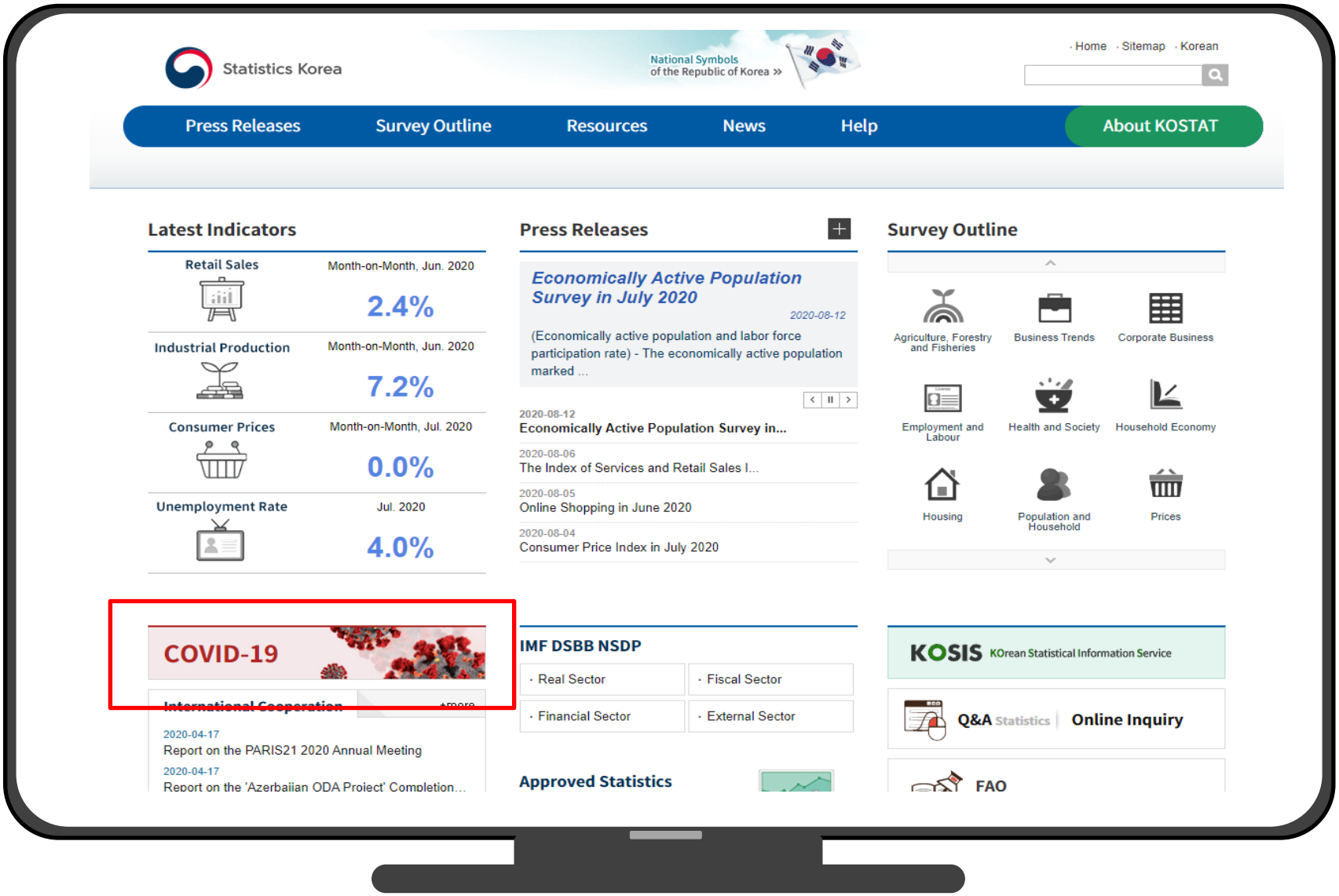
Guidelines

- Establish an emergency response system for the core statistics (e.g. Labor Force Survey)
- Minimize fact-to-face interviews and digitalize data collection methods
- Delay, if needed, in planned surveys and statistical programs
- Conduct online training for the enumerators

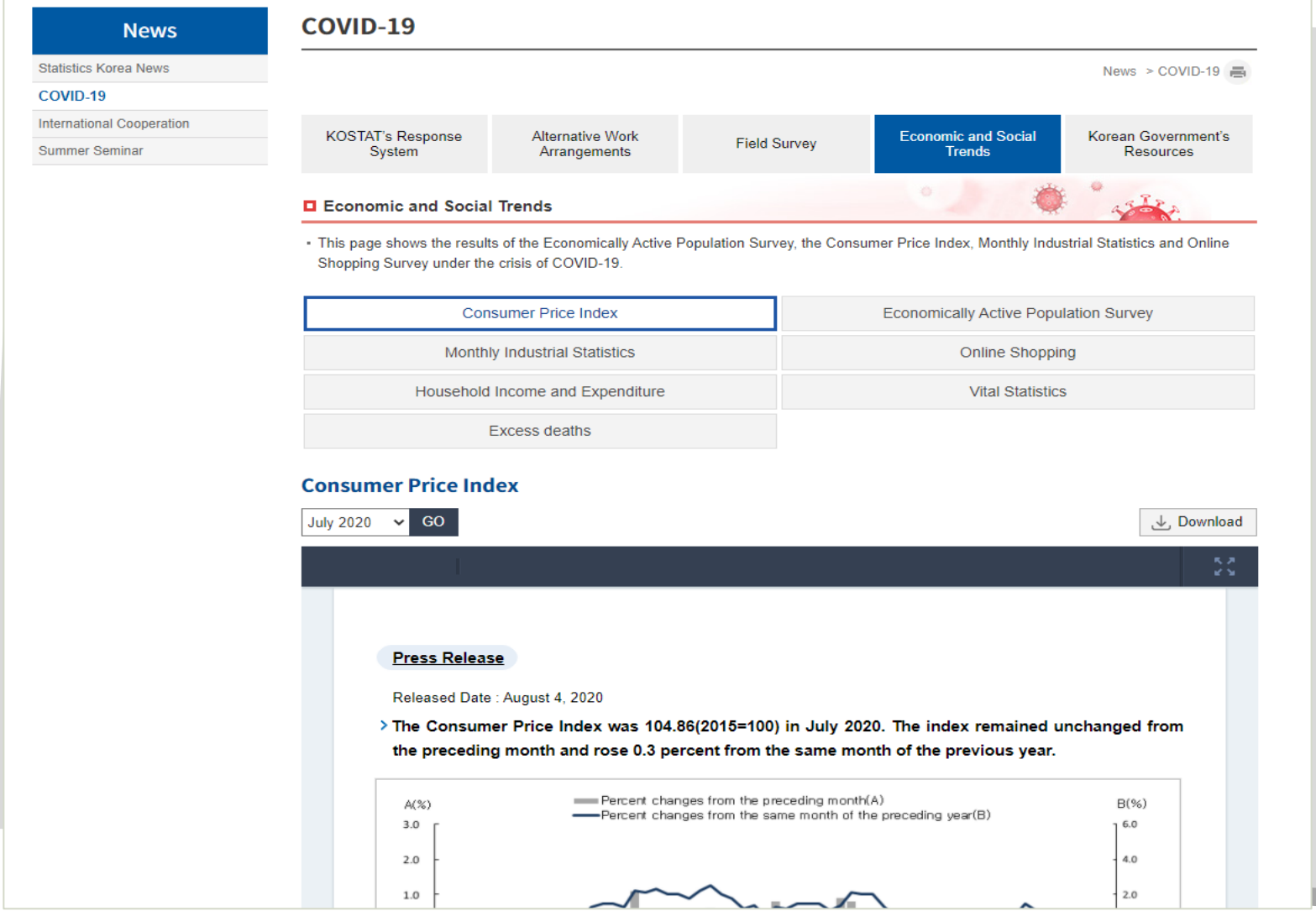
Non Face-to-Face K-Census (Nov. 2020)

- Diversify mode of data collection methods (internet, telephone, and mobile)
- Internet Response Rate in 2010 : 47.9%

KOSTAT's Response to the Pandemic

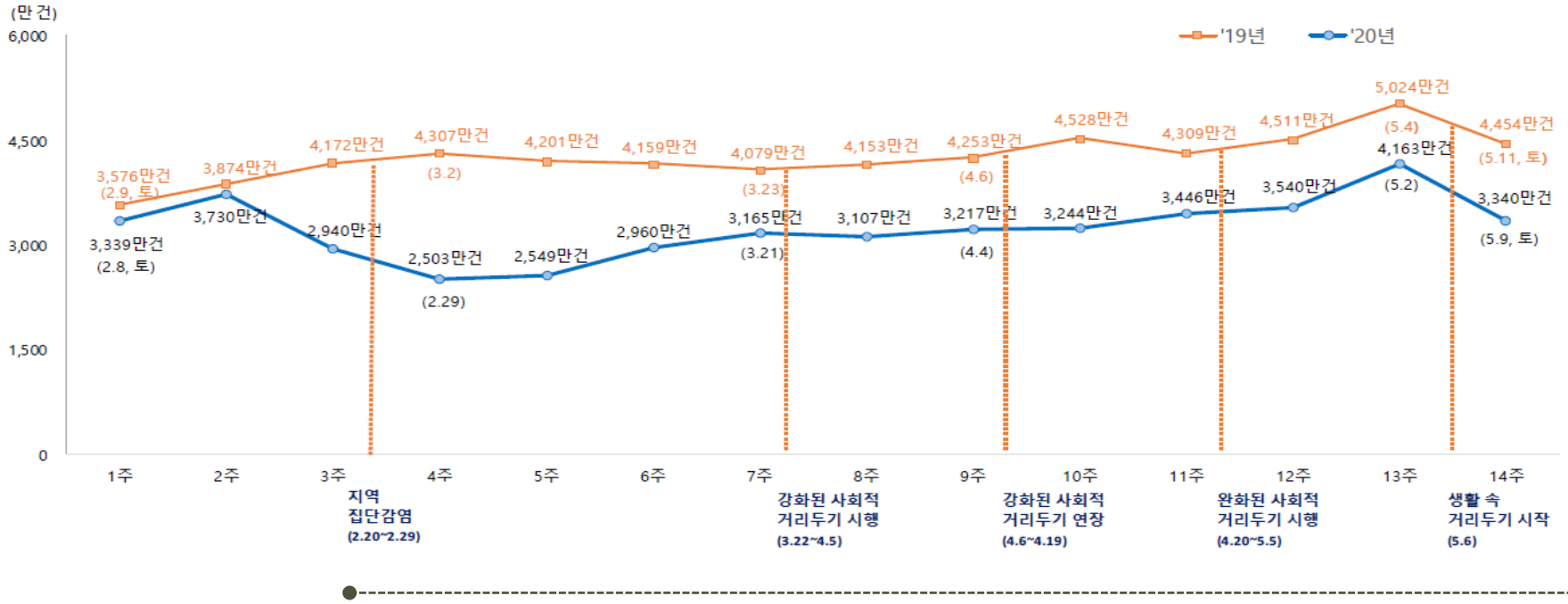


KOSTAT's Response to the Pandemic



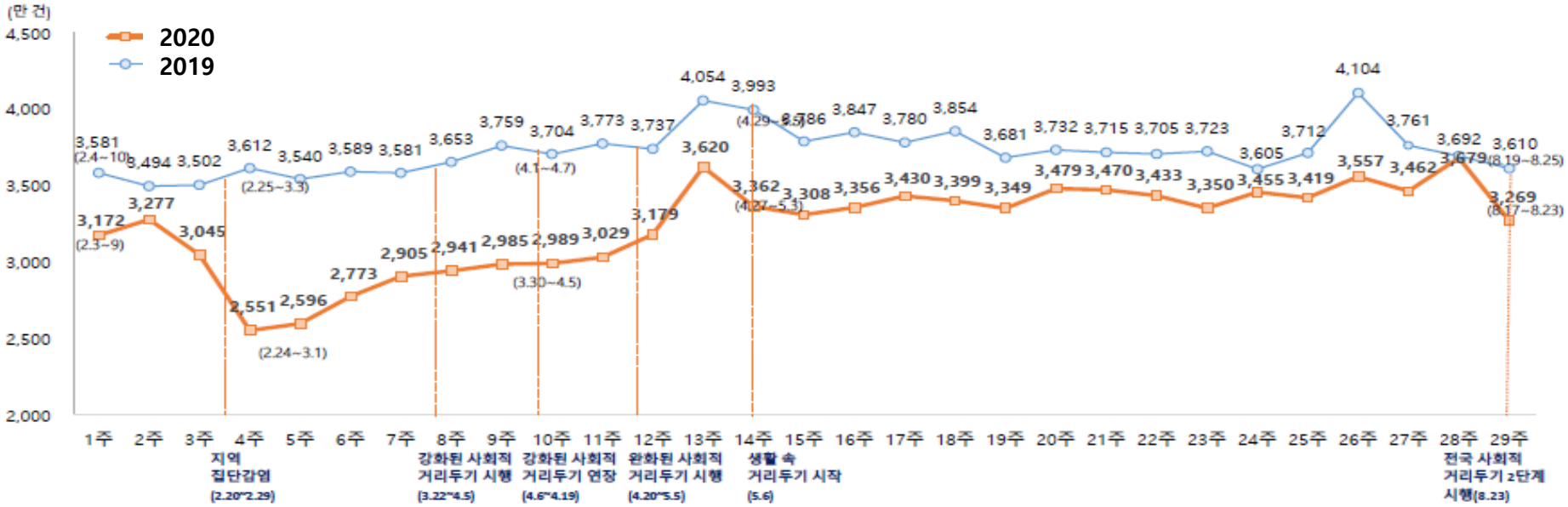
KOSTAT's Response to the Pandemic

Use of Mobile Big Data to Estimate Mobility Flows



- Data Source : SK Telecom mobile phone data
- Period : two weeks before and nine weeks after the outbreak
- 27.7% of decrease in movement of the population after the outbreak
- Results of analysis were shared with the concerned ministries for policy making

Daily Population Movement – 2019 vs 2020

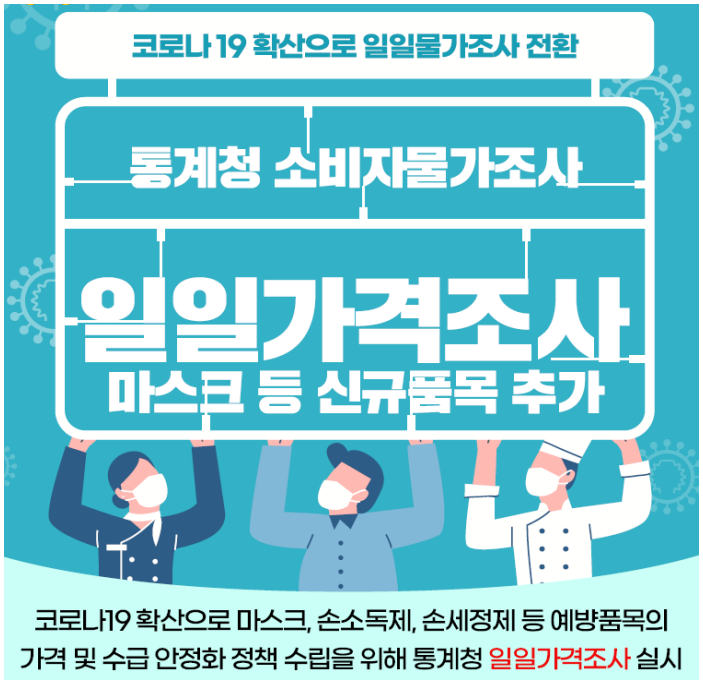


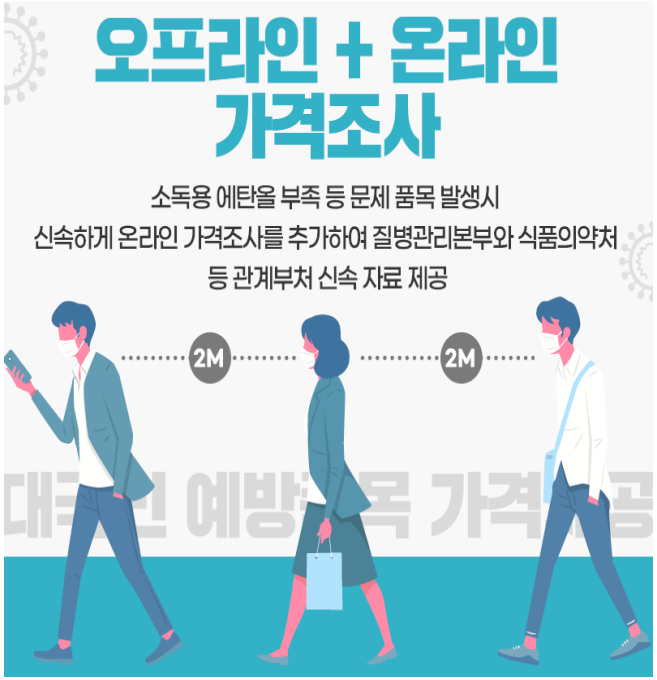
- In 29th week(8.17~8.23), pop movement is about 91% as compared to 2019
  - Decline in mobility due to Level 2 social distance policy implementation

- Mobility level gest close to the period of 3.22 ~4.19)

KOSTAT's Response to the Pandemic

Daily Price Index for Covid-19 Supplies such as face masks





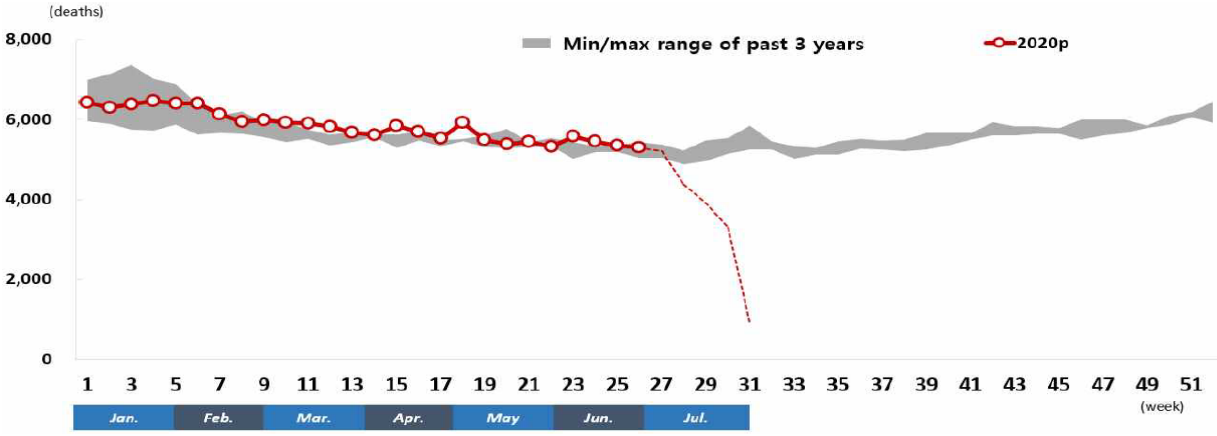
매점매석 등 불공정거래 방지 관련 정책 수립을 위한 기초자료를 제공합니다.
국가 위기 상황에 적시 대응하기 위한 마스크, 손소독제 등 예방품목 일일 가격조사는 통계청 조사원들이 함께 뛰고 있습니다.

KOSTAT's Response to the Pandemic

Excess Deaths during the Covid-19 Crisis

- Difference between the observed number of deaths and the expected number of deaths in specific time periods
- Useful for understanding the impact of a pandemic crisis on mortality
- Data on death registration is collected and disaggregated by sex, age, and region
- Continuous excess deaths are not significant in Korea (as of 12 Aug, 2020)

[Figure 1] Deaths registered by week (from 29 December, 2019 to 1 August, 2020)

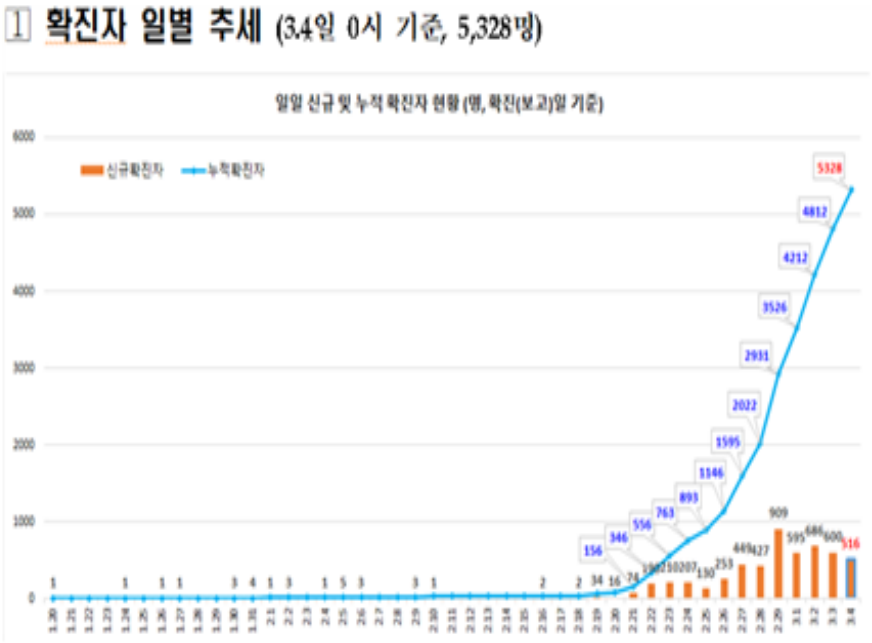
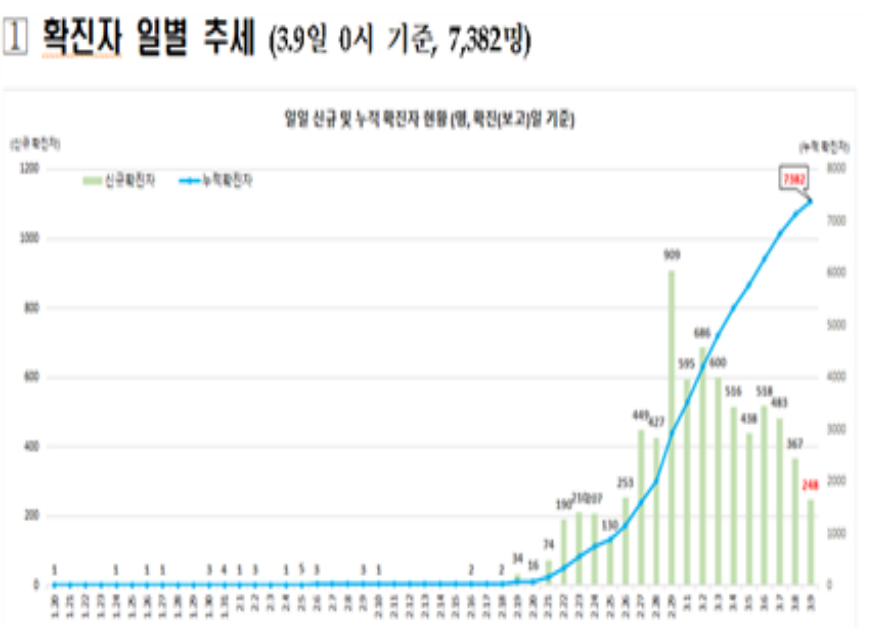


Note 1. The number of deaths in 2019 and 2020 is provisional data.
Note 2. The dotted line in the 2020 graph shows deaths that occurred in June. This part of the data is incomplete because death certificates reported in July have not been processed yet.

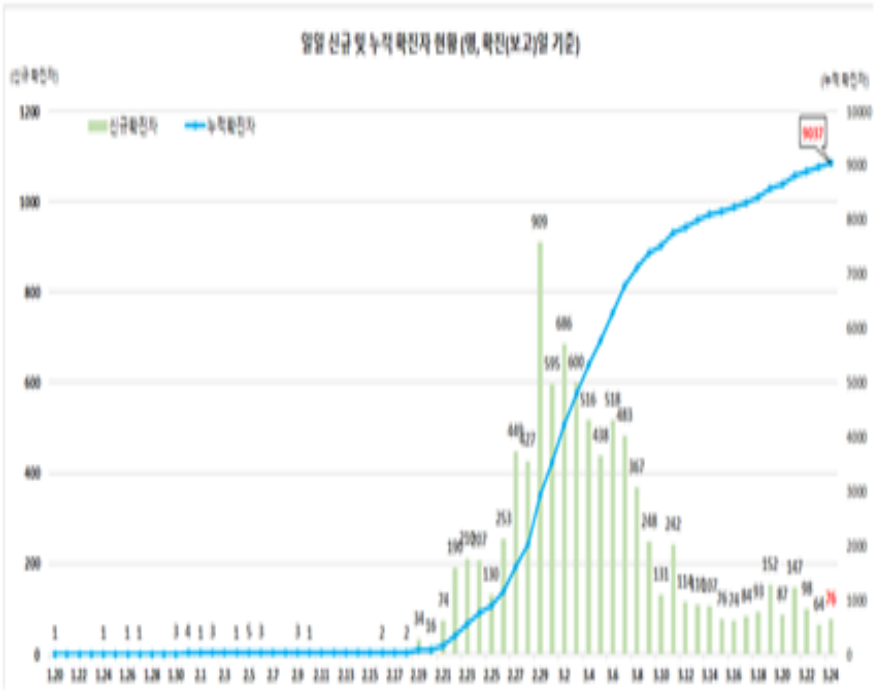
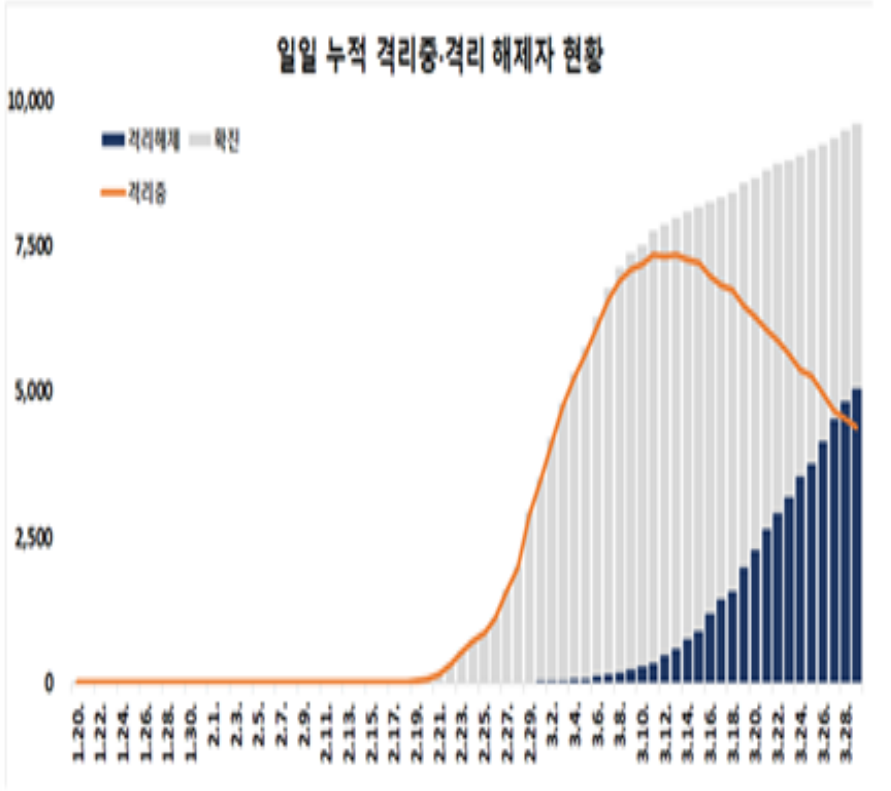
❖ Data Visualization of Covid-19 Statistics

(Cooperation between KOSTAT & Korea Center for Disease Control)

Visual Change of Daily/Cumlative case for communication

Before	After
	

Change DV of Cumulative, Treated in isolation, Recovered

Before	After
	

Open SDG Platform

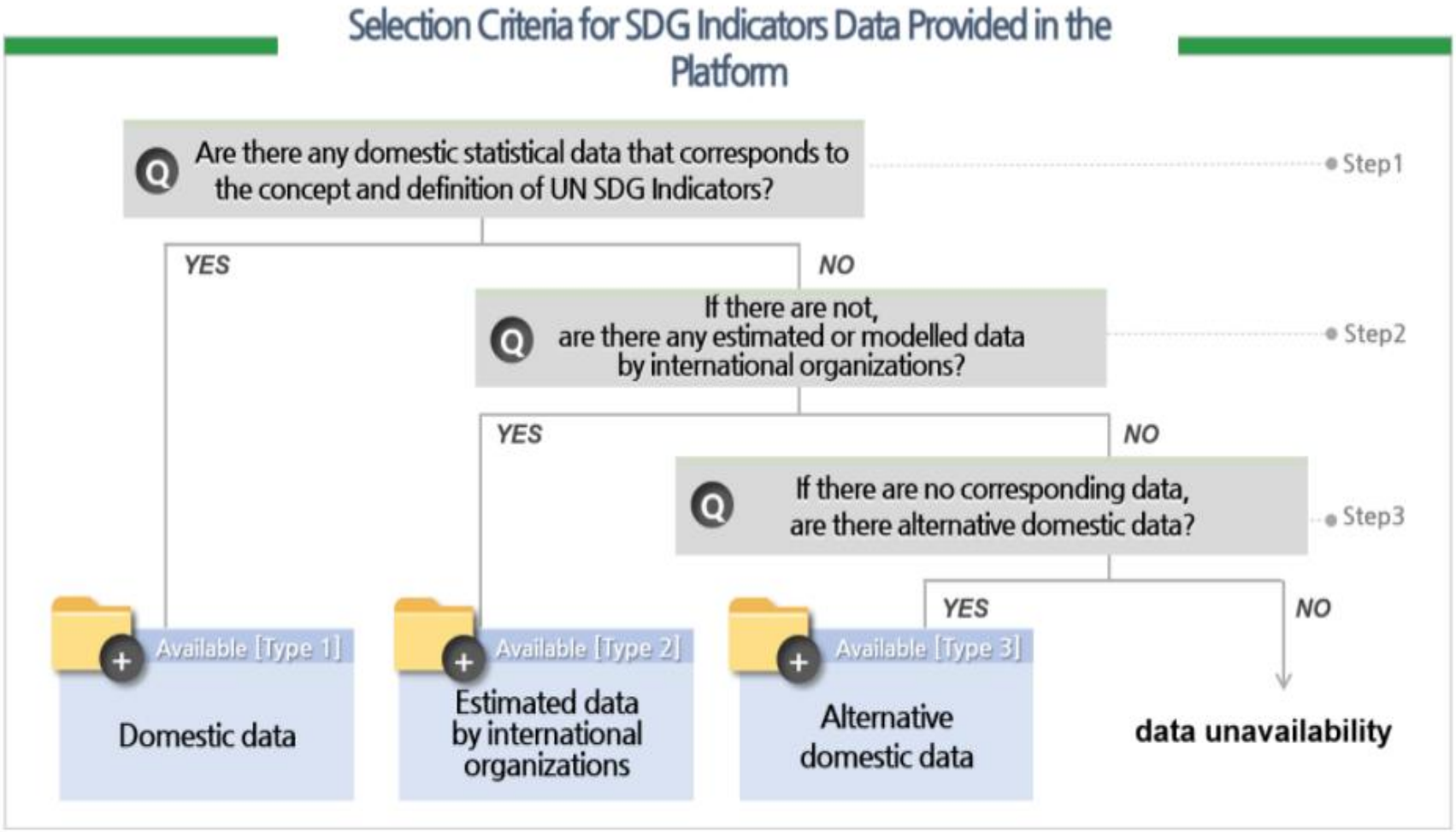
SDG Data for Policy Makers and Citizens!

1st half of 2019	Designed the platform structure
2nd half of 2019	Set the selection criteria for the indicators Drafted the metadata (Korean, English)
July 2020	Pilot launch https://kostat-sdg-kor.github.io/sdg-indicators/
2nd half of 2020	Data and metadata updates
1st half of 2021	Official launch

Open SDG Platform

https://kostat-sdg-kor.github.io/sdg-indicators/

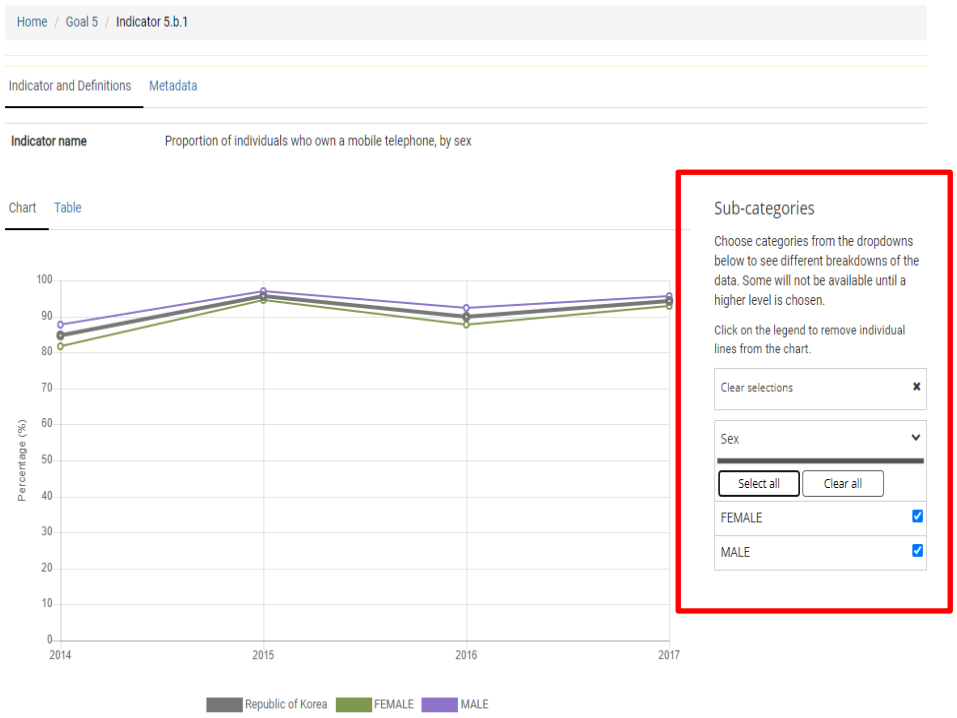
Open SDG Platform



Open SDG Platform

Focus! Leaving No One Behind

Disaggregated Data



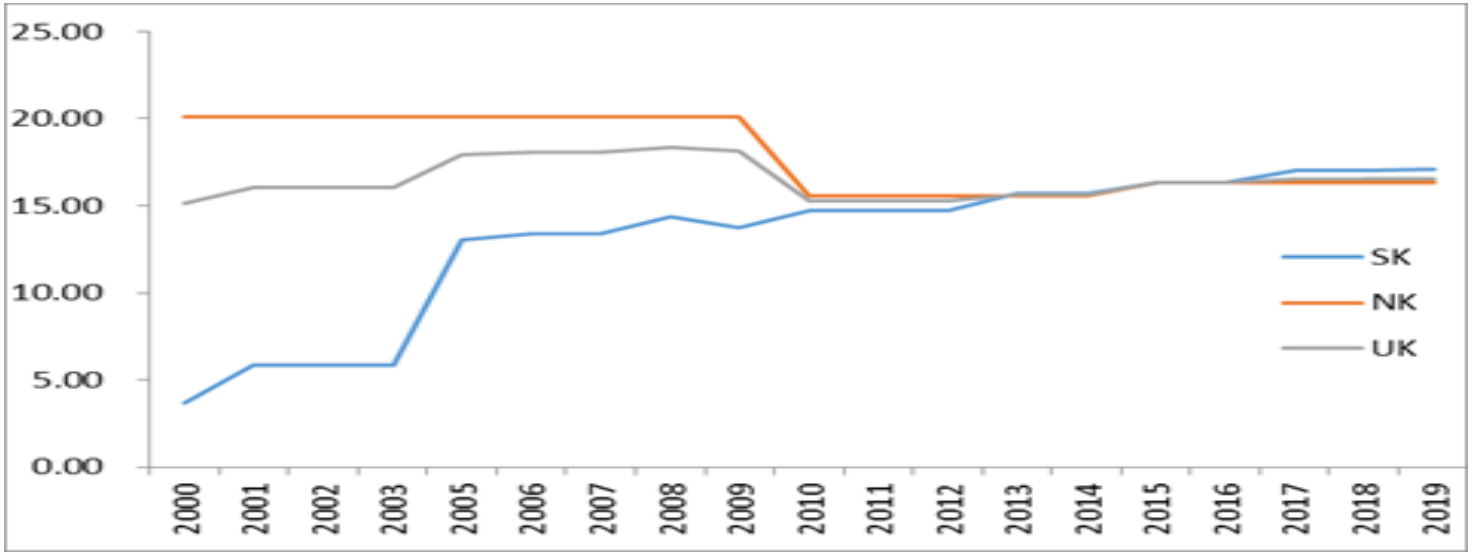
High Contrast for Low Vision

Case 2

SDGs in the Korean Peninsula (pilot)

Indicator 5.5.1 Proportion of seats held by women in NP

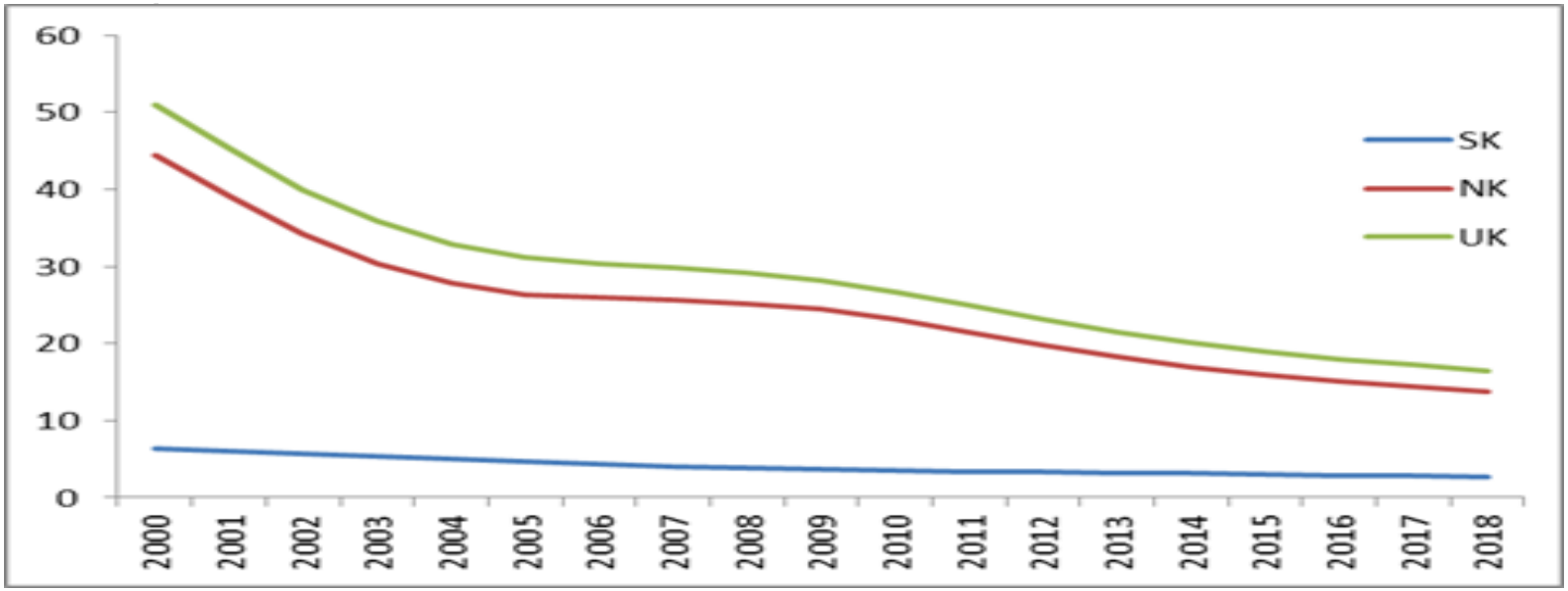
- No significant changes in the total number of parliaments members since 2000
- The proportion of female members in..
  - South Korea : 3.68%(2000) → 17.11%(2019)
  - North Korea : 20.09%(2000) → 16.30%(2019)
  - South and North Korea : 15.11%(2000) → 16.55%(2019)



SDGs in the Korean Peninsula (pilot)

3.2.1 Under-5 Mortality Rate (deaths per 1,000 live birth)

- South Korea (SK) : 6.4(2000) → 2.8(2020) / 58% ↓
- North Korea (NK) : 44.5(2000) → 13.7(2020) / 69% ↓
- South and North Korea (UK) : 50.9(2020) → 16.4 (2020) / 68%



5. Official Statistics in the era of Covid-19

The Importance of data for agile policy-making in crisis

- evidence-based policymaking in econ, social and health matters

Increasing demands for accurate and timely data

- official statistics vs non-official statistics such as big data

New data sources for rapid production of statistics

- high quality, reliability, trustability

Data Revolution for the Future

Emergence of a Newer Data Ecosystem

- Different sources of data : administrative data, big data, linked data
- Various data producers : government, business, NGOs, academics
- Data collection methods : data linkage among multiple data sources
- AI-Based data innovation : forecasting economic and social future

Build an Inclusive Society through the SDGs

- Data disaggregation to leave no one behind (e.g. human rights stat)
- Reduce data inequality and optimize privacy-protected data sharing
- Nurture an inclusive government using data and predictive analytics

Thank you for Listening !

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COVID-19 RESPONSE