# 2024

SUSTAINABLE DEVELOPMENT GOALS

## SDG IN THE REPUBLIC OF KOREA: PROGRESS REPORT 2024

Statistics Korea
Statistics Research Institute

# SDG in the Republic of Korea: Progress Report

# 2024

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# Foreword

Less than half of the time remains to achieve the 2030 Agenda for Sustainable Development adopted in 2015. According to the UN's mid-term review last year, only 15% of the targets are within reach at our current rate of effort. On top of this underwhelming progress, we are facing a series of challenges, including worsening socio-economic vulnerabilities brought on by the COVID-19 pandemic, the escalating effects of climate change, and rising geopolitical tensions within and across borders, all of which divert us from our goals.

These global challenges are vividly illustrated in our recent publication of the 「SDG in Republic of Korea: Progress Report 2024」. Despite a steady increase in social welfare spending to bolster essential services and active responses to crises such as COVID-19, Korea's educational sector still struggles to recover from the impact of the pandemic. The proportion of secondary students lacking basic academic skills has increased, and participation in lifelong learning has declined. This problem is not unique to Korea. Predictions suggest that, by 2030, nearly 300 million students worldwide might suffer from the lack of basic numeracy and literacy skills.

According to a recent report by the Intergovernmental Panel on Climate Change (IPCC), the global average temperature has already reached 1.1 degrees Celsius above pre-industrial levels and will exceed the climate crisis threshold of 1.5 degrees Celsius by 2035 unless significant interventions take place. Recognizing the urgent need for global cooperation, Korea is promoting the transition to a resource-circulating society that can maximize the efficient use of resources and minimize waste. Reducing social inequalities is another major challenge. Disparities by gender, age, income level, migration status, and region must be addressed to achieve the goals while leaving no one behind. To this end, Korea is implementing various initiatives, including a strategic drive to improve employment opportunities, to promote inclusiveness and reduce inequalities. From the global perspective, reaching the SDGs resembles a three-legged marathon race to the 2030 finish line - a race that cannot be successfully completed while there still are people lagging behind who deserve greater attention and increased support.

This year, Korea is establishing a Presidential Committee on Sustainable Development to steer balanced progress across social, economic, environmental and other sectors. It is also committed to doubling its official development assistance offerings by 2030 compared to 2019 levels. To support this process, Statistics Korea will provide robust SDG data to underpin policy decisions and further engage in development cooperation to strengthen statistical capacity in developing countries. This comprehensive approach ensures that Korea's successful achievement of the SDGs will lay the foundation for the global achievement of the SDGs.

Lee, Hyoung Il

Commissioner of Statistics Korea

# Preface

Each year, the Statistics Research Institute of Statistics Korea, Korea's national focal point for UN SDG data, publishes an annual report titled「SDG in the Republic of Korea: Progress Report」. Continuing from the first report issued in 2021, this year marks the release of the fourth report. The first report addressed the theme of "COVID-19 and Korea's SDGs".「SDG in the Republic of Korea: Progress Report 2024」reaffirms the devastating impact of COVID-19 on the world.

Despite a notable reduction during the COVID-19 period, greenhouse gas emissions have now resumed their upward trend in 2021, and coastal plastic debris also continues to rise. The Red List Index for assessing biodiversity continues to deteriorate. However, efforts to address the climate crisis are also underway. Although the proportion of renewable energy in Korea remains low, it is steadily increasing, and a national roadmap to expand protected areas for ecosystems was established at the end of last year. The status of socioeconomic disparities among groups is also worth noting. The government has contributed to reducing relative poverty rates and expanding essential services through increased social welfare spending. However, challenges such as deepening income inequality among those of retirement age, regional disparities in healthcare workforce distribution, and gender and employment status gaps in the economy have been confirmed as ongoing challenges.

In times of multiple crises, we need clear goals to avoid losing our way. I believe that this progress report serves as a guiding star, illuminating our path even in the darkness. It serves as a tool to diagnose our current situation and identify the basis for proposing future tasks, using the globally set SDG objectives as our target. Notably this report, as a collaborative effort of national research institutions, will help readers to adopt a comprehensive and professional perspective. It is our hope that you will keep this report close at hand to serve as a guide for sustainable development.

As I conclude this preface, I would like to express my heartfelt gratitude to all of those who have contributed to the journey of publishing this Sustainable Development Goals in the Republic of Korea: Progress Report. Under the overall supervision of the Korea Environment Institute, contributions to the process of analyzing each goal were made by the Korea Educational Development Institute, Korea Rural Economic Institute, Korea Institute for Health and Social Affairs, Korea Institute for Industrial Economics and Trade, Korea Maritime Institute, and Korea Institute for International Economic Policy. In addition, the contributions of Statistics Research Institute Deputy Director Youngshil Park, Assistant Directors Jieun Jung and Jinsook An and Research Assistant Heejeong Kim have been invaluable in bringing to light the significant information in this report. My sincere thanks to all of you.

Park, Sang Young
Acting Director General
Statistics Research Institute

# Contents

# Executive Summary

### SDG Progress on a global level

At the midpoint on our way to the 2030 deadline of the Sustainable Development Goals(SDGs), the UN's mid-term assessment sounds the alarm over the possibility of achieving the goals. The analysis of current progress shows that only 15% of targets are expected to be achieved by 2030 whereas 48% are moderately or severely off the track and the remaining 37% have either seen no movement or regressed(UN, 2023).

Under current trends, only about one third of countries will meet the target to halve national poverty levels in 2030, and 300 million children or young people attending school will lack basic numeracy and literacy skill due to under-investment in education and learning losses. The rate of female managers is growing at a very slow pace, expecting to taking 140 years to close gender gaps in the proportion of managers. Carbon dioxide levels continue to rise, and some 660 million people will remain without electricity due to the shortage of energy supply. It could take another 25 years to halt deforestation, while the Red List Index over the past 30 years indicates that numerous species will be threatened with extinction due to an ever-accelerating rate of reduction. Such lack of progress is expected to be more evident in developing nations and the world's poorest and vulnerable people.

According to the somewhat gloomy diagnosis, the UN has recognized the need for urgent actions and set five policy priorities as follows. First, Heads of State and Government should recommit to seven years of accelerated, sustained and transformative action, both nationally and internationally, to deliver on the promise of the SDGs. Second, Governments should advance concrete, integrated and targeted policies and actions to eradicate poverty, reduce inequality and end the war on nature, with a focus on advancing the rights of women and girls and empowering the most vulnerable. Third, Governments should strengthen national and subnational capacity, accountability and public institutions to deliver accelerated progress towards achieving the SDGs. Fourth, the international community should recommit at the SDG Summit to deliver on the Addis Ababa Action Agenda and to mobilize the resources and investment needed for developing countries to achieve the SDGs, particularly those in special situations and experiencing acute vulnerability. Fifth, Member States should facilitate the continued strengthening of the United Nations development system and boost the capacity of the multilateral system to tackle emerging challenges and address Sustainable Development Goals-related gaps and weakness in the international architecture that have emerged since 2015 (UN, 2023). In 2023, the UN General Assembly convened the SDG Summit, bringing together people from all over the world to reiterate the urgency of prioritizing the SDGs. It also renewed the call for global solidarity and action to accelerate SDG achievement over the next seven years. Our future will depend on what countries do next.

### Key Findings of Korea's SDG Progress Report 2024

In January 2022, Korea enacted the Basic Law on Sustainable Development, and reorganized institutional mechanisms for SDG implementation, including the establishment of sustainable development plans and evaluation systems at the national and local levels. The country also regularly monitors the status of SDG implementation based on global SDG indicators, contributing to building a foundation for achieving the SDGs.「SDG in Republic of Korea: Progress Report 2024」, published this year, analyzed a total of 71 indicators. It conducted the trend analysis based on time-series data, the state analysis of the vulnerable using disaggregated data, and international comparison analysis. This report contained both positive and negative aspects. It can be summarized as the following 5Ps: People, Planet, Prosperity, Peace and Partnership.

**People:** Along with gradually rising expenditures in the education, healthcare and social welfare sectors, the budget for social security in Korea exceeded the 50% mark in 2023, indicating an expansive trend. However, the decline in the relative poverty rate has slowed down, and income inequality has been exacerbate in the retiree population. It has been

diagnosed that more efforts are needed to improve dietary habits of the vulnerable population in terms of nutritional intake and accessibility to food, and regional disparities in the number of healthcare workers have been also regarded as a challenge. The downturn in academic achievement among middle/high schoolers and participation in lifelong learning since the outbreak of COVID-19 has not recovered yet, and there have been no noticeable improvements in the issue with sexual violence and domestic violence against women and in the under-representation of women in the managerial positions.

**Planet:** Greenhouse gas (GHG) emissions have risen again after temporarily faltering since the outbreak of COVID-19. The total amount of GHGs in 2021 rose by 3.4% y-o-y, reflecting a significant increase in emissions especially from industrial processes, energy and agriculture in the stated order. The removals in the Land Use, Land Use Change and Forestry (LULUCF) have been on the decrease. More than half of casualties originated from heat waves out of natural disasters, requiring more efforts to reinforce responsive capacities to climate change. The number of companies issuing their sustainability reports has increased, along with the growth in generation of renewable energy and ongoing efforts to protect terrestrial and marine biodiversity. However, the ratios of renewable energy and key biodiversity protected areas designated have remained very low compared to Organization for Economic Cooperation and Development(OECD) countries, and the Red List Index has been deteriorating since 2000.

**Prosperity:** Research and development(R&D) investments and manpower for national innovation have been maintained at a high level worldwide. In 2023, the unemployment rate hit a record-low of 2.7% since 2000. The unemployment rate among women fell more sharply than that of their male counterparts, which is relevant to the growth of jobs in the social welfare service sector. Despite an increase in the average hourly earnings, women's earnings stood at 70% of men's. In 2022, the number of deaths from industrial accidents rose by 5.6% compared to the previous year, requiring policy interests in the creation of quality jobs. The satisfaction with residential environments improved in general, but there was a high burden of housing costs on individuals who don't own their homes in the metropolitan areas.

**Peace and Partnership:** Peer violence, which had plummeted during the COVID-19 pandemic, increased again, still posing a threat to the school life of children. It has been reported that many individuals have experienced discrimination in Korean society due to various reasons such as gender and age. With the lifting of borders and increased international unrest due to COVID-19, the number of refugee applications has skyrocketed, but the number of approvals has remained very low. Under a situation requiring solidarity and cooperation for the universal development of mankind, Korea's ODA volume slightly increased compared to the previous year. Korea is also committed to reinforcing statistical capacities of least developed countries (LDCs) by expanding its ODA level in the statistics field.

The analysis results reveal that global crises, including COVID-19, wars and climate change, are having direct/indirect impacts on Korean society as a whole in the mid to long term. There have been multi-dimensional efforts made by the government, companies, civil society and international organizations to overcome the crises; however, there are still gaps and discriminations due to gender, age and regions, and the efforts for overcoming climate crisis and conserve biodiversity have been insufficient.

## Key Findings of Korea's SDG Progress Report 2024

**1 NO POVERTY**

In 2023, Korea's expenditures in the sectors of education, healthcare and social welfare exceeded 50%, indicating the expansion of social security. However, the decline in the relative poverty rate slowed down. The rate of non-regular workers covered by the employment insurance was significantly lower than that of regular workers.

**2 ZERO HUNGER**

Government spending on agriculture is relatively high, but agricultural labor productivity has been deteriorating for years due to the aging of farm households. With an increase in the undernourishment and prevalence of anemia among women observed, it is necessary to improve the dietary lifestyle of the vulnerable.

**3 GOOD HEALTH AND WELL-BEING**

There have been some improvements in healthy behaviors and environments, including a reduction in alcohol consumption and low level deaths attributed to unintentional poisoning. However, increasing geographic variation in the healthcare workforce

**4 QUALITY EDUCATION**

The decline in academic achievement among middle/high schoolers and the setback in lifelong education due to COVID-19 have not been recovered yet. The The information and communication technology (ICT) capacities among adolescents and adults have improved, but there needs to be efforts to overcome gaps and disparities due to factors such as age.

**5 GENDER EQUALITY**

Women have continued to disproportionately fall victim to sexual violence and domestic violence, and have remained under-represented in the managerial positions of the government, public institutes, public corporation and private firms and the education/administration sector.

**6 CLEAN WATER AND SANITATION**

The level of access to drinking water and sanitation services has continuously improved, but efforts are needed to alleviate regional disparities observed in the public sewerage system. Despite the overall improvements in water use efficiency, it is necessary to enhance the efficiency through sector-specific, detailed strategies.

**7 AFFORDABLE AND CLEAN ENERGY**

Despite the increasing supply of new and renewable energy, the rate of renewable energy to the final energy consumption has remained low compared to other OECD countries. Korea has relatively high energy intensity due to the characteristics of its industrial structure, but there have been improvements over a long term.

**8 DECENT WORK AND ECONOMIC GROWTH**

The unemployment rate has hit its lowest since 2000, but the wage gap between men and women has not narrowed and is the highest in OECD. The number of deaths from industrial accidents in 2022 increased year-on-year, especially with high fatalities in workplaces with fewer than 50 employees.

**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**

There has been a high level of R&D investments and manpower for national innovation; The employment rate in manufacturing has been on the decrease, requiring monitoring from the perspective of growth strategy.

**10 REDUCED INEQUALITIES**

In 2022, income inequality among the retiree population worsened year-on-year, and such a deteriorating trend in asset inequality that had persisted for the past 5 years showed a slowdown in 2023. Despite the surge in asylum seekers since the enforcement of the Refugee Act, the number of refugees recognized has remained low.

## Key Findings of Korea's SDG Progress Report 2024


Despite an overall increase in the satisfaction of residential environments, there is a high burden of housing costs on individuals without their own homes in the metropolitan areas. Public spending at the local governments for the protection of cultural and natural heritage plummeted during 2019 and 2020.


The generation of food waste itself has slightly declined, but it is necessary to expand the scope of food waste management to include the food production stage. The number of companies issuing their sustainability reports has soared due to growing corporate interests in ESG and sustainable management.


Due to the recovery of industrial production activities after the COVID-19 pandemic, GHG emissions have increased again. Out of extreme weather conditions and natural disasters, heat waves have led to a high number of casualties, highlighting the need for responsive measures.


The speed of expanding marine protected areas has been slow in relation to the targets. Coastal plastic debris is on the rise. Meanwhile, there are ongoing national efforts to conserve marine resources by complying with international standards such as the United Nations Convention of the Law of the Sea and Marine Convention and Deep-sea Fisheries and by improving the total allowable catch (TAC) scheme.

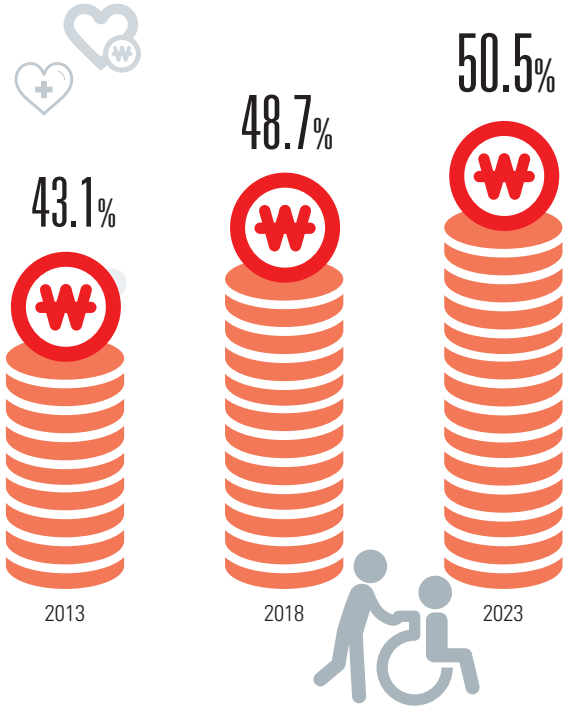

There has been only modest growth in biodiversity protected areas and areas for sustainable forest management, and the Red List Index has also deteriorated over a long term.


Despite the decrease in physical punishment and verbal abuse among peer-violence, which declined during the COVID-19 pandemic, has risen again, still posing a threat to the school life of children. Also, there are various forms of discrimination for diverse reasons, such as gender and age.

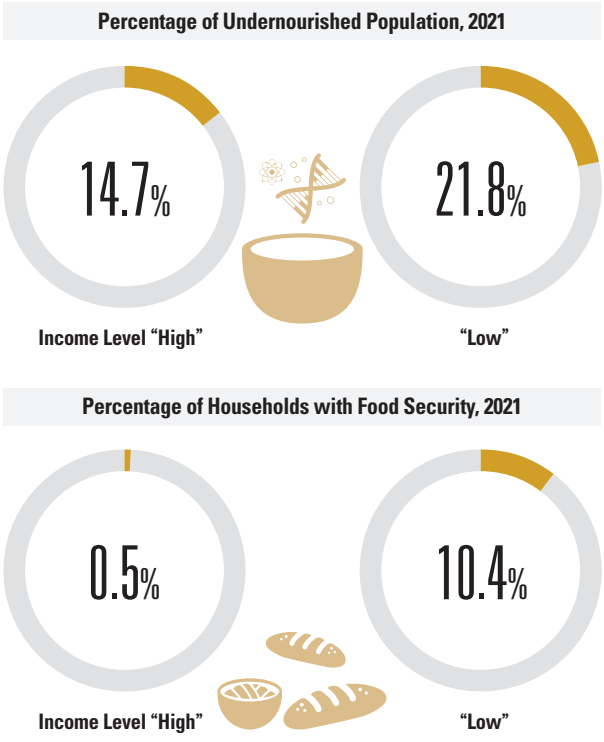

Korea's ODA volume slightly increased compared to the previous year. Its bilateral assistance to least developed countries (LDCs) accounted for a high rate of 35.8% and the trade volume with these countries was on the rise, too. With outstanding statistical capacities, Korea is committed to supporting reinforcement of statistical capacities in the LDCs.

SUSTAINABLE DEVELOPMENT GOALS

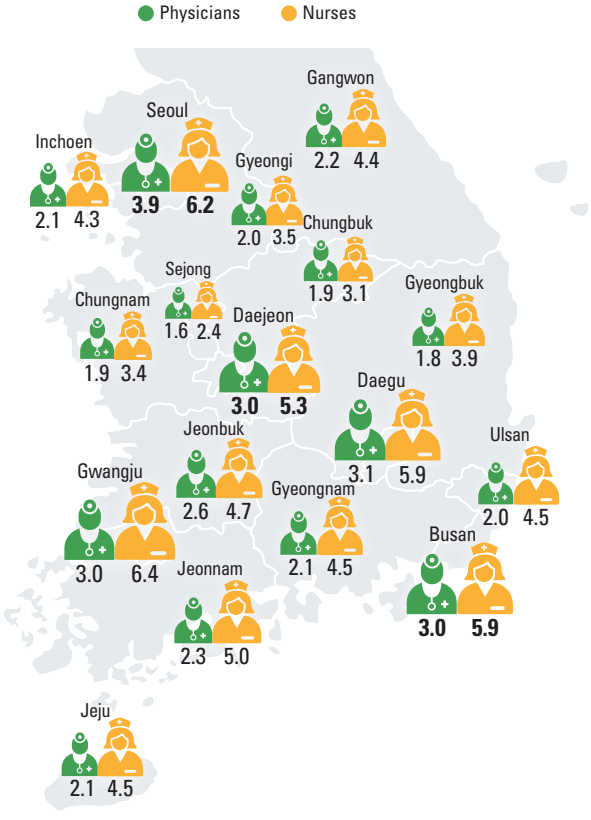
## Social protection spending as a share of total government spending is growing



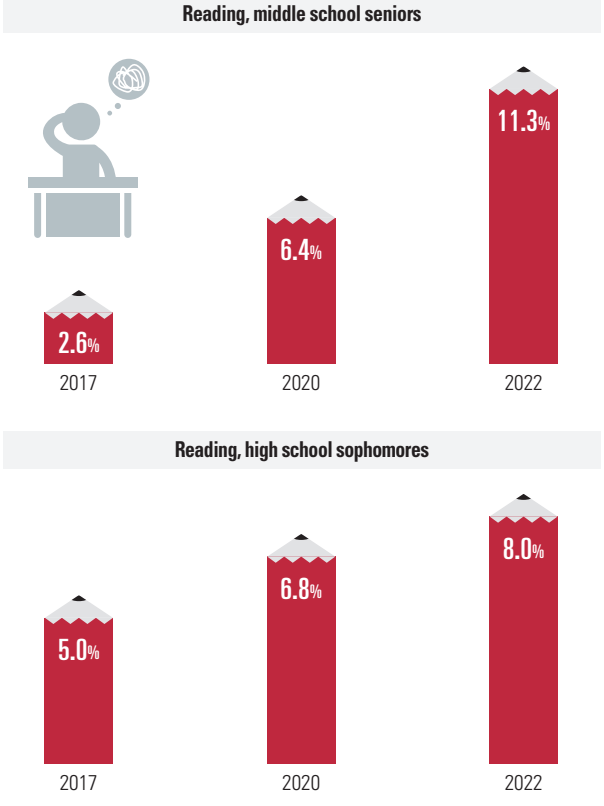

## Efforts to improve the diets of vulnerable populations are needed



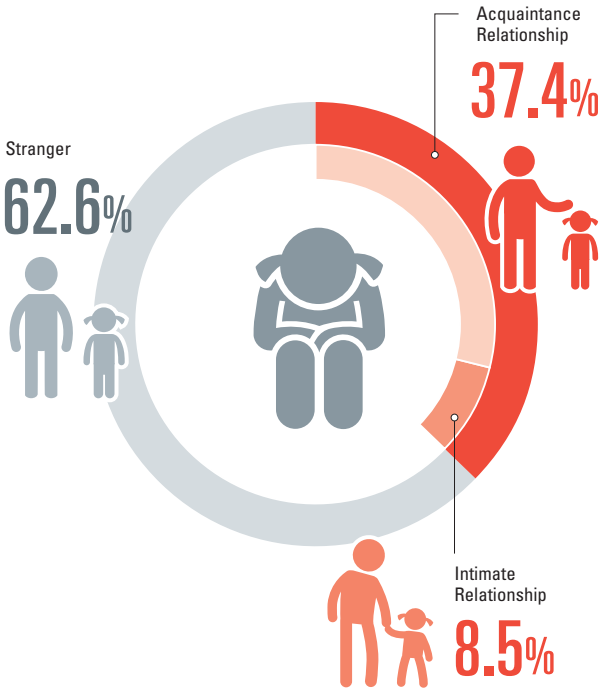

## Number of physicians and nurses per 1,000 population varies by region, 2021



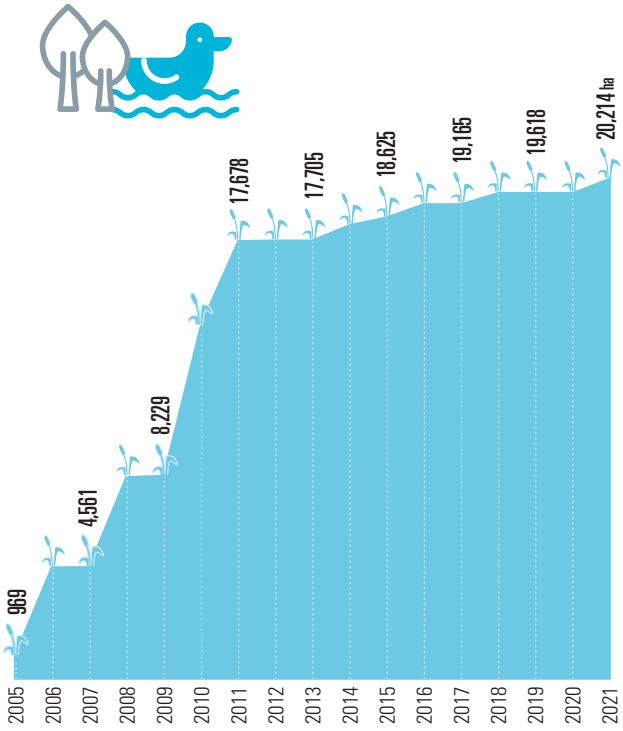

## Proportion of students below the basic academic skills to rise after COVID-19



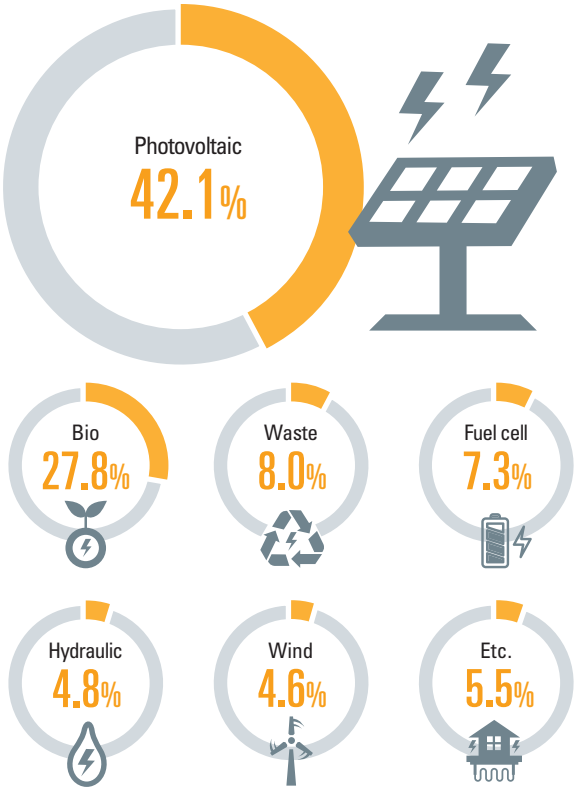
## The relationship between offender and victims of sexual offenses against children and adolescents, 2022



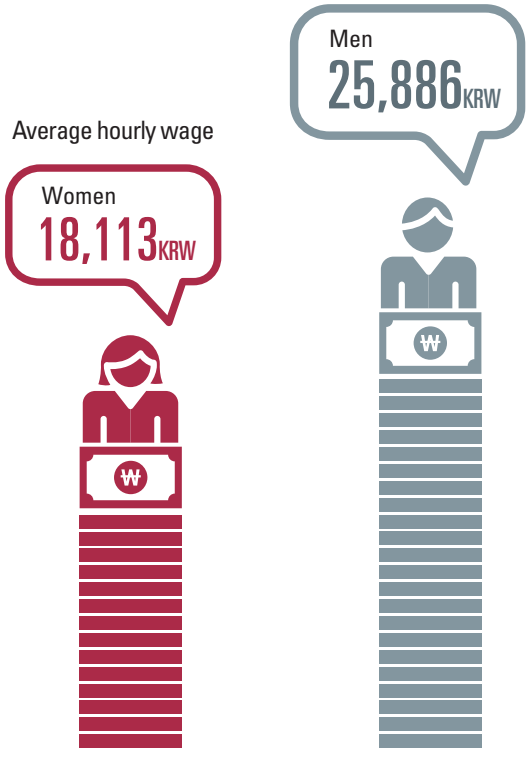

## Increasing the area of Ramsar wetlands



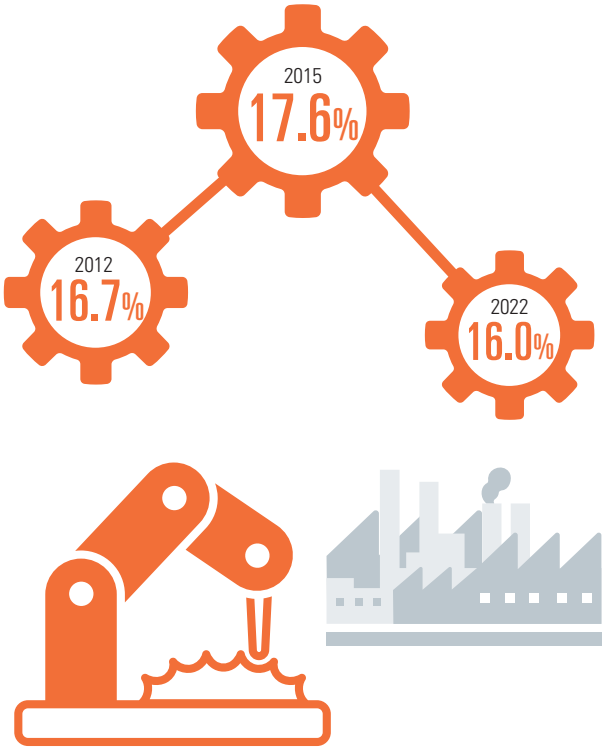

## Share of production by renewable energy type,2022




## Women's wages are 70% of men's, 2022



## Manufacturing employment has been declining in recent years




## Number of asylum aplications and Recognized refugees

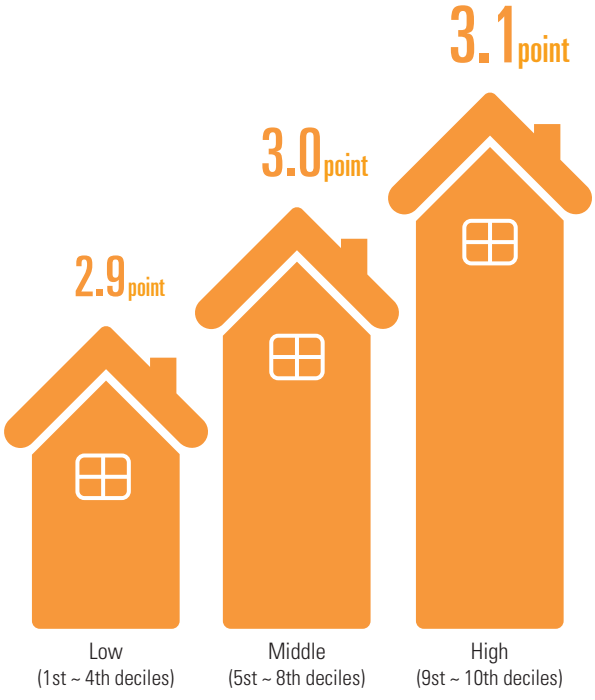
Asylum Aplication

**11,539** case

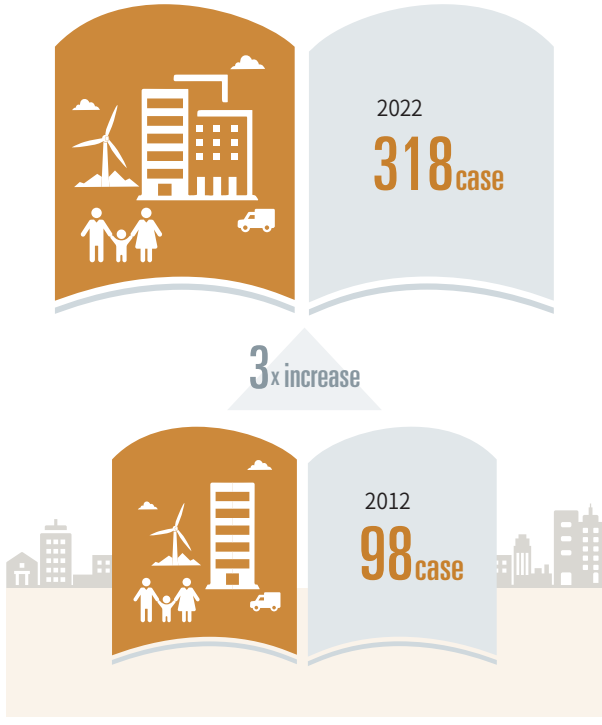
Recognized Refugee

**175** persons

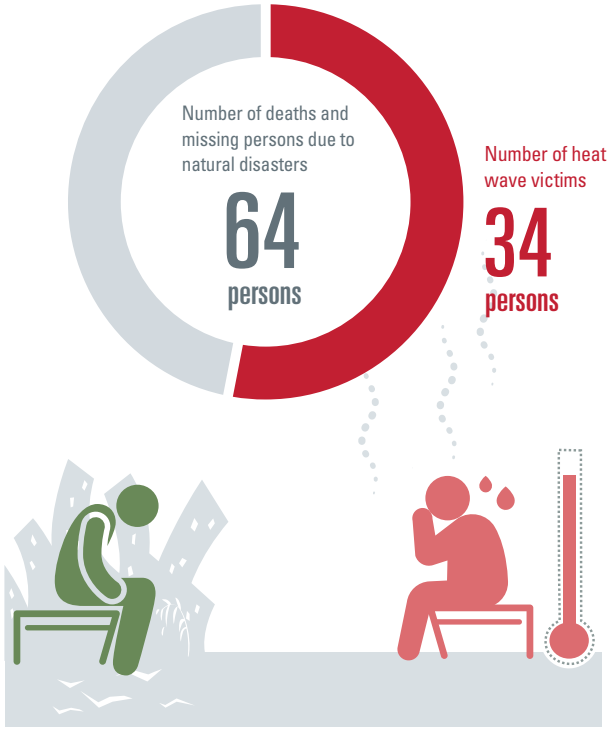
## Gap in satisfaction with residential environments by income level, 2022



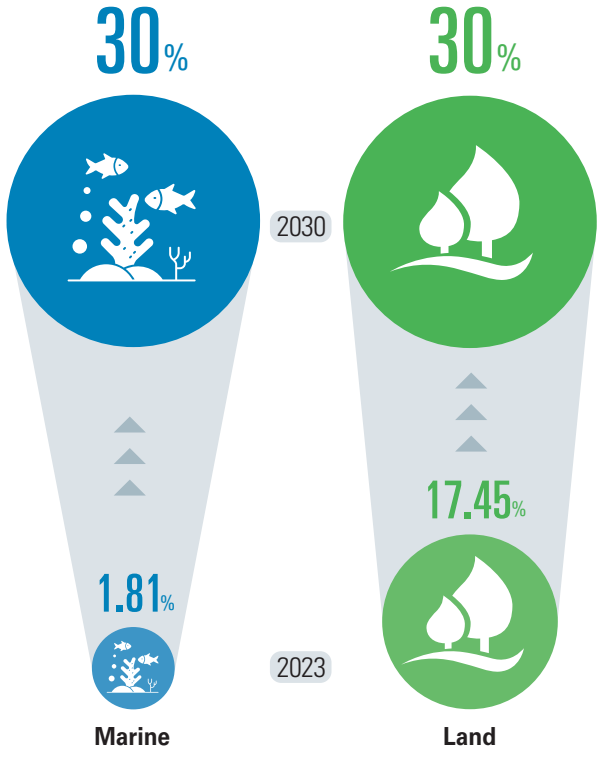

## Number of companies publishing sustainability reports



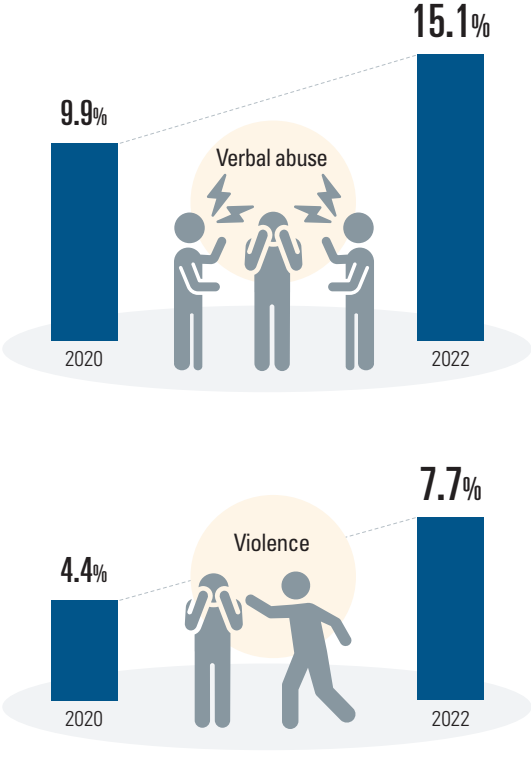
## Human casualties due to natural disasters, 2022



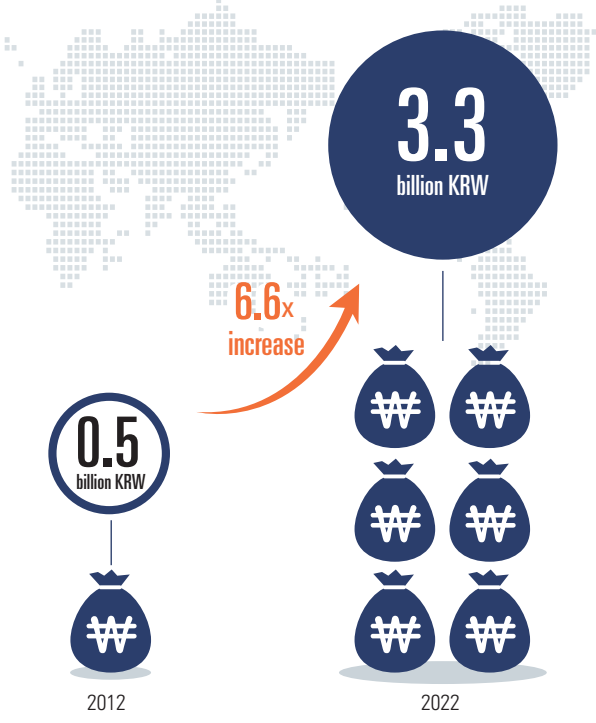

## Increase the proportion of protected ecosystems to 30% by 2030




## Peer violence is back on the rise after a decline during COVID-19




## Statistics Korea's ODA budget size



# 1 NO POVERTY

# End poverty in all its forms everywhere

SDG 1 aims to monitor multi-dimensional poverty that may occur depending on the changing global environments and minimize the effects of disastrous situations on the poor such as infectious diseases and climate change. Therefore, SDG 1 focuses on poverty per se but also on inequality of the market economy that is the main culprit of poverty and on difficulties in accessing various socio-economic resources as well as policy efforts to alleviate such difficulties.

Many countries around the world have responded to the COVID-19 pandemic by expanding social security in recent years. However, the disenfranchised such as children, senior citizens and migrants are still alienated from this legal protection. In Republic of Korea, spending on essential services increased from 127.6 trillion KRW in 2011 to 322.3 trillion KRW in 2023, pushing its proportion up from 41.3% to 50.5% out of the total expenditures. The poverty rate based on disposable income gradually decreased to 15.1% in 2021 from 18.6% in 2011. Looking at the poverty rates by age group, a significant reduction in the poverty rate was observed in the population aged 0 to 17 and 66 to 75. Meanwhile, those aged 76 or older saw a slight decrease in their poverty rate, indicating that income security policies for the elderly have not functioned properly. Compared to Organization for Economic Cooperation and Development(OECD) Countries, Korea has less effects from income distribution policies to alleviate poverty. This is attributed to the fact that the level of social welfare expenditures is still lower than in other countries although the amount itself has been on the rise.

The Proportion of employees covered by employment insurance, a main social security system responding to unemployment, rose from 64.7% in 2011 up to 77.0% in 2023. However, the ratio greatly varies depending on employment types. In 2023, the coverage rate amounted to 91.9% for full-time regular workers whereas the rate stood at 54.2% for non-regular workers. Since the work hours required to sign up for employment insurance are prescribed as 60 hours, part-time workers are left in a blind spot of employment insurance benefits. Meanwhile, in Korea where individuals tend to overcome the limitations of public social security system with the ownership of real estate, the home ownership rate has been on an increase with age.

### Relative poverty rate continues to decline, increasing by 0.1% y/y in 2022 (SDG 1.2.1)

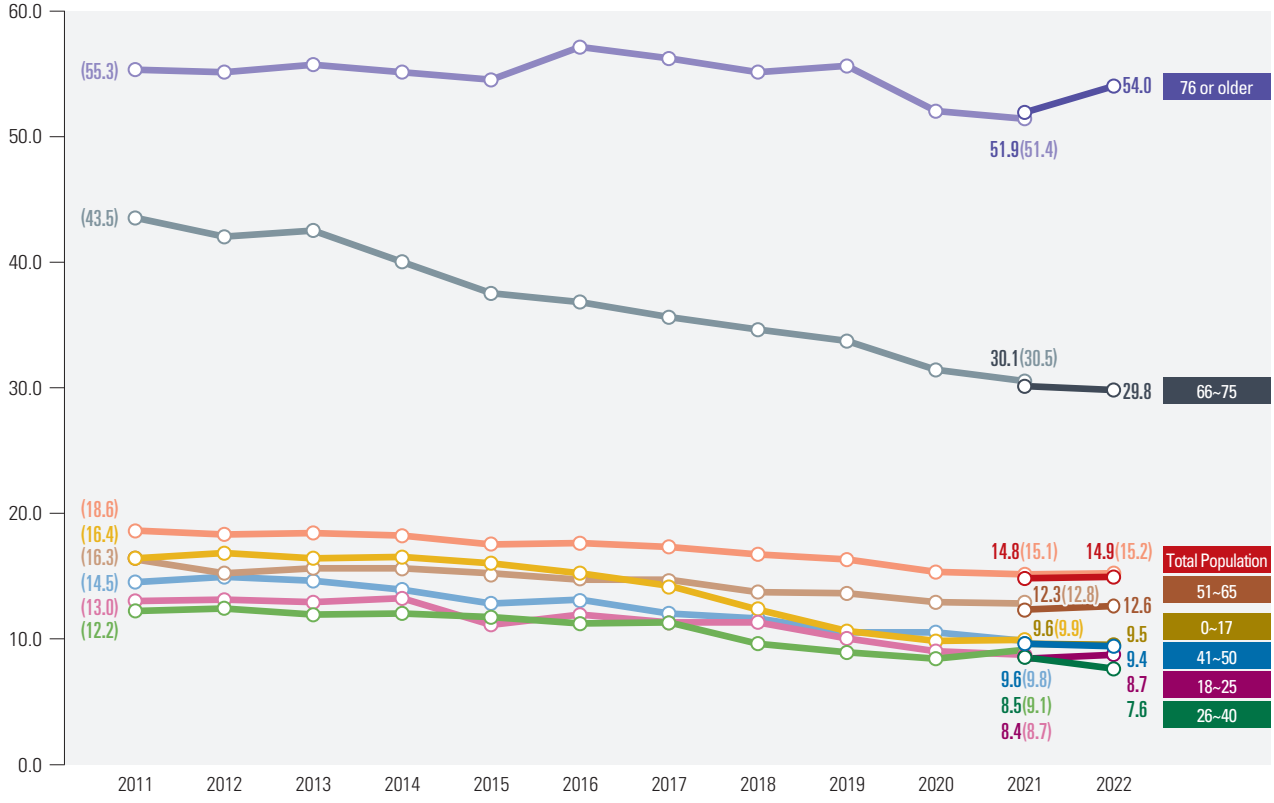
The relative poverty rate refers to the proportion of the poor living below the poverty line (50% or less of the equivalised household median disposable income). In 2022, the poverty line equaled 17.27 million KRW as the equivalised household median disposable income was 34.54 million KRW. Market income refers to the sum of the earned income, business income, property income and private transfer income minus private transfer expenditure while disposable income is calculated by adding public transfer income to the market income less taxes, public pension contributions and social insurance premiums. This information helps to grasp the actual disposable income level of households and can be used as a tool to diagnose effectiveness of income distribution policies by comparing the difference between the poverty rate based on market income and the poverty rate based on disposable income.

Calculated using the 「Survey of Household Finances and Living Conditions」, Korea's relative poverty rate based on disposable income went down from 18.6% in 2011 to 15.1% in 2021, and then slightly increased to 15.2% in 2022. The poverty rate, which had been on a rapid decrease since 2017, fell only by 0.2%p y-o-y in 2021; worse yet, it rose by 0.1%p in 2022. Such a trend is also observed in income data that have been newly identified by complementing income from employment insurance and industrial accident insurance with administrative data. The data shows that the poverty rate declined from 15.1% in 2020 to 14.8% in 2021, but it went up again to 14.9% in 2022.

The relative poverty rates declined in most age groups. In particular, the poverty rate under 18 dropped by 6.5%p from 16.4% in 2011 to 9.9% in 2021. For the same period, the poverty rate for the elderly aged 66 to 75 also saw a decrease by 13.0%p from 43.5% to 30.5%. It indicates that the economic status of households with children has reached a favorable level and financial situation of the early elderly population have also improved. Meanwhile, the poverty rates for the population aged 51 to 65 and those aged 76 or older saw only a modest reduction of 3.5%p from 16.3% to 12.8% and of 3.9%p from 55.3% and 51.4%, respectively. It can be confirmed that there has been little improvement in income among these retirement-age groups in the labor market and income security systems for the late elderly population has not adequately worked.

It is possible to assess poverty alleviation effects from income distribution policies by comparing the poverty rate based on market income with the poverty rate based on disposable income. In other words, the difference between the poverty rate based on market income and the poverty rate based on disposable income, divided by the poverty rate

**Relative Poverty Rate based on Disposable Income by Age Group, 2011~2022** (Unit: %)



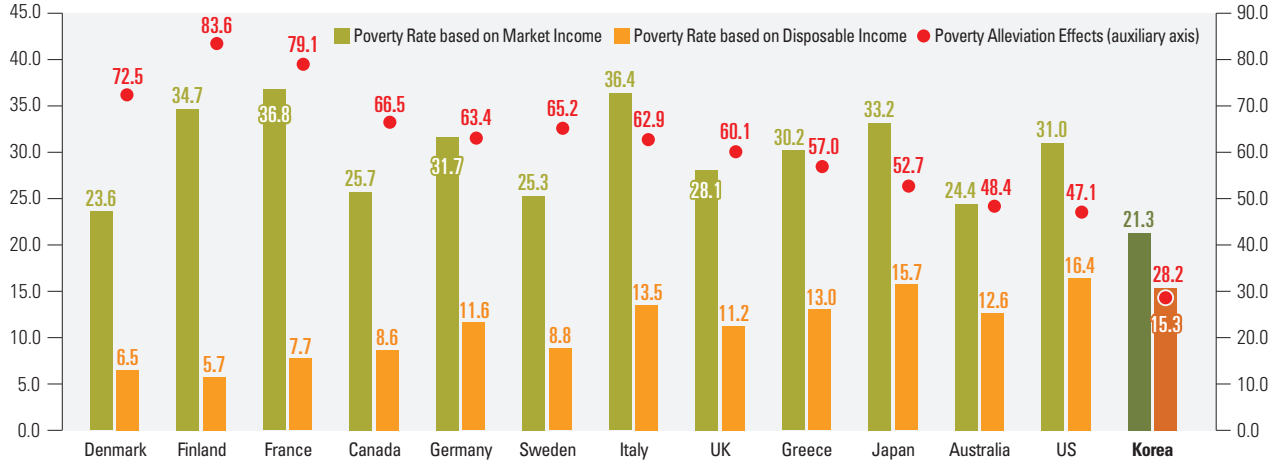

Source: Statistics Korea·Bank of Korea·Financial Supervisory Service, Survey of Household Finances and Living Conditions (https://kosis.kr, retrieved on Dec 07, 2023)

Note1 : The disposable income was calculated based on the formula 'market income+public transfer income – public transfer expenditure' and the market income based on the formula 'earned income+business income+property income+private transfer income–private transfer expenditure

Note2 : Relative poverty rate is the percentage of the total population with incomes below the poverty line (50% of median income based on equalized disposable income)

Note3 : Income from the employment insurance/industrial accident insurance out of public transfer income was calculated based on the administrative data starting from 2022, making it difficult to directly compare with the income distribution index prior to 2021. Figures before administrative supplements are shown in bracket

**Poverty Alleviation Effects in Major Countries, 2020** (Unit: %)




Source: OECD.Stat, Income Distribution Database (https://stats.oecd.org, retrieved on Oct 03, 2023)

Note1 : The effects of poverty alleviation were calculated by dividing the difference between the poverty rate of the market income and the poverty rate of the disposable income by the poverty rate of the market income

Note2 : The data was based on the year 2019 for Denmark and 2018 for Japanrate based on disposable income by the poverty rate of the market income

based on market income can be understood as the effects of poverty reduction. In 2020, the poverty rate based on market income was equal to 21.3% while the poverty rate on disposable income stood at 15.3% in Korea, based on which the effects of poverty alleviation can be calculated as 28.2%. Korea is one of the countries that tend to have a low poverty rate based on market income and a relatively higher poverty rate based on disposable income. Countries similar to Korea include Australia, and the United States. The poverty reduction effects from income distribution policies in these countries stood at 48.4% in Australia, and 47.1% in the United States. According to the OECD Social Protection Statistics (SOCX), Korea's public social expenditure in 2020 was 14.4% of GDP, of which cash benefits were 6.7% of GDP, one of the lowest among the comparable countries. In a nut shell, the scale of redistribution through public transfer itself is not large.

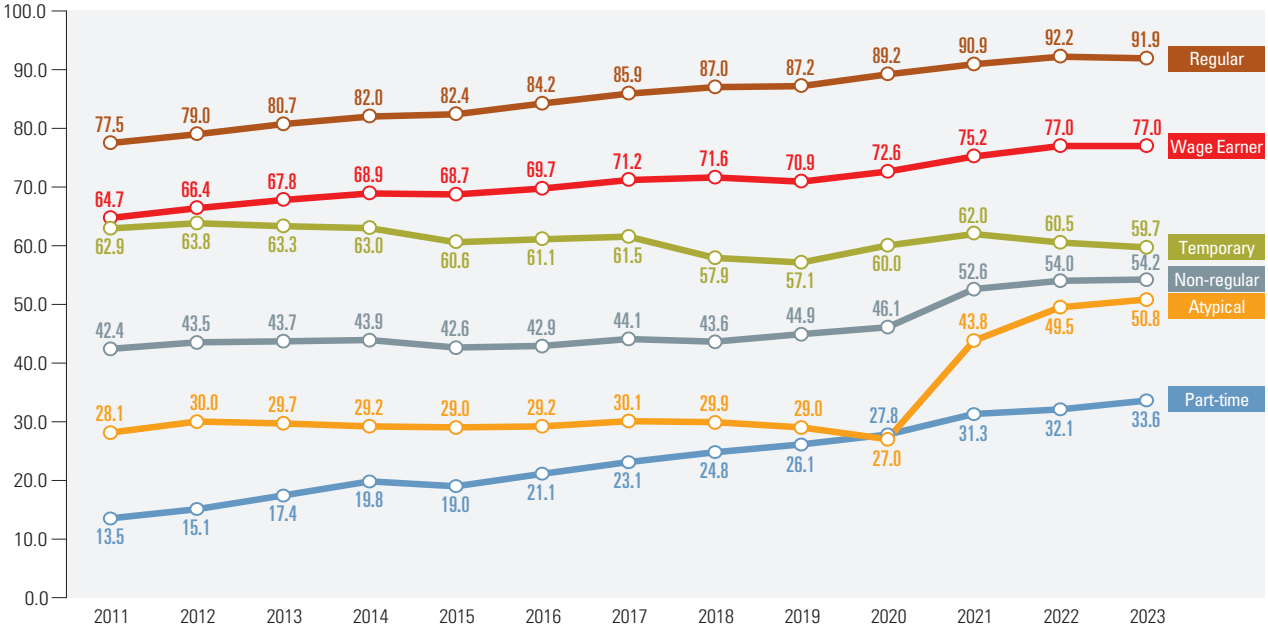
### Although there is a huge difference in the employment insurance coverage rates by employment type, the gender gap has narrowed (SDG 1.3.1)

Employment insurance is a social security system that consists of two main programs as follows: job security/vocational development and unemployment benefits. The former program is to prevent unemployment, promote employment, enhance vocational skills of workers and reinforce the nation's vocational guidance and job placement services. The latter aims to support the unemployed who desire to get a job, helping them maintain their livelihood during the period of unemployment by paying a certain amount of benefits.

Among them, the unemployment benefits serve as a crucial safeguard for youth, non-regular workers and immigrants to secure some income. To be eligible for unemployment benefits, one must be covered by employment insurance for at least 180 days in 18 months (30 weeks based on 5-day workweek) from the end date of employment. Thus, the actual coverage of the income security system can be assessed based on the rate of employees covered by employment insurance. Employees who work for 60 hours or longer each month are obligated to have employment insurance (applicable to those who continue to provide labor for three months or longer and daily workers hired for less than one month). Due to this reason, the coverage rate of employment insurance is low for short-term and part-time jobs. The government has steadily eased conditions for



**Coverage Rate of Employment Insurance among Wage Workers by Employment Type, 2011~2023** (Unit: %)

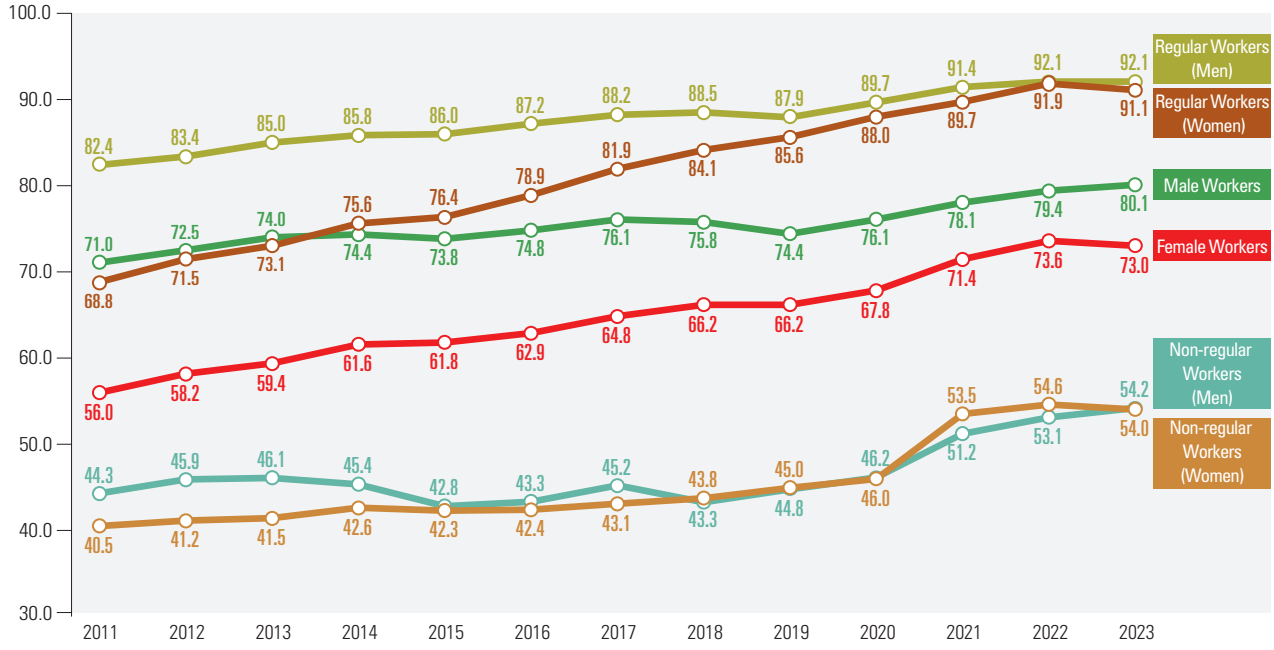



Source: Statistics Korea, Economically Active Population Survey (https://kosis.kr, retrieved on Oct 31, 2023)

Note1 : It is necessary to distinguish data before 2018 and after 2019 for comparison between temporary, non-regular and regular workers who are affected by the number of part-time workers additionally captured in 2019

Note2 : Public servants, private school teachers/staff and postal employees in special services are excluded from the survey since they are not subject to the coverage of employment insurance

**Relative Poverty Rate based on Disposable Income by Age Group, 2011~2022** (Unit: %)




Source: Statistics Korea, Economically Active Population Survey, each year, Additional data was analyzed for each employment type

eligibility to further expand the coverage.

As a result, the coverage rate of employment insurance among employees increased from 64.7% in 2011 to 77.0% in 2023. However, there is still a considerable difference depending on employment types. In 2023, the employment insurance coverage rate for regular workers will reach 91.9%, but only 54.2% for non-regular workers. Out of non-regular workers, the coverage rate was relatively high for temporary workers at 59.7%, followed by 50.8% for atypical workers and 33.6% for part-time workers.

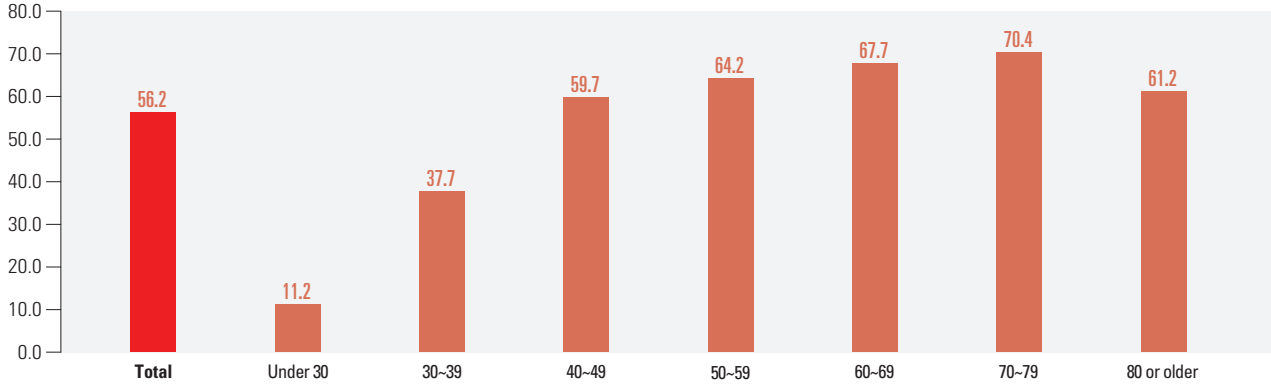
That said, the gender difference in employment insurance coverage has gradually narrowed. In 2011, the coverage rate of regular workers stood at 82.4% for men and 68.8% for women, showing a gap of 13.6%p, but the gap largely decreased in 2023, with 92.1% for men and 91.9% for women. For the same period, the same trend was witnessed for non-regular workers. The coverage rates for men and women changed from 44.3% and 40.5% to 54.2% and 54% respectively, indicating a narrowed gap from 3.8%p to 0.2%p.

## A rise in housing ownership rate together with age (SDG 1.4.2)

The Sustainable Development Goals use the ratio of land ownership as a major indicator for poverty alleviation. This is because land ownership can serve as a crucial instrument for the vulnerable to ease their poverty as land can attract investment and be used as collateral for economic activities. SDGs measure the proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure. In Korea, housing costs are one of main elements affecting finances of the vulnerable. The place of residence, including housing conditions, access to sanitary facilities and other infrastructure, can make a huge impact on our life (OECD, 2015: 68). For this reason, access to basic sanitation, the number of rooms in the home and hosing costs are used as indicators to measure the quality of life. Among them, housing costs are deeply related to the home ownership rate.

「Statistics on Housing Ownership」 compiled by Statistical Korea based on legal home ownership captures a snapshot of the housing ownership status of individuals and households. According to the statistics, in 2022, the number of housing-owning individuals stood at 15.309 million, the number of households is 12.23 million, and they owned 16.448 million housing units in 2022. By age group of household heads, home ownership rates were 11.2% for the population under 30, 7.7% for those in their 30s, 59.7% for those in their 40s,

**Housing Ownership Rate by Age Group of Household Heads, 2022** (Unit: %)




Source: Statistics Korea, Home Ownership Statistics in 2022 (https://kosis.kr, Dec 30, 2023)

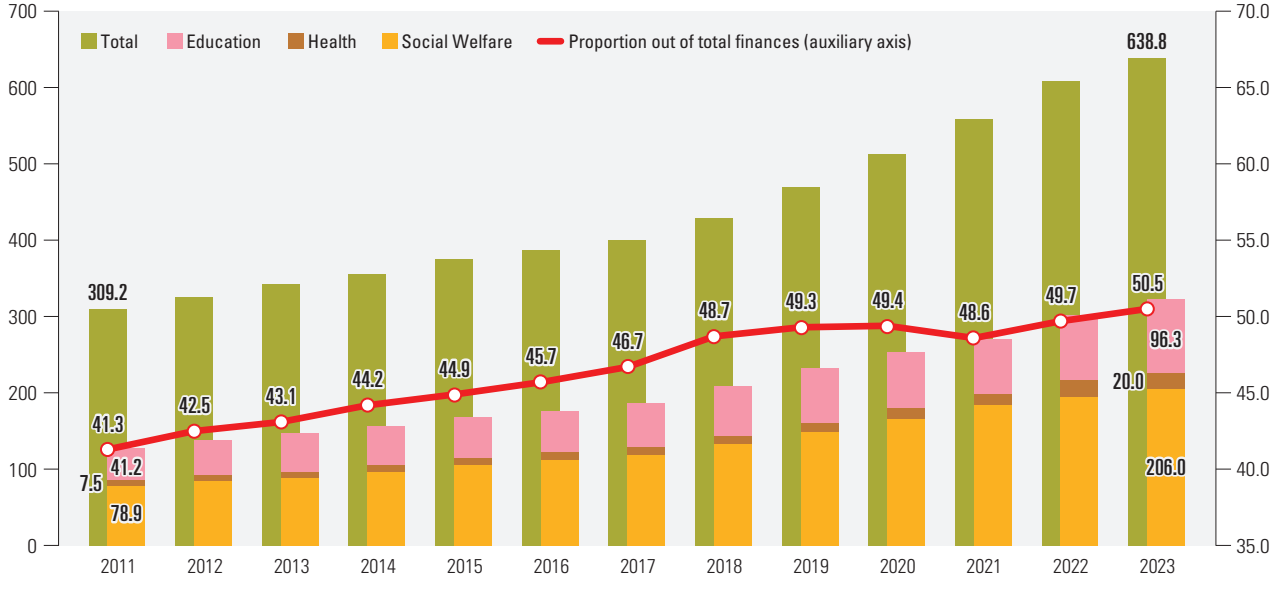
64.2% for those in their 50s, 67.7% for those in their 60s, 70.4% for those in their 70s, and 61.2% for those aged 80 or older. The number of housing-owning households tends to increase with age. Policy attention is needed for younger households with lower housing ownership as housing rents can impose a financial burden on these households.

## Expenditures on education, health and social welfare has exceeded the 50% mark (SDG 1.a.2)

In the SDGs, indicators such as pro-poor social welfare spending (SDG 1.b.1) and spending on essential services (education, health and social protection) (SDG 1.a.2) represent the government's efforts to alleviate poverty. Out of Korea's 16 major expenditure items, spending on education, health and social welfare rose from 127.6 trillion KRW in 2011 to 322.3 trillion KRW in 2023, and their ratio of the total spending also went up from 41.3% to 50.5% over the same period.

Education spending rose from 41.2 trillion KRW in 2011 to 96.3 trillion KRW in 2023. Health spending significantly increased from 7.5 trillion KRW in 2011 to 22.7 trillion KRW in 2022 due to the response to the COVID-19 pandemic and then went down to 20 trillion KRW in 2023. Social welfare expenditures also rose from 78.9 trillion KRW in 2011 to 206 trillion KRW in 2023, driving an increase in essential service spending.

**Appropriations by field of Education, Health and Social Welfare, 2011~2023** (Unit: 1 trillion KRW, %)




Source : Ministry of Economy and Finance, Open Fiscal Data (https://www.openfiscaldata.go.kr, retrieved on Aug 30, 2023)

# 2 ZERO HUNGER

# End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 2 aims to end hunger and secure food production systems that enable the provision of quality nutrition beyond the supply and consumption of a sufficient amount of food. Ending hunger and malnutrition is one of the largest global challenges of the current generation. According to the「State of Food Security and Nutrition in the World (SOFI) 2022」, issued by the Food and Agriculture Organization of the United Nations (FAO), the number of hungry people around the world stood at 828 million in 2021, up by 46 million from the previous year. This figure has risen by 150 million since the outbreak of COVID-19. Although the world has endeavored to eradicate hunger, food insecurity and malnutrition, the actual number of hungry population has increased.

With recently growing global uncertainties due to the new cold war, anti-globalization and climate crisis, more eyes are on food security. In particular, it is worrisome that food accessibility of the low-income population, relatively vulnerable to economic fluctuations may deteriorate as the low-growth trends continue. This can have negative impacts on health and nutritional status of the people. Thus, to enhance the overall nutrition level of the vulnerable, it is necessary to ensure quality together with quantitative satisfaction of food intake. As nutritional status could be also affected by age and type of households, it is important to pay attention to changes in demographic structure and households. In this aspect, nutritional status of the people can be identified by analyzing the degree of nutritional intake, food accessibility of the vulnerable and prevalence of anemia among women.

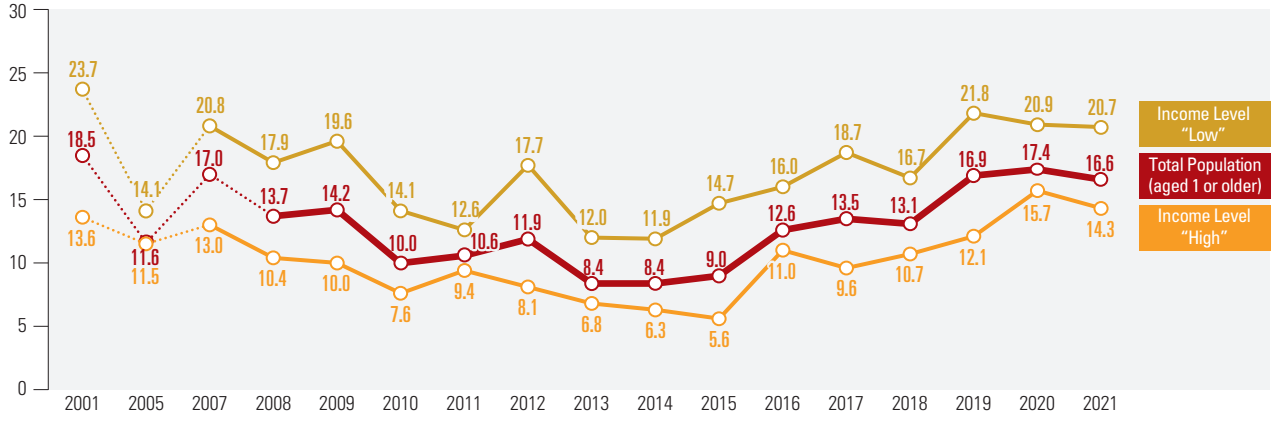
In terms of food supply, Republic of Korea has a low self-sufficiency rate for major grains, except for rice. To ensure security of the food supply, it is crucial to understand the nation's actual state of agricultural production bases. To be specific, it is especially important to secure and maintain the stable agricultural production bases, including arable areas and agricultural labor force. For arable land that serves as a key production element for a stable supply of food, effective management and conservation is required in terms of both quality and quantity. Especially, with the aging agricultural workforce, it is necessary to pay keen attention to the agriculture labor force, so as to secure agricultural productivity. In this sense, it is crucial to keep track of the changes in agricultural labor productivity. Additionally, efforts should be made to ensure the stable procurement of grains from the global market. Furthermore, the government investment in agriculture is also one of factors contributing to sustainability of agriculture. The Agriculture Orientation Index (AOI) represents the degree of the government investment in agriculture relative to agricultural conditions of each nation. By comparing this index with other countries, it is possible to assess whether the level of Korean government's investment in agriculture is adequate.



## Overall growing trend in the percentage of the undernourished (SDG 2.1.1)

Unlike the past when people suffered from malnutrition, today we are living in an over-nourished society due to economic growth, income increase, development of the food industry and expansion of food trade. However, there are still population who are undernourished due to their income levels and dietary lifestyle. Undernourishment refers to a

**Percentage of Undernourished Population by Income Level, 2001~2021** (Unit: %)



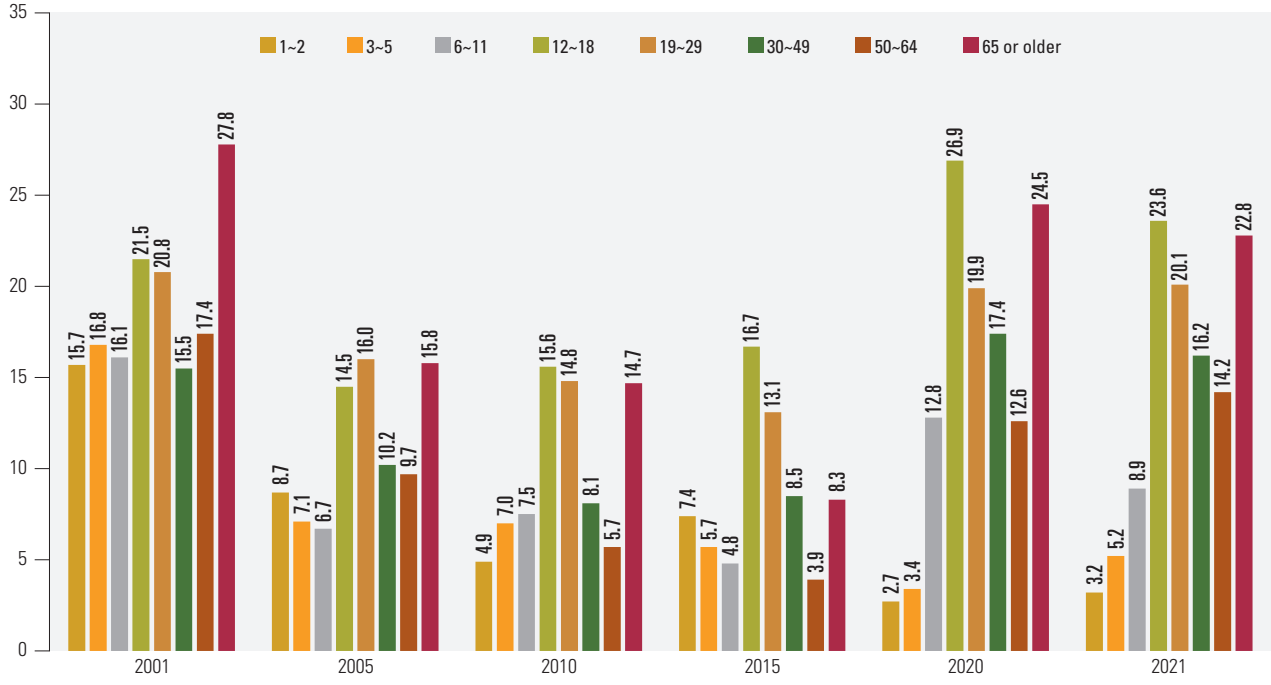

Source : Korea Disease Control and Prevention Agency, National Health & Nutrition Survey (https://kosis.kr, retrieved on Dec 10, 2023)
Note1 : Standardized age based on the projected population in 2005
Note2 : Income levels are classified in quintiles (High/medium-high/medium/medium-low/low) of equivalized monthly household income (monthly household income/No. of household members) by sex and age (in an interval of 5 years)

condition in which energy intake is less than 75% of the required amount and the intake of calcium, iron, vitamin A and riboflavin is less than the average amount required.

According to the National Health and Nutrition Survey conducted by the Korea Disease Control and Prevention Agency, the percentage of the undernourished out of the total population decreased from 18.5% in 2001 to 8.4% in 2014. Later, however, it rose again to 17.4% in 2020. Most recently, such an upward trend stopped at 16.6% in 2021.

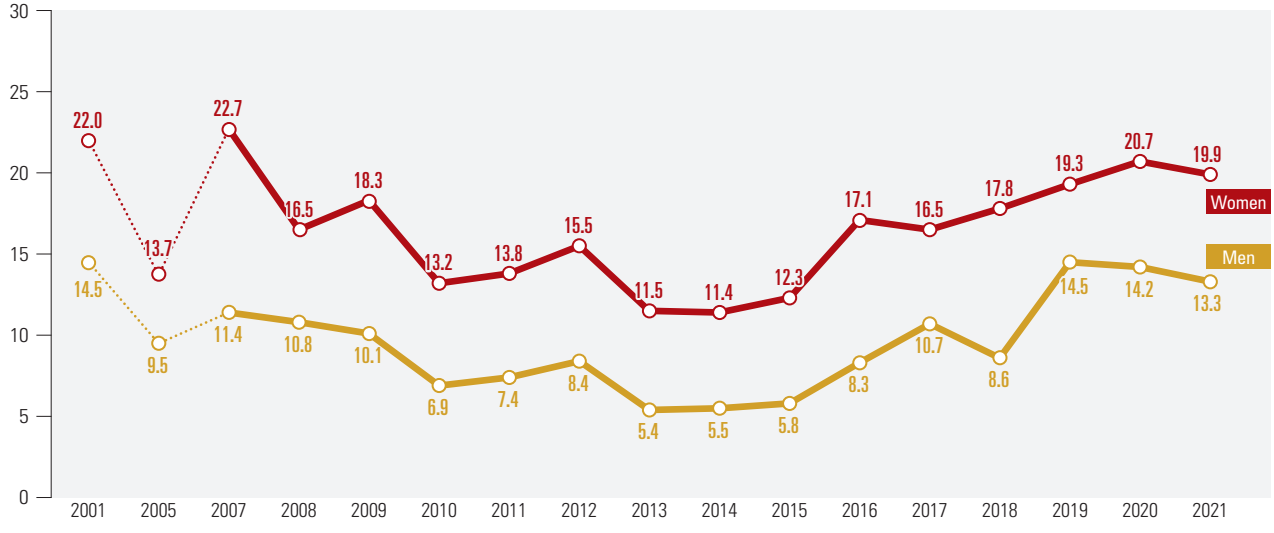
By income level, the undernourishment rate in the high-income class stood at 14.3% in 2021, 6.4%p lower than 20.7% among the low-income group in the same year. While there is a difference in the rate of undernourishment depending on the income levels, the rate has risen in both income classes for the recent years.

**Percentage of Undernourished Population by Age Group, 2001~2021** (Unit: %)




Source : Korea Disease Control and Prevention Agency, National Health & Nutrition Survey (https://kosis.kr, retrieved on Dec 10, 2023)

**Percentage of Undernourished Population by Sex, 2001~2021** (Unit: %)




Source : Korea Disease Control and Prevention Agency, National Health & Nutrition Survey (https://kosis.kr, retrieved on Dec 10, 2023)
Note : Standardized age based on the projected population in 2005

The levels of nutritional intake are different between men and women due to their dietary lifestyle and habits. By sex, the rate of undernourishment has been higher among women than men. In 2021, the rates for men and women were 12.4% and 19.9% respectively, indicating that women were 6.6%p more undernourished. The gender gap in the undernourishment rate was the smallest at 4.2%p in 2005 and the highest at 11.3%p in 2007. Recently, the gap slightly widened from 4.8%p in 2019 to 6.6%p in 2021.

The recent increase in the nourishment rate is attributed to various reasons, such as aging population, the rise in single-person households, and changes in lifestyle. With a growing number of the elderly population, senior citizens normally engage in fewer physical activities and have difficulties in chewing and digesting food due to tooth loss, experiencing imbalanced nutritional intake. Moreover, as an increasing number of senior citizens live alone, they often skip their meals due to living conditions or economic reasons, failing to intake sufficient nutrients as required. In addition, even ng younger generations, many among younger generations, many individuals go on a fast, , eat one type of food to cut weight, skip their meals on the excuse of a busy schedule or simply rely on instant food.

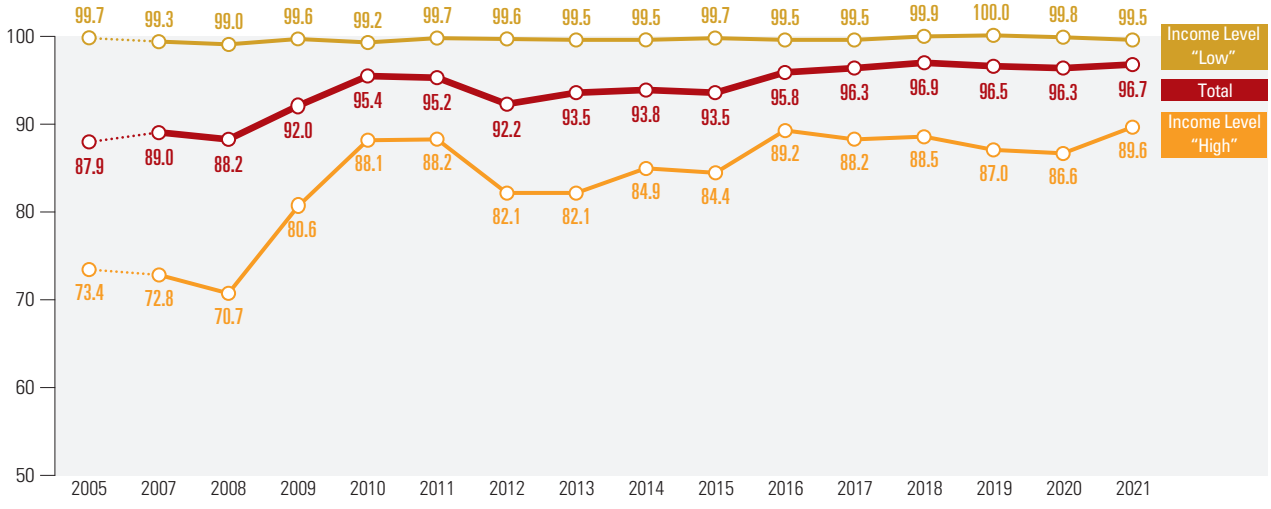
As mentioned earlier, there are many reasons behind the increase in the undernourishment rate. In terms of nutritional intake, it is crucial to ensure adequate and balanced intake of carbohydrates, proteins and fats, which generate energy in the human body, and minimize nutritional imbalance. The causes for undernourishment could vary depending on demographic characteristics and living conditions. Therefore, it is necessary to come up with measures for tailored dietary improvement and nutrition reinforcement based on more detailed analysis. Active training and provision of information can be helpful in encouraging the balanced nutritional intake during daily life and contributing to the promotion of public health.

### Attention and efforts needed to improve the dietary lifestyle of the vulnerable (SDG 2.1.2)

Stable intake of food can be measured by how sufficiently and how diversely individuals consume food. To measure this, the proportion of households with food security, one of measures that assess the level of food insecurity, can be used as an indicator. The proportion of household with food security refers to the percentage of households that answered that 'all of our family members were able to eat various kinds of food as much as we wanted' or 'all or our family members were able to eat food as much as we wanted, but were not able to have various kinds of food' regarding their dietary conditions for the recent one year. The survey was conducted on members of households mainly responsible for purchase of groceries.

According to the National Health and Nutrition Survey compiled by the Korea Disease Control and Prevention

**Percentage of Households with Food Security, 2005~2021** (Unit: %)




Source : Korea Disease Control & Prevention Agency, National Health & Nutrition Survey (https://kosis.kr, retrieved on Dec 10, 2023)
Note : Percentage of Households with Food Security = (Households with food security ÷ Total households) × 100

Agency, the percentage of households with food security gradually increased from 87.9% in 2005 to 96.7% in 2021. It can be understood that over the same period the percentage of households experiencing food insecurity declined from 12.1% to 3.3%. With the rise in income, households' overall food accessibility is also improving. When analyzed by income level, the high-income class has steadily maintained a high level of food security at 99% or higher since 2005. Even in the low-income class, the percentage rose from 73.4% in 2005 to 89.6% in 2021, demonstrating some improvement in dietary conditions. However, there is still a gap of 9.9%p compared to the high-income class.

The dietary conditions would be even worse for single-person and elderly households with low income. This means that these households might have difficulties in having sufficient and diverse food. Although the issue of abject poverty has been resolved, the vulnerable's low accessibility to quality food indicates that there should be more efforts to enhance stable food accessibility and nutrition for better quality of life.

### Attention needed to recently growing prevalence of anemia among women (SDG 2.2.3)

Poor nutrition can lead to anemia. Anemia can be attributed to various reasons, such as iron deficiency, malnutrition and chronic inflammation. In most cases, it is due to iron deficiency. It occurs when the body fails to absorb iron from food due to blood loss or insufficient dietary intake. This is because anemia has a lot to do with balanced nutrition intake. The prevalence of anemia is defined as the concentration of hemoglobin in blood as follows: less than 11.5g/dL for 10- to 11-year-olds, less than 12g/dL for 12- to 14-year-olds, less than 12g/dL for non-pregnant women aged 15 or older and less than 11g/dL for pregnant women aged 15 or older.

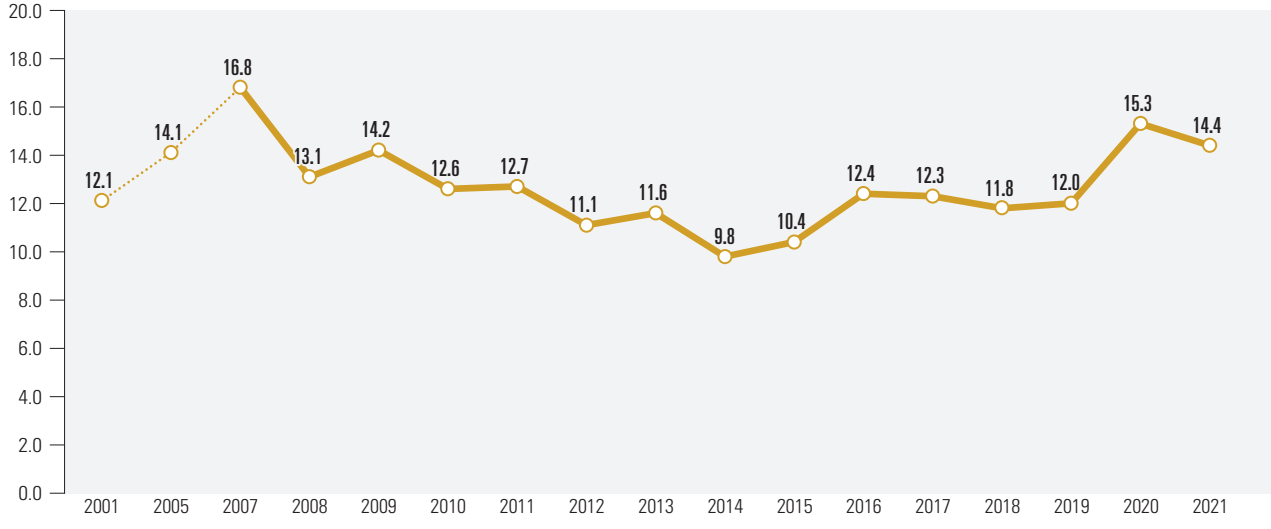
The prevalence of anemia is usually higher in women than in men. In addition, children and adolescents may experience anemia due to their growth that requires more iron, making their body relatively insufficient in iron. In particular, young women are known to have a higher prevalence of anemia than men due to a greater loss of iron during menstruation.

The prevalence rate of anemia among women aged 10 or older stood at 14.4% in 2021. While it's a decline of 0.9%p from the previous year, but it's 4.6%p higher than the lowest prevalence of 9.8% in 2014. Especially, given the fact that the prevalence of anemia has recently been on a rise among women, it is necessary to pay attention to prevention of anemia by expanding nutritional education.

### A recent decline in labor productivity due to aging of agricultural population and investment limitations (SDG 2.3.1)

Agricultural labor productivity refers to the output obtained as a result of labor inputted to agriculture. It can be obtained

**Prevalence Rate of Anemia in Women Aged 10 or Older, 2001~2021** (Unit: %)

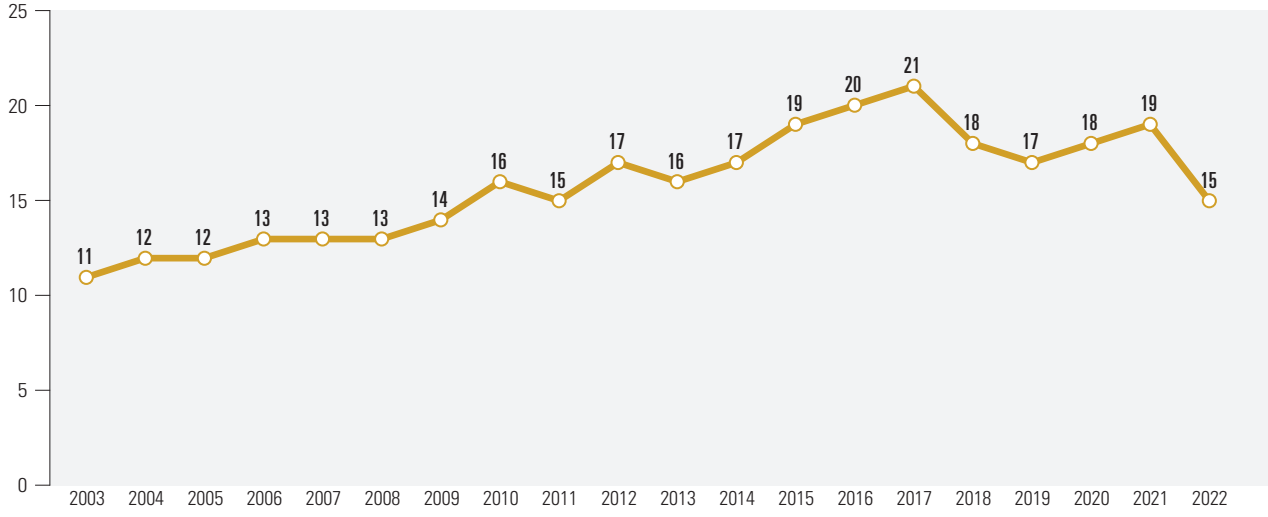



Source : Korea Disease Control & Prevention Agency, National Health & Nutrition Survey (https://kosis.kr, retrieved on Dec 10, 2023)

by dividing agricultural contributions by the working hours of independent farmers. Together with capital productivity, labor productivity is an indicator widely used to compare economic efficiency between agriculture and other industries or between farms.

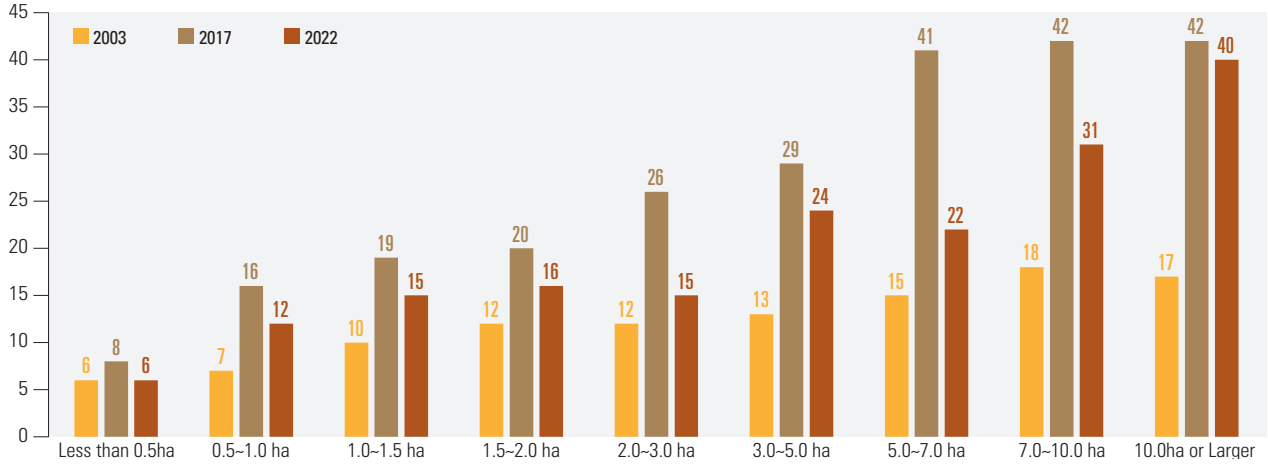
The first and foremost factor of increasing labor productivity is a rise in the real capital per worker. It means that an increase in the amount of real capital through investment spending can lead to growth of investment goods. The second factor is an increase in human capital per worker. Human capital refers to labor quality enhanced through education and knowledge the la acquired by labor force. The third factor is technological advancement. Technology refers to methods to produce goods and services, and investments in R&D are important to develop and commercialize new technologies. In other words, labor productivity can grow when laborers are equipped with more real capital, human capital and advanced technologies if all other conditions are the same.

**Agricultural Labor Productivity, 2003~2022** (Unit: 1,000 KRW per hour)




Source : Statistics Korea, Farm Households Economy Survey (https://kosis.kr, retrieved on Dec 10, 2023.12.10)

**Agricultural Labor Productivity by Size of Arable Land, 2003~2022** (Unit: 1,000 KRW)




| Annual Average Change (%) | Total | Less than 0.5 ha | 0.5~Less than 1.0ha | 1.0~Less than 1.5ha | 1.5~Less than 2.0ha | 2.0~Less than 3.0ha | 3.0~Less than 5.0ha | 5.0~Less than 7.0ha | 7.0~10.0ha 미만 | 10.0ha or more |
|---|---|---|---|---|---|---|---|---|---|---|
| **2003~2022** | 1.6 | 0.0 | 2.9 | 2.2 | 1.5 | 1.2 | 3.3 | 2.0 | 2.9 | 4.6 |
| **2017~2022** | -6.5 | -5.6 | -5.6 | -4.6 | -4.4 | -10.4 | -3.7 | -11.7 | -5.9 | -1.0 |

Source : Statistics Korea, Farm Household Economy Survey (https://kosis.kr, retrieved on Dec 10, 2023)

The agricultural labor productivity amounted to 15,000 KRW per hour in 2022. It's an increase of 1.6%p on an annual average from 11,000 KRW in 2003. It has been considered as a result of an increase in agriculture-related real capital and human capital as well as technological development. However, it is worth noting that the agricultural labor productivity has been on a decrease for the recent years since its peak at 21,000 KRW in 2017. With aging of agricultural labor force and a rising proportion of single-person farm operators, smaller farms may find it more difficult to attract human and physical investment, potentially experiencing stagnation or a decline in labor productivity.

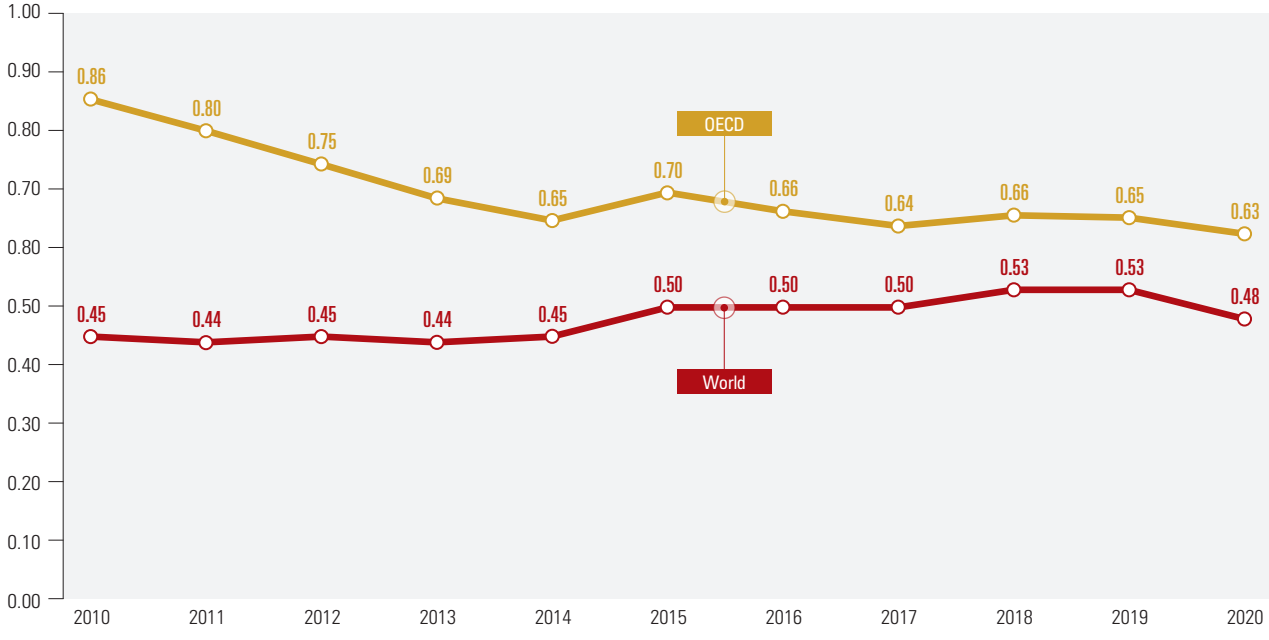
### The Korean government's higher spending on agriculture than the OECD average to secure food security (SDG 2.a.1)

The Agriculture Orientation Index (AOI) indicates the relative share of agricultural spending out of the government's total expenditures, divided by agricultural share of GDP. An AOI greater than 1 means that the proportion of agricultural expenditures out of the government's spending is relative larger than the agricultural share of GDP whereas an AOI less than 1 indicates that the government's expenditures on agriculture is relatively small compared to the agricultural contributions of GDP.

The global average of the AOIs from 2010 to 2020 announced by the FAO stood at 0.48 while the average of 38 OECD countries was equal to 0.70. This shows that agricultural spending is higher in OECD member countries than in non-member states; however, it is lower than the agricultural contributions to GDP. And the trend in spending is dawnward. In 2020, the AOI for OECD members was 0.63. There are six countries with an AOI greater than 1 as follows: Luxembourg (3.21), Switzerland (2.71), Japan (1.98), Korea (1.80), the Czech Republic (1.37) and Ireland (1.03). Except for the Czech Republic, all the five countries have a low self-sufficiency rate for grains at 50% or less.

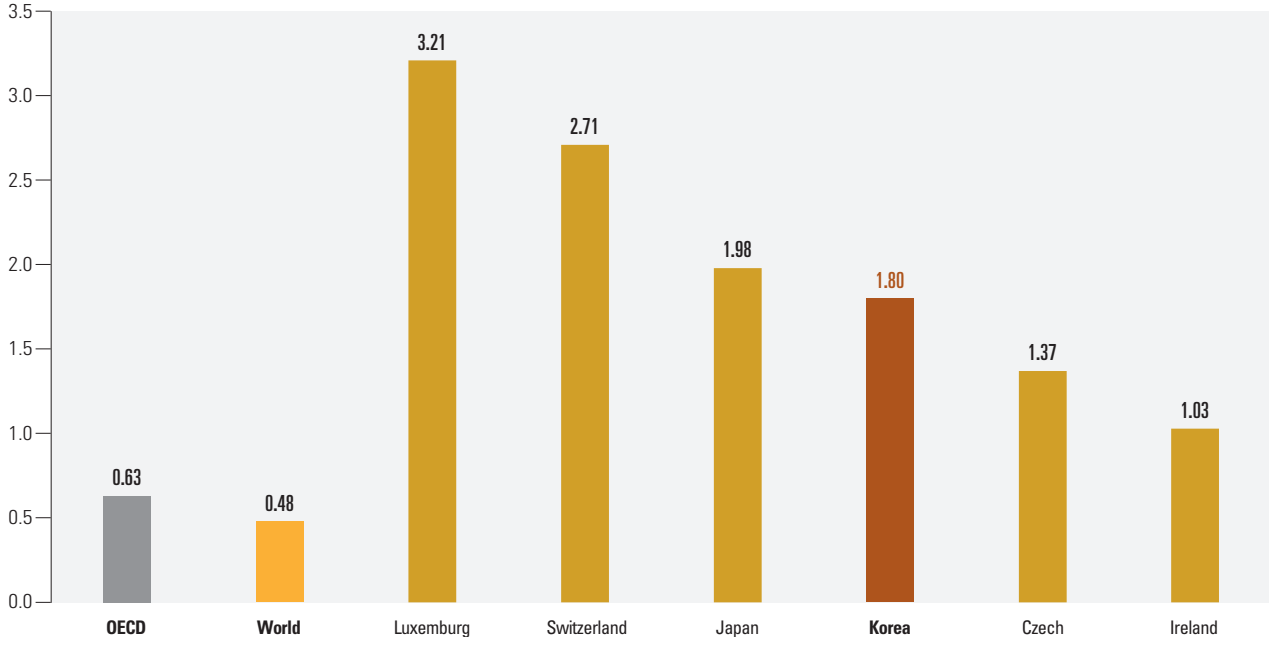
That said, a higher AOI is not necessarily desirable. As it is an index that shows the level of the government's financial investment in agricultural output relative to its contribution to the national economy, the desirable size of an AOI can vary depending on each country's food production conditions, financial levels and national consensus. However, as seen above, most countries with an AOI of 1 or higher rely on imports of essential grains such as rice, wheat and corn. To ensure a stable supply of food and nutrition to the people, countries with small arable land vis-a-vis population like Korea, Japan and Switzerland tend to invest more in agriculture than agriculture's economic contributions.

**World & OECD Average of Agriculture Orientation Indexes, 2010~2020**




Source : FAO, AOI for government expenditures dataset (https://www.fao.org/sustainable-development-goals-data-portal, retrieved on Dec 13, 2023)

**OECD Average and Agriculture Orientation Index of Major Countries, 2020**



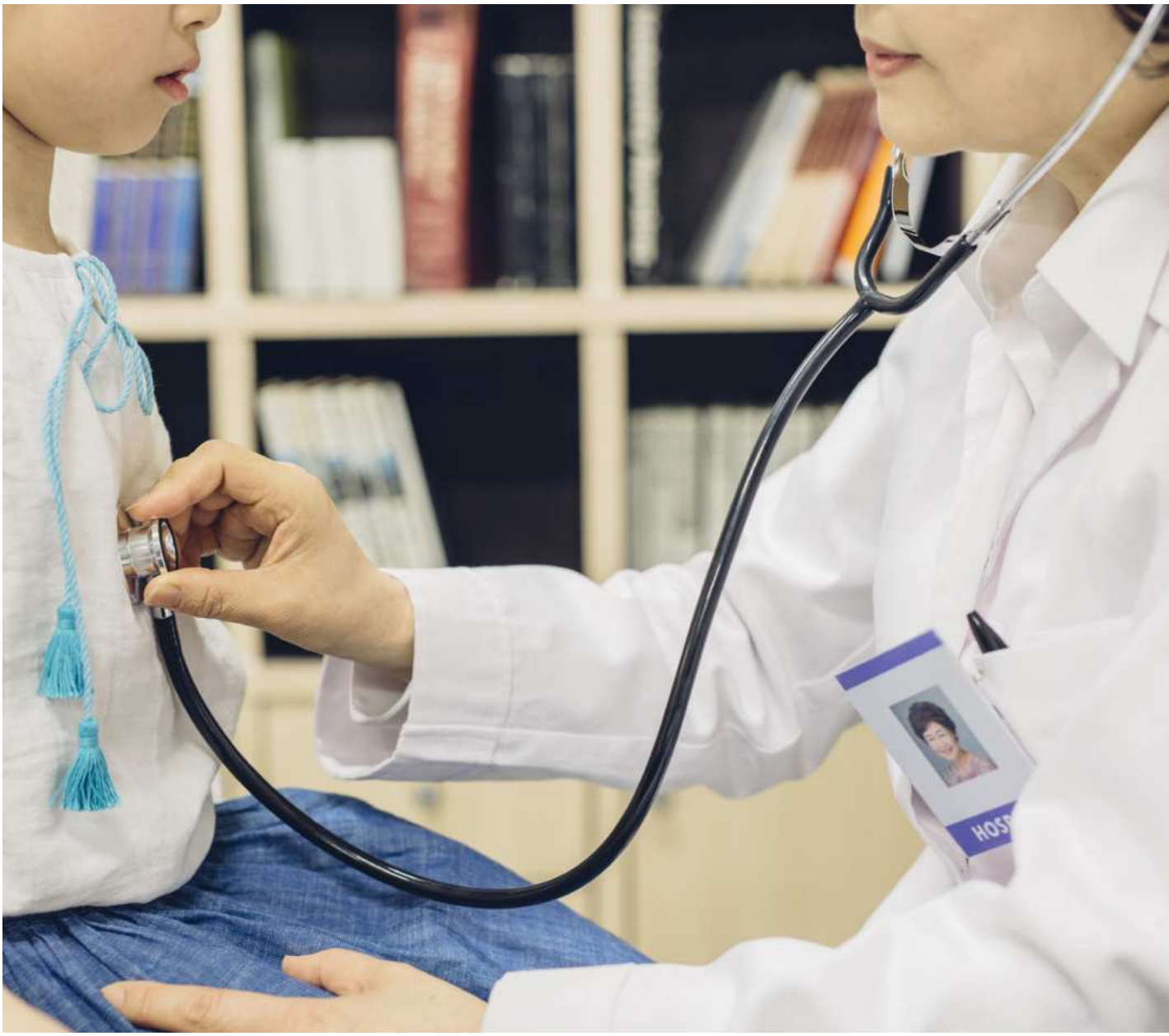

Source : FAO, AOI for government expenditures dataset (https://www.fao.org/sustainable-development-goals-data-portal retrieved on Dec 13, 2023)
Note : Out of OECD member countries, there are six nations whose AOI is bigger than 1



Definition

- **Agriculture Orientation Index (AOI)** : It is defined as the agriculture share of government expenditure relative to its contribution to national economy. A value greater 1 means that the agriculture share of government expenditures is relatively bigger than the agriculture share of GDP

# 3 GOOD HEALTH AND WELL-BEING



# Ensure healthy lives and promote well-being for all at all ages

Emphasizing the provision of high-quality healthcare services to all, SDG 3 aims to ensure the right to health for all the people around the world. To achieve this, many countries, led by the World Health Organization (WHO), have worked to put in place a response system against infectious diseases for a long time. In addition, they have also strived to improve the health of the vulnerable, including women and children, and create infrastructure for better access to essential medical services. While we have dreamed of a healthy society leaving no on behind based on such a robust healthcare system, the unanticipated COVID-19 pandemic has remined us of the limitations of our public health system's ability to respond to crises like this. Recently, even with concerns over threats to health that climate change can pose, the Korean government is set to reinforce its infectious disease surveillance system through Climate Change Health Risk Assessment.

The pandemic has raised the awareness of the need to reinforce resilience of the healthcare system and collaboration of the international community. The WHO (2023) stressed that the achievement of health-related SDGs is dependent on our capacities to respond to health crises like this, engage in preventiveve activities in advance and build resilience and responsiveness while recognizing that the spread of infectious diseases can give rise to a health crisis that is even more complex and unpredictable. Against this backdrop, Republic of Korea has seen some positive changes in multiple indicators during the process of maturing its healthcare system. In particular, there were remarkable improvements in healthy behaviors and the environments that can significantly impact health levels. For example, the alcohol consumption (7.7 liters per adult in 2021) saw a significant reduction compared to a decade ago. The exposure to harmful environments (0.2 unintentional poisoning deaths out of 100,000 population in 2019) was also lower than the OECD average.

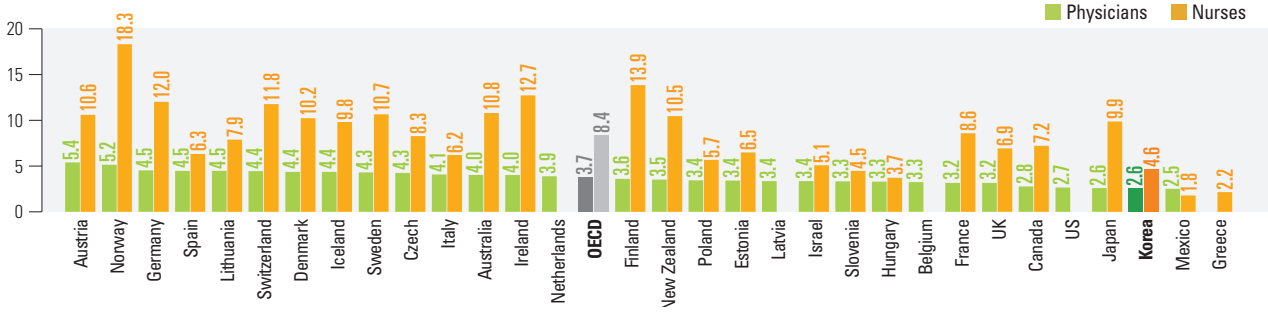
However, there are still a lot of work to be done. For example, the maternal mortality ratio (8.1 per 100,000 births in 2020) should be reduced or malaria (0.08 per 1,000 population in 2021) be eradicated. In fact, these are no longer an issue for countries whose economic levels are similar to Korea's. Compared to other OECD countries, Korea faces a shortage of healthcare workers (2.6 physicians and 4.6 nurses per 1,000 population in 2021). As importantly, regional disparity is a challenge that has to be addressed (with concentration of physicians and nurses in the metropolitan areas and large cities). Balanced deployment of human resources is required to enhance access for all the people to essential medical services and effectively respond to public health crises. Here, this report takes a deep look at the state of public health from an objective perspective by internationally comparing SDG indicators in the health sector and identify public health challenges that need to be addressed.



## Fewer health workers than OECD countries, skewed toward larger cities (SDG 3.c.1)

Sufficient human resources should be supported to respond to the people's healthcare needs, provide healthcare services in a timely manner and stably operate the healthcare system. In particular, a shortage of healthcare workers during the COVID-19 pandemic has put many countries around the globe in a difficult spot in managing health risks, contributing to an increase in the death tolls. With this in mind, OECD(2020) has emphasized the importance of

**Number of Physicians and Nurses by OECD Country, 2021** (Unit: No. of person per 1,000 population)



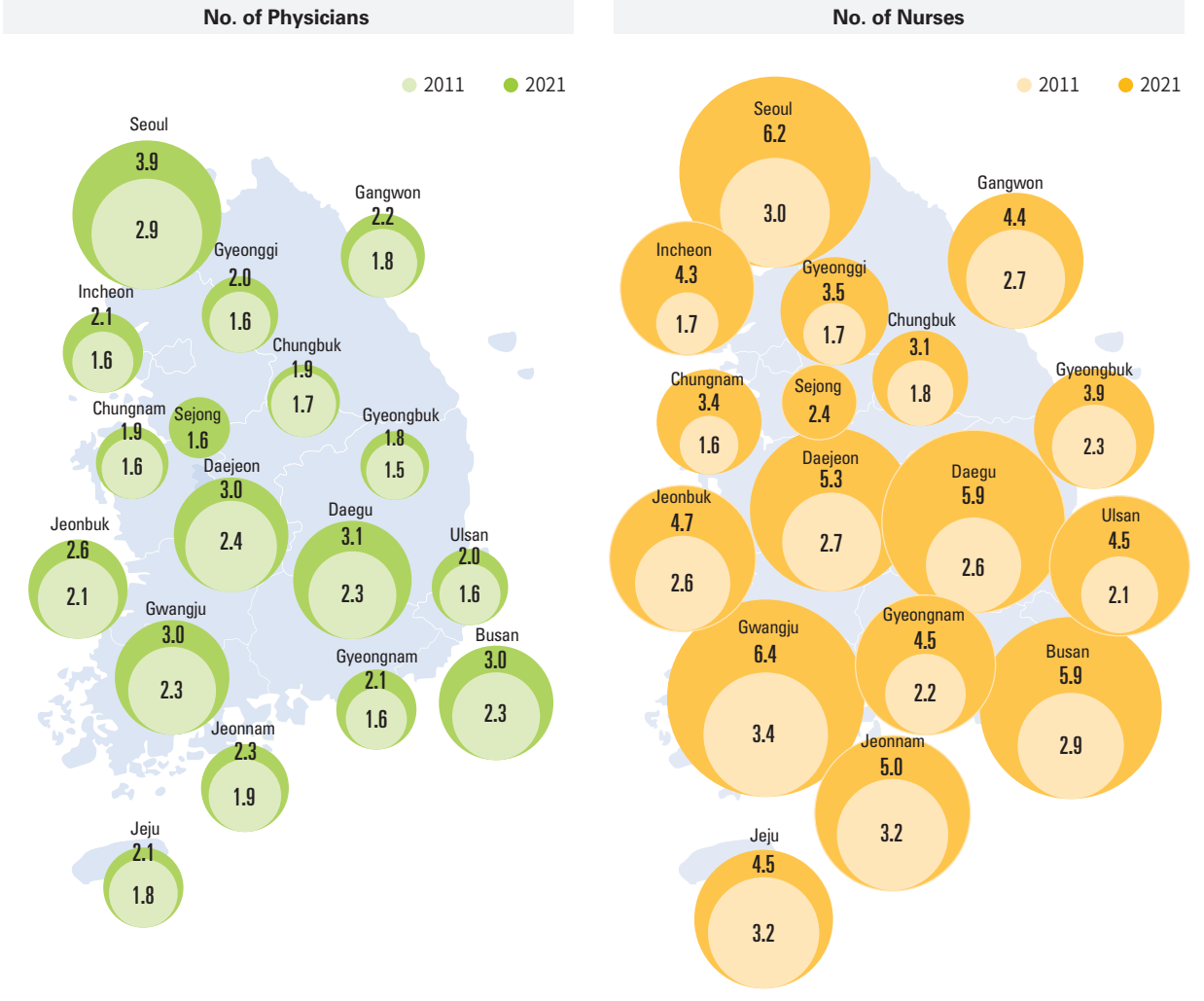

Source: OECD.Stat, practising physicians & professional nurses, practising (https://stats.oecd.org, retrieved on Oct 03, 2023)
Note1 : Excluding nurse aides, nurses were compared to ensure accuracy of international comparison
Note2 : The 2020 data was used for Denmark, Sweden, Finland and Japan due to their absence of data in 2021
Note3 : The graph compares 31 countries that reported the number of physicians or nurses in the corresponding year (2021 or 2020). Greece has no data on the number of physicians while and Belgium, Latvia, the Netherlands and the United States have no data regarding the number of nurses

having a sufficient number of physicians and nurses while recognizing them as a crucial factor to enhance effectiveness of the healthcare system.

According to OECD data, in 2021, the number of physicians and nurses in Korea stood at 2.6 and 4.6 per 1,000 population, respectively. When looking at OECD countries as a whole, the number increased to 3.7 for physicians and 8.4 for nurses, which are higher than Korea's in both professions. The country with the lowest number of physicians and nurses is Mexico, with 2.5 physicians and 1.8 nurses per 1,000 population. Meanwhile, Germany (4.5 physicians and 12.0 nurses) and Japan (2.6 physicians and 9.9 nurses), with the healthcare system in place similar to that of Korea, have more healthcare workers than Korea.

Looking at regional distribution of physicians and nurses, it is clear that both physicians and nurses are heavily concentrated in large cities, such as Seoul, Busan, Daegu, Gwangju and Daegu. in large cities including Seoul, Busan, Daegu, Gwangju, and Daejeon. Such concentration has been even Moreover, the concentration in large cities has been exacerbated compared to a decade ago. Especially, in Seoul, the number of physicians and nurses jumped from 2.9 to 3.9 and from 3.0 to 6.2 respectively per 1,000 population from 2011 to 2021. However, in Chungbuk, for the same period, there was only a slight increase from 1.7 to 1.9 for physicians and from 1.8 to 3.1 for nurses. With such concentration in

**Number of Physicians and Nurses per 1,000 Population by Region, 2011, 2021** (Unit: No. of persons per 1,000 population)




Source : National Health Insurance Service, Medical Use Statistics by Region (https://kosis.kr, retrieved on Oct 08, 2023)
Note1 : Sejong doesn't have data for the year 2011
Note2 : The number of physicians and nurses per 1,000 population was calculated using the estimated population by city and province

large cities, regional disparity has been also intensified. For example, a difference in the number of physicians between Busan and Gyeongnam rose to 10.9 in 2021 from 0.7 in 2011. For the same period, the gap widened from 0.8 to 1.3 between Daegu and Gyeongbuk; from 0.4 to 0.7 between Gwangju and Jeonnam; and from 0.8 to 1.1 between Daejeon and Chungnam. Among them, it can be observed that the difference of healthcare workers is noticeable especially between Daegu and Gyeongbuk area.

### The maternal mortality ratio declined, but lasting efforts to manage the health of mothers are needed (SDG 3.1.1)

The maternal mortality ratio refers to the deaths of mothers per 100,000 live births. Women can die from complications or severe bleeding and infection during and after pregnancy and childbirth. Most of complications develop during pregnancy, and death can be prevented with quality medical services or thorough preventative care. This is why advanced healthcare system and skilled healthcare workers are needed.

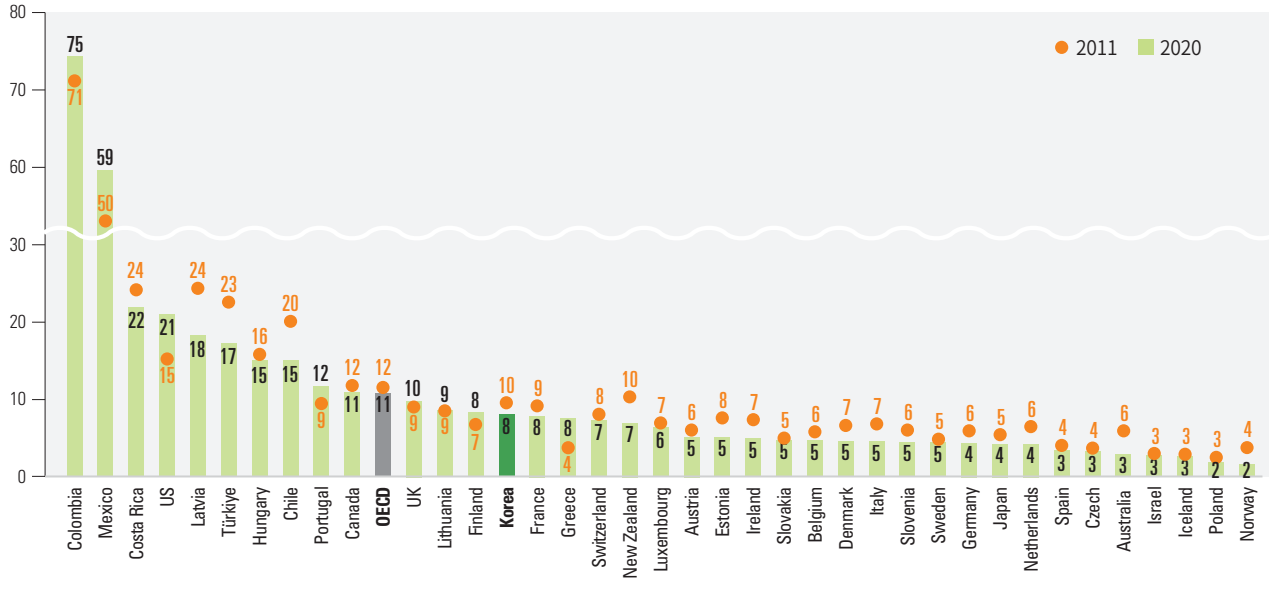
According to the analysis conducted by the WHO in 2020, 95% of all maternal deaths occurred in low- and middle-income countries. In Korea, 8.1 mothers per 100,000 births died in 2020, which is a decrease of 1.5 deaths from a decade ago. In OECD countries as a whole, the death toll slightly decreased from 11.5 in 2011 to 10.8 in 2020. Korea's maternal mortality ratio is lower than the OECD average. However, OECD includes some countries with significantly high mortality ratios like Colombia and Mexico. Given this fact, it is hard to say that maternal health in Korea is absolutely better than that in advanced nations of the OECD. In fact, around the OECD average, there are many South American and Eastern/Southern European countries. On the contrary, Japan and Germany that, like Korea advocate for the social insurance system, recorded the maternal mortality rate at only 4.3 to 4.4 per 100,000 live births, almost the half of the ratio in Korea.

### Need to reinforce preventative activities to eradicate malaria by 2030 (SDG 3.3.3)

The world has endeavored to put an end to malaria for a long time. Malaria is a vector-borne disease transmitted by mosquitoes and is known to have a severe burden of disease around the globe. Since the late 1990s when the WHO called for the creation of the international funds to respond to infectious diseases, it has continuously focused on the eradication of malaria as one of Millennium Development

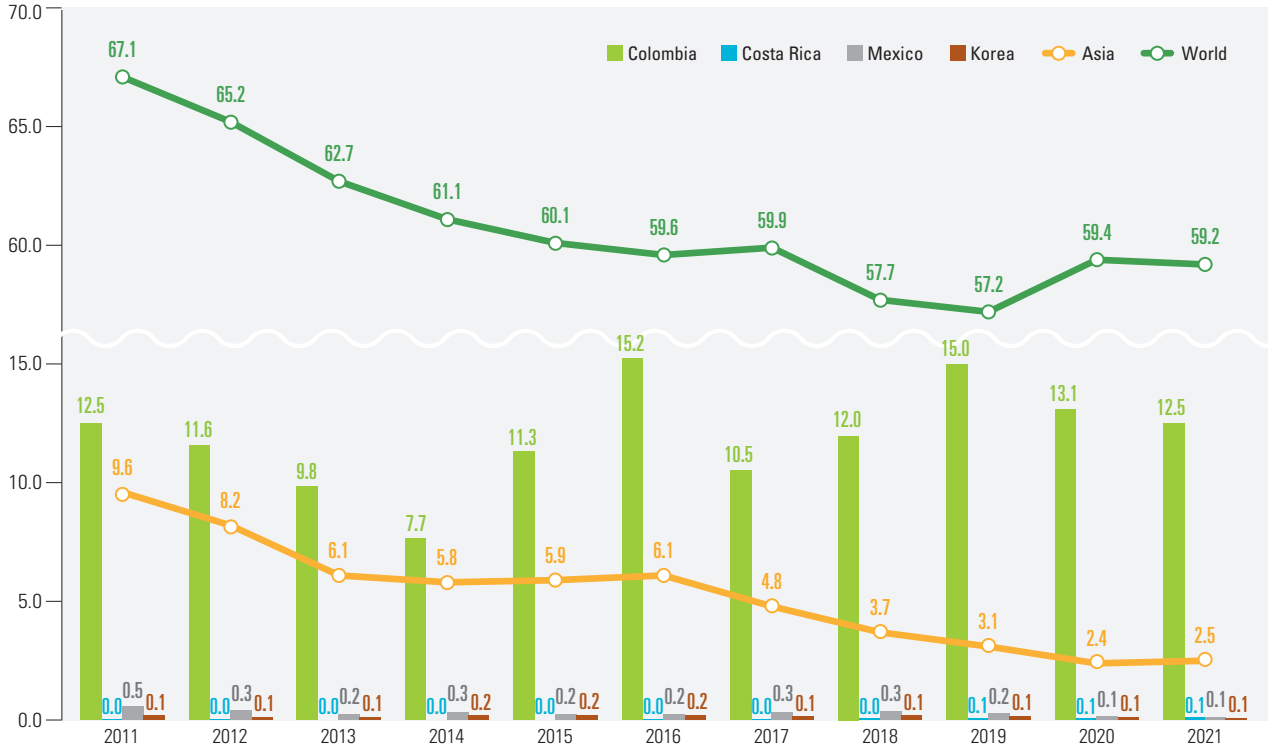


**Maternal Mortality Ratio by OECD Country, 2011, 2021** (Unit: No. of death per 100,000 live birth)




Source : UN SDG Indicators Database (https://unstats.un.org/sdgs/dataportal, retrieved on Oct 07, 2023)

**Malaria Incidence Rate by OECD Country, 2011~2021** (Unit: No of persons per 1,000 population)




Source : UN SDG Indicators Database (https://unstats.un.org/sdgs/dataportal, retrieved on Oct 07, 2023)
Note : This shows countries (Colombia, Costa Rica, Mexico and Korea) that the incidence of malaria has been reported out of OECD member countries



Goals(MDGs) and SDGs. Recently, it also approved new vaccines to reinforce malaria prevention. The WHO has also pushed forward its goal to eradicate malaria in 35 countries by 2030, and Korea is one of them.

According to the analysis of the WHO(2023), there were about 247 million malaria cases in 84 countries around the world in 2021 (59.2 per 1,000 population). In Korea, it was also reported in 2021 that 294 people contracted malaria. Korea Disease Control and Prevention Agency (2022) confirmed that 92.8% of malaria cases were domestic (civilians: 71.7%, solders: 21.2%) while 7.2% were originated from overseas countries. There are only four following countries out of 38 OECD countries with malaria incidence: Korea, Costa Rica, Mexico and Colombia.

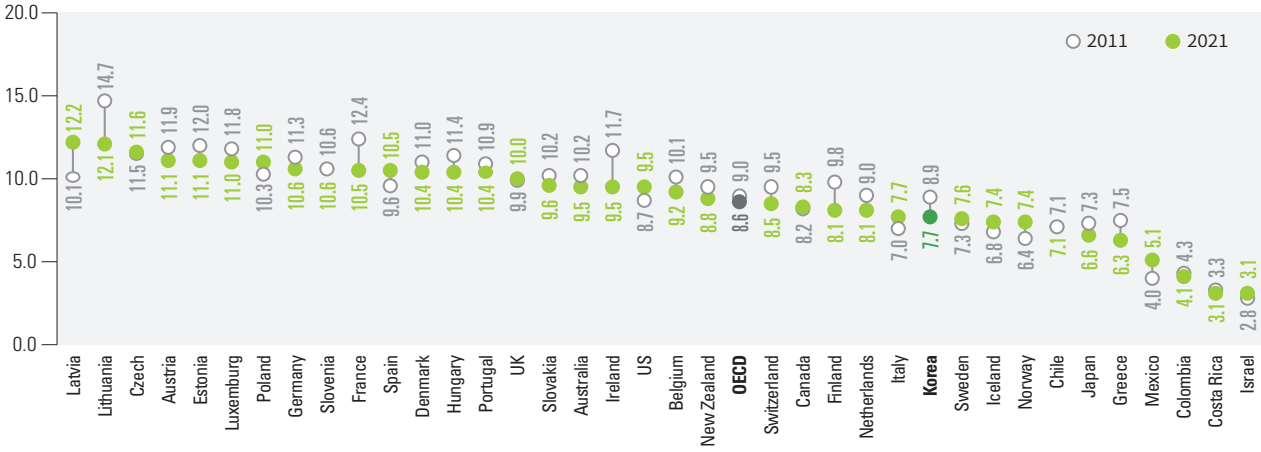
The malaria incidence in Korea stood at 0.08 per 1,000 population in 2021, which is not worrisome. However, given the fact that 95% of patients around the world are concentrated in Africa with poor hygiene practices, it is necessary to pay more attention to sanitation management. Asian countries have made a remarkable stride in controlling malaria incidence since 2010. The number of malaria patients in Asia, which was 9.6 per 1,000 population in 2011, continued to fall, sending the number to 2.5 in 2021.

### The alcohol consumption declined by 1.2 liters compared to a decade ago, about 0.9 liter less than the OECD average (SDG 3.5.2)

The alcohol consumption is measured among adults aged 15 or older. The WHO reported that deaths from the harmful use of alcohol accounted for about 4.7% out of total deaths. In addition, approximately 4.6% of burdens caused by diseases and injuries was also attributed to alcohol consumption.

In 2021, the per-capita alcohol consumption of Koreans aged 15 or older stood at 7.7 liters/year, representing a reduction of 1.2 liter from a decade agoa decade ago in 2011. The average per-capita alcohol consumption among OECD countries declined by 0.4 liters over the past decade from 9.0 liters in 2011 to 8.6 liters in 2021. However, thirteen countries saw an increase in their alcohol consumption, such as Latvia (+ 2.1 liters), Mexico (+1.1 liters), Norway (+1.0 liter) and Spain (+0.9 liter).

**Per Capita Annual Alcohol Consumption by OECD Country, 2011, 2021** (Unit: Liter)



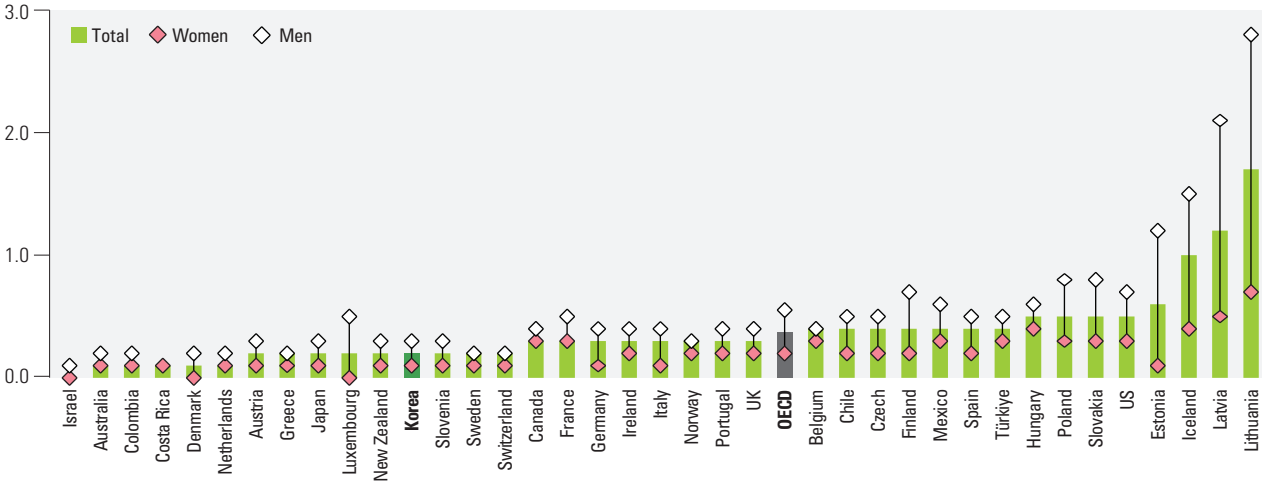

Source : OECD.Stat, Alcohol consumption (https://stats.oecd.org, retrieved on Oct 03, 2023)
Note : The most recent data was used for countries, such as Iceland (2020), Luxemburg, Germany, Portugal, Belgium, Italy, Chile, Greece, Colombia and Israel (2019) and Australia (2017)

## Relatively low mortality attributed to unintentional poisoning compared to OECD countries (SDG 3.9.3)

The mortality rate attributed to unintentional poisoning refers to the rate of individuals who die from unintentional exposure to harmful substances or poisoning. The WHO manages this indicator as one of mowrtality indexes derived from environmental pollution (hazardous chemical substances, air pollution, water pollution and soil pollution, etc.). Among OECD countries, the mortality rate due to unintentional poisoning was reported as 0.4 per 100,000 population in 2019. The rate n Korea (0.2) was below the OECD average. Out of OECD countries, Lithuania, Latvia and Iceland had an exceptionally high mortality rate of 1 or higher.

The mortality rate attributed to unintentional poisoning varies depending on sex. In OECD countries, the rate stood at 0.6 per 100,000 male population while it was 0.2 per 100,000 female population. It shows that the mortality ratio was higher in men than in women. Such a difference in the mortality ratio between men and women tends to widen in countries with higher unintentional poisoning mortality rates (Lithuania, Latvia, Iceland and Estonia). Meanwhile, the gender difference is relatively small in Korea at 0.2.

**Mortality Rate Attributed to Unintentional Poisoning by OECD Country, 2019** (Unit: No. of deaths per 100,000 population)




Source : UN SDG Indicators Database (https://unstats.un.org/sdgs/dataportal, retrieved on Oct 07, 2023)

**Definition**

- **Burden of disease :** It refers to the entire health-related impacts, representing social losses due to diseases, measured by indicators such as morbidity, mortality rates, disabilities and financial costs

# 4 QUALITY EDUCATION

# Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

The UN stated that the current level and pace of implementing SDG 4 is somewhat lackluster to achieve the goal by 2030 (UN, 2023). In particular, the education sector has been hit hard during the pandemic due to suspension of educational activities and learning losses. The international community is facing crucial challenges, such as improving academic achievements, expanding educational opportunities and securing the quality of teachers.

Republic of Korea serves as more like a donor nation in the global education sector. However, aforementioned challenges are not only applicable to the international community but also to Korea although they are applied in a slightly different fashion within the Korean context. The ratio of middle/high school students below the basic academic skills has been steadily rising in recent years and the participation of lifelong education, which largely plunged after the outbreak of COVID-19, has yet to recover until 2022. ICT capacities, emphasized in SDG 4, are relatively high among Korean adolescents and adults, but there are clear differences depending on sex, age and regions.

Korea is one of nations that thoroughly manages the quality of teachers through its teacher certification system. The current issue with the downfall of teachers' authority in the nation's academic field is considered as a unique concern applicable to Korea. The international data regarding teaching and learning environments indicate that teachers in Korea highly recognized the value of their occupation. Difficulties in classroom operation or job-related stress were high not only among Korean teachers but also among teachers in other countries. It demonstrates that the international community including Korea needs to provide more attention and support to teachers.

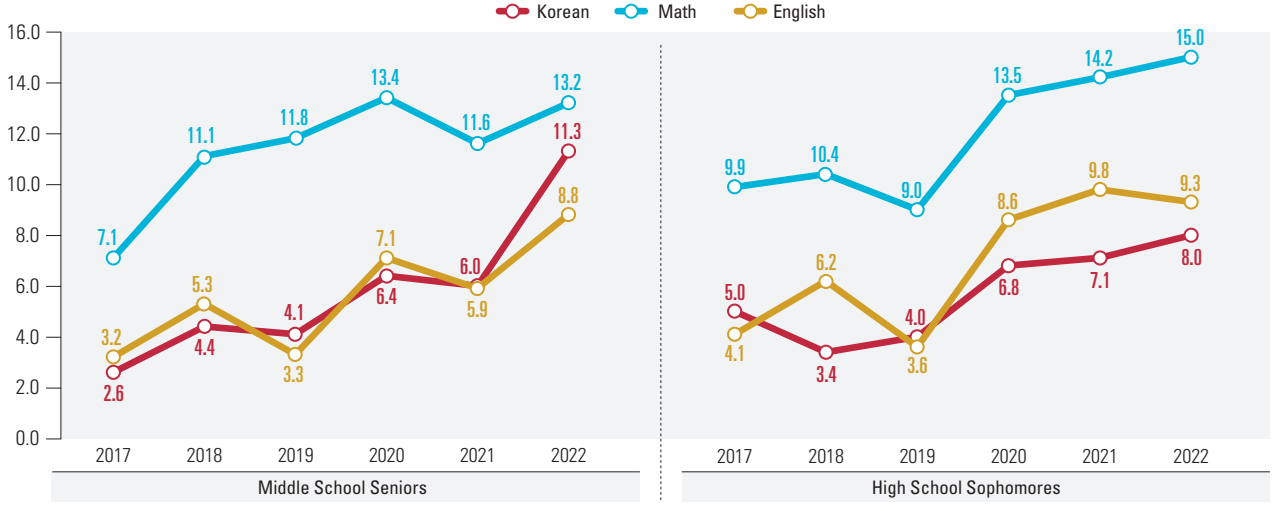
## Lasting concerns over declining academic performance due to the impacts of COVID-19

(➲ SDG 4.1.1)

SDG 4.1.1 measures a proportion of children and adolescents performing at or above the minimum proficiency level in the academic achievement test. It serves as an indicator that shows the quality of national education, as well as an indirect indicator representing inclusiveness and equity of education (Statistics Research Institute, 2022).

There are also domestic data frequently reviewed to monitor the progress of SDG 4.1.1, which are the results of the National Assessment of Educational Achievement administered each year by Korea Institute for Curriculum and Evaluation. The National Assessment measures academic achievement of middle school seniors and high school sophomores in subjects like Korean, math, and English. In

**Proportion of Students below the Basic Academic Skills in Korean, Math and English Subjects, 2017~2022** (Unit: %)




Source: Korea Institute for Curriculum and Evaluation·Ministry of Education, National Assessment of Educational Achievement, each year

Note1 : The level below basic academic skills refers to Level 1 out of 4 achievement levels (Level 1: below the basic academic skills, Level 2: Basic, Level 3: Average, Level 4: Excellent)

Note2 : With the introduction of the computer-based evaluation to the academic achievement test in 2022, the communications capacity has been newly added (ex. expression of mathematical knowledge such as drawing graphics and data analysis). Thus, it is difficult to simply compare the results with those of the previous year as the evaluation of capacities like problem-solving, information processing and communications has been reinforced

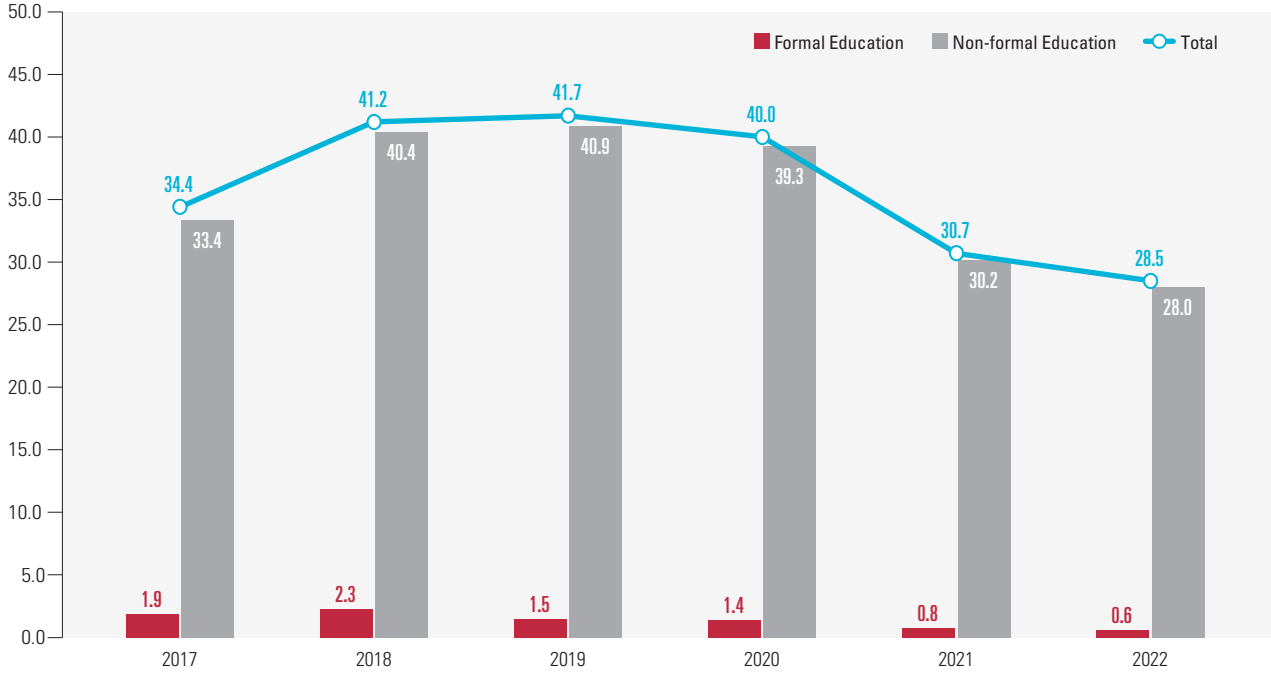
2022, the academic assessment showed that the ratios of students below the minimum proficiency level (Level 1) in Korean, math, and English were 11.3%, 13.2% and 8.8% among middle school seniors and 8.0%, 15.0% and 9.3% among high school sophomores, respectively. Compared to 2021, the proportion of students below the minimum proficiency level rose in all subjects except for English in the sophomore year of high school. Furthermore, it has been observed that there is an upward trend of the proportion of students failing to meet the minimum proficiency level in all three subjects, raising the alarm over students' diminishing basic academic skills. In response, the Ministry of Education recently announced 'Measures to Enhance Competitiveness of Public Education' (Ministry of Education, 2023), making efforts to improve students' basic academic skills.

### A continuous decline in the participation rate in lifelong learning even after the COVID-19 pandemic and still low participation rate among the vulnerable (SDG 4.3.1)

SDG 4.3.1 reflects the ever-growing importance of lifelong learning and measures the percentage of adolescents and adults participating in lifelong learning (formal & non-formal) in each country. Korea monitors this indicator using the data of the National Lifelong Learning Survey for Individual Learners conducted on adults aged 25 to 79. According to the National Lifelong Learning Survey, the percentage of Korean adults participating in lifelong learning in 2022 stood at 28.5% (formal: 0.6%, non-formal: 28.0%), slightly down from the previous year. Such a decline in participation in lifelong learning dates back to 2020 when the nation was under the influences of COVID-19, and the participation rate fell by 1.7%p, 9.3%p and 2.2%p y-o-y from 2020 to 2022. Such a phenomenon is attributed to an overall curtailment in individuals' activities as well as a reduction in lifelong programs launched/operated during the COVID-19 pandemic (Ministry of Education, 2022). This trend continued through 2022, and it remains to be seen whether the participation rate will recover down the road.

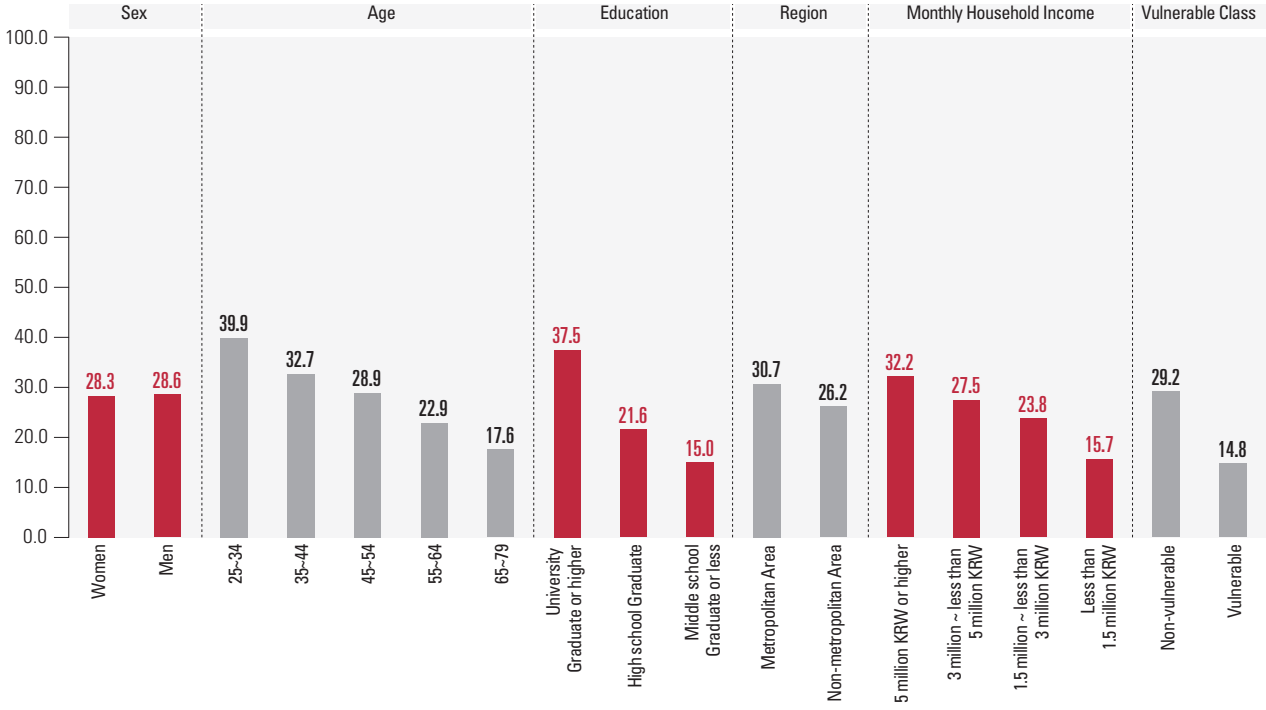
When broken down the participation rates by demographic/social characteristics, trends similar to the past can be observed. The participation rate in lifelong learning

**Participation Rate of Lifelong Learning among Adults, 2017~2022** (Unit: %)




Source: Korea Educational Development Institute, National Lifelong Learning Survey for Individual Learners, each year
Note1 : Measures the percentage of adults aged 25-79 who participated in a lifelong learning program at least once in the past year. However, until 2019, adults aged 25-64 was included
Note2 : Until 2020, a survey was on a year from July in the previous year to June of the year being surveyed. Starting from 2021, the survey covers a year from Jan to Dec of the previous year.
Note3 : Formal education refers to education that can lead to a diploma or degree through a regular education process, such as elementary, middle, high school, or university, and informal education refers to education that takes place through programs or curricula operated by continuing education institutions as structured learning activities other than formal education

**Participation Rate of Lifelong Learning among Adults by Characteristics, 2022** (Unit: %)




Source : Korea Institute for Curriculum and Evaluation·Ministry of Education, National Assessment of Educational Achievement, each year.
Note1 : The level below basic academic skills refers to Level 1 out of 4 achievement levels (Level 1: below the basic academic skills, Level 2: Basic, Level 3: Average, Level 4: Excellent)
Note2 : With the introduction of the computer-based evaluation to the academic achievement test in 2022, the communications capacity has been newly added (ex. expression of mathematical knowledge such as drawing graphics and data analysis). Thus, it is difficult to simply compare the results with those of the previous year as the evaluation of capacities like problem-solving, information processing and communications has been reinforced



was relatively lower among groups generally considered as the vulnerable than other groups. The participation rate turned out to be lower in the elderly population aged 65 to 79 (17.6%) than in youth aged 25 to 34 (39.9%); in middle school graduates or less (15.0%) than in undergraduates or higher (37.5%); in residents in non-capital areas (26.2%) than in those in the capital areas (30.7%); and in the low-income disadvantaged with income at or below 50% of the median level (14.8%) than in non-vulnerable classes (29.2%). With longer life expectancy and intensifying aging, the important of lifelong education for adults is expected to further grow. Thus, policy attention is required to enhance the vulnerable's access to lifelong education so that all adults can have equal opportunities to develop their capacities throughout a lifetime.

### A steady rise in ICT skills among youth and adults, with a widening gap in ICT skills by age group (SDG 4.4.1)

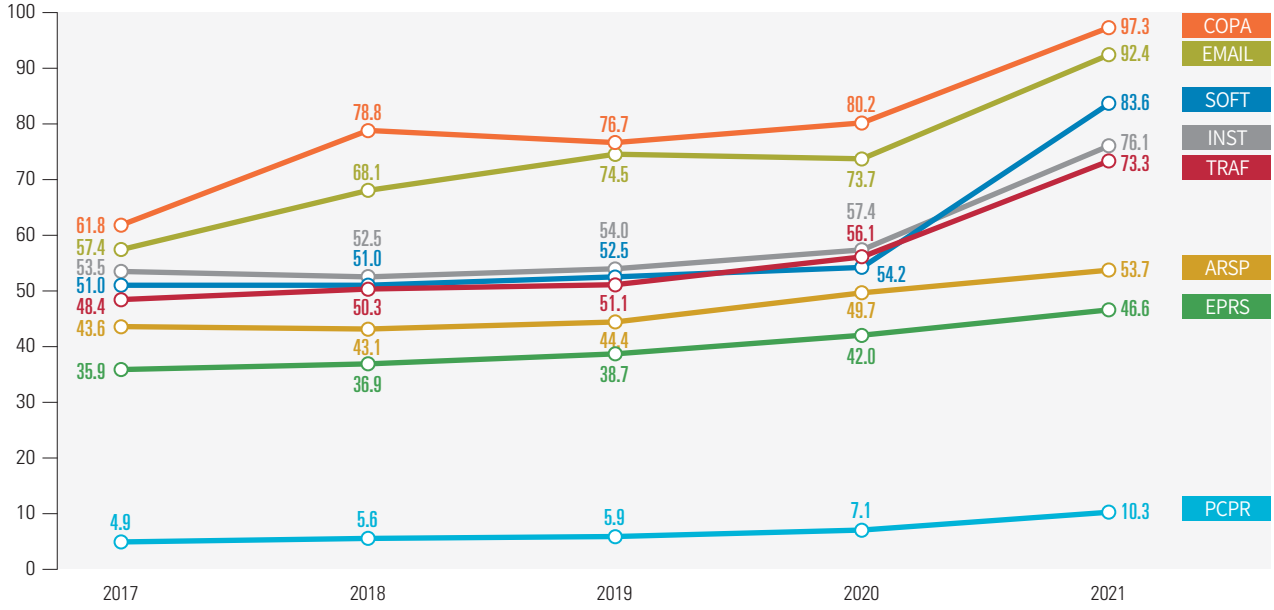
SDG 4.4.1 indicates the proportion of youth and adults with skills of information and communications technologies (ICT) such as management of computer files, use of emails and programming. This indicator is all the more important in an era when digital literacy has become part of basic skills. Dividing ICT skills by type, UN SDG reports the percentage of the population aged 15 or older who have conducted the corresponding activities in each type or are capable of conducting them.

In 2021, Korea demonstrated high ICT skills in the following order: 'copy and transfer of information within a document (COPA)'(97.3%), 'sending an email with an attachment (EMAIL)'(92.4%), 'retrieval, search, download and installation of software (SOFT)'(83.6%), 'connection and installation of devices such as modems, cameras and printers (INST)'(76.1%), 'conversion and movement of files between the computer and other devices (TRAF)'(73.3%), 'basic arithmetic calculation, using a spreadsheet (ARSP)'(53.7%), 'using presentation software (EPRS)'(46.6%) and 'computer programming using a programming language (PCPR)'(10.3%). It indicates that a significantly high ratio of Koreans was equipped with everyday ICT skills, such as managing computer files or

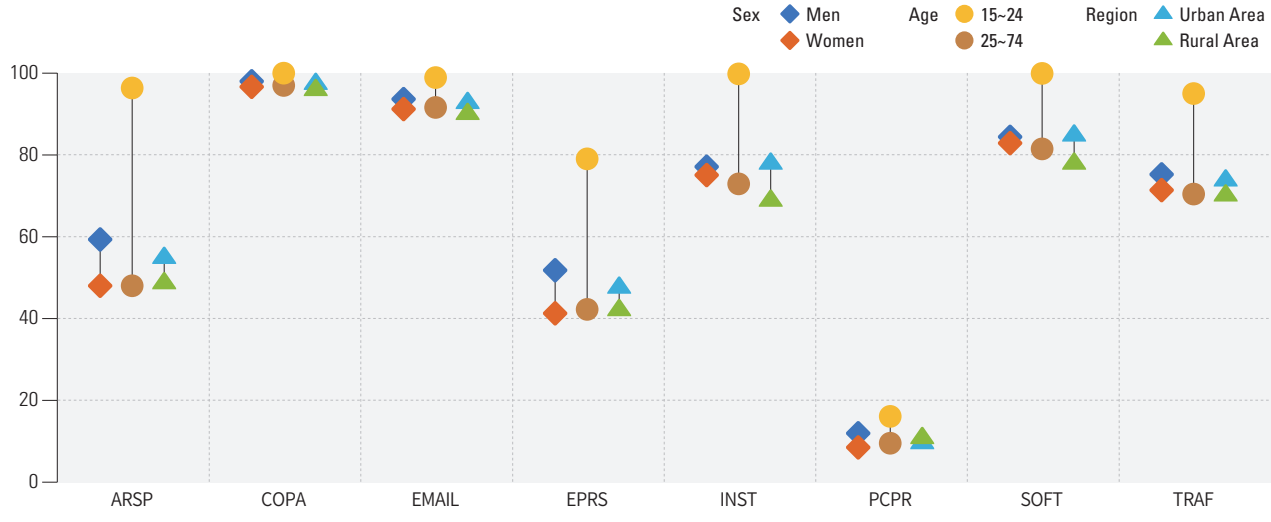
writing emails; about a half of them possessed work-related ICT skills like Excel or PowerPoint; however, those equipped with professional skills like programming was very low. Given the trend of ICT skills possessed, the ratio has been on an increase throughout all the skills since 2017. In particular, some skills saw a dramatic jump between 2020 and 2021.

The possession of ICT skills varies depending on gender, age and region. In other words, the proportion of having ICT skills tends to be higher among men than among women; among the population aged 15 to 24 than among those aged 25 to 74; and among urban residents than among those living in rural areas. To be more specific, men showed

**Proportion of Individuals with Information and Communications Technologies (ICT) Skills by Type, 2017~2021** (Unit: %)




**Proportion of Persons with ICT Skills by Sex, Age and Region, 2021** (Unit: %)




Source : International Telecommunication Union(ITU), 2017-2021, ITU DataHub(http://datahub.itu.int/data)
Note1 : This represents the percentage of youth and adults aged 15 or older capable of conducting computer-related activities for the past three months and equipped with information and communications technologies (ICT) skills
Note2 : ARSP-Basic arithmetic calculation, using a spreadsheet
COPA-Copy and transfer of information within a document
EMAIL-Sending an email with an attachment
EPRS-Using presentation software
INST-Connection and installation of devices such as modems, cameras and printers
PCPR-Computer programming using a programming language
SOFT-Retrieval, search, download and installation of software
TRAF-Conversion and movement of files between the computer and other devices
Note3 : For Korea, relevant data was collected from Survey on Internet Use and provided to the ITU

a higher proportion than women in all the ICT skills, with the biggest gap in ARSP (11.3%p) and the smallest in COPA (1.4%p). By age, those aged 15 to 24 had a higher ratio of having all the ICT skills than those at the ages of 25 to 74, similarly with the biggest difference observed in ARSP (48.3%p) and the smallest gap in COPA (3.0%p). By region, residents in cities were more equipped with ICT skills in general than those in rural areas; however, as for PCPR activities, the proportion was unusually higher among rural residents than among city dwellers by a margin of 1.3%p. Now that the use of digital technologies is considered literacy, it has become a core capacity for the future society. It is necessary to continuously engage in policy efforts to promote digital literacy for all.

### More than twice increase in Korea's educational ODA for developing countries over a decade (SDG 4.b.1)

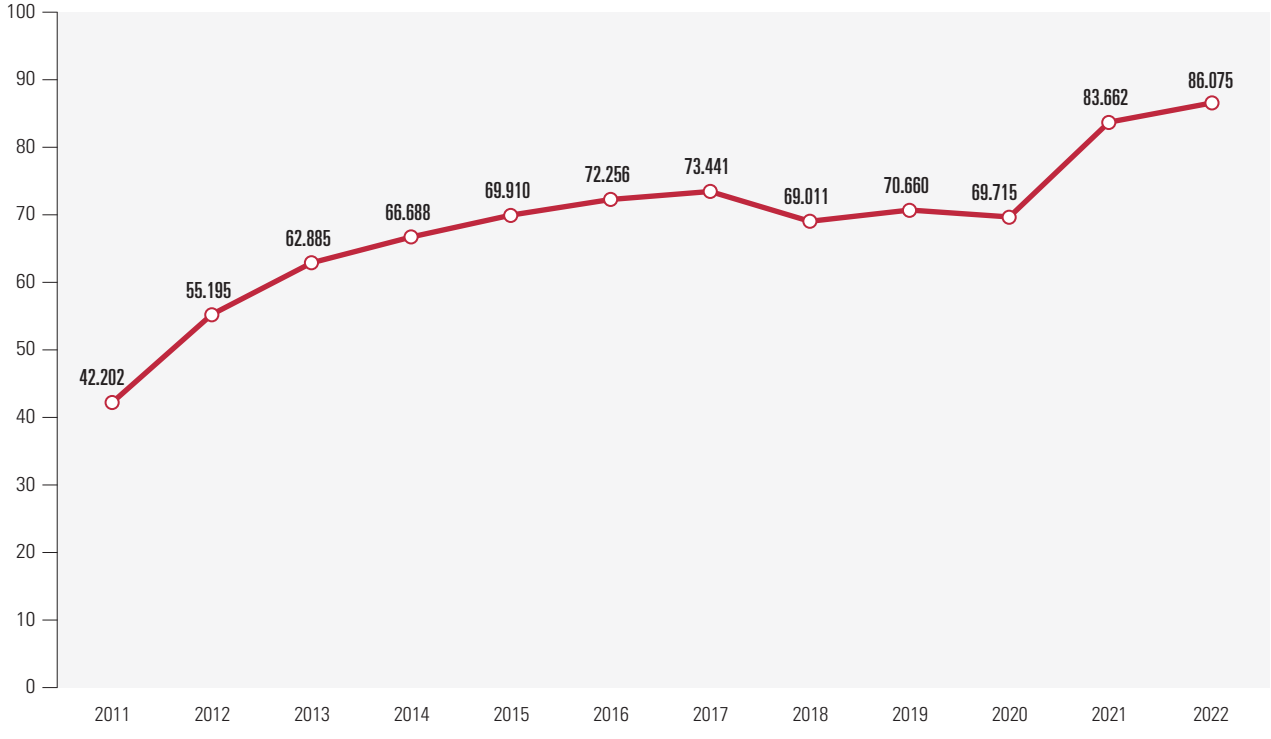
From the global perspective, SDG 4.b.1 represents the amount of ODA offered by advanced nations and other developing nations to the least developed nations, small island developing states and African countries for the purpose of scholarships. This indicator is indeed in line with Goal 4 aiming to ensure inclusive and equitable education for all given that it monitors the global flows providing more educational opportunities to students in relatively less developed nations. Korea monitors SDG 4.b.1 using data regarding the ODA amount provided to international students and trainees from developing countries although it doesn't exactly align with the definition in the UN SDG.

There was an overall increase witnessed in the volume of ODA granted to international students/trainees from developing nations from 2011 to 2022. The amount almost doubled from 42.202 million dollars in 2011 to 86.075 million dollars in 2021 over a decade. Such a trend can be considered as a result of Korea's growing economic size and role in the international community.

### Teachers in Korea recognizing the value of their job more highly than foreign counterparts in 2018 (SDG 4.c.1)

SDG 4.c.1 is a crucial indicator that measures the quality of teachers in a country as it refers to the proportion of teachers 'equipped with minimum qualification requirements' out of all the teachers in the country. However, there are many

**ODA Volume for International Students and Trainees from Developing Countries in Korea, 2011~2021** (Unit: 1 million dollars)

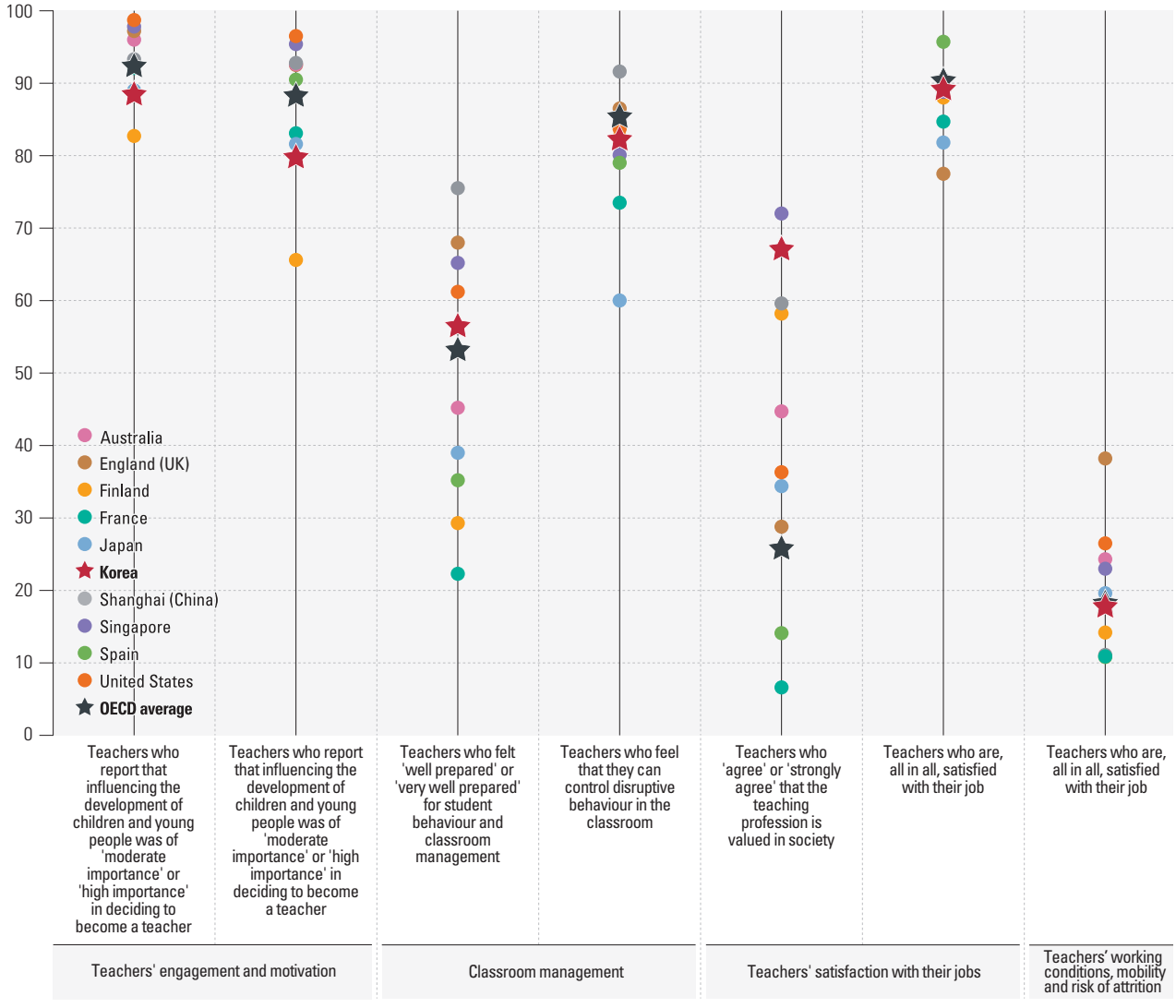



Source : ODA Statistics, 2011-2021

countries that don't measure SDG 4.c.1 due to difficulties in coming up with operational definition of the indicator universally applicable to all countries. For example, in some Northern European countries where vocational training is well developed, workers with extensive field experience often serve as a teacher. Due to such uniqueness of individual countries, it is difficult to determine whether those without ordinary pedagogy training can be also considered as a teacher equipped with minimum requirements. As a result, many countries have not measured this indicator as there is no internationally-agreed operational definition on this indicator (4.c.1). In Korea, teachers' training courses and requirements are stipulated by law and teachers are required to have a license. Thus, UN has been reported that 100% of teachers in elementary, middle and high schools meet the minimum qualification requirements. The quality of teachers is an important factor contributing to educational policies and achievements. It is necessary to develop an indicator measuring the quality of teachers in more detail so that diverse analysis can be available down the road.

With news after news in the education field regarding the decline of teacher's authority, public attention is growing. As mentioned earlier, teachers are a crucial element determining the quality of national education. Therefore, countries should put in place right educational environments both for teachers and students and help teachers to have motivation and immersion to adequately and properly engaging in teaching activities. In this sense, the Teaching

**Teachers' Job Motivation, Class Management, Job Satisfaction, Work Stress in Major Countries, 2018** (Unit: %)




Source : OECD.Stat, TALIS Indicators (https://stats.oecd.org)

and Learning International Survey (TALIS) of the OECD was used to compare teachers in Korea with teachers in other countries in terms of their current state of teaching students, job satisfaction and work stress.

First of all, the TALIS measures how crucial it was for teachers to 'give influences to the development of children/adolescents' and 'contribute to the society' when choosing their profession as teacher. The proportion of Korean teachers who answered 'quite important' or 'very important' stood at 88.4% and 79.7% respectively, slightly lower than the OECD average of 92.3% and 88.2%. These questionnaire item has a lot to do with the internal motivation of their job choice, revealing that in most countries, including Korea, the internal motivation has played a considerable part in choosing their occupation mainly focusing on education. Korean teachers showed relatively lower internal motivation than those in other countries. It is assumed that external characteristics (social reputation, job security and renumeration, etc.) of teaching traditionally praised in the society also contributed to their job choice. Moving to the next questionnaire item regarding class management, the TALIS also measures the ratio of teachers who responded 'prepared well (or very well) for students behaviors and class management' or 'feel capable of controlling students' disturbing behaviors in classroom'. For class management, the proportion was equal to 56.4%, slightly higher than the OECD average of 53.1% whereas the ratio stood at 82.2% for student control, slightly lower than the OECD average of 85.3%

In terms of job satisfaction, 67.0% of Korean teachers agreed that 'the profession of teaching is considered as a valuable job in the society,' which is much higher than the OECD average of 25.8%. About 89.1% of them also responded that 'I am generally content with my job as a teacher', which is similar to the OECD average of 90.3%. These results reveal that the profession of teaching is still recognized as a valuable job in Korea and teachers themselves also have high self-esteem regarding their job. Lastly, the ratio of Korean teachers who answered that 'I experience a lot of work stress' stood at 17.9% which is not significantly different from the OECD average of 18.1%.

It is hard to tell the TALIS results shown herein can capture an objective and holistic picture of teachers' current situation in Korea. This is because this survey is based on self-reported responses of teachers, with only relevant questions being analyzed. Moreover, it contains data from 2018; thus, it is worth waiting and reviewing the results of TALIS, which will be released in 2024.



Definition

- **Minimum proficiency level :** The benchmark level of basic knowledge in specific subjects (e.g., math and reading), measured via an academic assessment
- **Pedagogy :** An academic discipline that studies education in a modern, scientific way and systematically puts its outcomes together

# 5 GENDER EQUALITY

# Achieve gender equality and empower all women and girls

SDG 5 aims to resolve discrimination against women and girls in politics, economy, society, labor, education, culture, safety and daily life. Despite efforts of governments and civil societies, at home and abroad, to achieve gender equality, women are still disproportionately exposed to sexual violence and domestic violence. In addition, the ratio of women in the executive and managerial positions, making crucial decisions, remains low in the parliament that represents the people, the administration that determines and executes the nation's crucial policies and companies that play a central role in economic activities. While it varies from country to country, more responsibilities fall squarely on women for housework and childcare, thereby making difficult for female workers to strike a balance between work and family than their male counterparts.

For the past 30 years since the enactment of the Framework Act on Gender Equality in 1995, the Korean government has implemented various polices to attain gender equality. As a result, there have been gradual improvements. To move toward a more gender-equal society, it needs to strengthen its institutional foundations that protect women from violence, empower them to make decisions in major national agencies and companies and help them to balance between work and family.

In the「SDG in the Republic of Korea: Progress Report 2023」, the progress of SDG 5 was monitored, using indicators related to women's representation in the local politics and leadership in government, public institutes and private companies. Along with some of the indicators used in the previous analysis, this report examines sexual violence against children or adolescents and women leadership in the sector of education, one of major state functions, and then compares the share of women in managerial positions among OECD countries.

According to the results women were victimized at an absolute rate of 81.0% and 87.4% in sexual and domestic violence, respectively, compared to men in 2022. Republic of Korea began directly electing superintendents in 2010, with a total of 67 superintendents elected between then and 2022. However, only five of them were women. The percentage of women managers in the government, legislature, and private companies was 14.6%. This is less than half of the OECD average of 34.2%. Overall, it indicates that women are underrepresented.



### Women disproportionately falling victim to sexual violence and domestic violence (SDG 5.2.1)

According to statistics compiled by the Supreme Persecutors' Office in「Crime Analysis」, there were about 41,433 cases of sexual violence reported in 2022. Sexual violence is a crime disproportionately inflicted on women. In 2022, 81.0% of sexual violence victims were women. Among sexual violence crimes in 2022, nearly a quarter or over 10,000 cases were committed against children/adolescents under the age of 20, with 84.9% of them being women or girls. Similarly, in terms of domestic violence which is also overwhelmingly committed against women, 87.4% of victims were women in 2022.

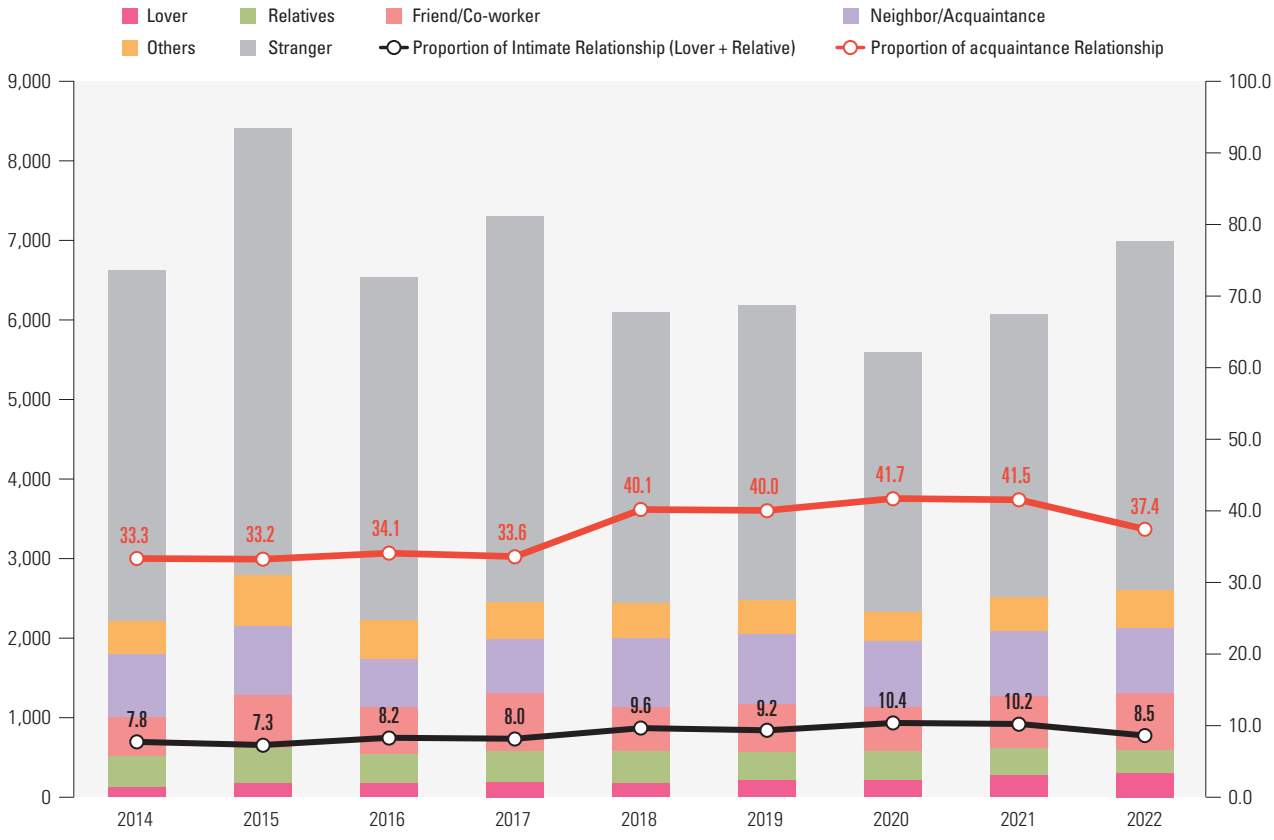
The percentage of women or girls falling victim to sexual violence went down by 15.2%p over 11 years, from 96.2% in 2011. During the same period, however, the number of sexual violence cases rose almost by 50% from 22,000 in 2011 to 41,433 in 2022. The number of sexual violence crimes against women also increased by 54.1% from 20,527 to 31,639. These changes in crime statistics could be also attributed to a change in the definition and types of crimes due to the amendment of criminal laws. For example, as the Act regarding sexual violence was revised in June 2013 to abolish the clause regarding offenses subject to the victim's complaint, making perpetrators hold accountable regardless of the victim's complaint or settlement. In addition, the targetof adult rape was changed from "women" to "persons", making rape against men an incriminatory crime.

Meanwhile, in sexual violence against children and adolescents, the relationship between the offender and victim is distinguished into either 'acquaintance' or 'stranger'. The 'acquaintance' is further divided into 'intimate relationship (lover, relative)', 'friend and co-worker', 'neighbor and acquaintance' and 'others'. Out of sexual violence crimes committed against children and adolescents, those committed by 'acquaintance' accounted for 37.4%. Among them, 8.5% were committed by individuals in intimate relationship. The remaining 58.5% of crimes were inflicted by "strangers". Efforts are needed to protect women and children from various forms of violence such as sexual violence and domestic violence and put an end to violence especially from close relationships such as family members or intimate partners.

**Proportion of Female Victims in Sexual and Domestic Violence, 2011~2022** (Unit: No. of cases, %)


Source: Supreme Prosecutors' Office, Crime Analysis, each year (https://spo.go.kr/site/highseoul/crimeAnalysis.do#n, retrieved on Dec 30, 2023)
Note1 : This shows the number of cases filed with investigation agencies in each level
Note2 : Cases where the gender of victims is unknown were excluded
Note3 : Sexual violence was classified as rape until 2013
Note4 : Sexual violence against children and youth is when the victim is in the 20 and under demographic (children under 13, youth 13-20) as a percentage of all sexual violence offenses
Note5 : Domestic violence crimes refer to crimes under the Special Act on Punishment of Domestic Violence Crimes

**Relationship between Offender and Victim in Sexual Violence against Children/Adolescents, 2014~2022** (Unit: No. of persons, %)




Source : Supreme Prosecutors' Office, Crime Analysis, each year (https://spo.go.kr, retrieved on Dec 30, 2023)
Note : In sexual crimes against children/adolescents, the relationship between the offender and victim is distinguished into friend/co-worker, lover, relatives, neighbor/acquaintance, stranger and others. Herein, lovers and relatives are considered as 'Intimate relationship' while the rest excluding strangers is classified as 'acquaintance relationship'



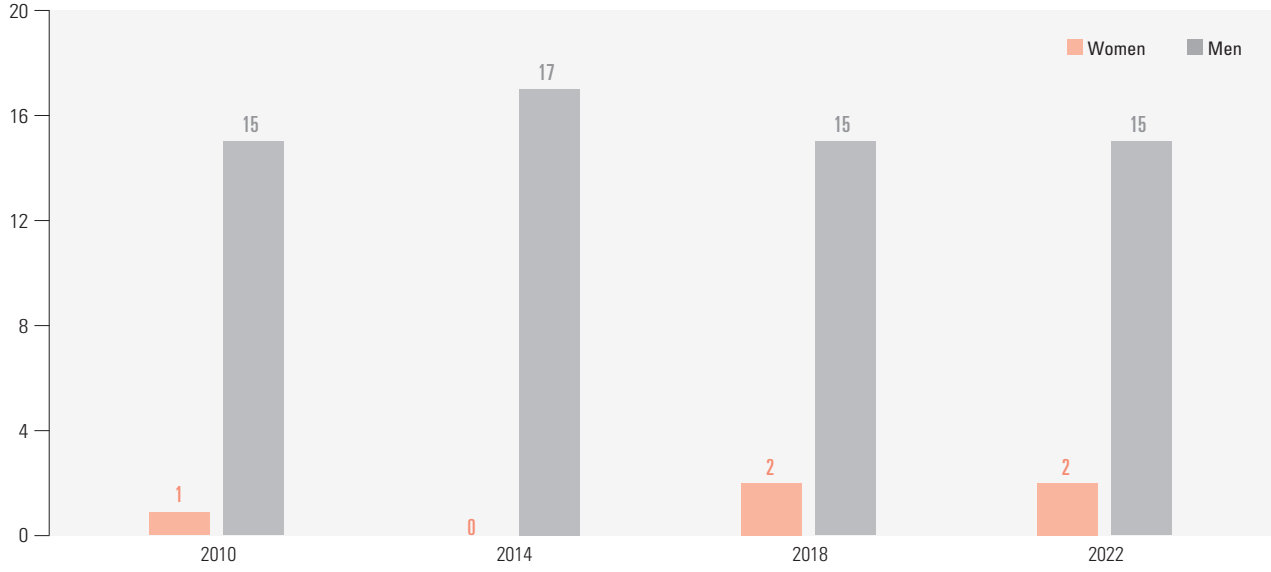
## Low representation of women in superintendents and principals (SDG 5.5.1)

In Korea, superintendents are directly elected by residents and oversea educational administration of elementary, middle and high schools in their jurisdiction. They are granted enormous authority over personnel affairs of teachers, management of education budgets, and the enactment of necessary ordinances and rules. Currently, they serve four-year terms. Whenever the terms come to an end, 17 superintendents are elected in 17 electoral districts nationwide. From 2010 when the direct election began through 2022, a total of 67 superintendents were elected, with only five being women (7.5%) as of 2022.

Reflecting women's high college/university entrance rate, the proportion of female teachers in elementary, middle and high schools has been on a steady increase. In Korea, teachers have been considered as favored profession for women for long time, and the number of women becoming a teacher has steadily gone up. For instance, the proportion of female teachers in elementary schools has hovered over 75% for the past ten years. Even in high schools with a relatively fewer number of female teachers, the proportion surpassed 50% for the first time in 2015. In 2022, the proportion of female teachers all in elementary/middle/high schools stood at 69.7%, far exceeding the proportion of their male counterparts.

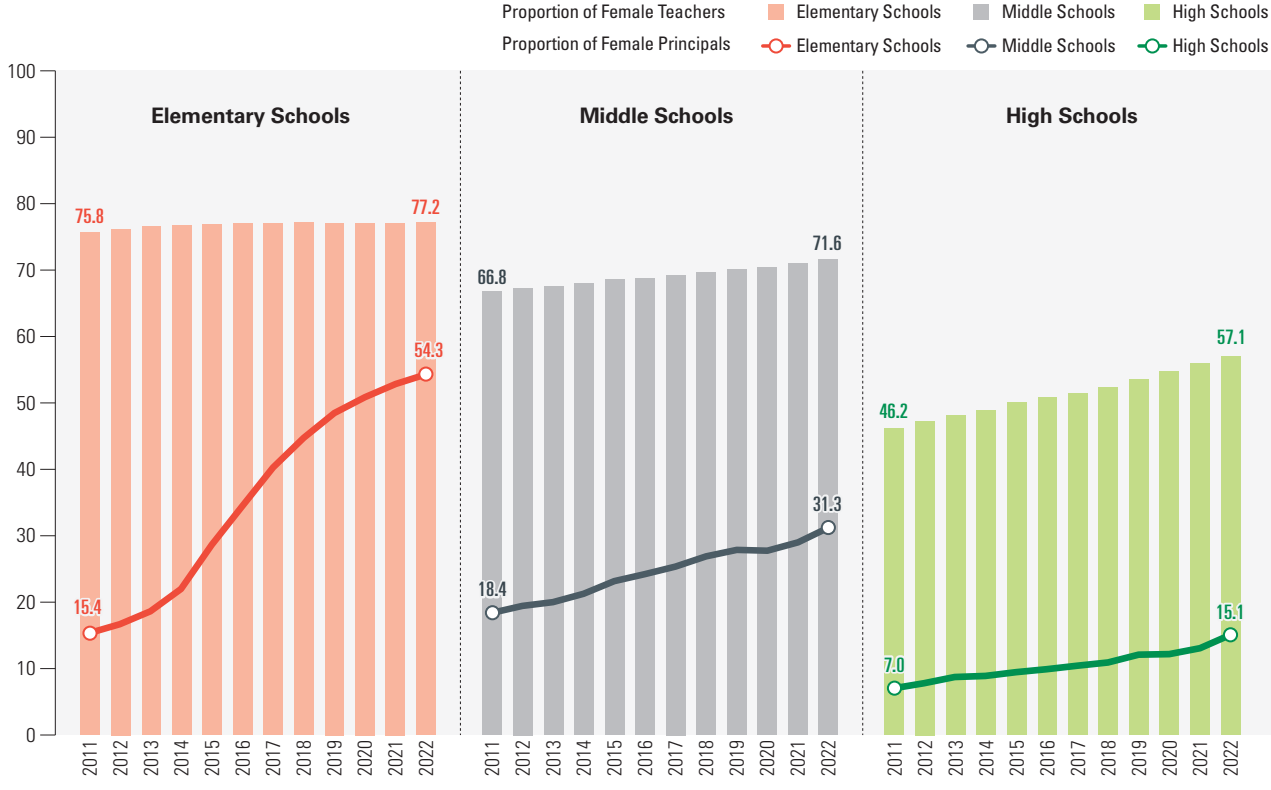
However, compared to female teachers, the proportion of female principals, the top management in schools, is significantly low. The proportions of female principals in elementary/middle/high schools were just 54.3%, 31.3% and 15.1% in 2022. That said, there has been a steady increase in the percentage of female principals over a decade in all of elementary/middle/high schools. Especially from 2011 to 2022, the proportions went up by 38.9%p in elementary schools, by 12.9%p in middle schools and by 8.1%p in high schools. In particular, the number of female principals saw the biggest jump in elementary schools where the ratio of female teachers has been hovering over 75%. Since 2020, the ratio of female principals has exceeded 50% in elementary

**Status in Superintendents by Sex, 2010~2022** (Unit: No. of persons)




Source : National Election Commission, Election Statistics System (http://info.nec.go.kr, Aug 27, 2023)
Note : This graph shows data from the year 2010 when Local Elections conducted simultaneously nationwide under the direct election system

**Proportion of Female Teachers and Principals by School Level, 2011~2022** (Unit: %)




Source : Korea Development Institute, Statistics Yearbook of Education, each year
Note : Teachers include principals, teachers, lay teachers, and substitutes

schools. Meanwhile, in middle and high schools, the proportions of female principals has grown only by a slight margin, leaving a wide gap between the ratio of female teachers and that of female principals.

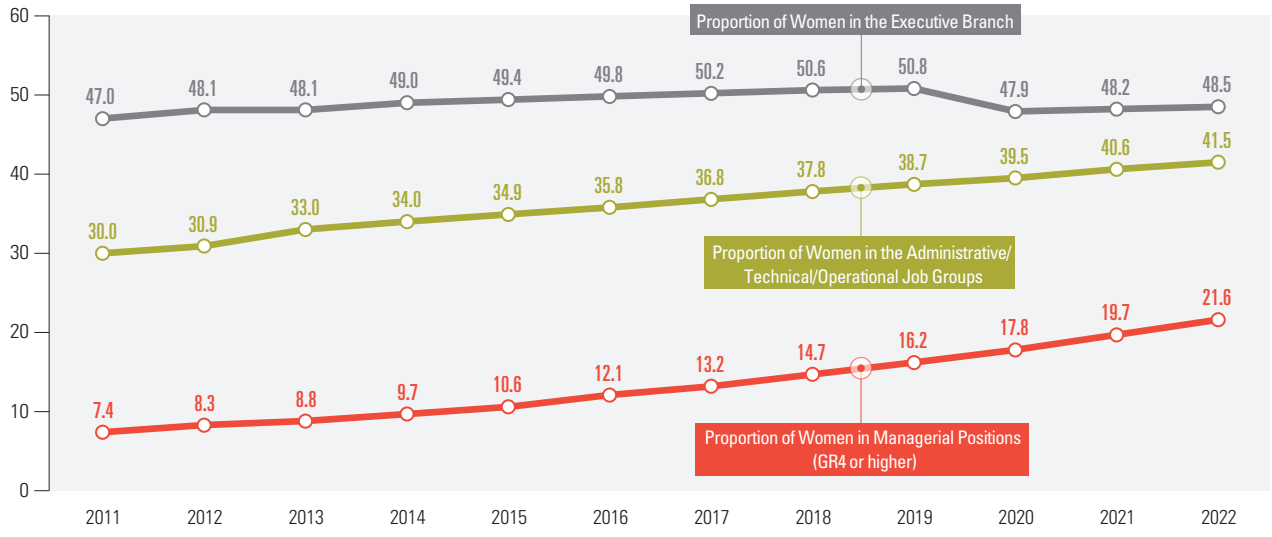
**The proportion of women public officials in managerial positions is growing, but still remains low (SDG 5.5.2)**

Out of public servants, the share of female public servants indicates the level of female participation in public services. The

proportion of women officials in managerial positions at the central government (GR 4 or higher) rose to 21.6% in 2022, up 1.9%p from the previous year. The proportion has continued to increase each year by the 1%p range since 2016. In addition, the proportion of female officials in managerial positions have almost tripled from 7.4% in 2011, but it is still lower compared to the percentage of female public servants. In 2022, women accounted for 41.5% of public servants in administrative, technical and management/operation positions, but the share of women in managerial positions halved to 21.6%. The gap between the two narrowed a little bit to 19.9%p from 22.6%p in 2011, with a reduction of a mere 2.7%p over the past 12 years.

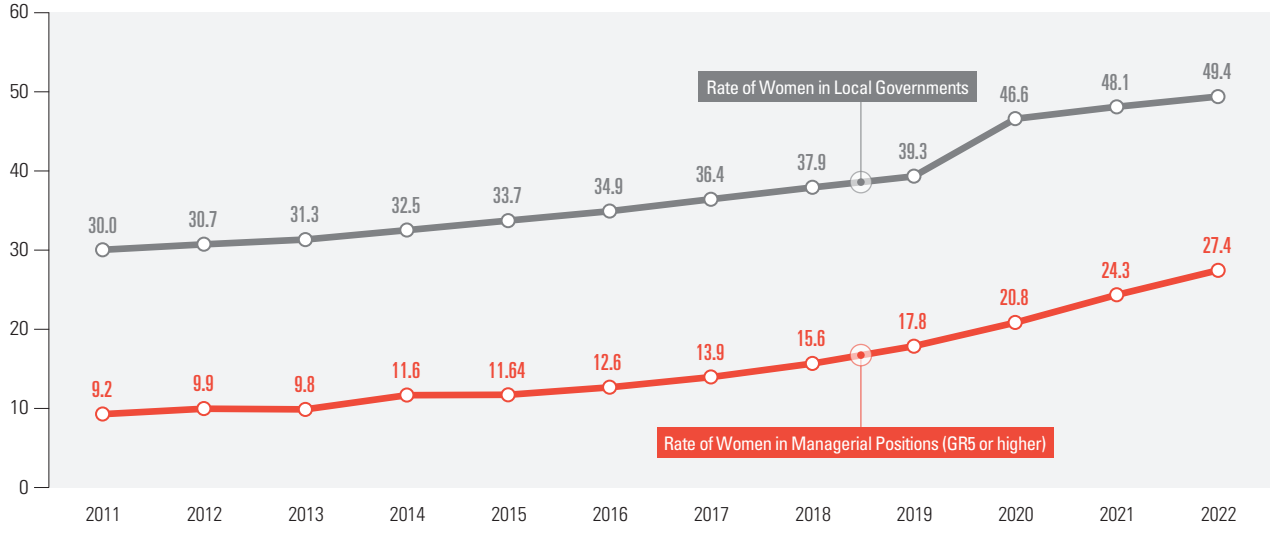
Such a trend can be also seen in the proportion of woman officials in the managerial positions (GR 5 or higher) in local

**Share of Women in Managerial Positions out of Public Officials (GR 4 or higher), 2011~2022** (Unit: %)




Source : Ministry of Personnel Management, Statistics Yearbook, each year; Korean Women's Development Institute, Gender Statistics Information System (https://gsis.kwdi.re.kr, retrieved on Sep 26, 2023)
Note1 : Public servants in the executive branch are those excluding the legislative branch, judicial branch, Constitutional Court and National Election Commission out of national public servants
Note2 : Administrative/technical/operational job groups exclude those in special position (foreign affairs, police, fire-fighting, inspection, training), political position and privileged government position out of public servants in the administration. Out of public servants in general-service positions, excluded are public servants in specialized, research, technical, postal positions; specialized officials; and those under flex-work and normal/special/temporary-term schemes
Note3 : The ratio of women in managerial positions (GR 4 or higher) is based on administrative/technical/operational job groups with figures available for the female ratio in each rank

**Share of Women Officials in Managerial Positions (GR 5 or higher) in Local Governments, 2011~2022** (Unit: %)




Source : Ministry of the Interior and Safety, Personnel Statistics of Female Public Servants in Local Governments (based on Dec 31, 2022)
Note1 : It is based on the number of public servants in local governments, excluding self-governing educational bodies
Note2 : Local public officials on GR 5 or higher include high-level officials, those in general services (incl. ordinary-term system) on GR 1 to 5, those in the ordinary-term system on GR 5, researchers and senior technical advisors, those in privileged government positions equivalent to GR 1 to 5, special career officials on Group A and those in the exclusive positions on GR 5 or higher

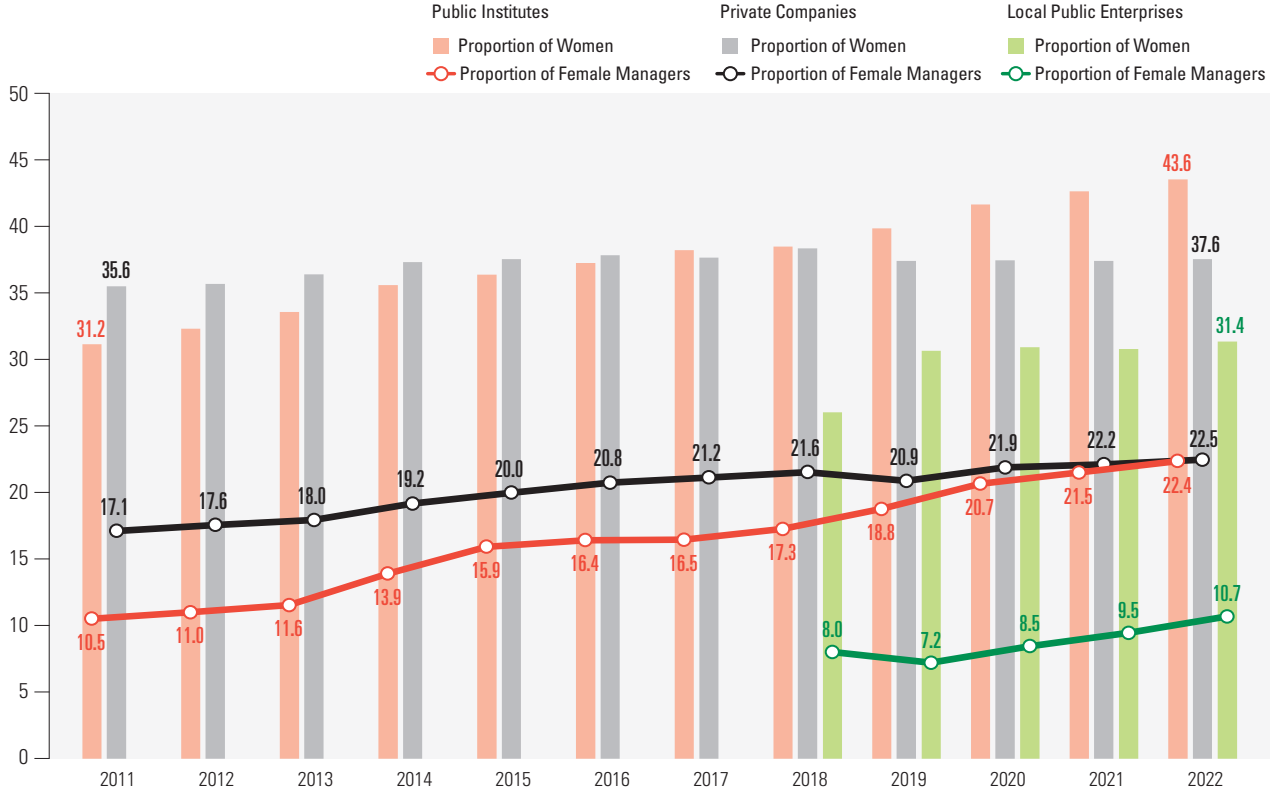
governments. The proportion of woman local officials in the managerial positions grew by 3.1%p y-o-y to 27.4% in 2022. It almost tripled compared to the level seen in 2011 (9.2%). Since 2020, it has risen by around 3%p each year. However, it remains low vis-a-vis the proportion of woman public servants in local governments. In 2022, the proportion of woman public servants in local governments stood at 49.4% while that of woman public officials in managerial positions was only 27.4%. The gap between the two amounted to 22.0%p. That said, it is encouraging that almost half of public servants (49.4%) in local governments are women.

### Low representation of woman managers in public organizations, local public enterprises and private companies (SDG 5.5.2)

The proportion of female employees has steadily risen in public institutes and local public enterprises since 2016 when the Affirmative Action was introduced to tentatively favor a certain gender to alleviate sexual discrimination in employment and promote gender equality. In 2022, the proportion of female workers in public institutes stood at 43.6%, up 0.9%p from the previous year. It's an increase of 12.4%p compared to 31.2% in 2011. However, there was no remarkable change in private companies for the same period. It indicates that the Affirmative Action has contributed to a boost in female employment in public institutes and local public enterprises.

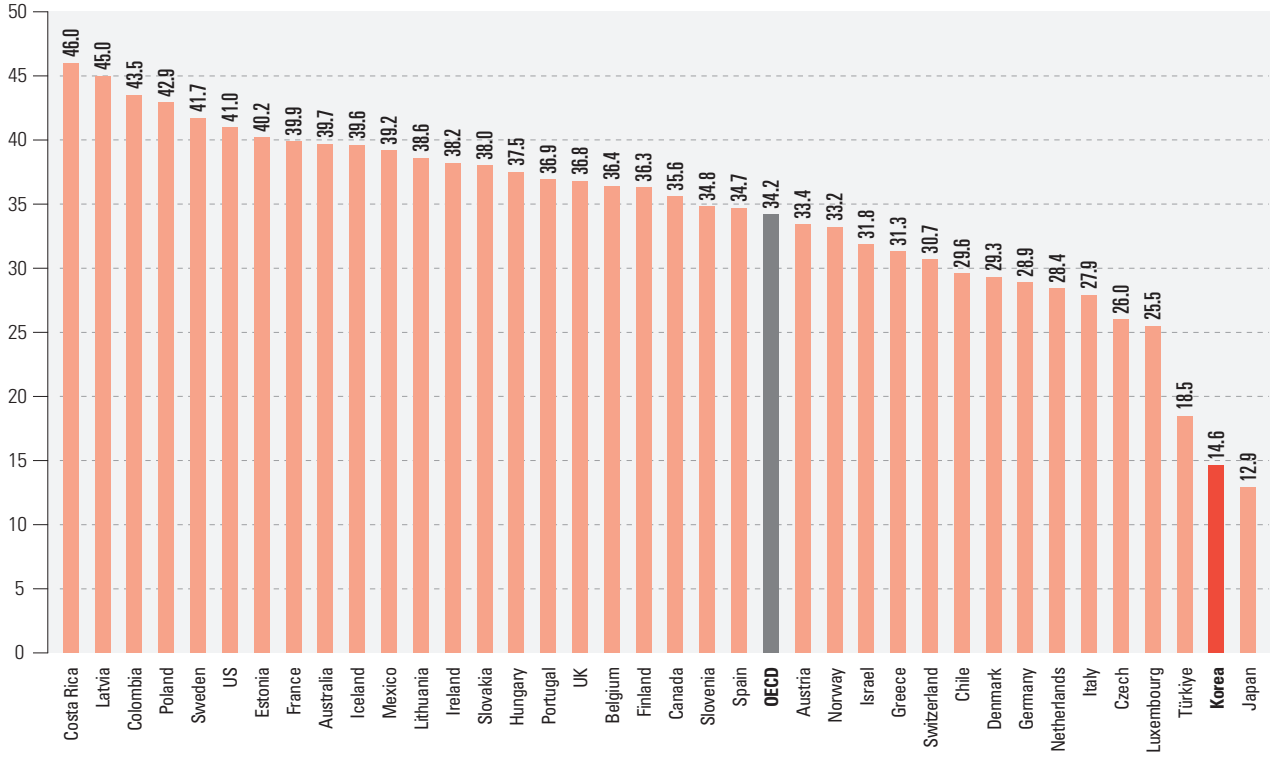
Together with growth of woman employment, the percentage of female managers has risen as well. However, the ratio of female managers remains low compared to that of all female employees. In 2022, the ratio of female employees stood at 43.6% in public institutes, 31.4% in local public enterprises (local public agencies and corporations) and 37.6% in private companies whereas the percentages of female managers were only 22.4%, 10.7% and 22.5% respectively. Given a gap between the ratio of all female employees and that of female managers at 21.2%p in public institutes, 20.7% in local public enterprises and 15.1%p in private companies, it indicates that the gap seen in public institutes and public enterprises is even bigger than that in private companies.

**Share of Female Employees and Managers in Public Institutes, Local Public Enterprises, and Private Companies, 2011~2022** (Unit: %)




Source : Ministry of Employment and Labor, 2023 Employment & Labor White Paper
Note1 : This shows female employment rates at organizations where the Affirmative Action has been implemented. The measure has expanded to cover local public enterprises and corporations under the Local Public En terprises Act since 2018
Note2 : Different from managerial positions, managers are defined as high-level executives and managers in accordance with the Korean Standard Classification of Occupations. Regardless of job rank, a person with the following three authorities is considered as manager: work supervision, personnel appraisal (performance evaluation) and approval

**Share in Female Managers by OECD Country, 2022** (Unit: %)




Source : OECD.Stat, Share of female managers (https://stats.oecd.org/index.aspx?queryid=96330#, retrieved on Dec 30, 2023)

Note1 : Hospitality, retail and other services managers were excluded from four manager groups (chief executives, senior officials and legislators; administrative and commercial managers; production and specialized services managers; and hospitality, retail and other services managers) in the International Standard Classification of Occupations (ISCO-08)

Note2 : For the United Kingdom, data is from the year 2019, and for Australia and Canada, it's from the year 2021. The rest is based on data from the year 2022



**Definition**

- **Affirmative Action** : As a measure (introduced in 2006) to tentatively favor a certain gender to alleviate sexual discrimination in employment or promote gender equality, it requires public institutes, local public corporations and companies with 500 full-time employees or more to submit an implementation plan if their ratio of female workers and mangers is below 70% of the industrial average, and keeps track of their implementation

# 6 CLEAN WATER AND SANITATION

Cheongpung Lake in Jecheon, Chungbuk

# Ensure availability and sustainable management of water and sanitation for all

SDG 6 aims to 'achieve universal access to safe drinking water and sanitation services' and 'ensure sustainable protection and management of water-related ecosystems.' Safe drinking water/sanitation services, water quality of freshwater resources and protection of water-related ecosystems can contribute to preservation of the environment and better quality of life and lay the groundwork for economic prosperity.

Due to steady investments to improve drinking water and sanitation services, the water supply rate and the proportion of population using safely managed sanitation services in Republic of Korea reached 99.4% in 2022. In addition, the sewerage coverage rate also stood at 94.8%, significantly exceeding the OECD average (81.5%). However, by region, about 28.8% of cities (-si), counties (-gun) and districts (-gu) still remain below the OECD average, indicating the need for policy efforts to alleviate regional disparities in the public sewerage coverage.

Over the past decade, water-use efficiency in Korea has steadily improved. In 2020, the water-use efficiency increased by 32% to 54.4 dollars/$m^3$ compared to 2010. According to the classification criteria of the Food and Agriculture Organization (FAO), Korea has maintained its water-use efficiency as "medium-high" for the past decade. By sector, the water-use efficiency rose by 21% in industrial sectors and by 44% in services whereas the agriculture accounting for 59% of the total water usage saw fluctuations over the ten years, only resulting in a 9% increase. Sustainable use of water requires policies that enhance water-use efficiency, considering the sector-specific value-added and characteristics.

The scale of water-related ecosystems has kept changing due to human activities such as development projects and climate change. Compared to the early 2000s, it has been observed that the area of permanent water in lakes and rivers slightly decreased and the area of artificial waters such as reservoirs increased. The number and area of Ramsar wetlands, internationally recognized for their conservation value, have been on a steady rise. Continuous monitoring is needed to systematically protect and restore water-related ecosystems from external pressures.

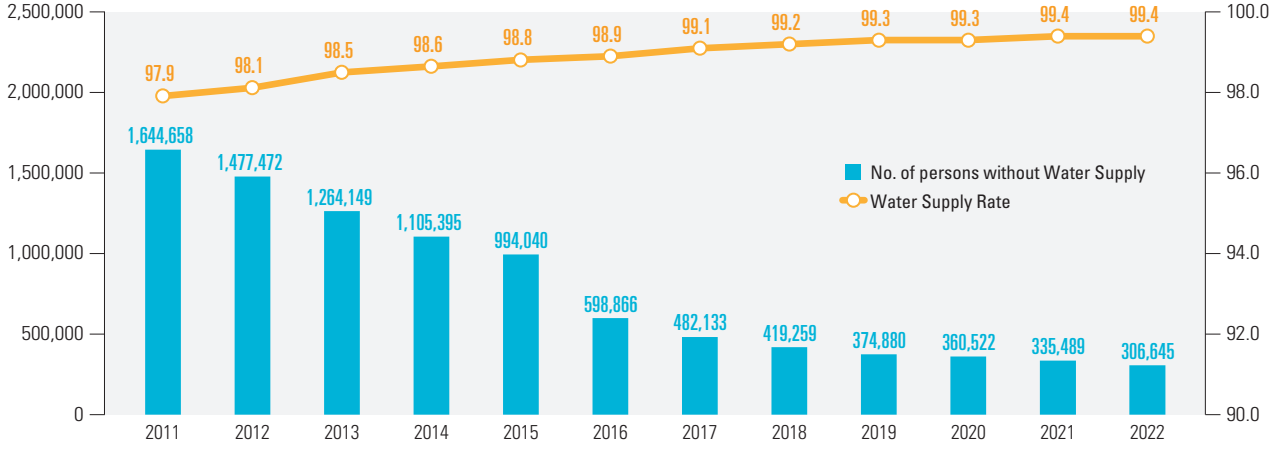


## Continuous improvement in the degree of access to drinking water and sanitation services

(SDG 6.1.1 / 6.2.1)

SDG 6.1 is to ensure universal and fair access to safe drinking water at a reasonable price for all by 2030. As an indicator representing the extent to which SDG 6.1 is achieved, SDG 6.1.1 measures the proportion of population having access to safely managed drinking water (hereinafter referred to as the safe drinking water supply rate). In Korea, drinking water is provided through public waterworks in metropolitan areas, provinces and towns and through small-scale water supply facilities. The public water supply rate has been on a steady rise from 97.9% in 2011 to 99.4% in 2022. With continuous expansion of public waterworks, the population without access to the public water supply services declined from 1.64 million in 2011 to 310,000 in 2022. This is a

**Number of Population without Access to Water Supply and Water Supply Rate, 2011~2022** (Unit: No. of persons, %)

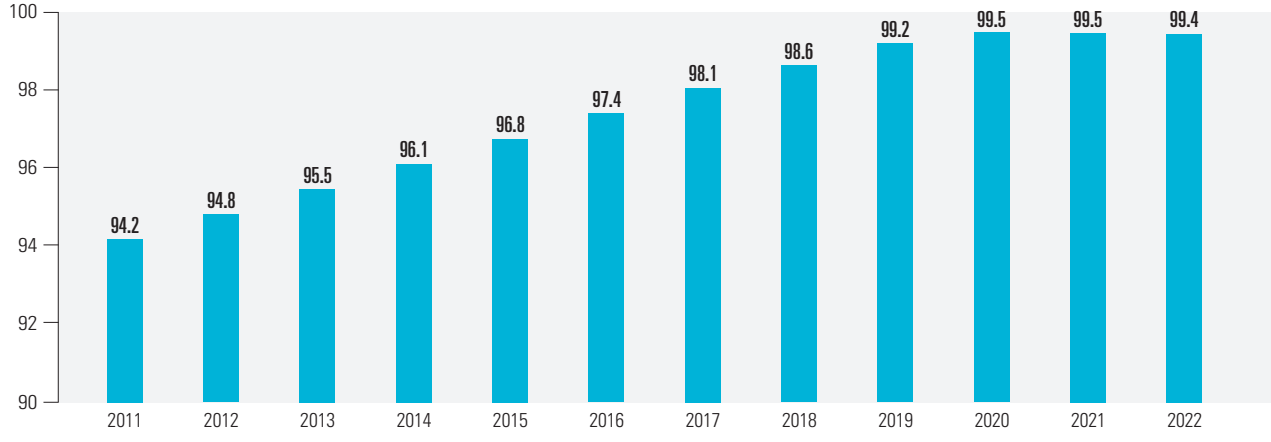



Source : Ministry of Environment, Waterworks Statistics (National Water Information System, https://www.waternow.go.kr. retrieved on Jan 16, 2024)

reduction of less than one-fifth of the size population with no water supply in 2011. The supply rate of safe drinking water in OECD countries is considerably high, averaging 95.5% in 2022. Countries like the Netherlands, New Zealand, Iceland and Hungary have achieved 100% of the safe drinking water supply rate, and the rate has also amounted to 99% or higher in 17 countries, including Korea.

SDG 6.2 aims to ensure sufficient and equitable access to sanitation services for all by 2030 and to eradicate defecation on the street. In particular, SDG 6.2.1 refers to the proportion of population using safe sanitation services, representing the proportion of population using 'improved' sanitation services that do not share with other households and safely take care of excreta on the site or by transporting it outside. In Korea, the proportion of the population using the safely managed sanitation services steadily increased from 94.2% in 2011 to 99.4% in 2022. In comparison, the proportion of the global population has still remained at 56.5%.

**Proportion of Population Using Safe Sanitation Services, 2011~2022** (Unit: %)




Source : UNICEF JMP(https://washdata.org, retrieved on Nov 01, 2023)

## Policy efforts needed to alleviate regional disparities in public sewerage coverage (SDG 6.3.1)

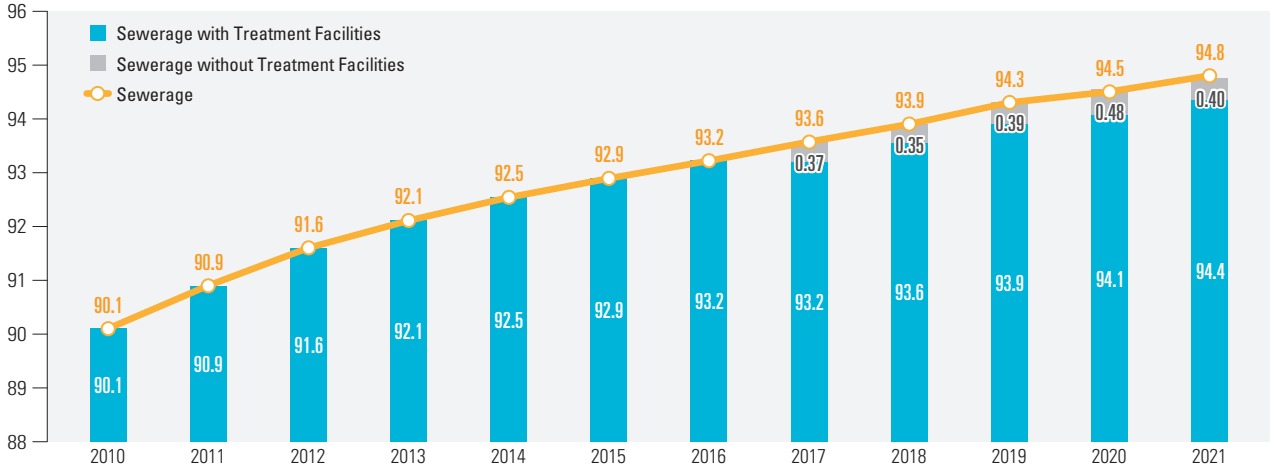
SDG 6.3 is to, by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.3.1 is an environmental indicator that measures 'the proportion of domestic and industrial wastewater flows safely treated.' The influx of sewage refers to the water flows entering the sewage system, contaminated from human activities or economic operations, which stood at 21.2 million $m^3$/day in 2021. On the other hand, the generation of wastewater means the volume of wastewater released from wastewater emission facilities, which was calculated at 5 million $m^3$/day in the same year. The volume of sewage and wastewater generated has remained at a steady level without fluctuations.

The sewerage coverage rate has steadily increased from 90.1% in 2010 to 94.8% in 2021, on the back of continuous expansion of the public sewerage system for safe treatment of wastewater. However, there are regional disparities in public sewerage coverage. In 2021, the sewerage coverage rate in special/metropolitan areas and Gyeonggi Province hovered over the national average whereas the rate in most provinces was below the national average. Out of 226 cities(-si), counties(-gun) and districts(-gu) nationwide, over a quarter or 65 of them have a sewerage coverage rate of less than 80%. It reveals that there is quite a large gap in sewerage coverage rates between regions.

Out of OECD countries, the United Kingdom and Chile have achieved 100% safe sewerage coverage. Considering that the OECD average stands at 81.5%, Korea (94.4%) is also considered as the top rank. It ranks 11th out of 36 OECD countries, excluding Iceland and Portugal with no available statistics regarding the sewerage coverage rate. Despite a high sewerage coverage rate nationwide, 28.8% of cities, counties and districts still fall short of the OECD average. Policy efforts are needed to narrow regional disparities in sewerage coverage rates.

## Sewerage Coverage Rate, 2010~2021

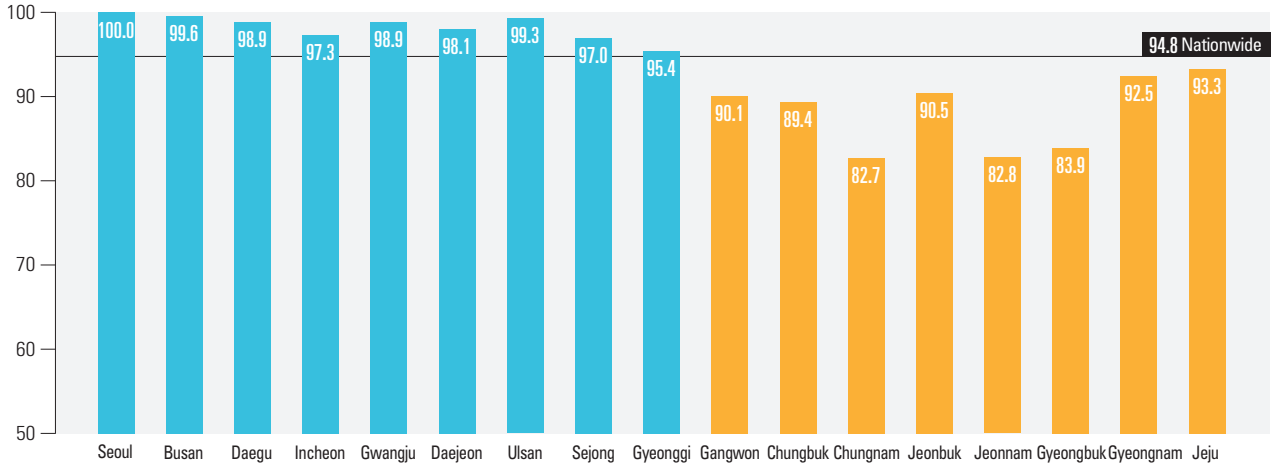
(Unit: %)




Source : Ministry of Environment, Sewerage Statistics (Sewerage Information System, https://hasudoinfo.or.kr, retrieved on Oct 25, 2023); OECD.Stat, Connection rates to wastewater treatment(https://stats.oecd.org. retrieved on Nov 01, 2023)

## Sewerage Coverage Rate by Region, 2021

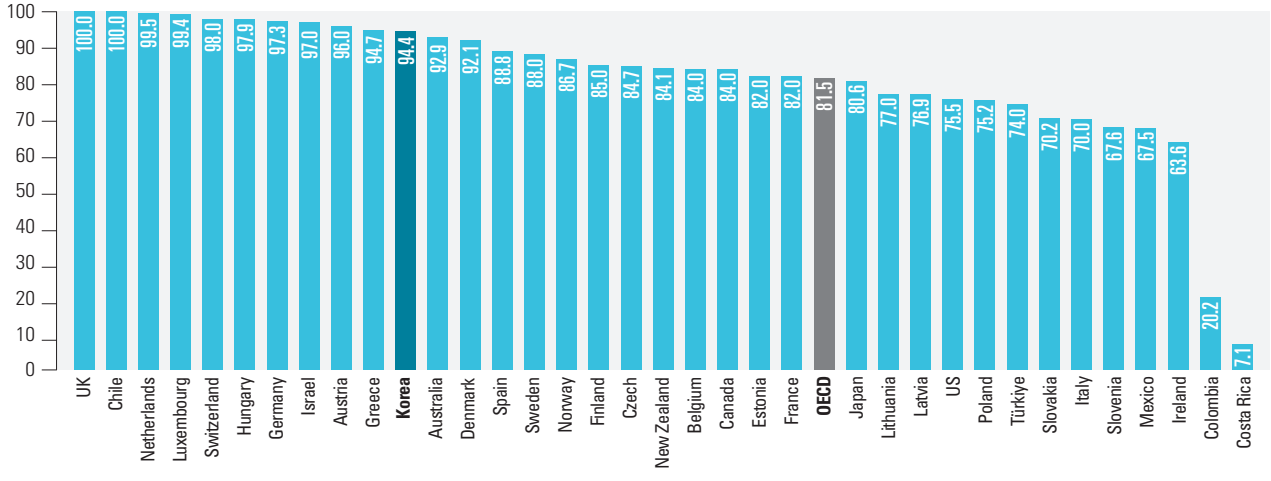
(Unit: %)




Source : Ministry of Environment, Sewerage Statistics (Sewerage Information System, https://hasudoinfo.or.kr, retrieved on Dec 22, 2023)

## Sewerage Coverage Rate with Treatment Facilities in OECD Countries, 2021

(Unit: %)




Source: OECD Stat(https://stats.oecd.org, retrieve on Nov 01, 2023)
Note1 : For the sewerage coverage rate, utilized were statistics of sewerage connected to treatment facilities
Note2 : Iceland and Portugal were excluded from the average due to the absence of data

## Despite overall improvement in water-use efficiency, sector-specific policies are needed for water-use efficiency (SDG 6.4.1)

SDG 6.4 is to increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and reduce the number of people suffering from water scarcity. As an economic indicator regarding sustainable withdrawals and supply of freshwater resources, SDG 6.4.1 assesses 'a change in water-use efficiency over time.' Water-use efficiency is measured as the ratio of value-added relative to water consumption.

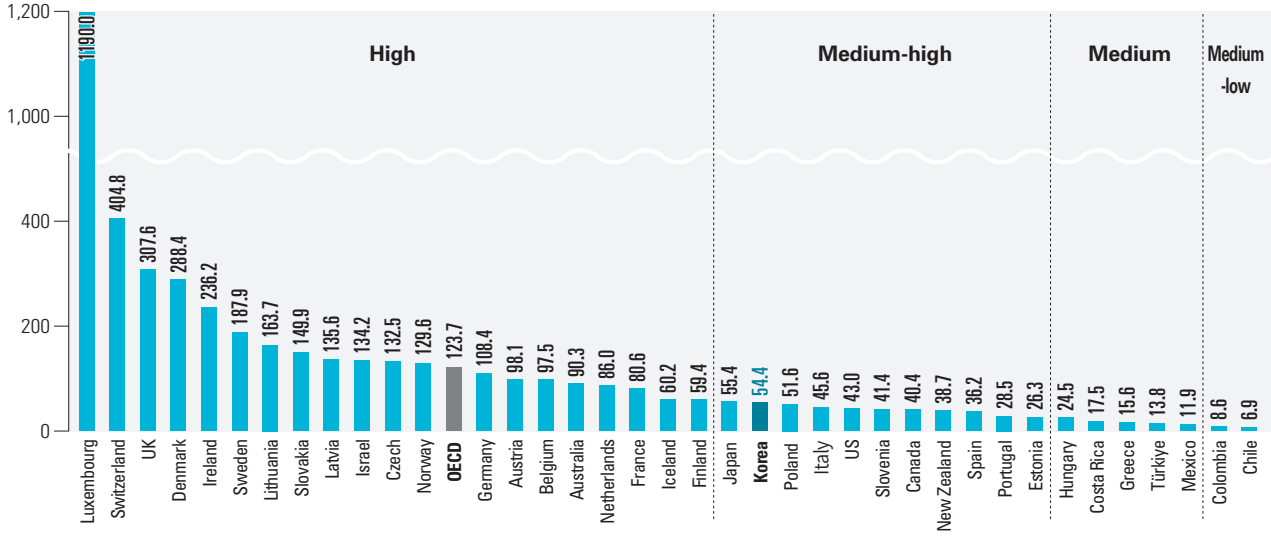
The water-use efficiency across all the industries has been on a steady increase each year since 2010, except for a slight decline in 2020. The water-use efficiency increased by 32.0% from 41.2 dollars/m³ in 2010 to 54.4 dollars/m³ in 2020. By industrial sector, in 2020, the water-use efficiency stood at 1.05 dollars/m³ in agriculture, 110.8 dollars/⊠ in industrial sectors, and 144.5 dollars/m³ in services. In terms of the ratio of value-added in each industry, services accounted for 61.7% while the industrial sectors, including manufacture, took up 28.0%. Agriculture made up a small portion (1.7%). Similar to the changes in water-use efficiency, services and industrial sectors saw a steady rise after 2010, but experienced a slight reduction in 2019 or 2020. However, the upward trend was not as evident in the agriculture. In 2020, agriculture saw the water-use efficiency increase a mere 1.09 times compared to 2010 whereas the efficiency grew by 1.21 times and 1.44 times in industrial sectors and services respectively, contributing to overall improvement in water-use efficiency. It is necessary to implement water-use efficiency policies, considering the value-added and characteristics of each industry for sustainable use of water resources.

**Water-use Efficiency by Industry, 2010~2020** (Unit: dollar/m³, 2010=1)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Water-use fficiency | 41.2 | 42.8 | 43.8 | 45.4 | 46.8 | 49.4 | 50.5 | 52.1 | 53.7 | 55.0 | 54.4 |
| Agriculture | 0.96 | 1.02 | 1.04 | 1.03 | 1.04 | 1.04 | 0.99 | 1.02 | 0.99 | 0.97 | 1.05 |
| Industrial Sector | 91.2 | 96.2 | 97.3 | 100.9 | 101.9 | 104.2 | 107.7 | 114.0 | 115.9 | 113.3 | 110.8 |
| Services | 100.2 | 102.7 | 105.5 | 108.8 | 113.1 | 130.0 | 131.0 | 133.1 | 138.2 | 145.2 | 144.5 |
| Change from 2010 | 1.00 | 1.04 | 1.06 | 1.10 | 1.14 | 1.20 | 1.23 | 1.26 | 1.30 | 1.33 | 1.32 |
| Agriculture | 1.00 | 1.06 | 1.08 | 1.07 | 1.08 | 1.08 | 1.03 | 1.06 | 1.03 | 1.01 | 1.09 |
| Industrial Sector | 1.00 | 1.05 | 1.07 | 1.11 | 1.12 | 1.14 | 1.18 | 1.25 | 1.27 | 1.24 | 1.21 |
| Services | 1.00 | 1.02 | 1.05 | 1.09 | 1.13 | 1.30 | 1.31 | 1.33 | 1.38 | 1.45 | 1.44 |

Source : FAO, FAOSTAT, SDG Indicators(https://www.fao.org, retrieved on Oct 01, 2023)
Note : Water use efficiency change from 2010 = water use efficiency in year ÷ water use efficiency in 2010

**Water-use Efficiency by OECD Country, 2020** (Unit: dollar/m³)




Source : FAO, AQUASTAT(https://data.apps.fao.org/aquastat, retrieved on Nov 01, 2023)

Meanwhile, water-use efficiency of OECD countries averaged 123.7 dollars/m³ in 2020. With 54.4 dollars/m³ below the OECD average, Korea ranked 22nd out of 38 OECD countries. The FAO classifies water-use efficiency levels into following five groups: high, medium-high, medium, medium-low, low. According to the criteria, in 2020, 20 countries were classified as high, 11 countries as medium-high, five countries as medium and two countries as medium-low out of OECD member countries. Countries like Luxemburg (1,190.0 dollars/m³), Switzerland (404.8 dollars/m³) and the United Kingdom (307.6 dollars/m³) showed the highest level of water-use efficiency. On the other hand, Korea remained in the group of medium-high from 2010 to 2020. According to the FAO, in 2020, Korea used 59% of its total water consumption for agriculture. Given Korea's high water stress level (85.2%), value-added in each industry and water usage, it is necessary to come up with measures for managing water demands and enhancing efficiency of water use in the agricultural sector accounting for 59% of total water use.

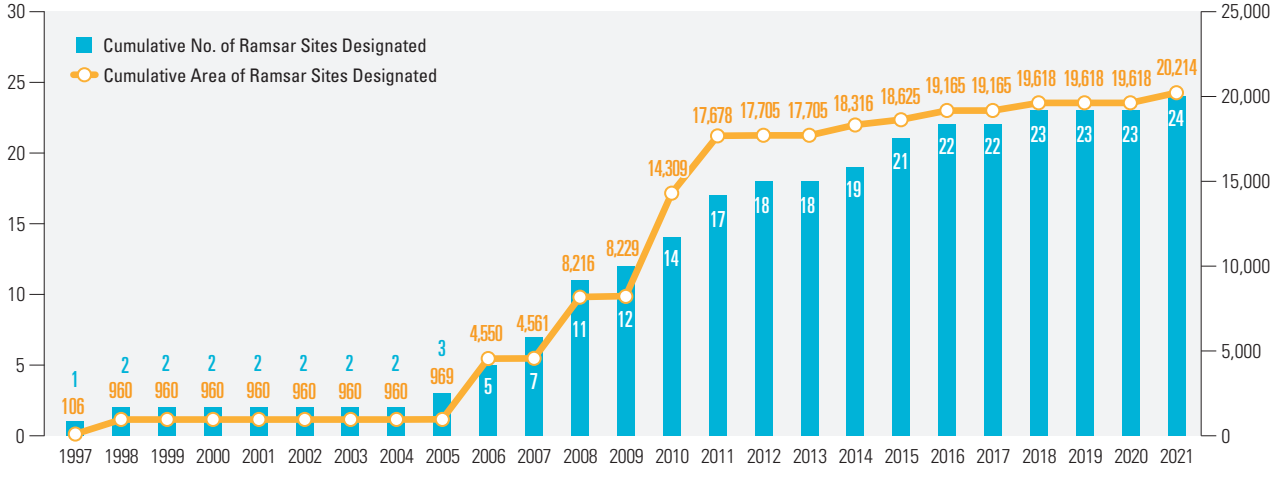
### Need to continuously monitor changes in water-related ecosystems (SDG 6.6.1)

SDG 6.6 aims to protect and restore water-related ecosystems, including five categories, namely rivers, lakes, wetlands, aquifers and artificial waters. Addressing 'change in the extent of water-based ecosystems over time,' SDG 6.6.1 serves as an environmental indicator that measures a change in spatial area, water quality and quantity of freshwater, a key element in devising initiatives for protecting and restoring water-related ecosystems.

When reviewing the change in water surface area of lakes and rivers out of water-related ecosystems from 2017 to 2021, the area of permanent water including lakes and rivers decreased by 1.9% (9.23km²), compared to the period from 2000 to 2004. On the other hand, the area of seasonal water in lakes and rivers saw an increase of 1.48% (9.7km²). Comparing the period from 2000 to 2004 with that from 2017 to 2021, moreover, the water surface area of artificial waters like reservoirs increased by 2.36% (11.31km²) based on the maximum area and by 5.01% (16.22km²) based on the minimum area.

Meanwhile, Korea has 24 Ramsar wetlands (17 inland wetlands, 7 coastal wetlands) as of 2021, with a total area of 20,214ha. Since the execution of Ramsar Convention in 1997 and the registration of Yongneup Marsh of Daeamsan Mountain as the first Ramsar site, the number and area of wetlands have been on a steady rise until 2021 when Janghang Wetlands were registered. It is necessary to continuously monitor changes in various kinds of water-related ecosystems to systematically protect and restore water-related ecosystems.

**Number and Area of Ramsar Wetlands, 1997~2021** (Unit: No of Sites, ha)




Source : Ramsar Convention on Wetlands(https://www.ramsar.org, retrieved on Oct 01, 2023)

**Definition**

- **Permanent water area :** Water area that exists in lakes and rivers for all 12 months throughout the year in lakes and riversaverage, and keeps track of their implementation
- **Seasonal water area :** Water area that exists in lakes and rivers for less than 12 months in a year
- **Ramsar wetland :** Wetlands registered and protected by Ramsar in recognition of their global importance as wetlands

# 7 AFFORDABLE AND CLEAN ENERGY

# Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 7 is to ensure that everyone around the world has access to clean and eco-friendly energy at a reasonable price. Energy is essential resource for human life. However, greenhouse gas (GHG) emissions resulted from a jump in consumption of fossil fuel have caused global climate crisis. Countries around the globe have endeavored with an aim to achieve carbon neutrality by 2050 since the Paris Agreement on Climate Change was signed in 2015 and the IPCC released 'Special Report on Global Warming of 1.5°C' in 2018. In the energy supply system, the transition to renewable energy from fossil fuels is considered a crucial task in sustainable development goals.

In Republic of Korea, the production of new and renewable energy is growing at a fast pace. However, on the international front, the ratio of renewable energy sources in the final energy consumption is still low. Energy intensity, which indicates the level of national energy efficiency, is higher compared to major OECD countries due to characteristic of Korean industrial structure with a high presence of energy-intensive businesses. That being said, there have been some improvements from a long-term perspective.

The Korean government has embodied its efforts to achieve carbon neutrality by 2050 based on the Framework Act on Carbon Neutrality and Green Growth and basic plans. Recognizing that climate crisis is a common issue for all humanity, the government also plans to actively engage in the international community's efforts to limit the increase of global average temperature to 1.5 degree Celsius above pre-industrial levels. Domestically, Korea is also pushing ahead with a carbon-neutral society and green growth based on the principles of sustainable development and inter-generational equity, considered as the responsibility of the current generation to ensure survival of the generations to come.

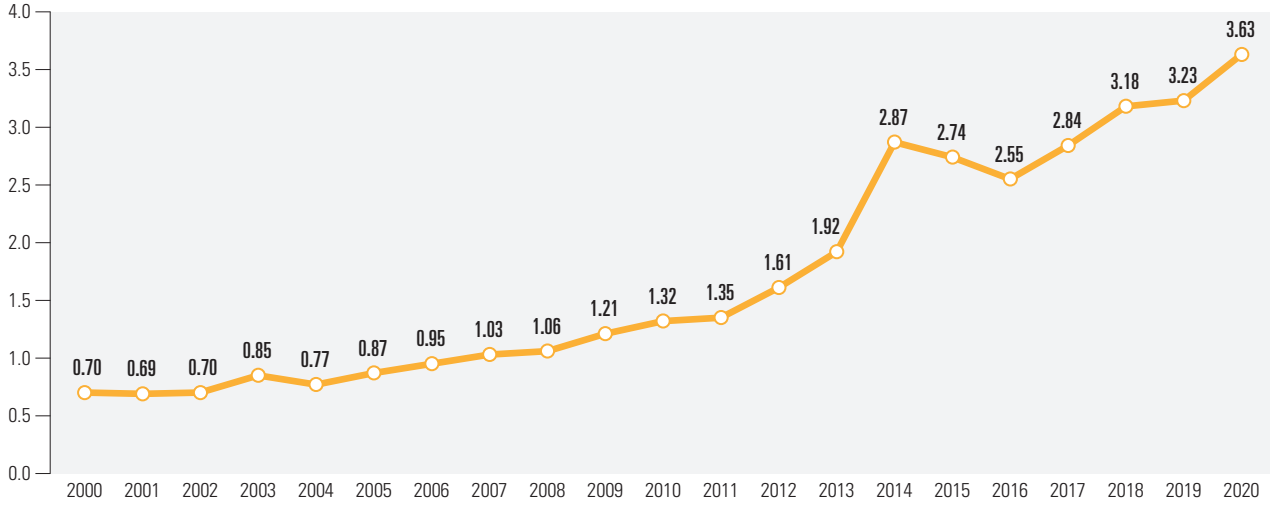
### A steady rise in the proportion of renewable energy out of final energy consumption (SDG 7.2.1)

The proportion of renewable energy in final energy consumption indicates how widespread the renewable energy has been utilized for ordinary production and consumption activities. The share of renewable energy out of final energy consumption in Korea has been on a steady increase since 2000. The proportion was just 0.70% in 2000, but rose to 3.63% in 2020. From 2000 to 2010, the ratio grew at an annual average rate of 6.6% and, for the following decade, the number further increased to 10.7% from 2010 to 2020.

Although the share of renewable energy in final energy consumption is increasing, it remains very low by the global standard. In 2020, the OECD average was 14.9% and the share of renewable energy in Ireland amounted to 82.8%. While the proportion of renewable energy in Korea is currently one of the lowest among OECD countries.

Above all, it is crucial to secure supply capacities, in

**Proportion of Renewable Energy out of Final Energy Consumption, 2000~2020** (Unit: %)




Source : World bank, World Development Indicators, Renewable energy consumption (https://databank.worldbank.org, retrieved on Jul 25, 2023)

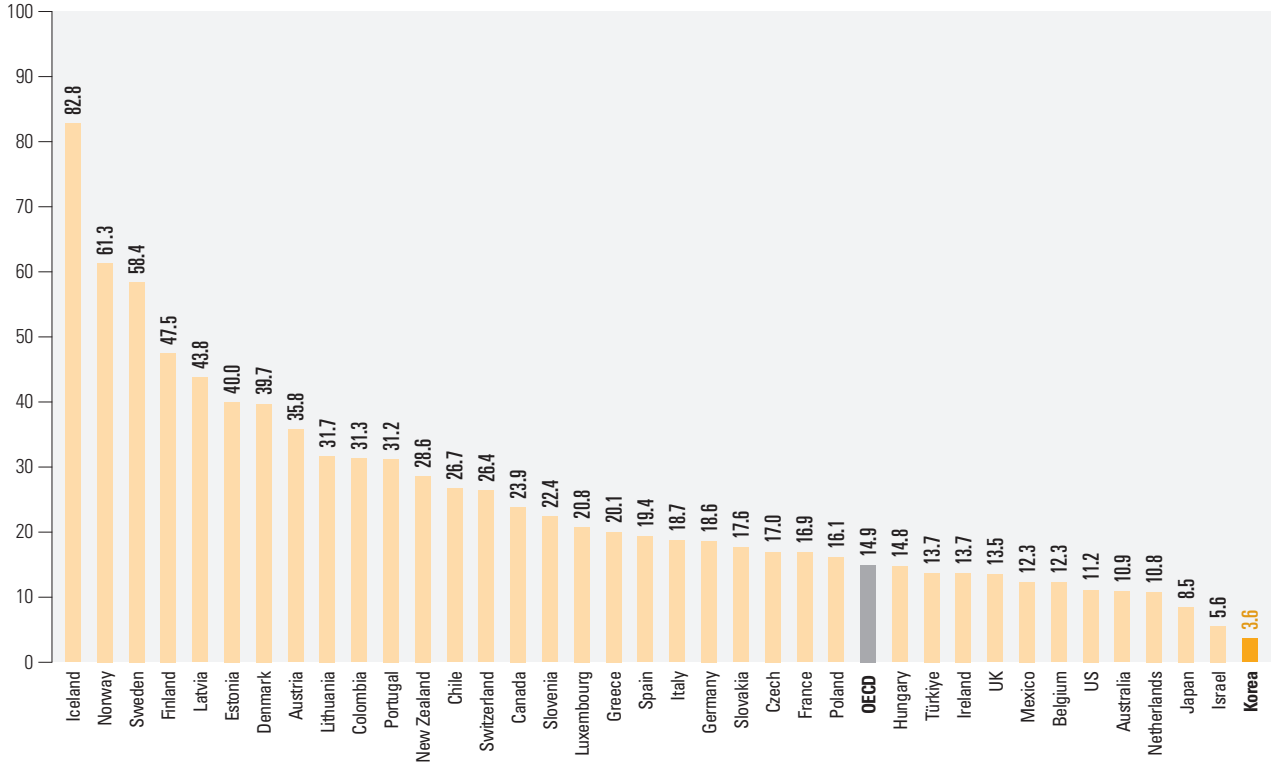
order to increase consumption of renewable energy. Korea has strived to supply renewable energy, such as solar, photovoltaic, wind, hydraulic, ocean, geothermal, bio and waste energy, and new energy including fuel cells and integrated gasification combined cycle (IGCC) in accordance with the Act on the Promotion of the Development, Use, and Diffusion of New and Renewable Energy (the Act). In 2019, it also revised the Act to align with the international standards and excluded energy produced from non-renewable waste (non-biogenic waste such as chemical fibers, artificial leather, and vinyl originated from fossil fuels) from new and renewable energy. The production of renewable and new energy in 2022 stood at 1.572 million TOE and 1.413 million TOE, accounting for 5.21% out of primary energy supply. This figure excluded non-renewable waste from waste energy under the revised Act.

Given the production share per energy source in 2022, PV and bioenergy represented 42.1% and 27.8% respectively. Combining the two, they accounted for more than half. Besides that, the share of renewable waste (8.0%), fuel cells (7.3%), hydraulic energy(4.8%) and wind energy (4.6%) was all less than 10%. As for photovoltaic energy and fuel cells, the production more than tripled in 2022 vis-a-vis 2017. Recently, the proportion of new energy (fuel cells and IGCC) out of new and renewable energy has exceeded 10% since 2020.

The Korean government has enhanced various systems to spread the use of new and renewable energy by raising the Renewable Portfolio Standards (RPS) and introducing the third-party power purchase agreements (PPA). Devised in 2017, the 'Renewable Energy 3020 Implementation Plan' has been further refined and specified through 'Upward Version for 2030 Nationally Determined Contributions (NDC)' announced in 2021 and '2030 NDC Revision' included in 'National Basic Plan on Carbon Neutrality and Green Growth' in March 2023. The Korean government plans to accelerate the transition to clean energy such as PV energy and hydrogen as well as energy mix that combines nuclear and renewable energy. By 2030, it also plans to increase the share of new and renewable energy to 21.6% or higher and expand the proportion of carbon-free power such as hydrogen and ammonia to 2.3%.

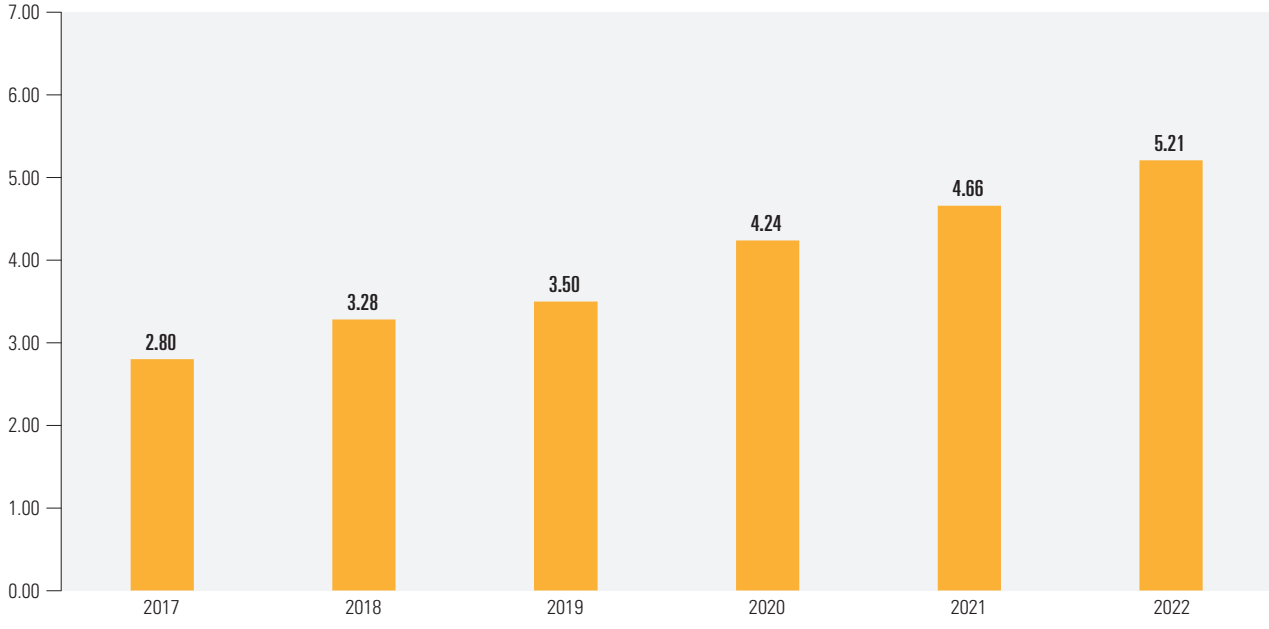


**Proportion of Renewable Energy out of Final Energy Consumption by OECD Country, 2020** (Unit: %)



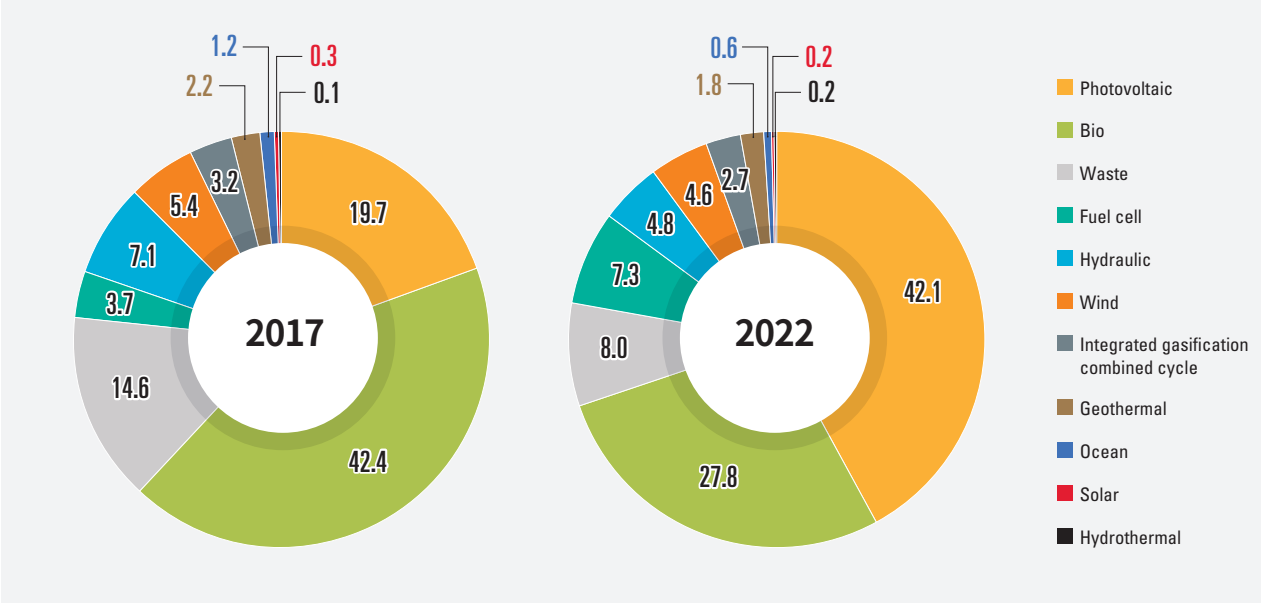

Source : World bank, World Development Indicators, Renewable energy consumption, (https://databank.worldbank.org, retrieved on Jul 25, 2023)

**Rate of New and Renewable Energy Supply, 2017~2022** (Unit: %)




Source : Ministry of Trade, Industry and Energy, Korea Energy Agency, Yearbook of Energy Statistics, each year
Note1 : The Renewable Energy Act Amendment (2019) excludes energy produced from non-renewable waste (waste that is not of biological origin, such as chemical fibers, artificial leather, vinyl, etc. that originate from fossil fuels such as oil and coal)
Note2 : Batch recycled/non-recycled waste separation calculations from 2017 to 2019 (as of 2019)
Note3 : The preliminary figure was used for the year 2022

**Rate of Production by Source of New and Renewable Energy, 2017, 2022** (Unit: %)




Source : Ministry of Trade, Industry and Energy·Korea Energy Agency, Renewable Energy Supply Statistics, each year
Note : Solar thermal, photovoltaic, wind, hydro, marine, geothermal, hydrothermal, bio, waste are renewables; fuel cells and coal gasification combined cycle are new energy

## Continuous improvements in energy intensity

(SDG 7.3.1)

As a major indicator representing energy efficiency, energy intensity refers to the amount of energy inputted to produce one unit of output. This indicator allows us to check whether a country's energy efficiency has improved by taking a look at the downward trend of energy intensity. Energy intensity (TOE/1 million KRW) in Korea has continuously shown improvements since 1990 starting at 0.197. Such a promising trend can be attributed to efforts to improve

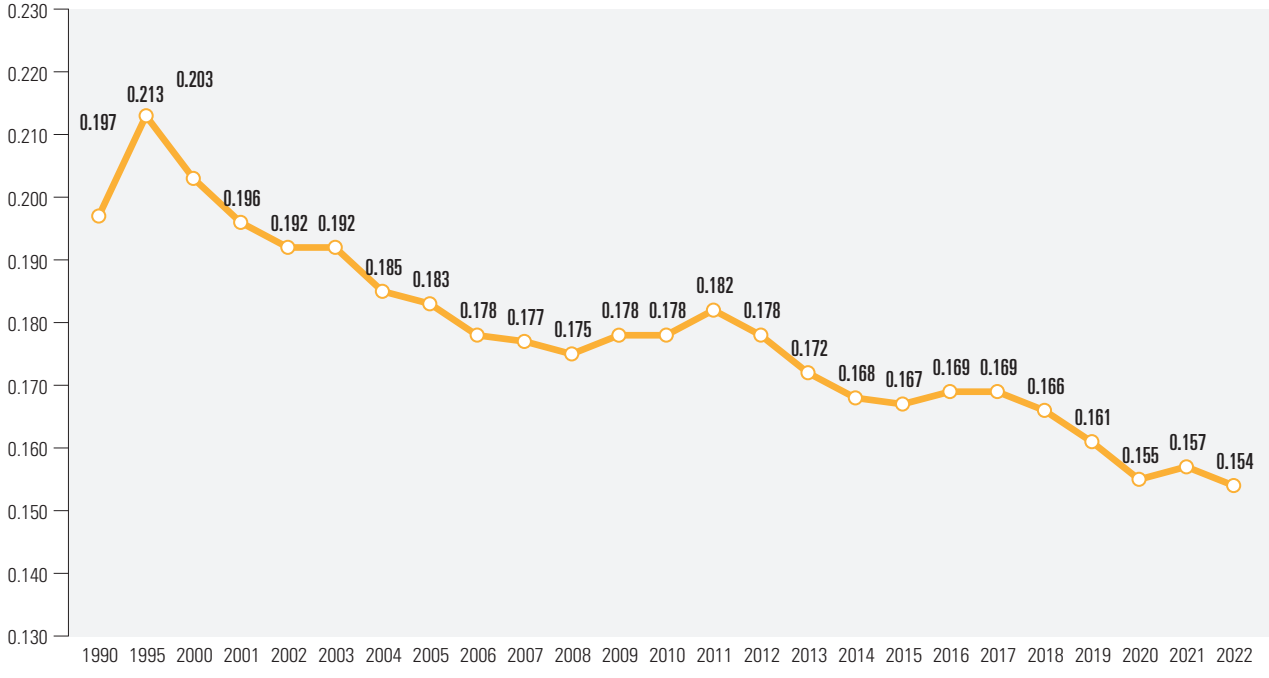
energy efficiency nationwide and to move into higher value-added industries. Korea's energy intensity improved at an annual average rate of 0.75% from 1990 to 2022 (tentative figure). In particular, the improvement has further accelerated to an annual average rate of 1.15% since 2010. In 2021 and 2011, the total energy consumption increased on two consecutive years, reflecting a return to normal life after the of COVID-19 pandemic. However, energy intensity stayed similar to 0.155% in 2020, early days of the pandemic spread, as economic recovery at home and abroad spurred the growth of exports and domestic consumption and production activities in manufacturing services industries. Energy intensity was calculated as 0.157p and 0.154p in 2021 and 2022 (preliminary figure), respectively.

Looking at energy intensity (GJ/1,000 dollars) in major advanced nations in 2021, Germany recorded 2.95, Japan 3.25 and the United States 4.33. Energy intensity in Korea is still relatively high at 5.45 compared to major countries. The world went through the COVID-19 from 2020 to 2021. During this period, energy intensity slightly increased in Germany and Korea due to the impacts of COVID-19, but they managed to maintain the similar level. The United States saw an improvement (4.43 → 4.33) while it worsened in Japan (3.16 → 3.25). Such a difference is determined by economic growth rates caused by a change in energy demands in each country during the pandemic. The economic growth rate of Korea, which stood at -0.7% in 2020 and +4.1% in 2021, is considered to have stably maintained its economy among major OECD countries.

It is necessary to consider the industrial structure of each nation for comparison of energy efficiency levels among countries, using energy intensity. Korea's high energy intensity compared to major advanced nations is attributed to its industrial structure centering on energy-intensive businesses, such as steel, petrochemicals and oil refinery. If energy efficiency is compared based on energy intensity, calculated from Gross Value Added (GVA) and energy supply, it can show different energy efficiency levels depending on the industrial structure even among countries with similar economic sizes. In 2021, the added value created from Korea's manufacturing accounted for 28.0% out of the Gross Value Added, which is the highest among OECD countries. The United States, Germany and Japan accounted for 10.7%, 18.9%, and 20.5%, respectively.

**Energy Intensity, 1990~2022**

(Unit: TOE/1 million KRW, as of 2015)



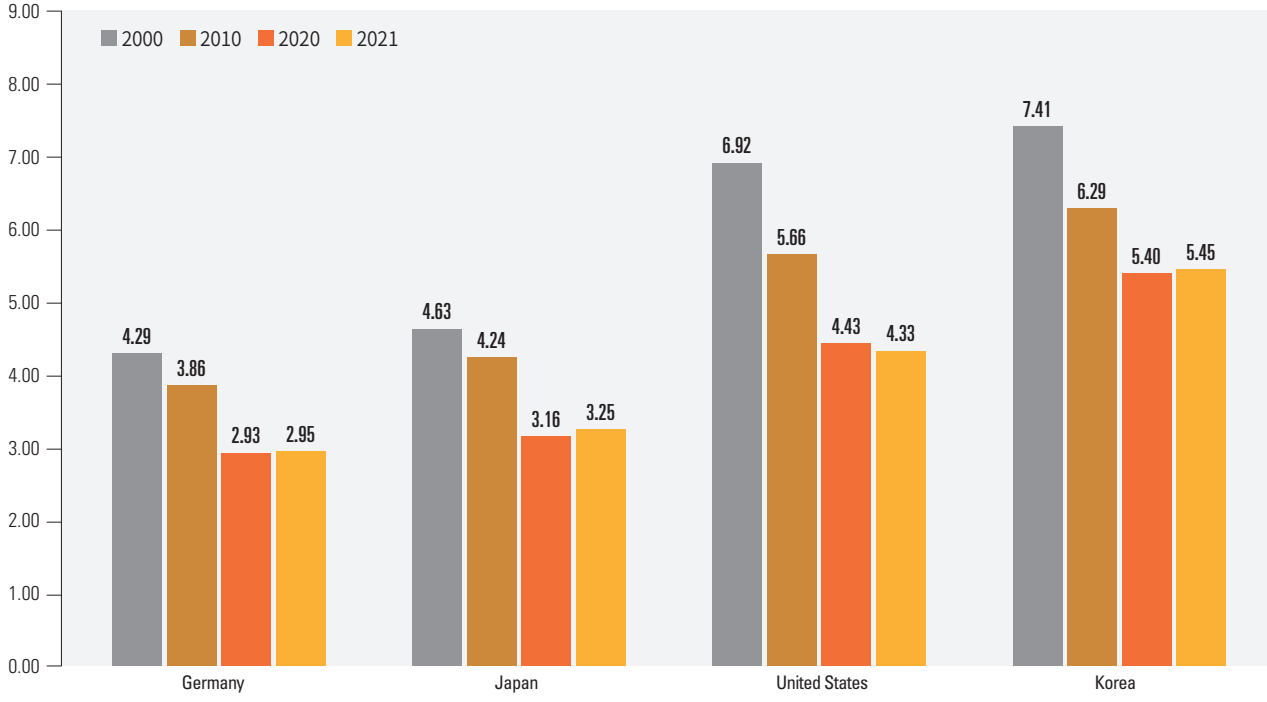

Source: Korea Energy Economics Institute, Monthly Energy Statistics, Aug 2023

Note1 : Energy intensity is defined as a ratio of primary energy supplied out of gross domestic product (GDP). The primary energy refers to energy domestically supplied as a result of production, import/export and inventory increase/decrease. It is calculated as the sum of energy inputted to be transformed into other energy and final energy consumed for industrial, transportation, household, commercial/public use

Note2 : The tentative figure was used for the year 2022

**Energy Intensity in Major OECD Countries, 2000~2021**

(Unit: GJ/1,000 dollars, as of 2015)



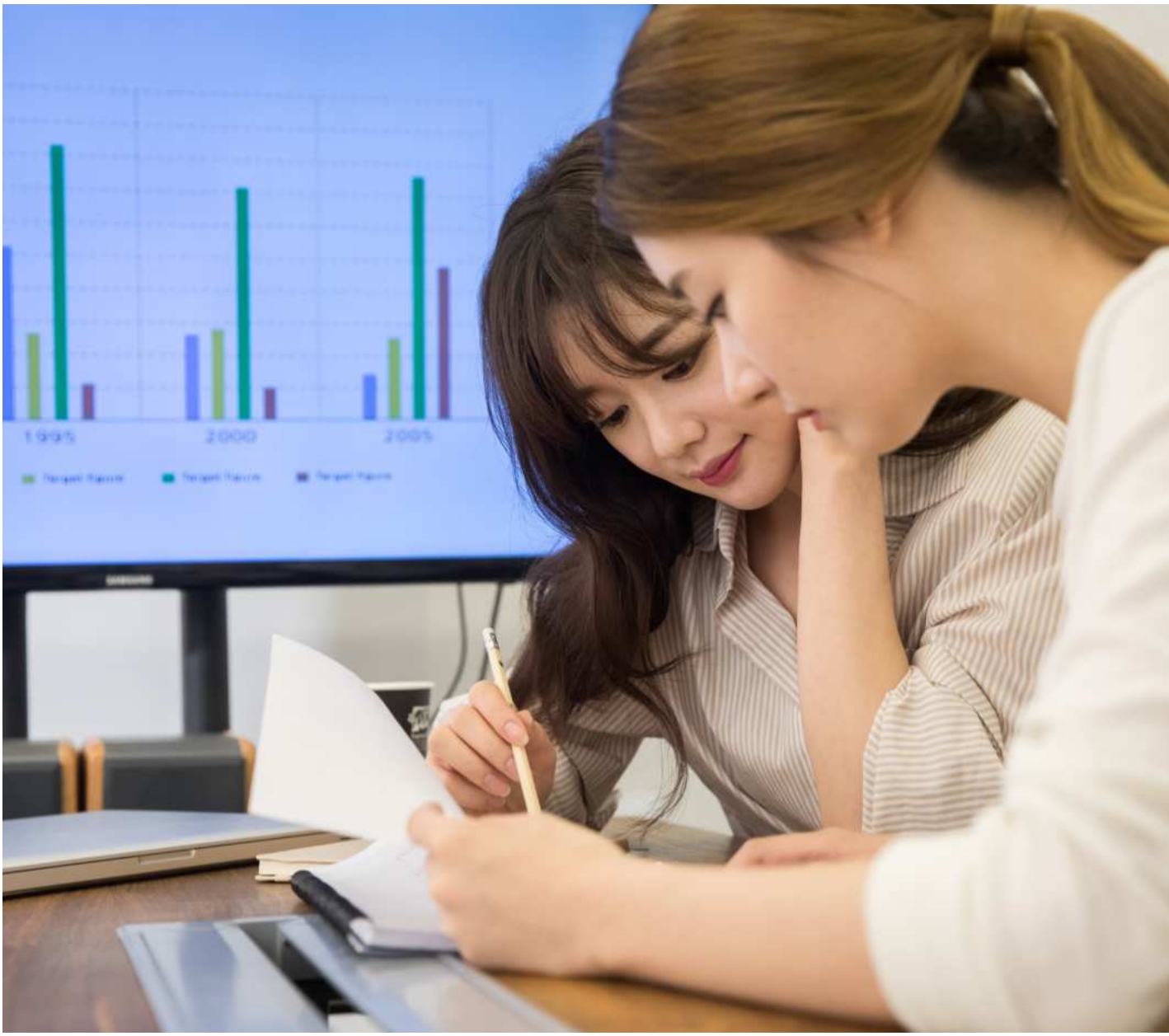

Source : IEA, Energy Statistics Data Browser(https://www.iea.org, retrieved on Jul 25, 2023)



**Definition**

- **Integrated Gasification Combined Cycle (IGCC) :** Energy from liquefied and gasified coal
- **Renewable Portfolio Standard :** A system to require utility companies (mandatory supplier) owning generation units with a capacity of 500,000kW to supply a certain ratio or higher of total power generation with new and renewable energy
- **Third-party Power Purchase Agreement (PPA) :** A system under which KEPCO signs a purchase agreement with utility companies and a sales agreement with power consumers, to enable power consumers like companies to purchase power from utility companies generating renewable energy

# 8 DECENT WORK AND ECONOMIC GROWTH



# Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 8 aims to enhance sustainable economic growth and decent work. The key words in this goal can boil down to 'economic growth' and 'decent work.' 'Economic growth' refers to enhancing productivity in a sustainable and inclusive manner while 'decent work' means safe jobs through improvement of working conditions and equitable and fair jobs that get rid of various elements of inequality.

Despite the low economic growth rate and sluggish exports in 2023, Republic of Korea hit the lowest unemployment rate since 2000, recording 2.9% in 2022 and further decreasing to 2.7% in 2023. In particular, women employment expanded in 2023. While the unemployment rate declined year-on-year among both men and women in 2022, the reduced unemployment rate in 2023 is attributed to growth in women employment. This appears to be due to the recovery of the service industries that have a relatively high ratio of female employment.

Hourly earnings of workers, which had showed a steady increase after 2015, declined during the COVID-19 pandemic in 2020 but began rising again from 2021. In 2022, the hourly earnings of workers averaged 22,651 KRW. However, women's hourly earnings still remained lower compared to men's, standing at only 70% of what their men counterparts received.

The number of both occupational injuries and deaths increased in 2022 compared to the previous year. In particular, the number of deaths was on the rise each year from 2,020 in 2019 to 2,223 in 2022. Among them, the number of deaths due to industrial accidents decreased once in 2021 year-on-year, but the number of deaths due to diseases saw a steady increase for the past three years. This indicates that safety management at workplace has remained inadequate even after the enforcement of the Serious Accidents Punishment Act in early 2022, highlighting the need for more effective policy support to ensure safe jobs.

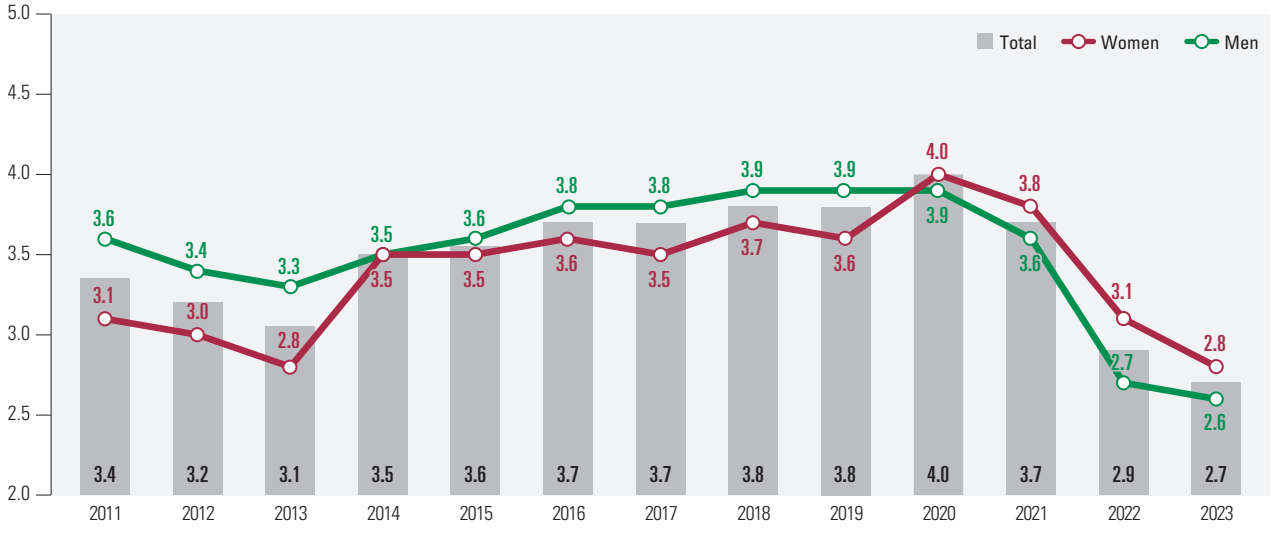
The quarterly real GDP per capita in Korea hit a low of 40,454 dollars in 2Q 2020 and, during the third quarter of the same year, it almost achieved recovery to the pre-COVID level of 3Q 2019, making the nation one of first major economies to get out of the crisis of COVID-19 along with the United St ates. Afterward, Korea saw steady growth in its real GDP per capita until 3Q 2023, except for 4Q 2022. That said, the growth rate remained at 1% or less quarter-on-quarter since 1Q 2022.



### Unemployment rate of 2.7% in 2023, the lowest since 2000 (SDG 8.5.2)

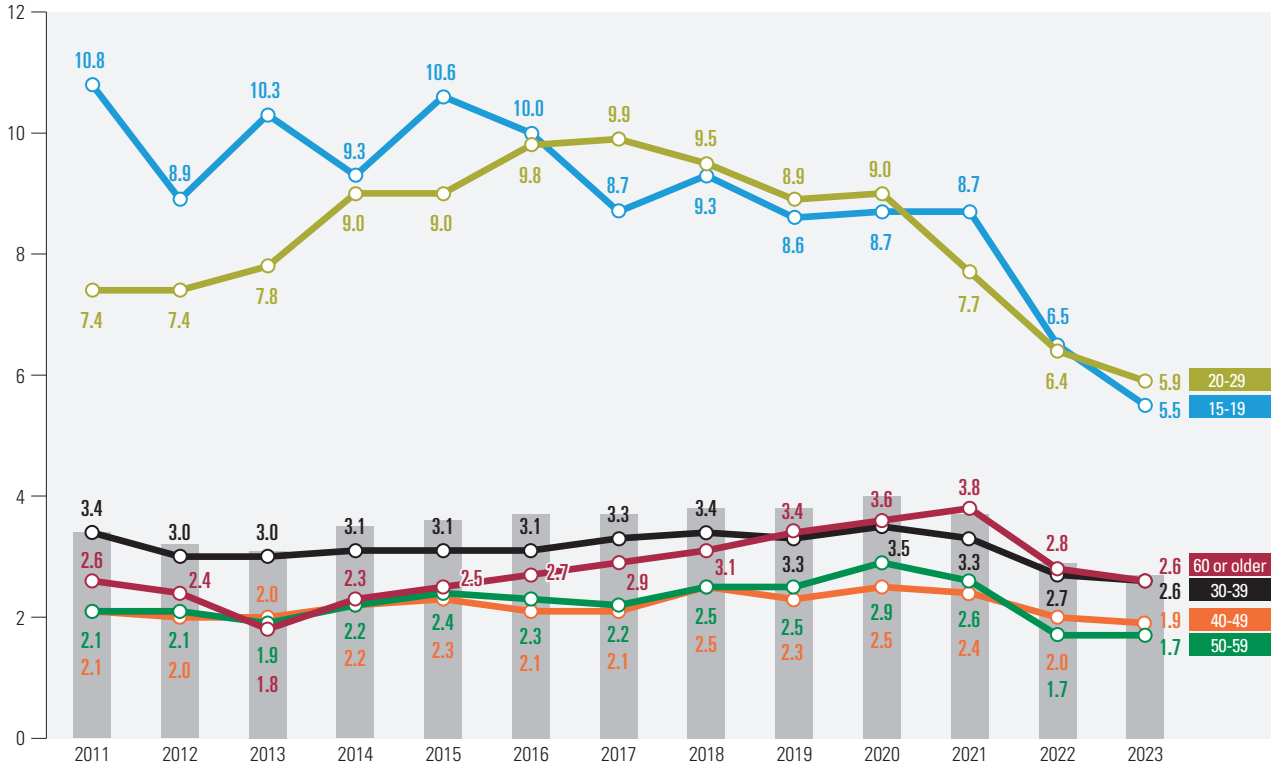
In Korea, the unemployment rate had maintained 3.7% to 3.8% since 2016. However, it rose to 4.0% in 2020 due to the shock of COVID-19. Nevertheless, it recovered to the pre-pandemic level of 2019, recording at 3.7% in 2021, followed by a significant decline to 2.9% in 2022 and 2.7% in 2023. In 2023, the unemployment rates were reported

**Unemployment Rate by Sex, 2011~2023** (Unit: %)




Source : Statistics Korea, Economically Active Population Survey (https://kosis.kr, retrieved on Jan 24, 2024)

**Unemployment Rate by Age Group, 2011~2023** (Unit: %)




Source : Statistics Korea, Economically Active Population Survey (https://kosis.kr, retrieved on Jan 24, 2024)



at 3.2% in 1Q, 2.7% in 2Q, 2.3% in 3Q and 2.6% in 4Q. The unemployment rates at the upper 2% range can be considered as the all-time low since 2000.

The Korean labor market in 2023 can be summarized by growth in female employment and the employment recovery mainly in the service sector. There was no significant change in the unemployment rate from 2.7% to 2.6% among men in 2022 and 2023; however, the unemployment rate decreased from 3.1% to 2.6% among women for the same period. Unlike 2022 when the unemployment rate for both women and men decreased, the reduction in the unemployment rate in 2023 is attributed to an increase in female employment. It seems to be affected by the recovery of the service sector, which has a relatively high rate of female employment, compared to sluggish employment in manufacturing or construction. In addition to the expansion of contactless jobs during the pandemic, the recovery of face-to-face service jobs, such as accomodation, restaurant, and health/welfare services, which had been shrunk by COVID-19, has also boosted employment demand.

By age group, prior to the outbreak of COVID-19 in 2019, the unemployment rate was the highest at 8.9% among the population in their 20s while it was the lowest at 2.3% and 2.5% among those in their 40s and 50s respectively. The unemployment rate stood at 3.4% among the elderly aged 60 or older, which is similar to 3.3% for those in their 30s. In 2020, the unemployment rate rose in all age groups under the influences of COVID-19, but it began declining in 2021 and went through a sharp drop in 2022. Excluding teenagers and those in their 20s, in 2023 the unemployment rates stayed similar to the previous year. The unemployment rate among the population in their 20s, saw a relatively significant reduction from 9.0% in 2020, 7.7% in 2021, 6.4% in 2022 to 5.9% in 2023, but it was still high compared to other age groups. The unemployment rate among senior citizens aged 60 or older also decreased from 3.6% in 2020 to 2.6% in 2023.

## A growing number of occupational injuries and deaths (SDG 8.8.1)

The number of occupational injuries declined from 109,242 prior to the outbreak of COVID-19 in 2019 to 108,379 in 2020, but again rose to 122,713 in 2021 and 130,348 in 2022. Among them, accident-inflicted injuries were on the

decline in 2020, but have gone up again, while the injuries due to diseases have continued to increase since 2019. The number of occupational deaths grew each year to 2,020 in 2019, 2,062 in 2020, 2,080 in 2021 and 2,223 in 2022, out of which the number of deaths from industrial accidents temporarily decreased in 2021, but the number of deaths from diseases was on a steady increase for the past three years.

When examined by industry, the number of deaths has decreased in manufacturing, construction and electricity/gas/waterworks while it has increased in mining, transport/warehouse/telecommunications and retail/wholesale. Despite the recently declining occurrence of deaths, construction still accounts for the largest number of fatalities. By size of business, about 61.7% of total deaths in 2022 took place in businesses with 50 employees or less, demonstrating poor safety management in small-scale workplaces. Came into effect on Jan 27, 2022, the Serious Accidents Punishment Act (the Act) obligates business owners and management representatives to secure safety and health in their workplace and stipulates that they will be punished should they fail to fulfill their obligations and a serious industrial accident

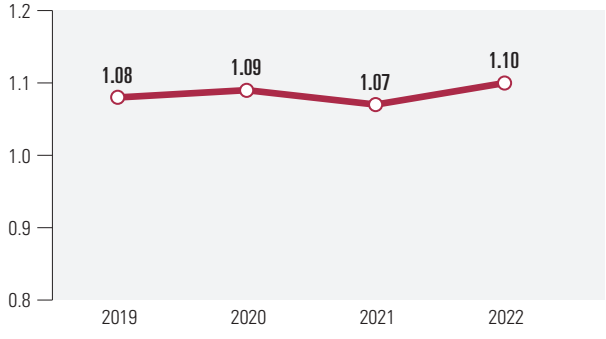
**Occupational Injuries and Deaths, 2019~2022**

(Unit: No. of persons, y-o-y growth rate, %)

| Category | | | 2019 | | 2020 | | 2021 | | 2022 | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of Injuries | | Subtotal | 109,242 | 6.8 | 108,379 | -0.8 | 122,713 | 13.2 | 130,348 | 6.2 |
| | | Accident | 94,047 | 3.5 | 92,383 | -1.8 | 102,278 | 10.7 | 107,214 | 4.8 |
| | | Disease | 15,195 | 32.4 | 15,996 | 5.3 | 20,435 | 27.8 | 23,134 | 13.2 |
| | No. of Deaths | Subtotal | 2,020 | -5.7 | 2,062 | 2.1 | 2,080 | 0.9 | 2,223 | 6.9 |
| | | Accident | 855 | -11.9 | 882 | 3.2 | 828 | -6.1 | 874 | 5.6 |
| | | Disease | 1,165 | -0.5 | 1,180 | 1.3 | 1,252 | 6.1 | 1,349 | 7.7 |

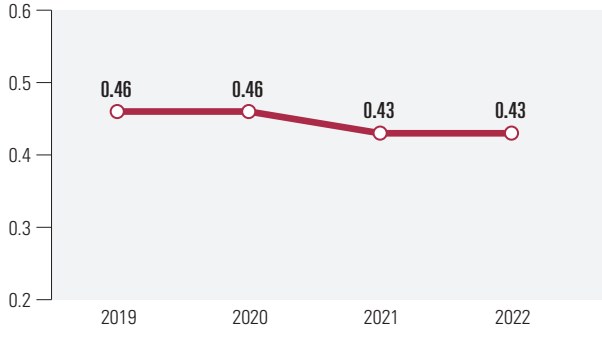
**Number of Deaths per 10,000 Workers, 2019~2022**

(Unit: No. of persons)



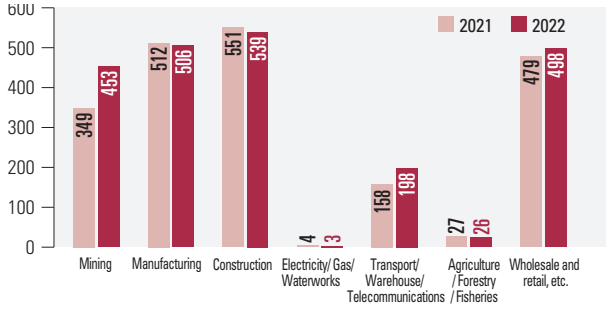

**Number of Deaths per 10,000 Workers in Accidents, 2019~2022**

(Unit: No. of persons)



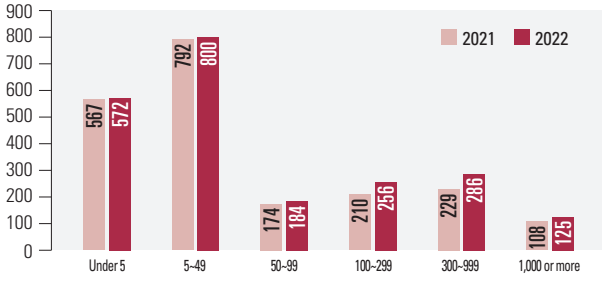

**Number of Occupational Deaths by Industry, 2021~2022**

(Unit: No. of persons)




**Number of Occupational Deaths by Size of Business, 2021~2022**

(Unit: No. of persons)




Source: Ministry of Employment and Labor, Current Status of Industrial Accidents, each year

Note : The number of casualties is the sum of fatalities, injuries, and illnesses resulting from workplace accidents or illnesses

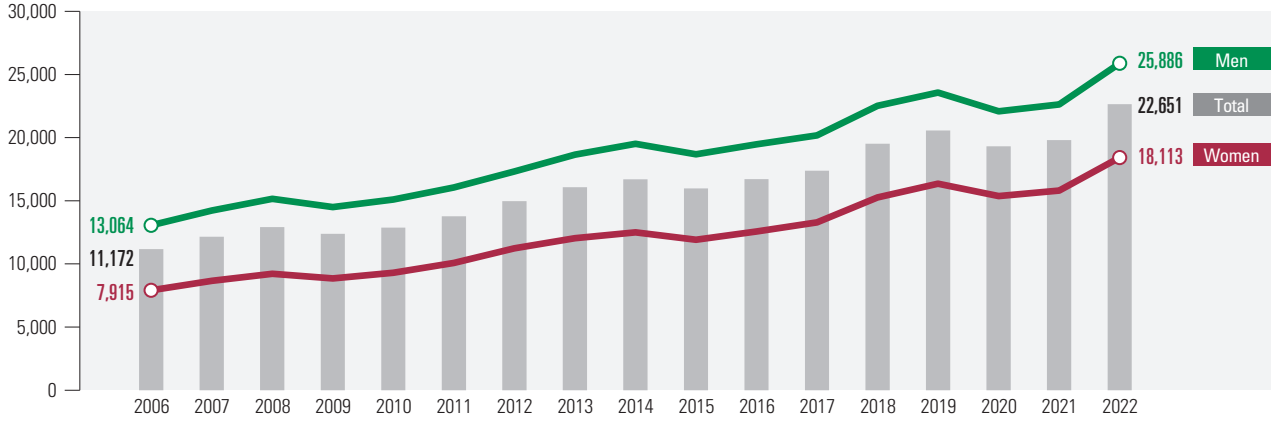
occur. However, even in 2022 when the Act took effect, the number of deaths from industrial accidents grew in all workplaces regardless of their size. This demonstrates the need for active involvement of the government in order for the Act to contribute to an actual reduction in industrial accidents. In particular, urgent policy support is required to strengthen responsive capacities in the workplace with 50 employees or fewer.

### Despite an upward trend in average hourly earnings after the COVID-19, there is still a need to improve hourly earnings for women (SDG 8.5.1)

The average hourly earnings of all workers were on a steady rise from 2015 to 2019. The hourly earnings which, stood at 20,573 KRW in 2019, fell to 19,316 KRW in 2020, down 6.1% y-o-y due to the impact of COVID-19. However, they restored its growth and increased by 2.5% and 14.4% y-o-y, reaching 19,806 KRW in 2021 and 22,651 KRW in 2022 respectively. The hourly earnings for men and women workers also showed the similar trends. However, the gap in earnings has not narrowed down between men and women. The hourly earnings of women are still lower than those of men, accounting for only 70% of men's earnings in 2022.

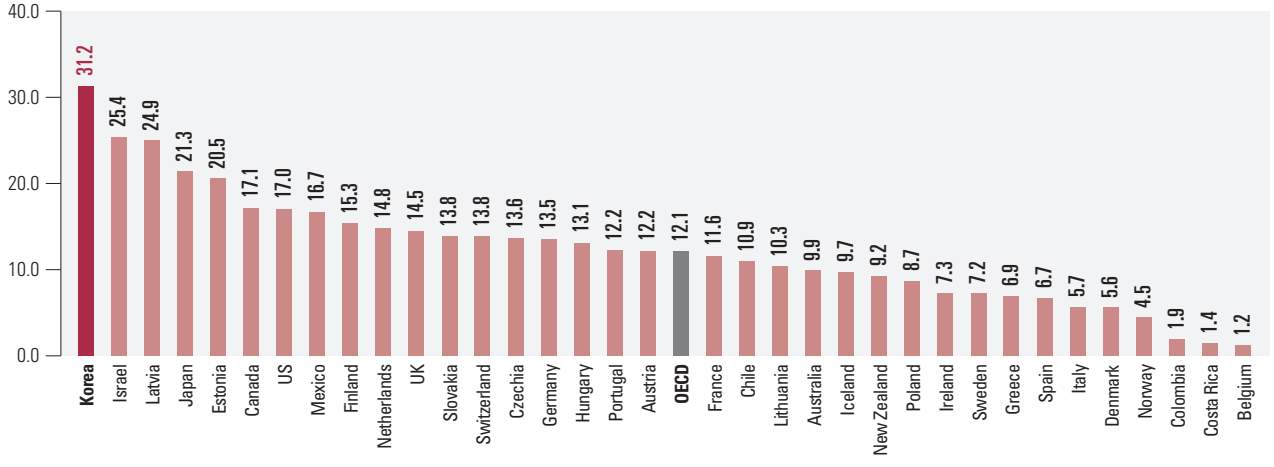
By occupation, a wide gap in earnings was observed between managers and the rest of occupational groups. In 2022, the hourly earnings of service employees and simple laborers were just 18.3% and 19.9% of earnings for managers while those for professionals corresponded to 37.4% of managers' earnings.

**Hourly Earnings by Sex, 2006~2022** (Unit: KRW)



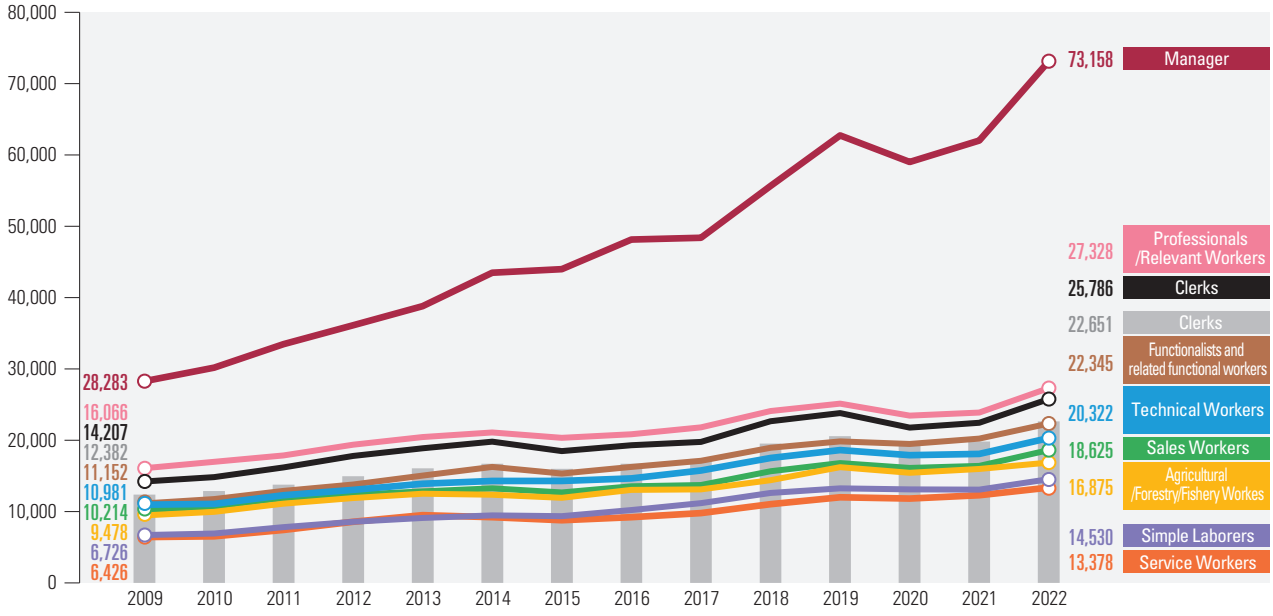

Source : Ministry of Employment and Labor, Survey Report on Labor Conditions by Employment Type, each year (https://kosis.kr, retrieved on Oct 30, 2023)
Note1 : For all employees of businesses with at least one worker (excluding special type workers)
Note2 : Hourly wage = total monthly wage (regular salary + excess salary + annual special salary for the previous year / 12 months)/ total working hours
Note3 : The Survey of Working Conditions by Employment Type is conducted annually based on the June payroll period

**Gap in Earning Between Men and Women by OECD Country** (Unit: %)




Source : OECD Data, Gender wage gap (https://data.oecd.org)
Note : Sex wage gap is calculated as the difference between women and men median wage relative to men median wage

**Hourly Earnings by Occupation, 2009~2022** (Unit: KRW)



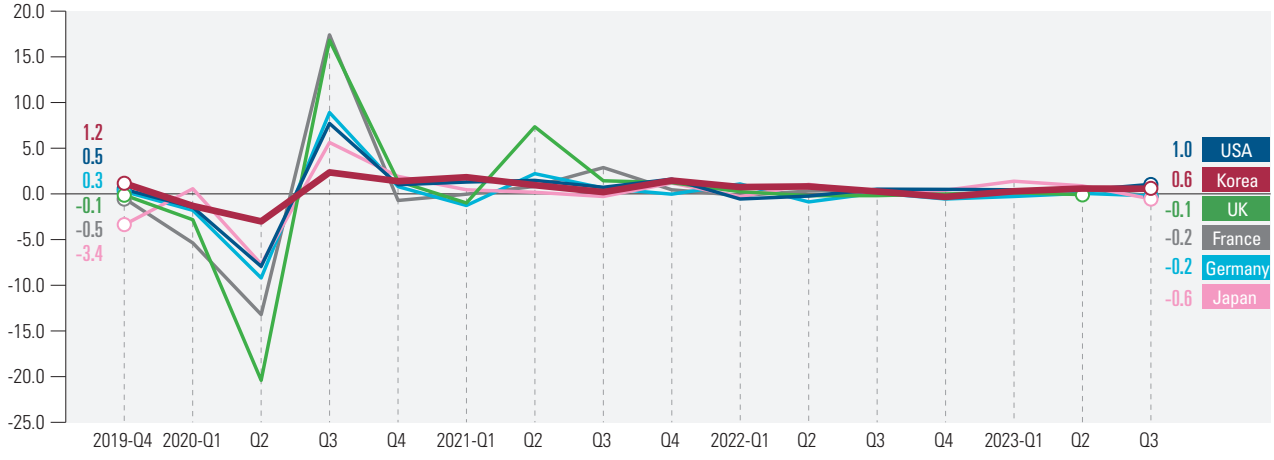

Source : Ministry of Employment and Labor, Survey Report on Labor Conditions by Employment Type, each year (https://kosis.kr, retrieved on Oct 30, 2023)
Note : Based on Standard Occupational Classification 6th for 2019 and earlier, Standard Occupational Classification 7th for 2020 and later

## Sluggish quarterly growth rates no higher than 1% since 2022 (SDG 8.1.1)

In major OECD countries, the real GDP per capita sharply fell in 2Q 2020 due to the COVID-19 pandemic. That said, although it varied from country to country, economic recovery was underway in the same year. In 4Q 2020, the Korea were the first to exceed their economic level of 3Q 2019 whereas France, Germany and the United Kingdom in 3Q 2022 also achieved the economic recovery almost comparable to the level of 3Q 2019. Amid favorable economic signs in the domestic market, the United States has maintained a relatively high economic growth rate since 2Q 2022, compared to major European countries.

The quarterly, real GDP per capita in Korea hit a low of 40,454 dollars in 2Q 2020 and then almost recovered to pre-COVID level of 3Q 2019 in the third quarter of the same year. The growth rate of the real GDP per capita maintained its upward trend with 1.4% in 4Q 2020 and 1.8% in 1Q 2021. Afterward, Korea saw its real GDP per capita steadily increase until 3Q 2023, excluding 4Q 2022. That said, the growth rate has slowed down to 1% or less quarter-on-quarter since 1Q 2022.

**Real GDP Growth Rate per capita by Major OECD Country, 2019~2023** (Unit: %)




Source : OECD.Stat, Quarterly National Accounts: GDP per capita (https//stats.oecd.org, retrieved on Jan 09, 2024)
Note : For the United Kingdom, the data of 3Q 2023 was not included in the survey

# 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

# Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Addressing industrialization, the establishment of infrastructure and innovation, SDG 9 aims to promote countries' self-sustaining growth through sustainable industrialization. The manufacturing industry emphasized in this goal has served as a key driving force for global economic development, employment and social stability. While the production and employment in manufacturing has continued to grow in developing nations, developed nations have seen a diminishing role of manufacturing in the national economy as they have moved their production bases to developing countries for more efficient production. As one of major countries achieving economic growth based on manufacturing, Republic of Korea is also searching for a new growth engine due to recent slowdown of manufacturing growth and exports. Against this backdrop, it is crucial to examine the current progress of industrialization, infrastructure and innovation as specified in SDG 9. According to UN The Sustainable Development Goals Report 2023(UN, 2023), SDG 9 has showed the average level of progress. There have been some achievements in terms of implementation of research and development, but there has yet to be sufficient progress in implementation of sustainable and inclusive industrialization.

It has been observed that the ratio of manufacturing employment to total employment, which measures the level of industrialization in a country, slightly decreased in manufacturing powerhouses such s Germany, Japan and Korea. In Korea, although there are ongoing efforts to bring manufacturing back to the nation such as reshoring, the ratio of manufacturing employment has continuously declined since 2000. Reflecting the national research capital and manpower that lead to innovation, Korea's research and development (R&D) expenditure as a proportion of GDP and the number of researchers per million population have increased to the world's highest. In order to stably secure an innovative environment through R&D, it is necessary to keep tabs on the ratio of R&D expenditure and the number of researchers. Out of national infrastructure including roads, railway, marine transport and aviation, both passenger and freight infrastructure is heavily concentrated on roads. In particular, compared to diversified transport modes like roads, railway and marine transport in the United States and China, freight transport is disproportionately concentrated on roads in Korea. There is a need to enhance sustainability of road transport by reducing greenhouse gases and improving working conditions in the transport industry.

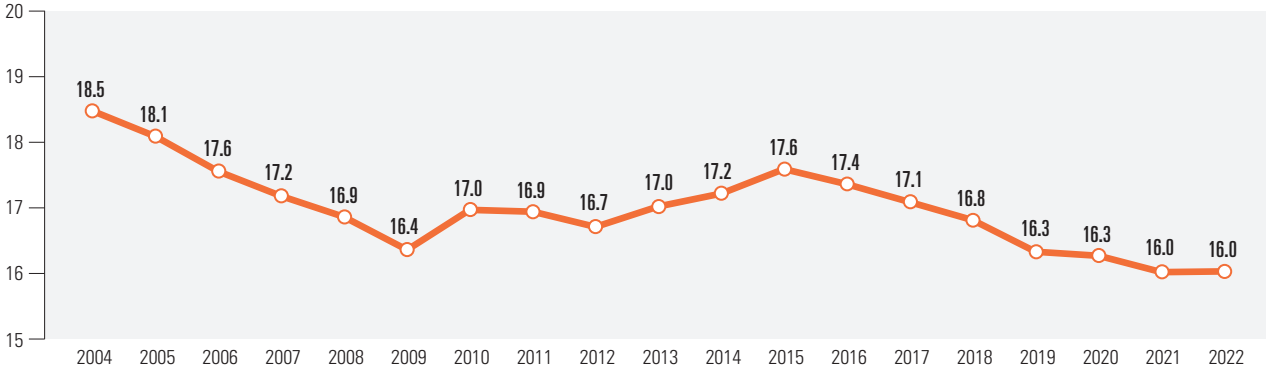


## Manufacturing employment as a percentage of total employment is declining

(SDG 9.2.2)

The manufacturing employment as a proportion of total employment refers to the size of the workforce engaging in manufacturing-based industries. As a measure of industrialization, it is a crucial indicator for self-sustaining growth of developing nations. It has shown a gradual decrease across the world in the course of industrial advancement; in particular, the decline is more obvious in advanced nations. However, the role of manufacturing has recently regained attention as the backbone of national growth mainly in cutting-edge industries. In advanced nations, there are efforts to enhance national competitiveness through reshoring policies to avoid the hollowing out of domestic industries caused by overseas relocation of their manufacturing bases. It is also necessary for Korea to continue to monitor the manufacturing employment as a proportion of total employment.

**Manufacturing Employment Rate, 2004~2022** (Unit: %)

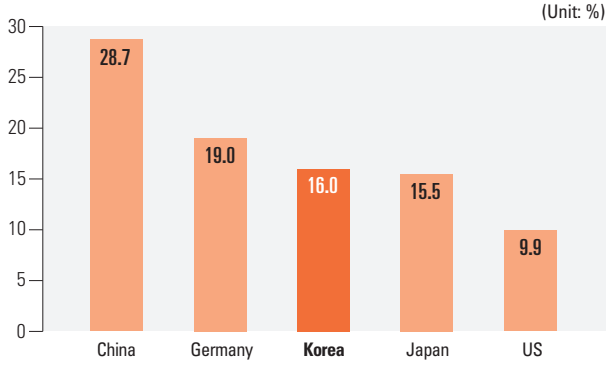



Source : Statistics Korea, Economic Activity Survey (https://kosis.kr, retrieved on Sep 17, 2023)

The rate of manufacturing employment in Korea declined from 18.5% in 2004 to 16.4% in 2009, and then made a rebound, reaching 17.6% in 2015. However, it again fell to 16.0% in 2022. Thus, it is worth considering the potential hollowing out of domestic manufacturing due to investment in high-tech industries by advanced nations.

**Manufacturing Employment Rate by Major Country, 2022**

(Unit: %)




Source : ILO, ILOSTAT Explorer(https://www.ilo.org/shinyapps, retrieved on Jan 18, 2024)
Note : China as of 2020

Out of manufacturing powerhouses, China has the highest manufacturing employment as a proportion of total employment (28.7% in 2020), followed by Germany (19.0% in 2022), Korea (16.0% in 2022) and Japan (15.5% in 2022).

## High level of R&D capital and workforce utilized for national innovation (SDG 9.5.1 / 9.5.2)

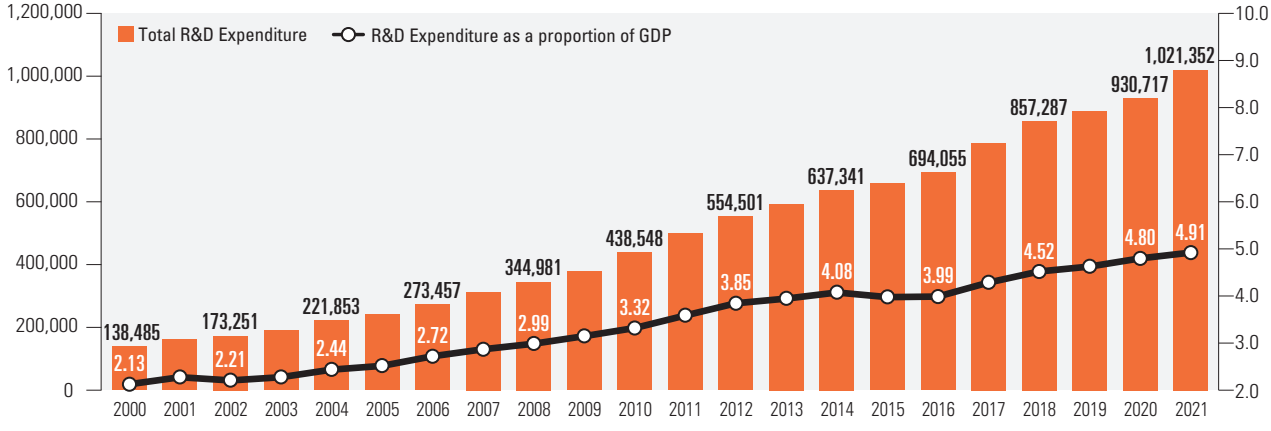
Expanding a nation's research workforce and capital contributes to national innovation and economic growth as it enables various research plans and implementation. The size of R&D expenditures and researchers indicates a nation's environments for research and development infrastructure.

The number of researchers and R&D expenditures represent the country's R&D infrastructure. In 2021, Korea's total R&D expenditure was KRW 102.1352 trillion, 4.91% of GDP. Total R&D expenditures and R&D expenditures as a percentage of GDP have maintained their long-term growth, from KRW 13.8485 trillion and 2.13% in 2000. Until 2000, Korea's R&D expenditure as a proportion of GDP (2.13%) was below that of major advanced nations, such as Finland (3.24%), Japan (2.86%), the United States (2.62%) and Germany (2.41%). However, it has recently surged, and is the second highest among OECD members after Israel (5.56%). That said, R&D budget for 2024 has been reduced, Thus, it is necessary to closely monitor sudden changes in the nation's innovation indicator.

The number of researchers per population indicates the scale of the workforce related to national innovation. In particular, the number of Full Time Equivalent(FTE) researchers shows the size of innovation workforce entitled to job security. The number of researchers per 1000 population in Korea stood at 9.1 in 2021, up from 2.3 in 2000, indicating that the country's efforts to expand its research workforce are paying off. It is the highest among OECD countries. Following Korea, Northern European countries are in the top tier. Until the early 2000s, the number of researchers in Korea was about the middle group among OECD countries, but since then, it has increased rapidly and is now the highest level. It is necessary to minimize the impacts of any shrinkage in national innovation and competitiveness by continuously monitoring a decline in the R&D budgets and its subsequent changes in the research workforce.

**Total R&D Expenditure and R&D Expenditure as a proportion of GDP, 2000~2021**

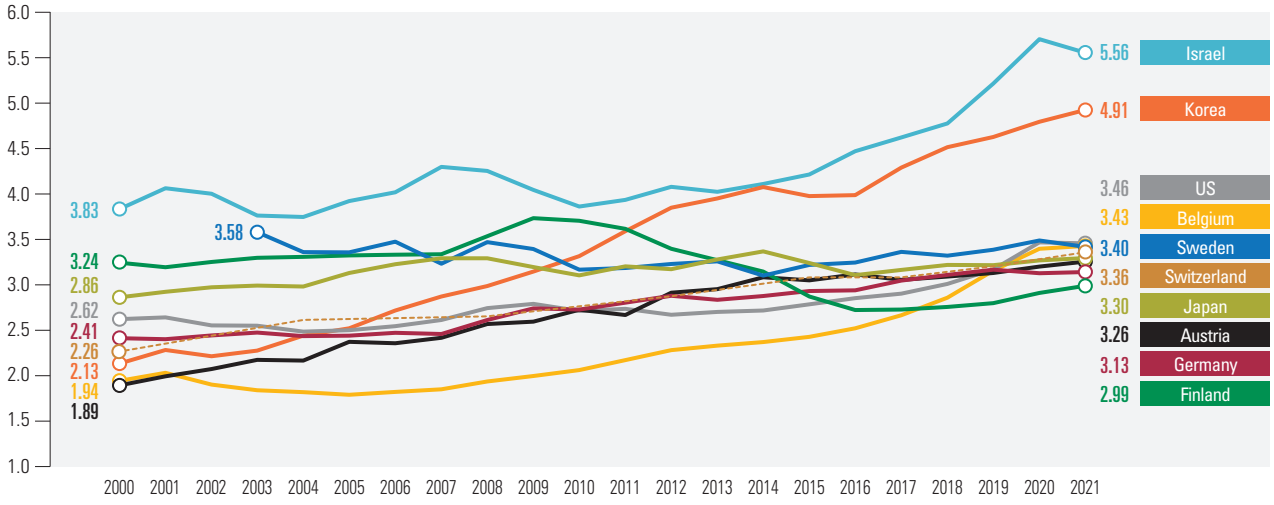
(Unit:billion KRW, %)




Source : Ministry of Science and ICT, Research and Development Activity Survey

## Total R&D Expenditure and a Proportion of GDP by OECD country, 2000~2021

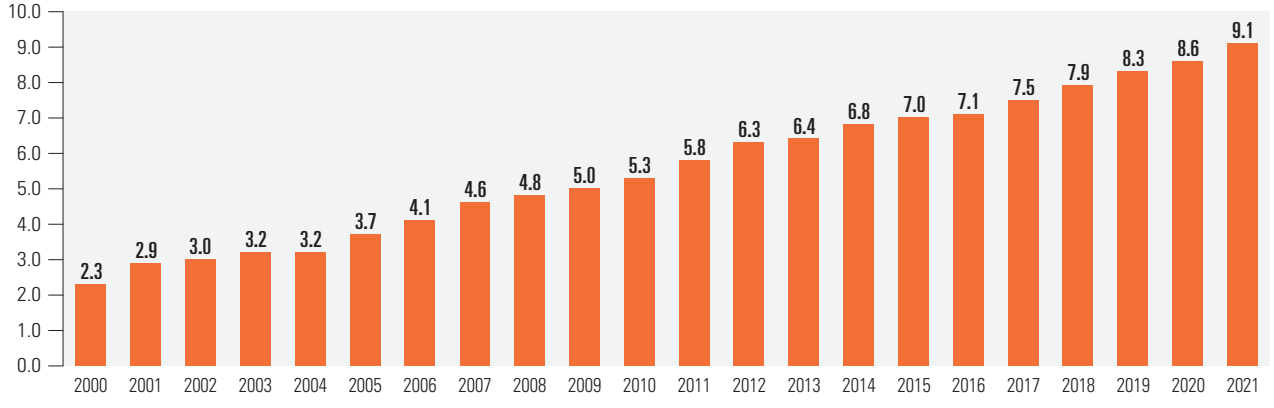
(Unit: %)




Source : Ministry of Science and ICT, R&D Survey(https://kosis.kr, retrieved on Sep 23, 2023), 2021 Korea data is from the R&D survey
Note : This shows top ten countries out of OECD members

## Number of Researchers in Korea, 2000~2021

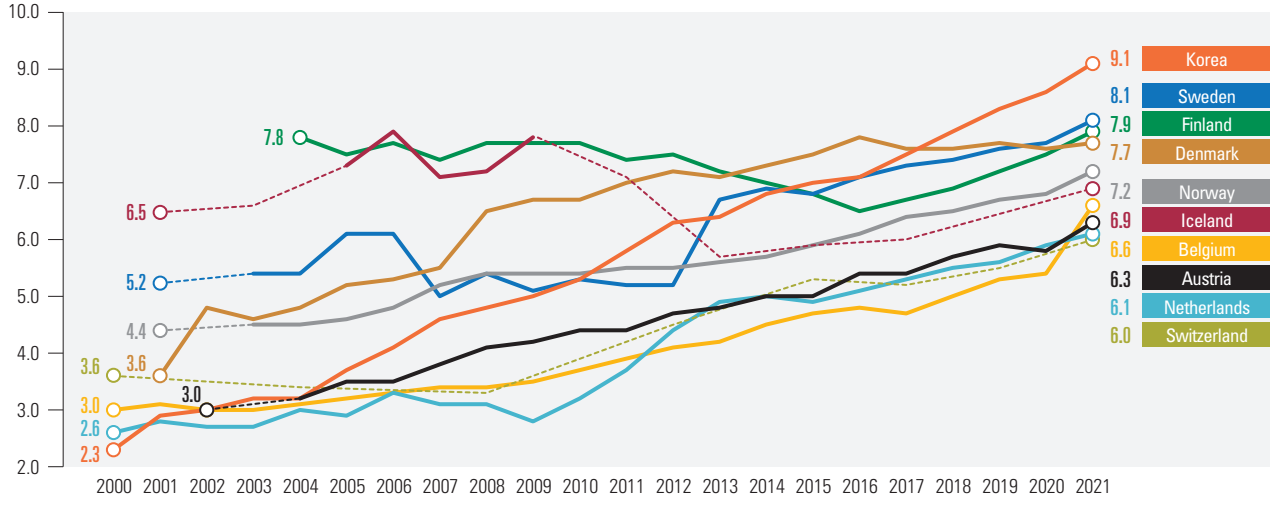
(Unit: per 1000 Population)




Source : Ministry of Science and ICT, R&D Survey(https://kosis.kr, retrieved on Sep 23, 2023)
Note : Based on FTE(Full Time Equivalent) Researchers

## Number of Researchers by OECD country, 2000~2021

(Unit: per 1000 Population)

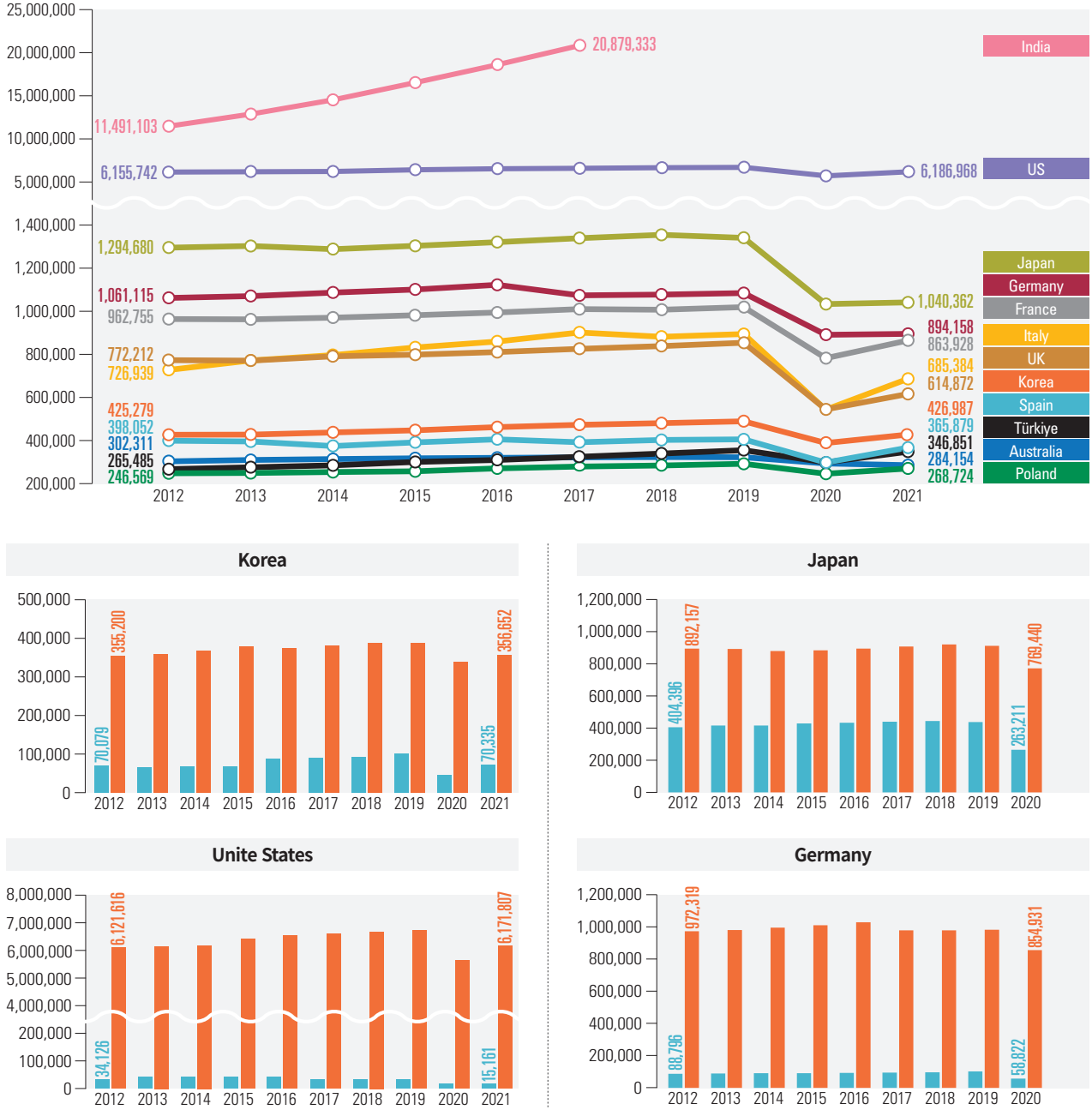



Source : Ministry of Science and ICT, R&D Survey(https://kosis.kr, retrieved on Sep 23, 2023)
Note1 : This shows top ten countries out of OECD members
Note2 : Based on FTE(Full Time Equivalent)

## Both passenger and freight transport highly relying on roads (SDG 9.1.2)

Transport refers to the total movement of passengers or freight using inland transportation on the given networks. The OECD's passenger volume data is calculated in a unit of million passenger-kilometers. This represents the total traffic calculated by multiplying the number of passengers by the travel distance. Data is divided into road transport and railway transport. In terms of passenger volume, India (21 trillion passenger-km in 2017) has the highest traffic, followed by the United States (6.2 trillion passenger-km in 2021). The passenger transport volume in Korea stood at 427.0 billion passenger-km in 2021. Among OECD members, excluding the United States, countries with high passenger traffic include Japan (1,040.4 billion passenger-km), Germany (894.2 billion passenger-km), France (863.9 billion passenger-km), Italy (685.4 billion passenger-km), UK(614.9 billion passenger-km) and Korea in 2021. Korea has a higher rate of passenger

**Passenger Volume in Major Countries, 2012~2021** (Unit: million passenger-km)

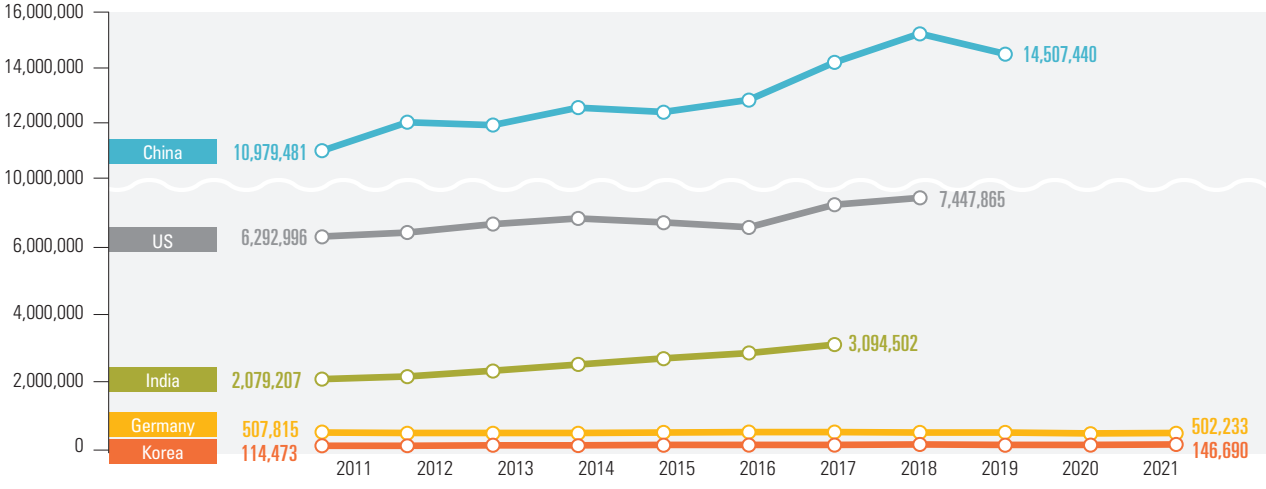



Source: OECD.Stat, Passenger Transport(https://stats.oecd.org, retrieved on Jan 25, 2024)
Note : Rail passenger traffic data for 2020 and 2021 in Korea are from the Ministry of Land, Infrastructure, and Transport's Transportation Sector Transport Performance Report

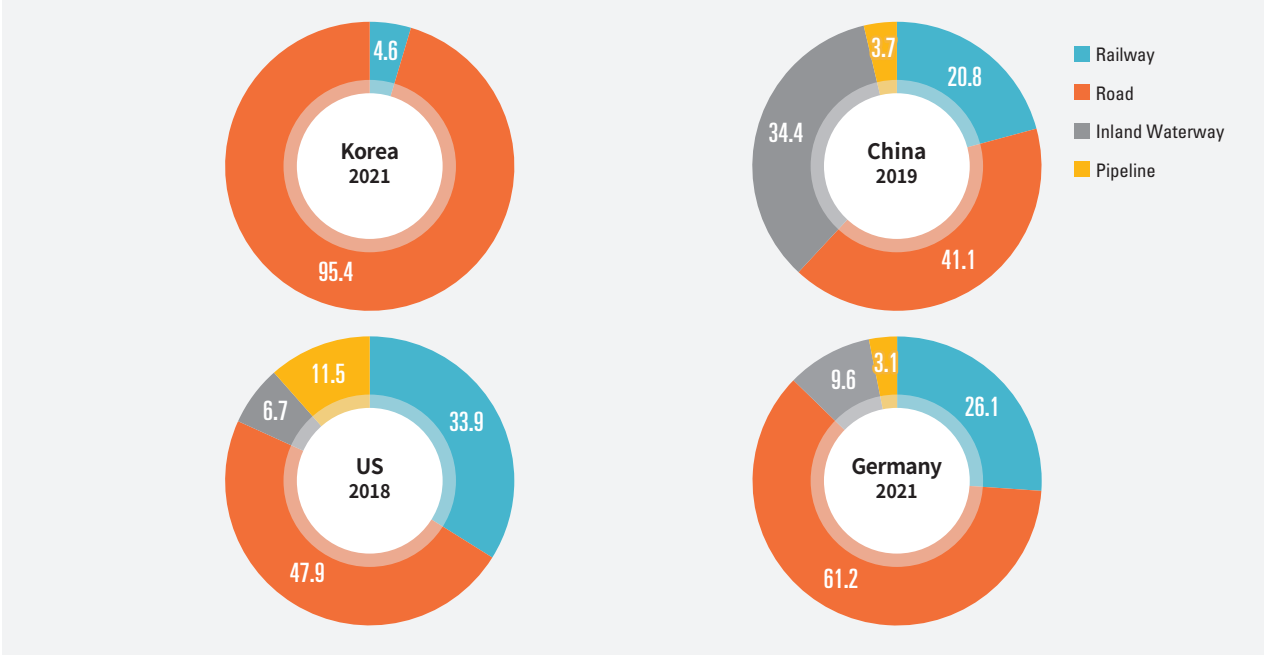
transport on roads than by railway. In Japan, the ratio of road transport is high, but the railway transport ratio is also relatively high. In the United States and Germany, the ratio of road transport is overwhelmingly high. For reference, there was steady growth in aviation passenger transport, reaching 4.5 billion passengers in 2019. However, during the COVID-19 pandemic, the number of passengers declined to 1.8 billion in 2020 and then recovered to 3.8 billion in 2022.

The OECD's freight volume data is calculated in a unit of million ton-kilometers. The freight transport volume is the highest in China (14.5 trillion ton-km in 2019), followed by the United States (7.4 trillion ton-km in 2018) and India (3.1 trillion ton-km in 2017). In Korea, the freight volume totaled 146.7 billion ton-km in 2021. While Korea predominantly relies on road transport, other transport means are widely used in China and the United States, besides road transport. Inland waterways and railway also have a strong presence in China, and railway and pipeline transport are prominent in the United States. Efforts should be made to establish sustainable transport infrastructure by actively responding to deteriorating working conditions for workers in the transport industry as well as an increase in GHGs due to heavy dependence on road transport.

**Freight Volume in Major Countries, 2011~2021** (Unit: million ton-km)




**Proportion of Freight Volume in Major Countries** (Unit: %)




Source : OECD.Stat, Passenger Transport(https://stats.oecd.org, retrieved on Jan 18, 2024)

# 10 REDUCED INEQUALITIES

# Reduce inequality within and among countries

SDG 10 seeks to reduce inequality in all forms at the domestic and international levels. Domestically, it is aimed at improving laws and systems that cause inequality of opportunities, processes and results, along with mitigation of income inequality. On a global front, it also aims to reduce inequality between countries through free and safe labor mobility and international assistance.

Generally speaking, income inequality in Republic of Korea has shown an improving trend in terms of the Gini coefficient. The effects of the government's distribution policies, measured by the difference between market income Gini coefficient and disposable income Gini coefficient, have increased a lot compared to the past, despite a recent slight reduction. Asset inequality identified by the Gini coefficient on net wealth has recently worsened, but such a trend seems to be slowing down in 2023. It is necessary to pay continuous attention and make policy response to structural factors contributing to asset inequality. Meanwhile, the labor share of GDP, representing the extent to which economic growth contributes to the income increase of laborers and the self-employed, has remained steady without fluctuations in Korea, and it is slightly higher than the OECD average.

The number of refugees around the world reached 35.30 million in 2022. As a member of the international community, Korea has enacted the Refugee Act and operated refugee screening procedures to assume its responsibility for refugee protection. The number of asylum seekers has been on a steady increase, standing at 11,539 in 2022. The annual number of recognized refugees also hit an all-time high of 175. There should be more social consensus on acceptance of refugees, along with institutional improvements to prevent system misuse and enhance fairness, transparency and speed of refugee recognition procedures.

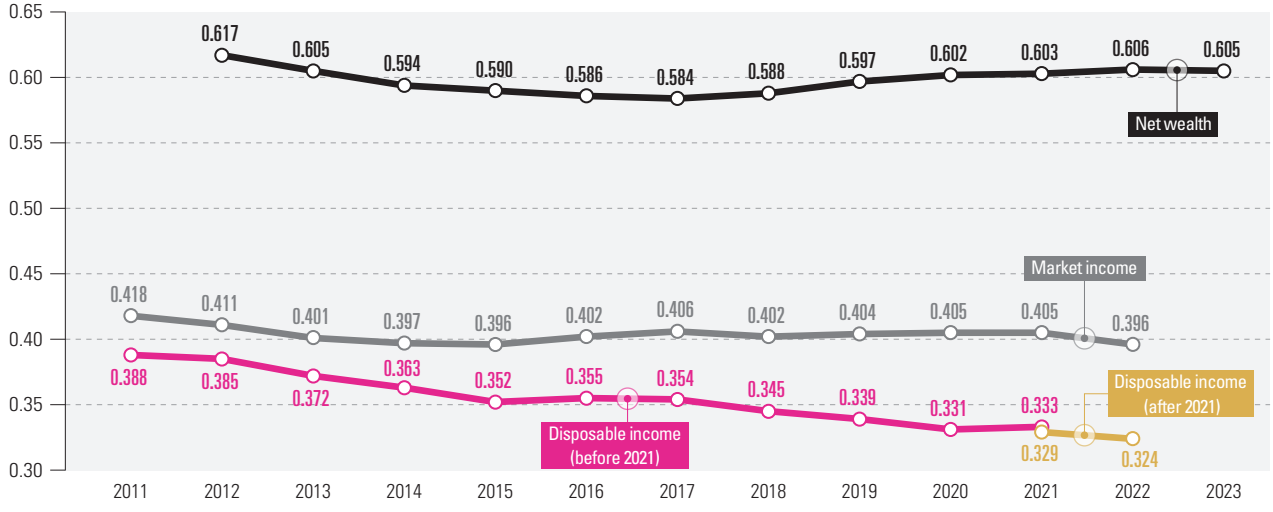
In order to reduce inequality within and among countries down the road, it is necessary to develop various indicators that can address conditions and peculiarities at home and abroad, monitor trends and directions in a consistent manner, and provide policy implications. It is also worth considering the development of indicators that measure regional imbalances between cities and rural areas, as a means of reflecting domestic conditions and regional characteristics.

## Income inequality among retirees worsens amid declining disposable income-based Gini coefficient (SDG 10.4.2)

As a major indicator representing the degree of income gaps and imbalance, the Gini coefficient measures how evenly income is distributed among different income classes. The index is expressed on a scale of 0 to 1, with closer to 0 meaning equality and closer to 1 inequality. Using the Survey of Household Finances and Living Conditions compiled by the Statistics Korea, Korea's Gini coefficient based on disposable



**Gini Coefficient based on Income and Net Asset, 2011~2023**




Source: Statistics Korea, Survey of Household Finances and Living Conditions (https://kosis.kr, retrieved on Dec 28, 2023)
Note1 : Market income = earned income + business income + property income + private transfer income – private transfer expenditure
Note2 : Disposable income = market income + public transfer income – public transfer expenditure
Note3 : Administrative data was used for income from employment insurance/industrial accident insurance out of public transfer income starting from 2022, thereby making it difficult to directly compare with data before 2021

**Gini Coefficient by Age Group, 2021~2022**

| | Total | | | Working-age class (aged 18 to 65) | | | Retirees (aged 66 or older ) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2021 | 2022 | Change | 2021 | 2022 | Change | 2021 | 2022 | Change |
| Market income | 0.405 | 0.396 | -0.009 | 0.365 | 0.355 | -0.010 | 0.552 | 0.551 | -0.001 |
| Disposable income Gini | 0.329 | 0.324 | -0.005 | 0.310 | 0.303 | -0.007 | 0.378 | 0.383 | 0.005 |
| Improvement Effects | 0.076 | 0.072 | | 0.055 | 0.052 | | 0.174 | 0.168 | |

Source: Statistics Korea · Bank of Korea · inancial Supervisory Service, Survey of Household Finances and Living Conditions (https://kosis.kr, retrieved on Dec 28, 2023)
Note1 : The Gini coefficient serves as a major indicator that measures the degree of income inequality, with values closer to 0 meaning complete equality and closer to 1 complete inequality.
Note2 : Market income = earned income + business income + property income + private transfer income – private transfer expenditure.
Note3 : Disposable income = market income + public transfer income – public transfer expenditure.
Note4 : Improvement effects = Market income Gini coefficient – Disposable income Gini coefficient

income, calculated according the OECD-recommended method, stood at 0.324 in 2022, down from 0.388 in 2011. Similarly, the market income Gini coefficient also showed a downward trend from 0.418 in 2011 to 0.396 in 2022.

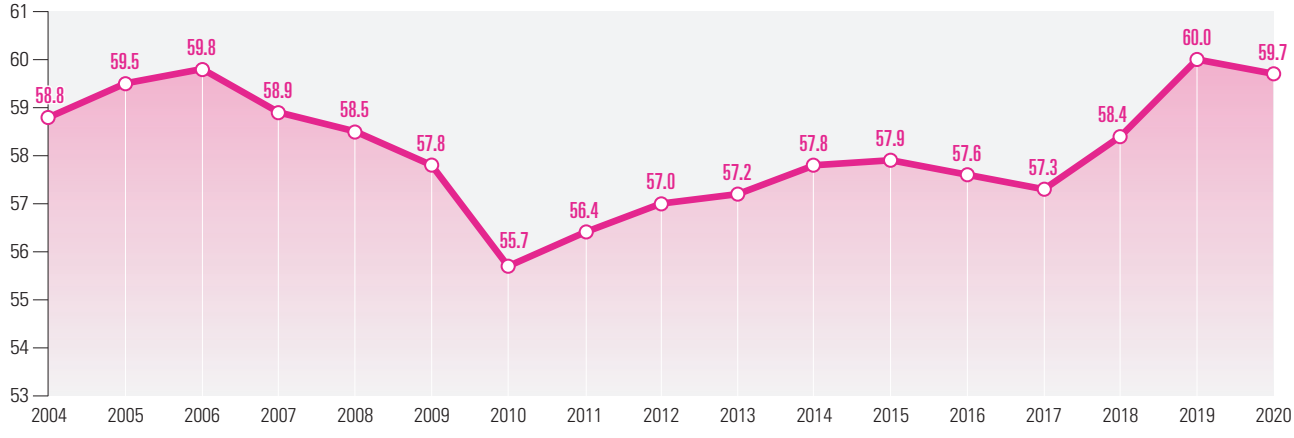
It is possible to assess the government's distribution polities through the difference between the market income Gini coefficient and disposable income Gini coefficient. The effects of the distribution polices, measured by the gap between the two, have shown an increasing trend from 0.030 in 2011 to 0.072 in 2022, with a slight decrease to 0.074 in 2020. The Gini coefficient for the working-age population aged 18 to 65 and retirement-age group aged 66 or older based on the equivalised disposable income was equal to 0.303 and 0.383 in 2022 respectively. Compared to the previous year, it decreased by 0.007 in the working-age group and increased by 0.005 y-o-y in the retirement-age group, indicating a worsening income inequality in the retirement-age group.

Net wealth refers to assets minus liabilities from total assets. The Gini coefficient on net wealth allows us to measure the degree of asset inequality resulting from inherited wealth. Korea's Gini coefficient on net wealth gradually decreased from 0.619 in 2011 to 0.584 in 2017, but it saw an increase for five consecutive years, reaching 0.606 in 2022. The figure stayed steady at 0.605 in 2023. The recent rise in the Gini coefficient indicates a growing asset inequality in Korea. Now is time to get to the bottom of structural causes behind asset inequality and subsequent issues and come up with various policy solutions. In particular, proactive policy interventions are required as worsening asset inequality may exacerbate issues related to housing and household debts.

### Labor share of GDP has remained steady without big fluctuations (SDG 10.4.1)

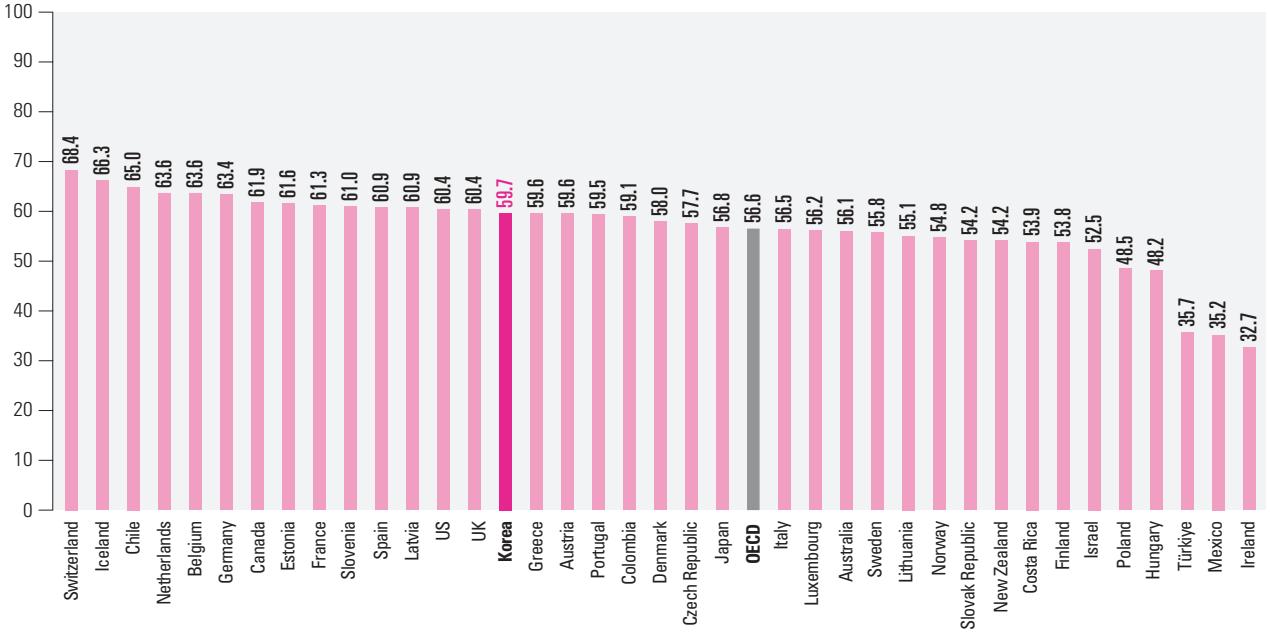
The labor share of GDP refers to the relative share of final outputs produced for a certain period in a country that is

**Labor Share of GDP, 2004~2020** (Unit: %)




Source : ILO (UN SDG Indicators database, https://unstats.un.org/sdgs/dataportal, retrieved on Jul 19, 2023)

**Labour Share of GDP by OECD Country, 2020** (Unit: %)




Source: ILO(UN SDG Indicators database, https://unstats.un.org/sdgs/dataportal, retrieved on Jul 19, 2023)
Note : Labor Share of GDP = (Compensation for employees + labor income of the self-employed) ÷ GDP x 100

allocated to labor rather than capital. In order for economic growth to lead to an improvement in individuals' lives, real income distribution has to be done in parallel. Representing the proportion of compensation for employees and labor income of the self-employed out of GDP, the labor share of GDP can tell the extent to which economic growth contributes to income growth in workers and the self-employed.

The Labor share of GDP in Korea stood at 59.7% in 2020. It remained in the 57% range from 2012 to 2017, and rose to 60.0% in 2019. Since then, it has been maintained without fluctuations. From the global perspective, Korea's labor share of GDP is slightly higher than the OECD average of 56.6%. Out of 38 countries, Korea ranked the 15th highest. For countries like Switzerland (68.4%), Iceland (66.3%) and Chile (65.0%), their labor share almost reached 70%, but five countries, namely Ireland (32.75), Mexico (35.2%), Türkiye (35.7%), Hungary (48.2%), Poland (48.5%) fell short of 50%.

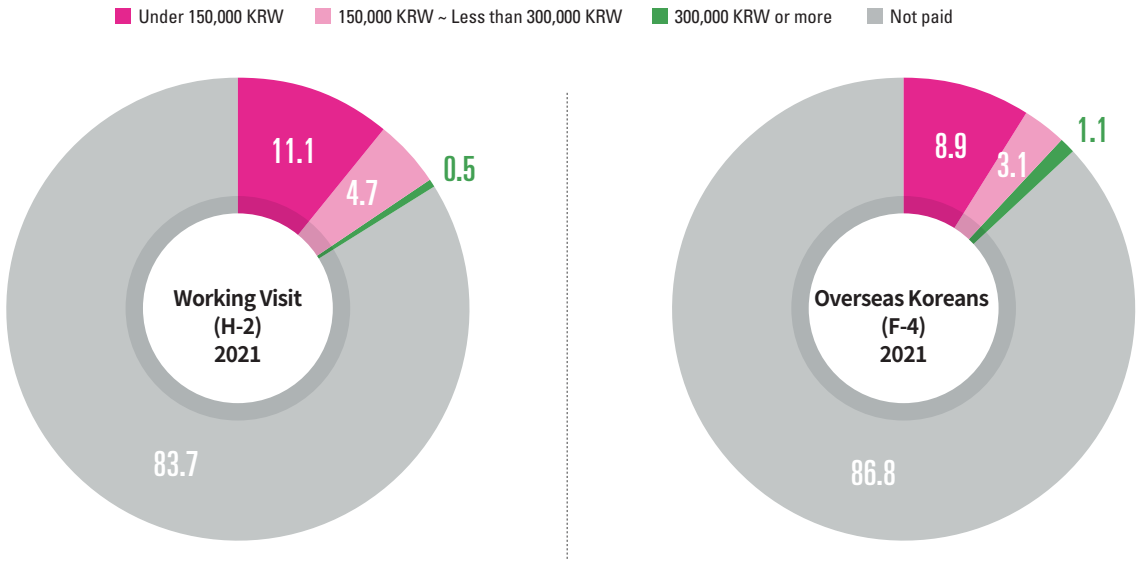
### Statistical improvements to measure the recruitment cost of migrant workers (SDG 10.7.1)

SDG 10 aims to provide safe environments and equal opportunities to migrant workers during their migration and movement process. In this sense, it focuses on not only institutional issues like migration policies but also personal and economic issues, such as their recruitment cost. The recruitment cost incurred during the migration process includes various expenses, like job searching fees, visa/passport issuance fees, transportation fees, relevant insurance premiums and language training fees. If the recruitment cost borne by migrant workers exceeds the income earned in the country of destination, it can become an enormous burden.

As of May 2023, the number of foreign nationals residing in Korea stands at 1.43 million. By status of visa, there are 386,000 overseas Koreans (F-4); 269,000 non-professional employees (E-9); 188,000 students studying abroad (D-2); 131,000 permanent residents (E-5); 120,000 marriage migrants (F-6); and 87,000 working visitors. Among them, employed are 923,000, and this number can be broken into as follows: 269,000 non-professional employees, 250,000 overseas Koreans, 98,000 permanent residents, 70,000 marriage migrants and 63,000 working visitors (Statistics Korea 2023). It is necessary to conduct a survey on employed migrants in order to understand the current state of the recruitment cost for migrant workers as a whole.

In the Survey on Immigrants' Living Conditons and Labor Force until 2021, the Statistics Korea surveyed working visitors (H-2) and overseas Koreans (F-4) in a limited version

**Amount of Recruitment Fees by Immigration Status, 2021** (Unit: %)




Source : Statistics Korea, Survey on Residence and Employment of Migrants (https://kosis.kr, retrieved on Jul 11, 2023)

regarding the payment and amount of recruitment costs. Overseas Koreans (F-4) refer to Korean nationals with foreign permanent residency or residing abroad for the purpose of obtaining permanent residency (overseas Koreans) or individuals who held Korean nationality by birth or their direct descendants, acquiring foreign nationality (Koreans with foreign nationality). In addition, working visit (H-2) allows foreign nationals at the age of 25 or higher residing in China and the former Soviet Union to work freely in Korea for a specified period. For working visit (H-2) and overseas Koreans (F-4), the recruitment cost may occur, such as job searching fees, when they find a job after entering Korea.

In the 2021 survey, 16.3% of respondents with working visit (H-2) answered that they had paid the job searching fees when they found a job. The remaining 83.7% of working visitors didn't pay any job searching fees. Out of those who paid the fees, the largest share of respondents (11.1%) paid less than 150,000 KRW while 4.7% of them paid from 150,000 KRW to less than 300,000 KRW, and 0.5% paid 300,000 KRW or more. Compared to 2018, the proportion of working visitors who paid the fees increased by 3.2%p. The number of working visitors who paid under 150,000 KRW increased by 3.3%p whereas those who paid 300,000 KRW or more decreased by 1.3%p.

In general, those holding overseas Koreans (F-4) status can find a job freely in Korea. However, job options available to them are limited, such as simple labor, to protect local employment. In the 2021 survey, 13.2% of individuals with F-4 reported having paid the job searching fees when landing a job and the breakdown of the fees paid is as follows: less than 150,000 KRW (8.9%), between 150,000 and less than 300,000 KRW (3.1%) and 300,000 KRW or more (1.1%).

However, there are limitations in capturing the whole picture of the recruitment costs for migrant workers solely from two categories of status, such as working visit and overseas Koreans. In this regard, there is a need for improvement. In the 2023 survey, the Statistics Korea has started to include non-professional employees (E-9) who account for a considerable number of the workforce, in accordance with the ILO guideline, and the findings will be published once time-serial data are fully accumulated.

### 175 out of 11,539 asylum seekers recognized as refugees in 2022 (SDG 10.7.4)

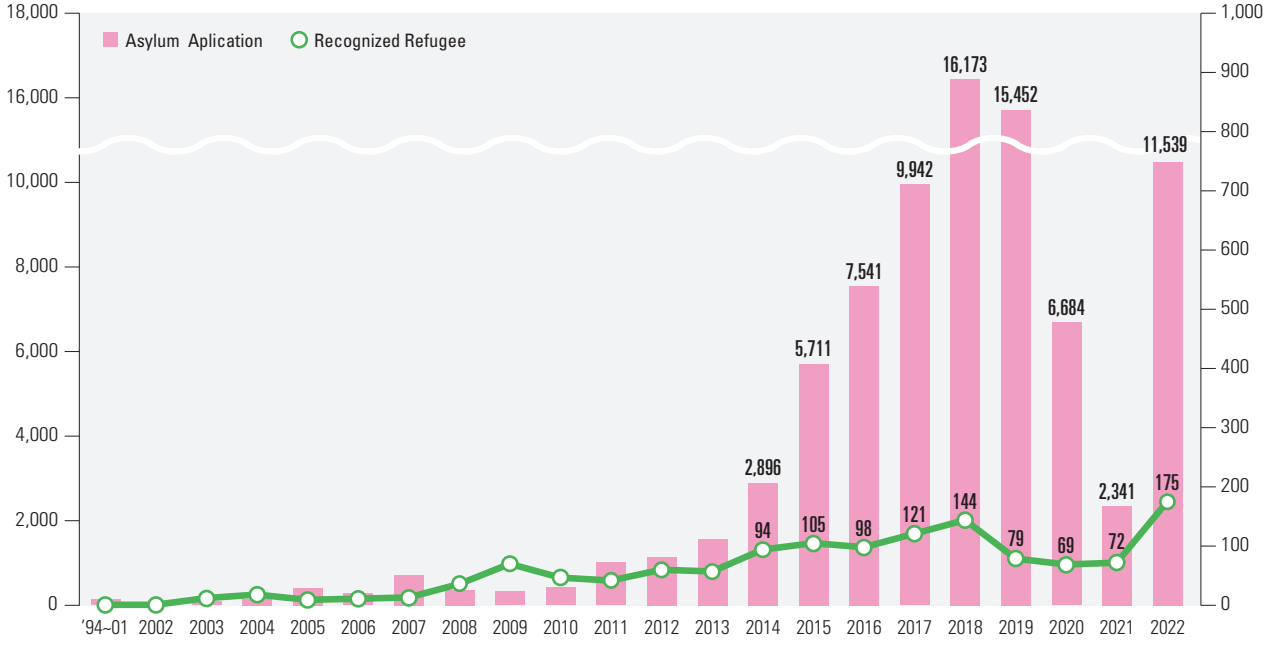
A refugee refers to an individual who cannot be protected by his/her home country for reasons like race, religion, nationality and political views, or for fears of such, who does not seek protection from the home country. Since it joined the Convention relating to the Status of Refugees on Dec 3, 1992, Korea has operated its refugee system through the amendment of the Immigration Act (in 1993) and the enactment of the Refugee Act (in 2012). Since the nation's first refugee recognition in 2001, the number of asylum seekers has steadily

increased. After the Refugee Act came into effect in July 2013, the number has further surged. It hit a record-high of 16,173 in 2018, followed by a dramatic decrease to 6,684 and 2,341 in 2020 and 2021 due to the border closure during the COVID-19 pandemic. Then, it again rose to 11,539 in 2022. There was even a social issue in 2018 when over 500 Yemenis entered Jeju Island, where no visa is required for entry, to flee from the civil war in their home country and applied for the refugee status. In addition, the number of recognized refugees also increased to 144 in 2018. After it remained around 70 for the following three years, the number rose again, reaching an all-time high of 175 in 2022.

For those who are apparently at a high risk of severe harm to life or physical freedom such as inhumane treatment and punishment like torture, if the refugee status is not recognized, they may be granted humanitarian stay permits until the cause(s) of fear are dissipated. Out of refugee screening cases completed, the proportions of refugees recognized and those granted humanitarian stay permits are combined and referred to as the refugee protection rate. From the beginning of the system in 1994 through 2022, a total of 46,506 cases were screened, resulting in a refugee protection rate of 8.2% with 1,338 refugees recognized and 2,485 permitted for humanitarian stay. In the year 2022, the refugee protection rate was equal to 4.5%.

As a member of the international community, Korea has strived to fulfill its duty to protect refugees. However, there should be more social consensus in place for refugee acceptance. To achieve this, there are ongoing efforts to revise the Refugee Act and devise solutions, so as to prevent the system misuse and enhance fairness, transparency and speed of the refugee recognition procedures.

**Number of Asylum Aplications and Recognized Refugees, 1994~2022** (Unit: Case)




Source : Online Indicators Portal, Refugee Statistics (https://www.index.go.kr, retrieved on Dec 28, 2023); Ministry of Justice, Statistical Yearbook of Immigration and Foreign Nationals Policy, each year

**Refugee Protection Rate, 2022** (Unit: Case, %)

| | Screening Completed | Refugee Protection | | | | Not recognized |
|---|---|---|---|---|---|---|
| | | Sub-total | Recognized | Humanitarian Stay Permit | Refugee Protection Rate | |
| Cumulative (1994-2022) | 46,506 | 3,823 | 1,338 | 2,485 | 8.2 | 42,683 |
| 2022 | 5,363 | 242 | 175 | 67 | 4.5 | 5,121 |

Source : Ministry of Justice, 2022 Statistical Yearbook of Immigration and Foreign Nationals Policy
Note : Refugee Protection Rate = (No. of Refugees Recognized + No. of Humanitarian Stay Permits) ÷ No. of Screening Cases Completed × 100

# 11 SUSTAINABLE CITIES AND COMMUNITIES

# Make cities and human settlements inclusive, safe, resilient and sustainable

The size of cities is further expanding as the urban population has continued to increase and the pace of urbanization has not been unabated. The UN's World Urbanization Prospects (2018) predicts that the number of mega-cities inhabited by over 10 million population will reach 43 by 2030. Urbanization entails multiple issues such as polarization of urban life, natural disasters like floods, droughts, earthquakes and storms, heat islands, urban flooding, infection diseases, influx of refugees and instability of the urban system. Thus, it is necessary to make multi-faceted and pre-emptive response to these complex urban issues emerging in the realms of society, culture, the environment and economy due to over-crowded urban settlements.

SDG 11 aims to make cities and settlements inclusive, safe, resilient and sustainable. It requires multi-sectoral approaches to urban planning and urban policies due to the nature of complex urban issues that occur across various areas.

Korean urban environments exhibit a blend of hopeful signs and lingering issues. While the satisfaction with residential environments has risen due to the improvement through urban regeneration projects, the rent-to-income ratio (RIR) indicating the burden of housing costs imposed on individuals who don't own their home reached 18.3% in the capital areas in 2022. Under the Convention Concerning the Protection of the World Cultural and Natural Heritage, UNESCO has endeavored to discover, protect and conserve natural and cultural heritage that holds universal value of mankind. Republic of Korea's public expenditures to protect cultural and natural heritage decreased during the COVID-19 pandemic. Despite the government's various policy efforts to alleviate health hazards from fine particulate matter (PM2.5), its annual average concentration has failed to meet the national air quality standards or the criteria recommended by the WHO. In addition, there are numerous cases of violent crimes occurring in residential neighborhoods and adjacent roads. It is necessary to make living space safer and more pleasant by preventing violent crimes from occurring in open space.

To make cities sustainable, effective measures should be implemented for better quality of urban life, by alleviating polarization of urban life, securing cities' cultural identity, improving air quality and securing safety from crimes.

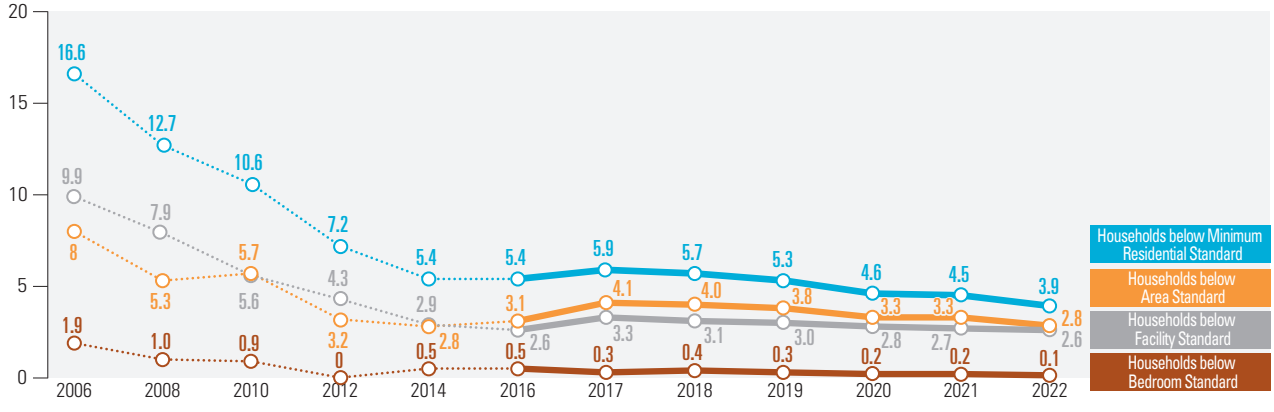


## A high burden of housing costs on individuals without their own house in the capital areas, as opposed to an overall increase in satisfaction with residential environments (SDG 11.1.1)

Under the Housing Act, the minimum residential standards are comprised of the area standard based on the number of household members, the bedroom standard, and the facility standard regarding a dedicated stand-up kitchen, flush toilet(s) and bathing facilities. The ratio of households failing to meet the nation's minimum residential standards declined from 16.6% in 2006 to 3.9% in 2022. Although this decline has slowed down since 2014, the ratio has continued to slightly decrease each year. This indicates steady improvements in physical housing environments.

Meanwhile, satisfaction with residential environments refers to the percentage of individuals content with their

**Rate of Households below Minimum Residential Standards, 2006~2022** (Unit: %)



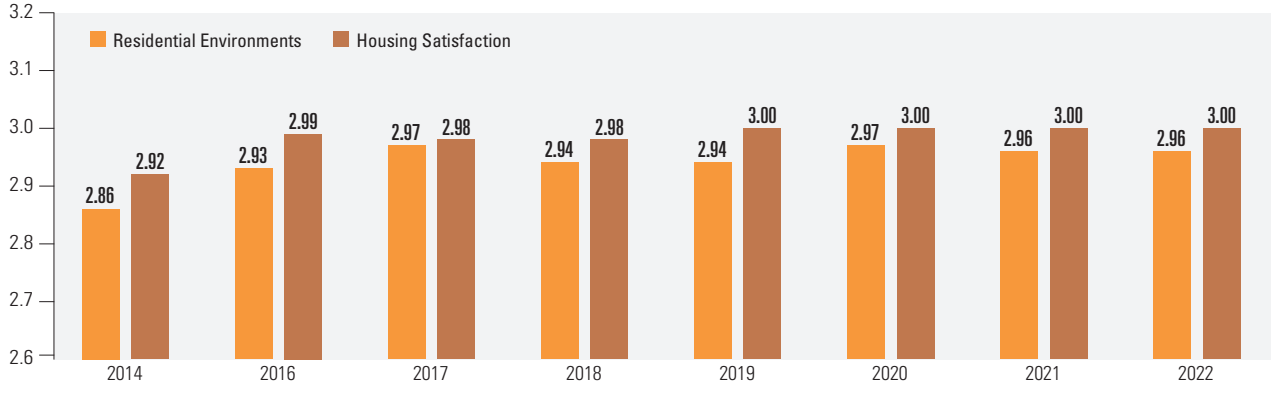

Source: Ministry of Land, Infrastructure and Transport, Housing Survey (Indicator Portal, https://www.index.go.kr, retrieved on Dec 14, 2023)
Note1 : Minimum residential standards refers to the criteria under the Housing Act and the notice (No. 2011-490, May 27, 2011) from the Ministry of Land, Transport and Maritime Affairs
Note2 : This survey was conducted on a biennial basis starting from 2006, but it has been changed to an annual survey since 2017

physical, social, cultural and natural environments in their current neighborhood(on a scale of 1 to 4 points on average). And it has remained at the 3.0 level since 2020. By region, the satisfaction with residential environments was the highest in the major metropolitan cities in 2022. It reveals that residential environment satisfaction was relatively high in large cities. In particular, the satisfaction level in metropolitan cities has always been higher than that in the capital areas and small local cities since 2017, but the gap between them is gradually decreasing. There are also differences observed by income level. High-income households tend to have higher satisfaction with residential environments. An upward trend of residential environment satisfaction has been maintained not only in the high-income class but also in the low-income one over the decade.

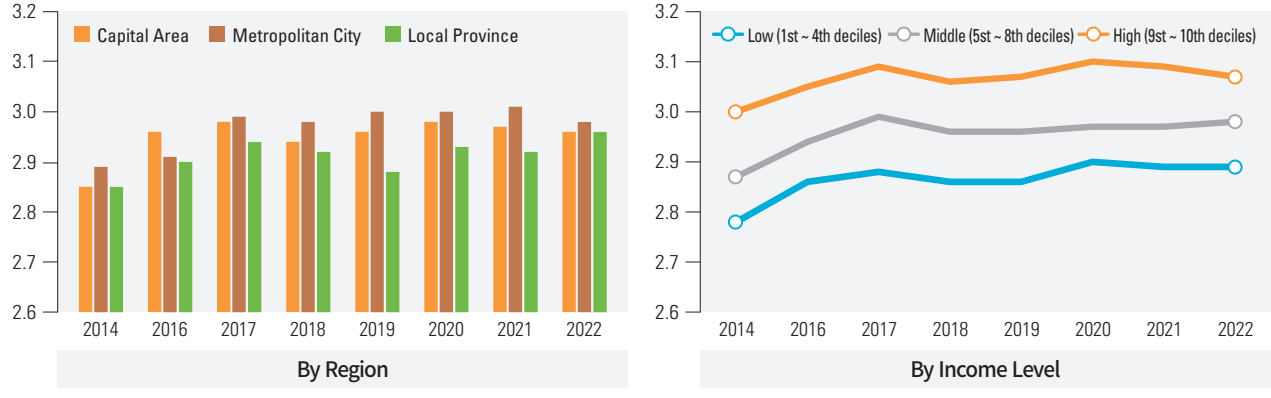
Representing the degree of satisfaction with housing (on a scale of 1 to 4 on average), the housing satisfaction was significantly high in apartments compared to other housing types. Relatively speaking, the satisfaction levels were quite similar among row houses, multi-unit houses, single-unit houses and houses in non-residential buildings. As the housing satisfaction varies depending on the income level, it tends to be higher in high-income households.

The rent-to-income ratio (RIR) refers to the ratio of monthly rents relative to the monthly income, indicating burdens of housing costs on individuals without their own house. The ratio was found at 16.0% in 2022, down by 4%p from 2014 when it reached the highest mark. By region, the ratio was the recorded the highest at 18.3% in the capital areas, followed by 15.0% 14.4% in metropolitan cities and 13.0% in local provinces. Over the past decade, the rent-to-income ratio has been on a decrease; however, the indicator only shows the burden of rents on individuals without housing ownership, not the burden of housing costs on the entire people. Thus,

**Satisfaction with Residential Environments and Housing, 2014~2022** (Unit: points)

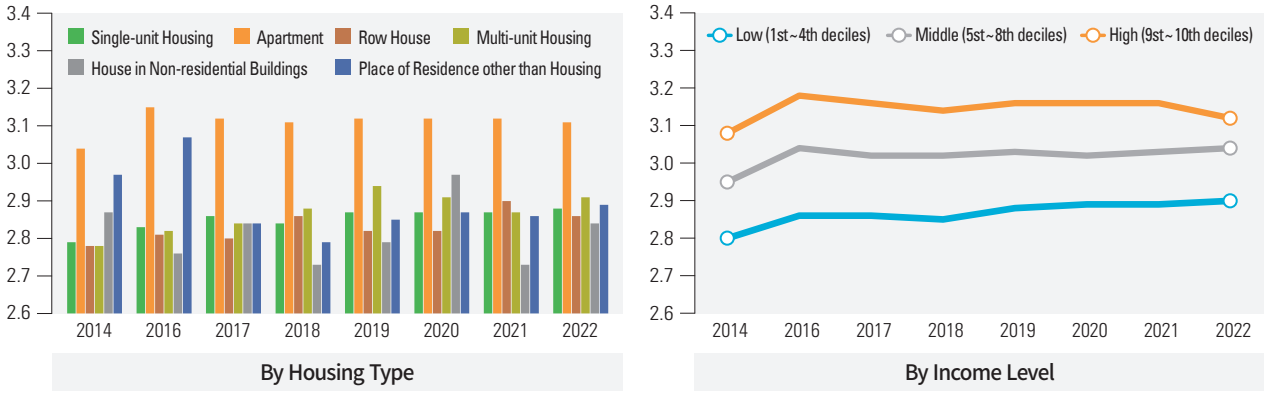



**Satisfaction with Residential Environments by Region and Income Level, 2014~2022** (Unit: points)



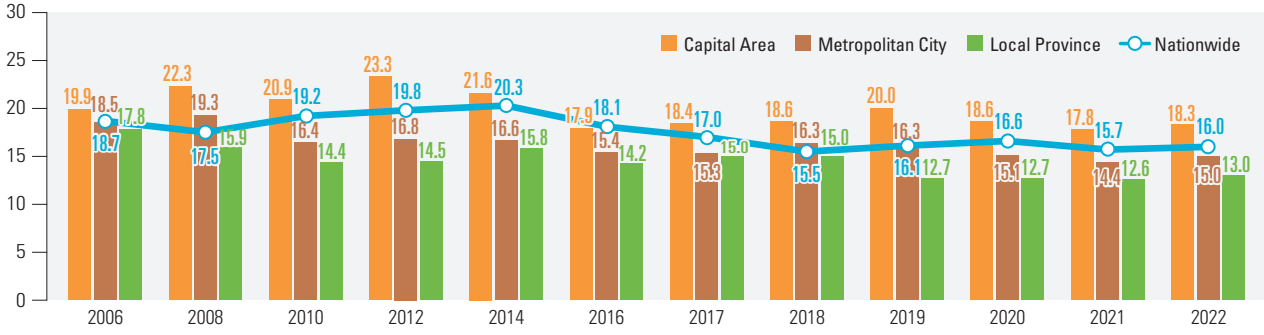

Source: Ministry of Land, Infrastructure and Transport, Housing Survey (Indicator Portal, https://www.index.go.kr, retrieved on Dec 30, 2023)
Note1 : The survey is on a scale of 1 (very unsatisfied) to 4 (very satisfied)
Note2 : This survey was conducted on a biennial basis starting from 2006, but it has been changed to an annual survey since 2017
Note3 : Sejong has been included as a metropolitan city since 2018

**Housing Satisfaction by Housing Type and Income Level, 2014~2022** (Unit: points)




Source: Ministry of Land, Infrastructure and Transport, Housing Survey (Indicators Portal, https://www.index.go.kr, retrieved on Dec 30, 2023)
Note1 : The survey is on a scale of 1 (very unsatisfied) to 4 (very satisfied)
Note2 : This survey was conducted on a biennial basis starting from 2006, but it has been changed to an annual survey since 2017

**Rent-to-income Ratio, 2006~2022** (Unit: %)




Source: Ministry of Land, Infrastructure and Transport, Housing Survey (Indicators Portal, https://www.index.go.kr, retrieved on Dec 30, 2023)
Note1 : Rent-to-income ratio (RIR) = (monthly median rents ÷ monthly median household income) × 100
Note2 : This survey was conducted on a biennial basis starting from 2006, but it has been changed to an annual survey since 2017
Note3 : Sejong has been included as a metropolitan area since 2018

to see the whole picture, it is necessary to consider other factors, such as mortgage interests for homeworkers who have purchased their home through a mortgage.

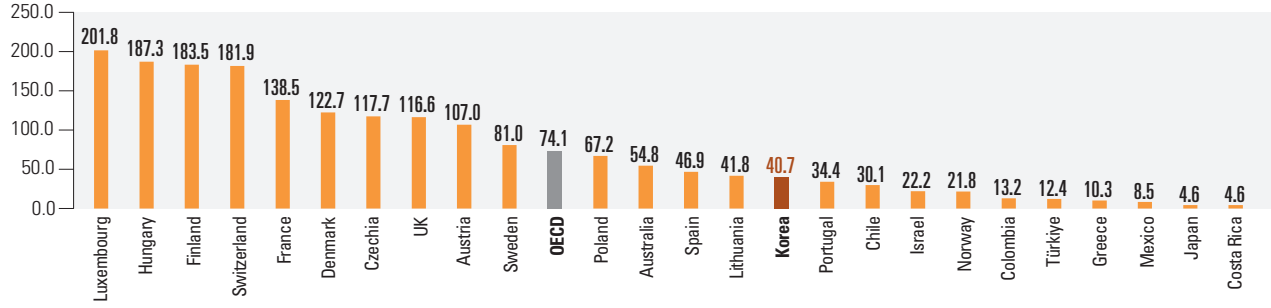
### Need to steadily increase public expenditures to protect cultural and natural heritage (SDG 11.4.1)

SDG 11.4 aims to reinforce efforts to protect all cultural and natural heritage around the world. To this end, each country's spending, both public and private, on protection and management of cultural and natural heritage has been used as an indicator (SDG 11.4.1). As it is hard to compile data regarding private expenditures, this report focuses on analysis of each nation's public expenditures.

Korea's public spending on cultural and natural heritage stood at 40.7 dollars per person in 2020. Out of 38 OECD countries, in 2020, public expenditures of 25 countries were analyzed. Luxembourg spent the most with 201.8 dollar while Japan and Costa Rica spent the least with 4.6 dollars. The average spending of the 25 countries was equal to 74.1 dollars. Korea is one of countries that saw the biggest reduction in the spending from 2019 to 2020 during the COVID-19 pandemic as the nation's spending fell from 65.9 dollars in 2019 to 40.7 dollars in 2020. Korea's per-capita public expenditures (40.7 dollars) in 2020 are comprised of 27.0 dollars from the central government and 13.7 dollars from local governments. The spending of the central government almost stayed the same at 13.7 dollars from 2019 to 2020, but the spending of local governments sharply dropped from 39.7 dollars to 13.7 dollars.

The per-capita expenditures on protection of cultural and natural heritage serve as an indicator monitoring the efforts to protect the national heritage. It is necessary to operate heritage protection/management polities in a systematic manner and continue to increase the relevant expenditures.

**Per capita Public Expenditures on Cultural and Natural Heritage by OECD Country, 2020** (Unit: dollars, PPP, constant price in 2017)




Source: UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Dec 19, 2023)
Note1 : It is the total sum of expenditures from the central government and local governments
Note2 : Out of 38 OECD countries, this survey is about 25 counties with data collected in 2020

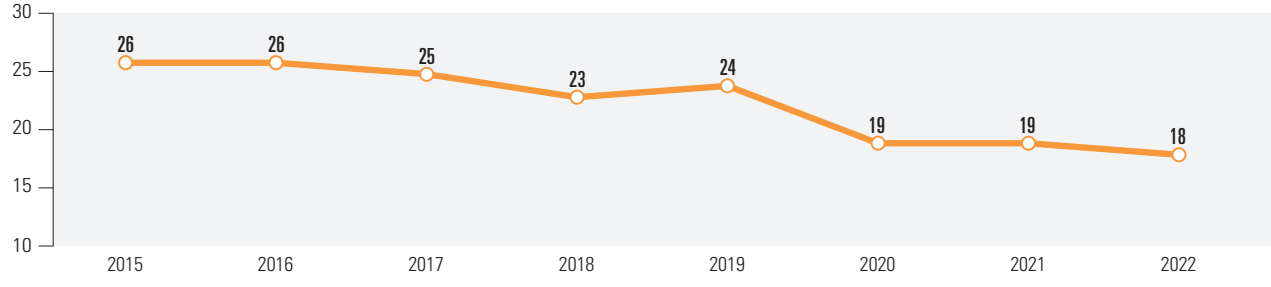
## The concentration of fine particulate matter (PM 2.5) has improved to some degree, but it is still below the threshold (SDG 11.6.2)

Particular matter (PM2.5), especially ultra-fine dust with a diameter of 2.5㎛ or less, is an environmental pollutant that causes various pulmonary diseases and increases the risks of premature deaths. Korea has established the air quality standards for the particulate matter (PM2.5) and has been producing official statistics of the average concentration levels nationwide since 2015. At that time, the frequent outbreak of particulate matter at high concentrations raised awareness on the need to reinforce policy efforts. The government devised the Special Countermeasures against Fine Particulate Matters in 2016 and Comprehensive Measures in 2017, followed by the enactment of the Special Act on the Reduction and Management of Fine Dust in 2018 to implement measures, such as emergency reduction measures and the seasonal management system.

In Korea, the concentration of particulate matter (PM2.5) gradually decreased from 26㎍/㎥ in 2015 when the nation started to produce the nationwide average statistics. It further diminished during the COVID-19 in 2020 due to reduced industrial activities, and then declined to 18㎍/㎥ in 2022. However, it still falls short of the nation's air quality standards (15㎍/㎥) and is way below the threshold recommended by the WHO (an AQG level of 5㎍/㎥). In addition, if the OECD's estimates are used, it is possible to compare with the entire OECD members. These estimates are calculated based on satellite observations, chemical transport models, terrestrial measurements and weighted population. According to the OECD estimates, Korea's exposure (population weighted) to fine particulate matter (PM2.5) in 2020 stood at 25.9 ㎍/㎥, more than twice the OECD average of 11.8㎍/㎥. This is one of the most severe levels out of OECD member countries.

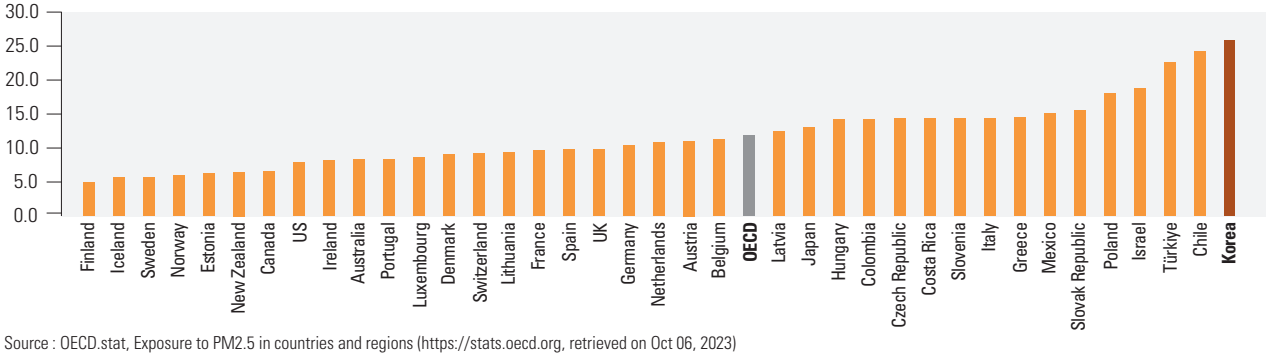
The Korean government has set a goal in its 3rd Comprehensive Plan to Improve Air Quality (2023-2032) to reduce the annual average concentration to 12㎍/㎥ nationwide by 2032. To this end, the government has endeavored to reinforce the control of major emission sources, such as workplaces and mobile sources of pollution; establish the management system centering on the public health based on the health risk assessments; and respond to pollution coming from long distances through international cooperation in East Asia.

**Annual Average Concentration of Particulate Matter(PM2.5), 2015~2022** (Unit: μg/m³)




Source : National Institute of Environmental Research, 2022 Air Quality Yearbook, 2023
Note : Population-weighted average of annual average particulate matter(PM2.5) concentrations for 17 cities

**Exposure to Fine Particulate Matter (PM2.5) in OECD Countries, 2020** (Unit: %, Population weighted)

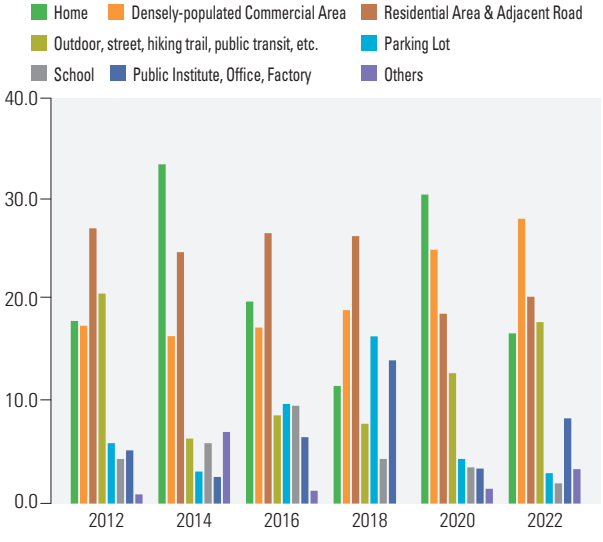



Source : OECD.stat, Exposure to PM2.5 in countries and regions (https://stats.oecd.org, retrieved on Oct 06, 2023)

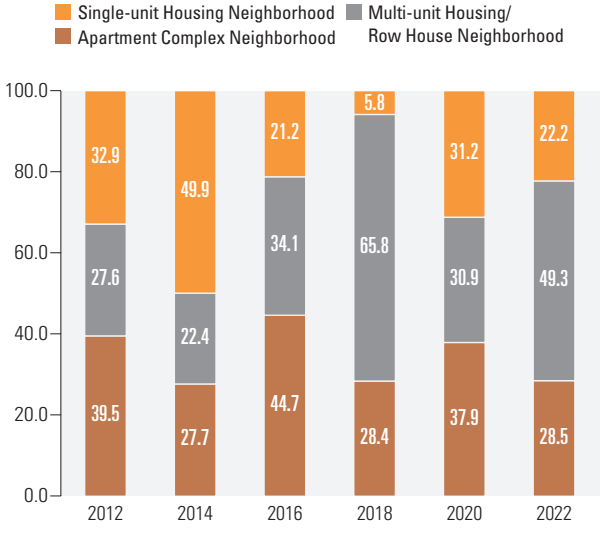
## Efforts needed to prevent violent crimes from occurring in residential neighborhood (SDG 11.7.2)

Particular matter (PM2.5), especially ultra-fine dust with a Conducted by the Korean Institute of Criminology and Justice every two years, the National Life Safety Survey collects rates of violent crime victimization, including robbery, assault, sexual violence and harassment. The rate of violent crime victimization has recently been on a rise in Korea. The rate of sexual violent victimization was 0.48% in 2022, a increase from 2020 (0.37%). Back in 2020 during the COVID-19, violent crimes occurred the most frequently at home (30.5%). However, in 2016 and 2018 before the outbreak of the pandemic, violent crimes were committed the most frequently in residential areas or their adjacent roads, In 2022, post-COVID-19, the highest incidence was in densely populated commercial areas. Looking further at residential areas or their adjacent roads by type of housing, most of crimes occurred in multi-unit housing/row-house neighborhoods (49.3%), apartment complex neighborhoods (28.5%), single-unit housing neighborhoods (22.2%). In 2018, the majority of crimes took place in multi-unit housing/row-house neighborhoods (65.8%). The government should come up with measures to prevent violent crimes from occurring in various spaces, so as to make living space safer and more pleasant. In particular, it is necessary to actively take advantage of Crime Prevention Through Environment Design (CPTED) to stave off violent crimes from occurring in open space, such as commercial and residential areas.

**Rate of Violent Crime Victimization by Place of Occurrence** (Unit: %)




**Rate of Violent Crime Victimization in Residential Areas by Place of Occurrence** (Unit: %)




Source : Statistical Research Institute, National Life Safety Survey (National Crime Victimization Survey DB, https://www.kicj.re.kr, retrieved on Dec 30, 2023)

# 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

# Ensure sustainable consumption and production patterns

SDG 12 aims to ensure efficient use of resources in the lifecycle of production, distribution and consumption of products and services and reduce emissions of pollutants, emphasizing efforts to shift the unilinear economic structure from production to consumption into a circular system. The World Bank predicted that the generation of domestic waste around the world would increase by about 69% compared to 2016, reaching 34 tons per year by 2050. It was also expected that Republic of Korea's generation of daily waste in the same year would rise to 710,000 tons, an increase of about 66% compared to 2018. In addition to this, we are also moving away from the goal to halve per-capita food waste in the retail and consumer levels by 2030. Now, it is necessary to make efforts to shift into a resource-circulating society through sustainable consumption and production across the world.

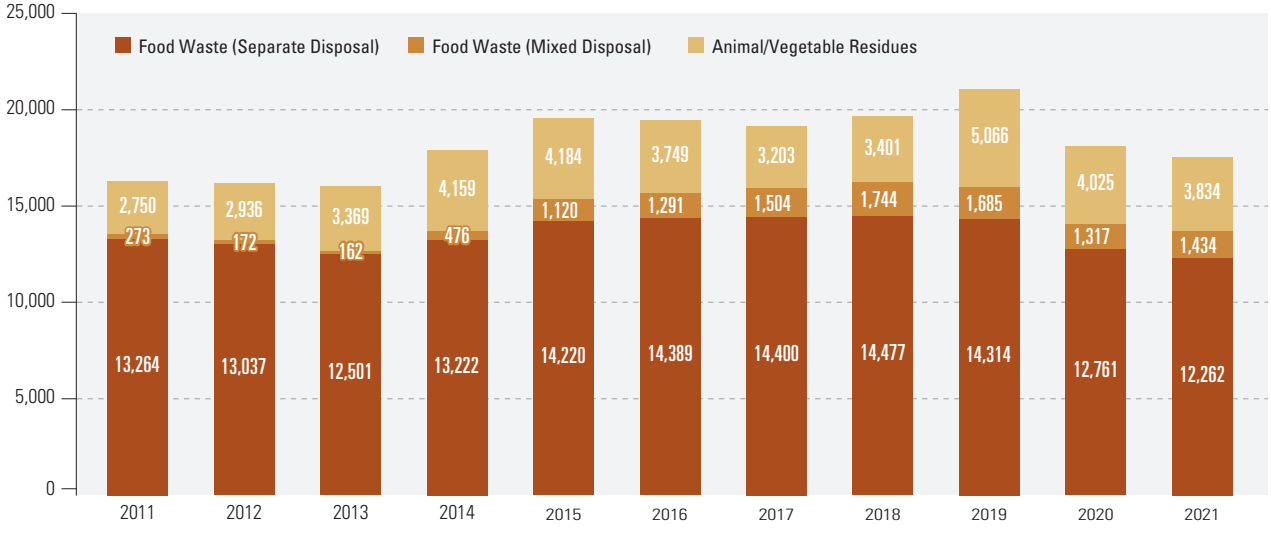
The amount of food waste generated in Korea has been on a slight reduction since 2019. However, it is necessary to expand the scope of management to include losses coming from both the consumption and the production stages. While the generation of hazardous (designated) waste has been on an increase, its recycling ratio is growing as well. The recycling ratio of domestic waste is higher than the OECD average, but there are some regional differences in recycling rates between cities and rural areas depending on recycling conditions. Recently, an increasing number of companies publish their sustainable reports to meet the growing demands for ESG management information. Korea's sustainable public procurement policies have been evaluated as a step forward compared to 2 years ago. Especially, the major indicators such as the recycling rates of hazardous (designated) waste and domestic waste don't look so bad. That said, more efforts are needed to enhance resource circulation and sustainability throughout the socio-economic system such as sustainable consumption and production in companies and the government, along with a fundamental reduction in waste generation.

## Need to encompass the scope of management to include the food production stage, despite a slight reduction in generation of food waste

(SDG 12.3.1)

Food Losses and Waste (FLW) is a concept encompassing losses and waste generated during the entire processes of the food supply chain from harvest through consumption. This concept was first used by the Food and Agricultural Organization (FAO) in its 2011 report. Under the concept, food thrown away from the stages of production, harvest, storage and processing is referred to as 'food loss' while food discarded in the stages of consumption and distribution is called 'food waste.' Food losses are more prominent in developing countries with insufficient infrastructure for storage, processing and transport. In

**Food Waste Generation, 2011~2021** (Unit: Ton/day)




Source: Korea Environment Corporation, National Waste Generation and Disposal (https://www.recycling-info.or.kr, retrieved on Sep 10, 2023)
Note1 : This shows food waste (separate disposal and mixed disposal in PAYT bags) and animal/vegetable residues out of industrial waste
Note2 : Waste generation has been announced in units of tons per year since 2020; thus, data for 2020 and 2021 are converted into ton/day by dividing the yearly figures by 365

contrast, food is more likely to be thrown away in the sales and consumption stages in advanced nations.

In Korea, statistics regarding reduction and waste of agricultural food are still insufficient, making it difficult to identify accurate food losses. In the waste statistics of Korea, animal and vegetable residues in industrial waste refer to residues generated from manufacturing of food and drinks. With this figure, it is possible to roughly estimate the amount of food losses. In 2021, the generation of animal and vegetable residues amounted to 1,399,234 tons per year(3,834 tons per day). Out of this, 1,291,064 tons (92.3%) were recycled; 49,810 tons (3.6%) were incinerated; and 4,876 tons (0.3%) were landfilled. Meanwhile, in the waste statistics, food waste is divided into mixed disposal in pay-as-you-throw (PAYT) bags and separate disposal. In 2021, food waste discarded separately amounted to 4,475,558 tons(12,262 tons per day) while food waste for mixed disposal was calculated as 523,536 tons(1,434 tons per day). If we combine animal/vegetable residues and food waste, which correspond to food losses and waste respectively, into the total food waste, the total generation of the two generally increased through the 2010s, and then slightly decreased in 2020 and 2021.

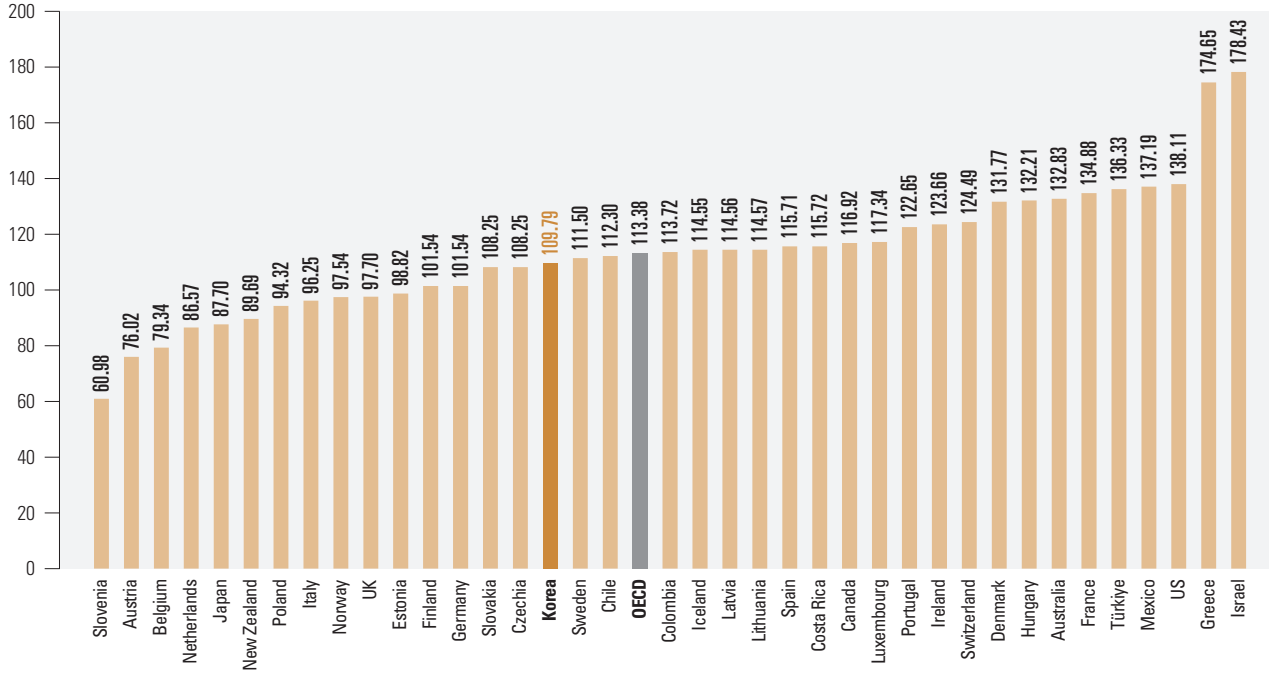
Conventional waste policies have focused on reducing food waste at the stage of food consumption. Now is time to broaden our attention to food losses and waste throughout the food supply chain. For example, the Ministry of Environment has recently expanded its policies to include the food production stage. It has recognized rice husks derived from rice milling and beer dregs from the brewery industry as circular resources and excluded them from waste regulations, allowing them to be recycled as ingredients for processed food. In order to devise a comprehensive strategy on food losses and waste, it is necessary to measure the generation from various sources and track and manage their subsequent flows. In addition, cooperation is required among various ministries concerned, industries and stakeholders throughout the food supply chain.

## A rise in the generation of hazardous waste, along with an increase in its recycling rate

(SDG 12.4.2)

Hazardous waste is often referred to as designated waste in Korea as it is 'designated' as waste that requires special management due to its hazardous substances such as corrosive, flammable, explosive, infectious and ecotoxic materials. As prescribed in the

**Per capita Food Waste Generation by OECD Country, 2019** (Unit: kg/person)



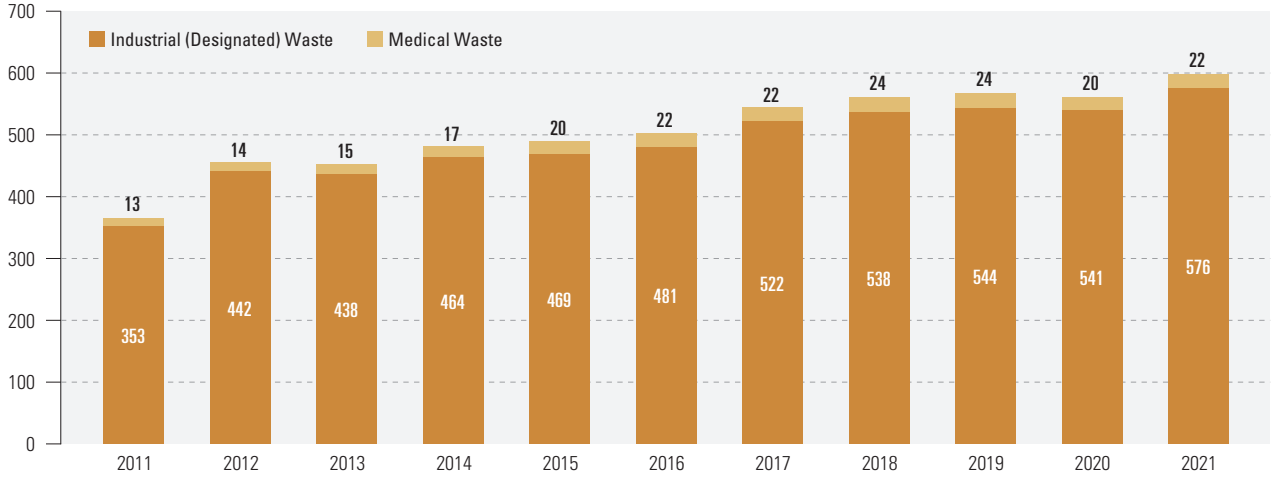

Source : UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Sep 10, 2023)

Presidential Decree, hazardous waste includes industrial waste that can potentially contaminate surrounding environments such as waste oil and waste acid, and medical waste that can pose harm to the human body.

The generation of designated waste in Korea was on a gradual increase over the past decade, exceeding 5 million tons in 2016 for the first time. It has continued to increase since then, reaching 5.98 million tons in 2021. Out of the total waste, the percentage of designated waste also went up by 0.1%p y-o-y to 3.0% in 2021. In the same year, the designated waste was comprised of industrial waste (96.3%) and medical waste (3.7%).

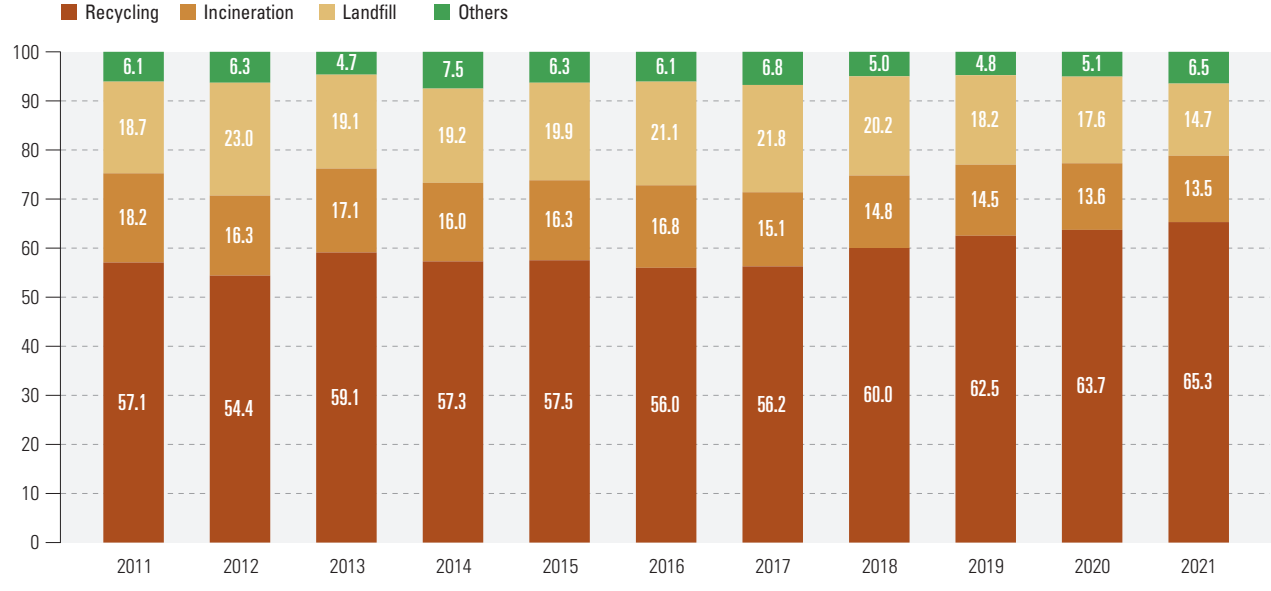
More than half of designated waste is recycled. In 2021, the recycling rate reached to 65.3%, followed by landfill at 14.7% and incineration at 13.5% respectively. Compared to a decade ago in 2011, the recycling rate jumped by 8.2%p from 57.1%. In particular, it has been on a rise each year since 2017. On the other hand, the landfill rate went down by 4.0%p from 18.7% while the incineration rate declined by 4.7%p from 18.2%.

**Hazardous Waste Generation, 2011~2021** (Unit: kg/person/day)




Source : Korea Environment Corporation, National Waste Generation and Disposal (https://www.recycling-info.or.kr, retrieved on Sep 10, 2023)

**Percentage of Hazardous Waste by Disposal Method, 2011~2021** (Unit: %)




Source : Korea Environment Corporation, National Waste Generation and Disposal (https://www.recycling-info.or.kr, retrieved on Sep 10, 2023)
Note : Until 2018, Other = (other treatment volume + final storage volume)-carryover from previous year; from 2019 onwards, 'Other' refers to all intermediate treatment volumes excluding incineration (mechanical (compaction, crushing, etc.), chemical (solidification, solidification, neutralization, flocculation, etc.), biological (aerobic, anaerobic, etc.) disposal, etc

## The recycling rate of domestic waste is relatively high, with some regional differences

(SDG 12.5.1)

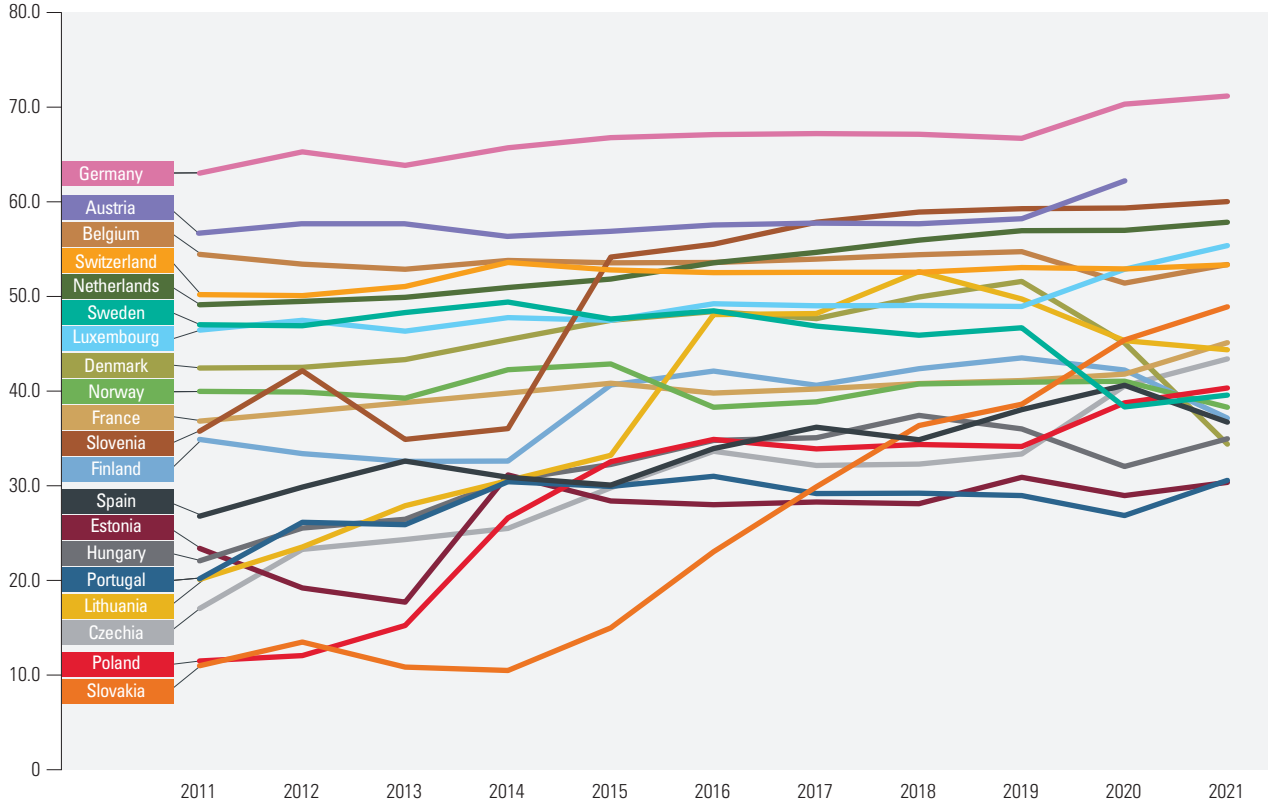
The criteria to calculate recycling rates can vary from country to country. Therefore, it is meaningful to analyze the changes in each nation's recycling rates, rather than comparing recycling rates between countries. Given a change in recycling rates of domestic waste in OECD countries, Germany continuously stands out with the highest recycling rate, increasing from 63.0% in 2011 to 71.1% in 2021. Austria, Belgium and Switzerland also posted a relatively high recycling rate at over 50%. Slovakia, the Czech Republic and Poland managed to raise their recycling rates from the 10% range in 2011 to over 40% in a matter of 10 years. Meanwhile, Sweden and Denmark had the recycling rate of over 40% until 2019, but saw a sudden drop after 2020. This may be attributed to the EU's introduction of a new method to calculate recycling rates in 2020.

According to Korea's waste statistics, the recycling rate of domestic waste nationwide After hovering around 59% since 2011, it increased slightly in 2016, reaching 62.0% in 2018 before declining. As recently as in 2021, the rate was equal to 54.7%. This figure is higher than the OECD average, but falls short of the rates in Germany (71.1%), Austria (62.3% in 2020), Slovenia (60.0%).

Looking at recycling rates of domestic waste in cities and provinces of Korea, there is a tremendous variation, ranging from the 30s% to the 60s% depending on regions. Busan (69.8%), Daejeon (68.3%), and Jeju (65.1%) have the highest rates with over 65%, and the rates in Seoul (61.1%), Daeju (60.8%) and Gwangju (60.6%) are also over 60%. However, areas like Chungnam (37.6%), Gyeongbuk (41.7%) and Chungbuk (41.8%) stay at around 40%. The main reason is attributed to the fact that, in these areas, there are a large number of farming, fishing and mountain towns with low population density, making it difficult to establish infrastructure such as the collection system or recycling facilities. Out of seven areas with high recycling rates, except for Jeju, six are all classified as special/metropolitan cities. Such a phenomenon is relevant to higher recycling rates in cities than in rural areas, as well as higher rates in apartment complexes than in single-unit housing.

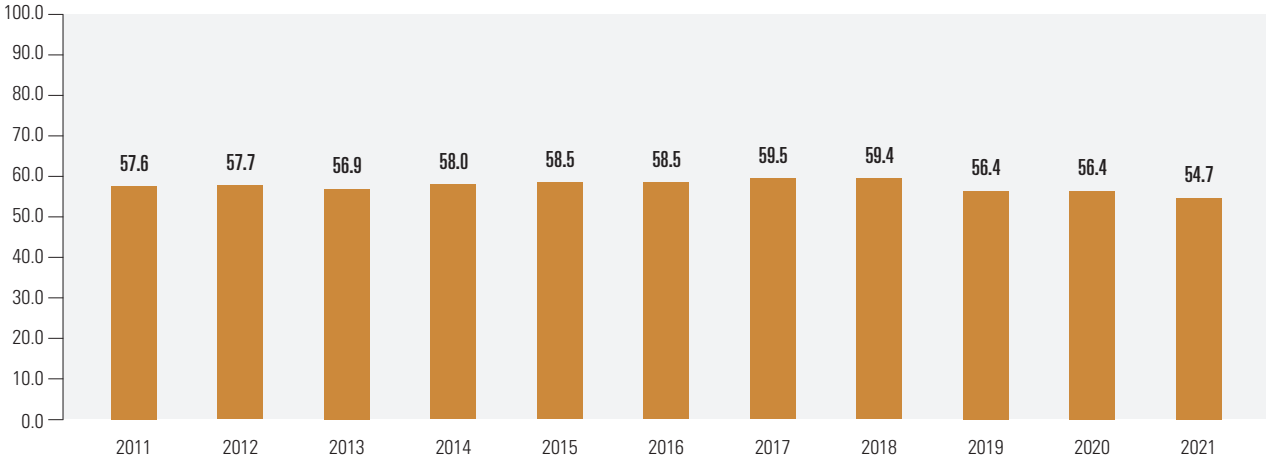


**Recycling Rate of Domestic Waste in Major OECD Countries, 2011~2021** (Unit: %)




Source : UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Sep 10, 2023)
Note : We utilized data from 20 of the 38 OECD member countries for which we have complete time series from 2011 to 2021, with Austria having no data for 2021

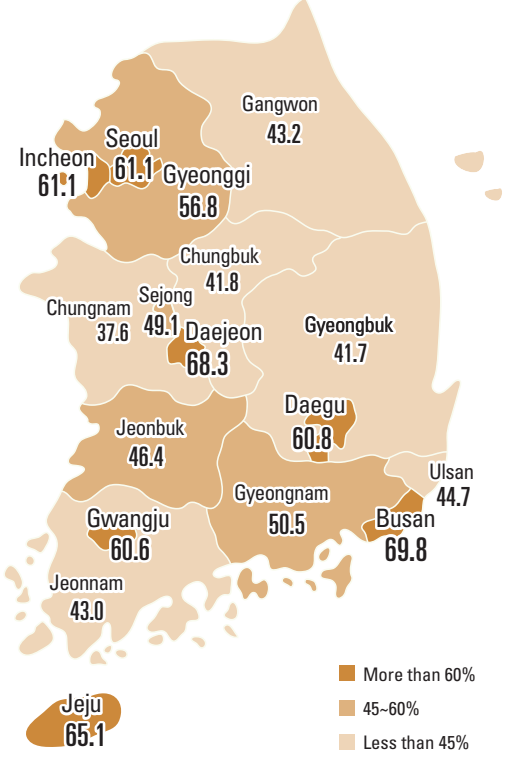
**Recycling Rate of Domestic Waste, 2011~2021** (Unit: %)




Source: Korea Environment Corporation, National Waste Generation and Disposal (https://www.recycling-info.or.kr, retrieved on Sep 10, 2023)

**Recycling Rate of Domestic Waste in Cities and Provinces, 2021**

(Unit: %)




Source: Korea Environment Corporation, National Waste Generation and Disposal (https://www.recycling-info.or.kr, retrieved on Sep 10, 2023)

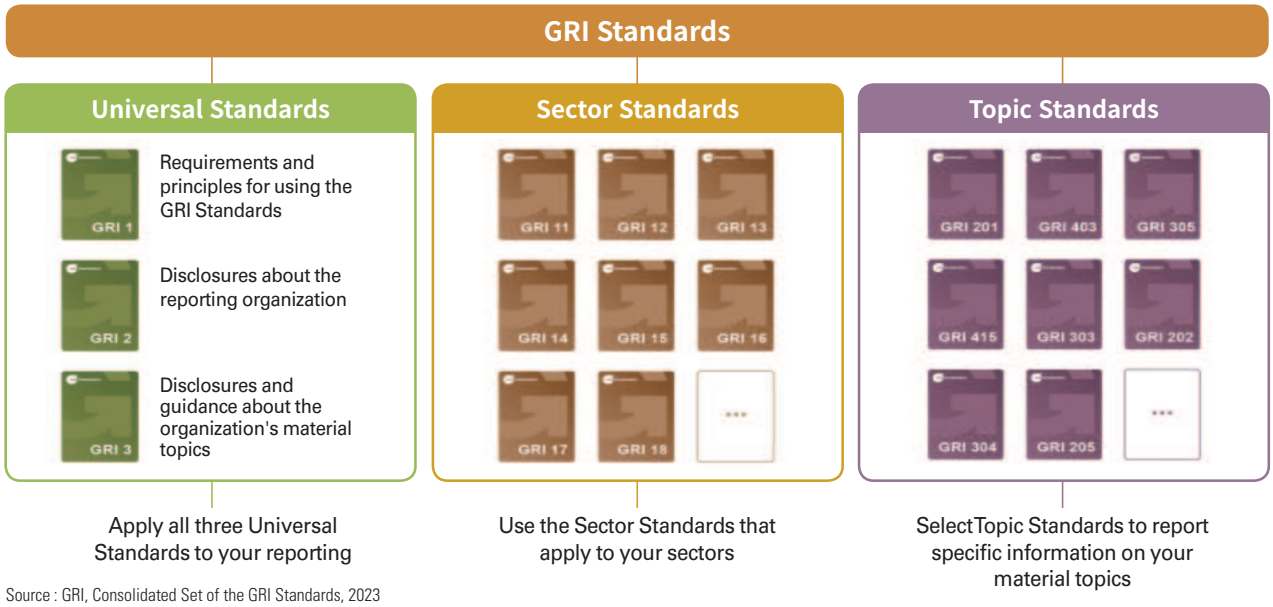
## A significantly increasing number of companies publishing their sustainability reports (SDG 12.6.1)

The Agenda 21, adopted in the 1992 United Nations Conference on Environment and Development, stressed the role of companies and industries including multinational corporations as one of key actors in partnerships for sustainable development. Against this backdrop, SDG 12.6 encourages companies, especially large and multinational corporations, to introduce sustainable work practices and include corporate sustainability information in their regular reporting system. Among the targets of Goal 12, the number of companies publishing sustainability reports (SDG 12.6.1) is the only indicator to measure sustainable actions in the private sector.

The Global Reporting Initiative (GRI) is one of major organizations that develop and distribute international standards applicable to sustainability reports. Addressing three domains of sustainable development, sustainability reports are structured in a way that publicly discloses a company's economic, environmental and social impacts. After the 1st-generation of GRI guidelines were released in 2000, the guidelines were renamed into GRI Standards in 2016 while going through four generations. Currently, the GRI suggests detailed guidelines divided into universal standards, sector standards and topic standards. The GRI reporting system has served as the standard for many companies at home and abroad when creating their sustainability reports.

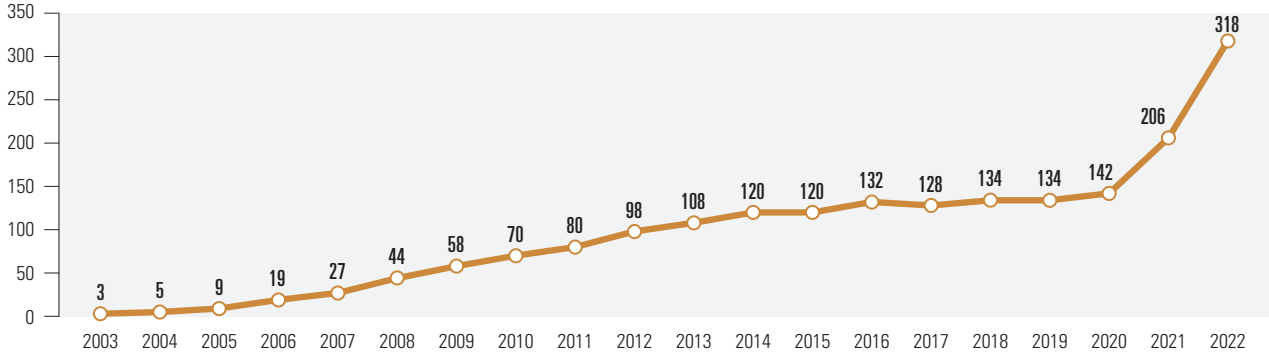
The number of Korean companies publishing sustainability reports gradually increased from the early 2000s through 2020 and has surged since 2021. Until 2005, the number of companies issuing the reports remained in a single digit, but it rose to 50 in 2009 and further jumped to over 100 in 2013. Afterwards, the number amounted to 206 and 318 in 2021 and 2022 respectively. This can be explained by the heightened interest in ESG management at home and abroad and growing

**GRI's Reporting System Regarding Sustainability Reports**




Source : GRI, Consolidated Set of the GRI Standards, 2023

**Companies Publishing Sustainability Reports, 2003~2022** (Unit: Case)




Source : ESG Management Group of Korean Standards Association (https://ksaesg.or.kr, retrieved on Dec 21, 2023)

demands from investors for relevant information, which has made companies with significant overseas presence or those focusing on exports perceive that it is essential to publish sustainability reports. The Korean government plans to obligate companies to publish sustainability reports that disclose ESG information, beginning with large listed companies.

## Korea's sustainable public procurement policies and implementation rated as Medium-High

(➲ SDG 12.7.1)

To assess sustainability of public procurement policies in each country, the United Nations Environment Programme (UNEP) calculates their evaluation scores in the following six sectors: (A) whether to put sustainable public procurement (SSP) policies/plans/regulations in place, (B) the regulatory framework for public procurement, (C) the supportive system for public procurement practitioners, (D) procurement criteria/requirements, (E) whether to have a system to monitor implementation, (F) the ratio (performance) of sustainable public procurement/purchase. The evaluation results are presented in the five levels, as shown in the figure below.

In the assessment of sustainable public procurement implementation conducted in 2022, the United States was the only nation awarded High level. Fifteen countries, including Korea, were rated as Medium-High; thirteen countries as Medium-Low; and two countries, namely the Czech Republic and Spain, as Low. The remaining seven countries are not included as they don't have data or policies available to be evaluated. While Korea was in the level of Medium-Low in 2020, it moved up a level to Medium-High in 2022.

**Levels of Sustainable Public Procurement Implementation in OECD Country**

| Implementation Level | No. of Countries | Name of Country |
|---|---|---|
| High Level | 1 | United States |
| Medium-High Level | 15 | Austria, Belgium, Costa Rica, Finland, France, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, **Korea**, Slovenia, Switzerland |
| Medium-Low Level | 13 | Canada, Chile, Colombia, Denmark, Estonia, Germany, Greece, Israel, Japan, New Zealand, Norway, Sweden, the United Kingdom |
| Low Level | 2 | Czech Republic, Spain |
| Insufficient data provided or No policy or legal instrument explicitely supporting SPP | 7 | Luxembourg, Mexico, Slovakia, Iceland, Türkiye, Hungary, Australia |

Source : UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Sep 10, 2023)

# 13 CLIMATE ACTION

# Take urgent action to combat climate change and its impacts

The Intergovernmental Panel on Climate Change (IPCC) announced in its 6th assessment report that the Earth has already seen a temperature rise of 1.09℃ from the pre-industrial levels and such a change is clearly attributed to human activities. According to the World Meteorological Organization (WMO), major climate change indicators have set new records, such as the concentration of greenhouse gases (GHGs), rising sea levels, sea temperature and marine acidification. As a result, impacts of climate change, including heat waves, floods and droughts, are wreaking havoc on terrestrial, freshwater and marine ecosystems as well as humans. That being said, the IPCC's 6th assessment report emphasizes that the patterns of climate change in the future could vary depending on humanity's current response to climate change and positive future is still expected to come. Now is the time for all countries around the world, including Republic of Korea, to engage in efforts to reduce GHG emissions to achieve carbon neutrality by 2050 and strengthen adaptive capacities to climate change.

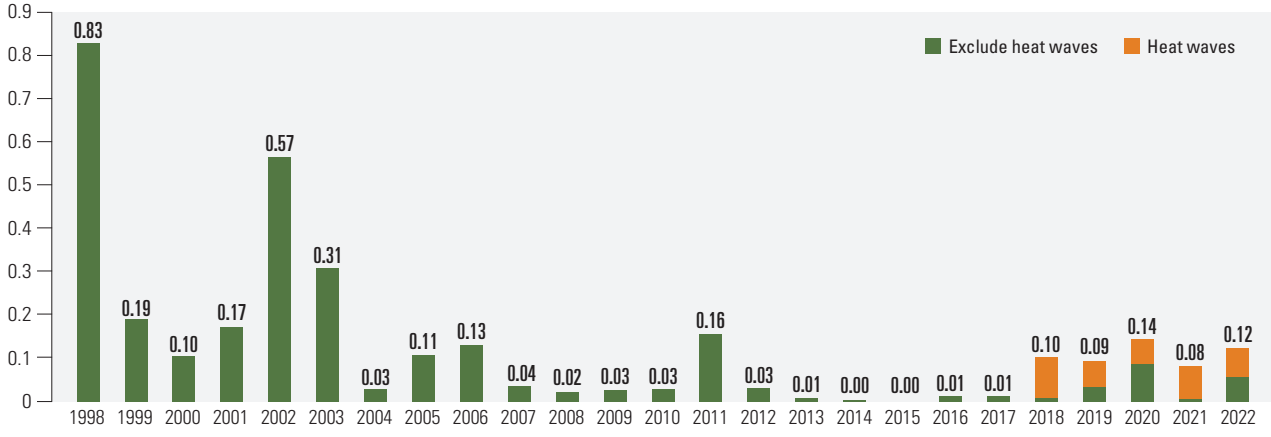
Korea is in the process of implementing its '1st National Basic Plan on Carbon Neutrality and Green Growth' to achieve carbon neutrality by 2050 under the 'Framework Act on Carbon Neutrality and Green Growth to Cope with Climate Crisis.' To respond address rapidly changing climate evolving climate change, it has also developed and implemented its 'The 3rd Enhanced National Climate Change Adaptation Plan Measures' by complementing the existing 'The 3rd National Climate Change Adaptation Plan Measures (2021 to 2025)'. Such efforts to deal with climate change have been joined not only by the central government but also by all the actors, such as metropolitan governments, municipalities, public institutes and the private sector.

### More than half of natural disaster caused by heat waves in 2022 (SDG 13.1.1)

SDG 13.1 aims to strengthen adaptation and resilience to climate-related hazards and natural disasters. Although casualties (the number of deaths and missing persons) affected by natural disasters vary from year to year, there has been a downward trend over the past 20 years. The number of deaths and missing persons per 100,000 population saw a significant decline after relatively high casualties around the year 2000, such as 0.83 in 1998 and 0.57 in 2002. The number hasn't exceeded 0.15 since 2012. In 2022, the number of casualties per 100,000 population was even reported at 0.12. The number has started to increase as deaths attributable to heat waves began to be included in statistics in 2018. Excluding deaths due to heat waves, the number of casualties has not surpassed 0.09 since 2012. This is why more attention and efforts to respond to the heat waves are needed.

The number of deaths and missing persons attributed to heat waves stood at 48 in 2018, followed by a reduction to 30 in 2019 and 29 in 2020, but it again rose to 39 in 2021 and to 34 in 2022. The casualties due to heat waves accounted for 53% out of the total, which is even larger

**Number of Deaths and Missing Persons due to Natural Disasters, 1998~2022** (Unit: No. of persons per 100,000 population)



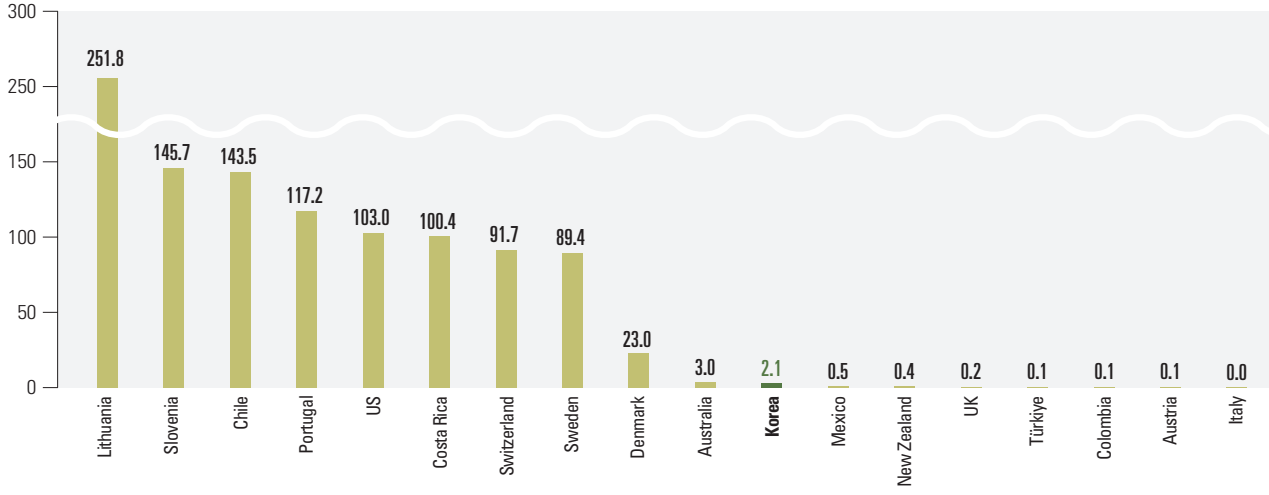

Source : Ministry of Public Administration and Security, Disaster Yearbook (National Disaster Statistics, https://www.safekorea.go.kr, retrieved on Jan 10, 2024)
Note 1 : The number of missing persons and deaths due to natural disasters per year is calculated by dividing it by the estimated population
Note 2 : Casualties due to heat waves have been added since 2018

**Number of Deaths and Missing Persons by Type of Natural Disasters, 2013~2022** (Unit: Case)

| Category | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Ave. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Heavy Rain | 4 | 2 | - | 1 | 7 | 2 | - | 44 | 3 | 19 | 8.2 |
| Typhoon | - | - | - | 6 | - | 2 | 18 | 2 | - | 11 | 3.9 |
| Typhoon/ Heavy Rain | - | - | - | - | - | 1 | - | - | - | - | 0.1 |
| Heavy snow | - | - | - | - | - | - | - | - | - | - | 0 |
| Heat wave | Not calculated | | | | | 48 | 30 | 29 | 39 | 34 | 36.0 |
| Total | 4 | 2 | 0 | 7 | 7 | 53 | 48 | 75 | 42 | 64 | 30.2 |

Source : Ministry of Public Administration and Security, Disaster Yearbook (National Disaster Statistics, https://www.safekorea.go.kr, retrieved on Jan 10, 2024)
Note : The number of human casualties (48) due to the heat wave in 2018 is based on data submitted by the Climate Disaster Response Division of the Ministry of the Interior and Safety, and the number of human casualties due to the heat wave from 2019 to 2022 is based on Statistics Korea's 'Cause of Death Statistics'

**Casualties per 100,000 Population due to Disasters by OECD Country, 2021** (Unit: No. of persons per 100,000 population)




Source : UN, SDG Indicators Database (https://unstats.un.org/sdgs/dataportal/database, retrieved on Jan 11, 2024)
Note1 : Includes damage caused by both natural and social disasters
Note2 : In addition to deaths and missing persons, this includes directly affected persons
Note3 : Data of the year 2020 was used for the United States, Switzerland, Sweden, Denmark, Korea, the UK and Italy

than all deaths and missing persons due to other disasters combined. In August 2018, phenomenal heat waves were recorded in Seoul, Hongcheon and Uiseong, with high temperatures of 39.6℃, 41.0℃, and 40.4℃ respectively. Worryingly, natural disasters are expected to increase in intensity and frequency. It is necessary to make multifaceted efforts to enhance climate adaptive capacities.

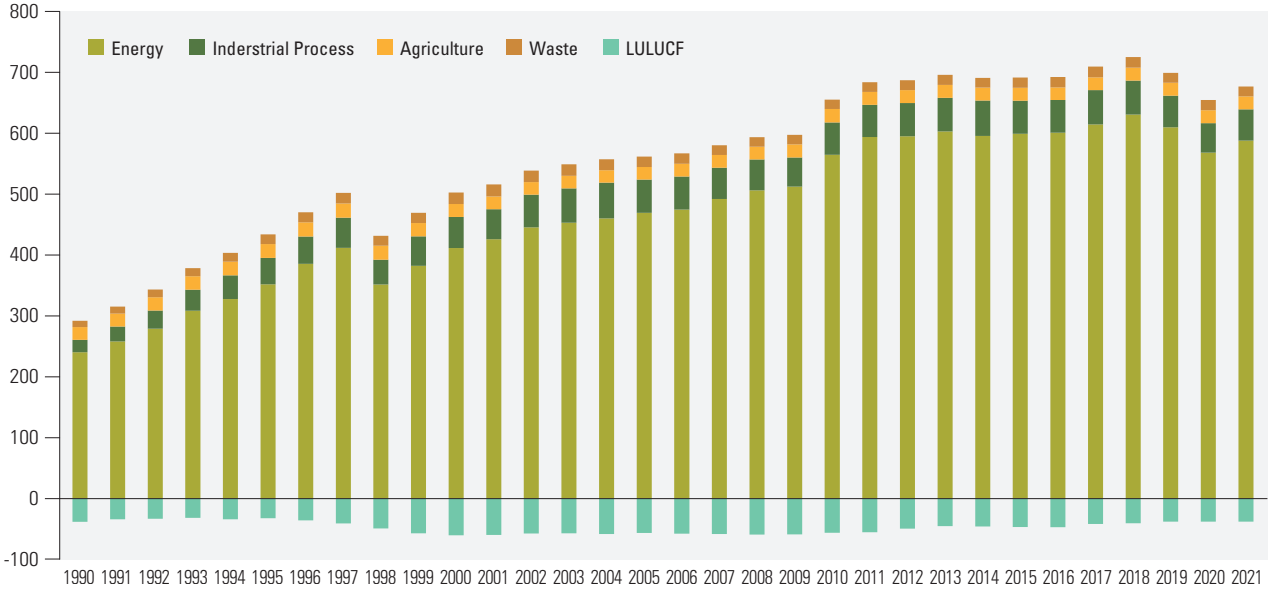
Among OECD countries, Lithuania recorded the highest casualties at 251.84 (deaths, missing persons and directly affected persons) per 100,000 population due to disasters, followed by Slovenia (154.70), Chile (143.52), Portugal (117.16), the United States (102.98), Costa Rica (100.41), Switzerland (91.72), Sweden (89.35), Denmark (22.95) and Australia (3.04). With 2.09 casualties in 2020, Korea ranked 11th out of 18 countries with data available in 2020 or 2021. The casualties stood at only 1.0 or fewer in the rest of countries.

### Again rising GHG emissions in 2021 (SDG 13.2.1)

In Korea, total greenhouse gas emissions in 2021 rose by 3.4% y-o-y, reaching 676.65 million tCO2eq. This increase comes after a decline for the two consecutive years following the peak recorded in 2018. Despite a decrease of 6.7% compared to the peak of 725.03 million tCO2eq. in 2018, emissions increased by 131.6% vis-a-vis 292.11 million tCO2eq. in 1990. GHG emissions rose across the globe in 2021. It has been analyzed that greenhouse gas emissions were on the increase due to recovery of production activities in industries and a surge in travel demands compared to 2020 during the pandemic, such as a 7.6% increase in the index of industrial production and a 7.0% rise in highway traffic.

Given the ratio of emissions by sector, energy accounted for 86.9% (587.73 million tCO2eq.), followed by 7.6% from other industrial processes (51.40 million tCO2eq.),

**GHG Emissions by Sector, 1990~2021** (Unit: million tCO2eq.)




Source : Ministry of Environment, Greenhouse Gas Inventory and Research Center, 2023 National GHGs Inventory Report (https://www.gir.go.kr, retrieved on Jan 10, 2024)

3.2% from agriculture (21.41 million tCO2eq.), and 2.4% from waste (16.10 million tCO2eq.). The ratio increased by 3.5%, 5.9% and 1.1% from the previous year in the sectors of energy, industrial processes and agriculture respectively while it went down by 3.5% in the waste sector.

In the energy sector, emissions saw an increase of 3.5% from 2020 due to growth of production and fuel consumption mainly for manufacturing, power generation and transport. In manufacturing, the total emissions rose by 12.64 million tons (7.0%), consisting of 7.26 million tCO2eq. from petrochemicals and 3.81 million tCO2eq. from steel. The power generation sector is estimated to have experienced an increase of 2.37 million tCO2eq. from the previous year due to the recovery of industrial activities and a subsequent increase in power demands. Although the amount of power generated rose by 4.5%, GHG emissions increased by only 2.6% on the back of policy efforts, such as a reduction in conventional power generation from coal, operation of highly efficient and new coal-fired facilities, increased power generation from LNG with the relatively low emission intensity (13%), and expansion of renewable energy generation. The transport sector recorded a growth of 2.74 million CO2eq. from the previous year due to a 5% increase in gasoline and a 2% increase in diesel respectively, under the phased measures for the recovery of daily life from the COVID-19 pandemic. In the commercial, public and household sectors, a cold snap pushed up the consumption of urban gas, resulting in an increase of 370,000 tCO2eq. from the previous year.

The GHG emissions from industrial processes are estimated to have reached 51.40 million tCO2eq., up by 5.9% from the previous year owing to the increased production of cement and semiconductors. The agricultural sector also emitted 21.41 million tCO2eq., an increase of 1.1% from the previous year, which is attributed to an increase in the number of domestic livestock offset by a decrease in arable areas. Despite an increase in waste generated, emissions in the sector decreased by 3.5% y-o-y to 16.10 million tCO2eq. due to a rise in the recycling rate and a decline in cumulative landfill volumes.

In 2021, the Land Use, Land Use Change and Forestry (LULUCF) sector contributed to a total emission removal of 41.10 million tons. Among these, forests accounted for 40.39 million tons, marking a decrease of 130,000 tons (0.3%) from the previous year. Although the removals themselves increased from the previous year due to a slowdown in forest area reduction and a decline in the areas affected by wildfires, the total amount turned into a decline due to a reduced change in growing stocks. Korea is known to have a high proportion of forests, ranking 4th in terms of

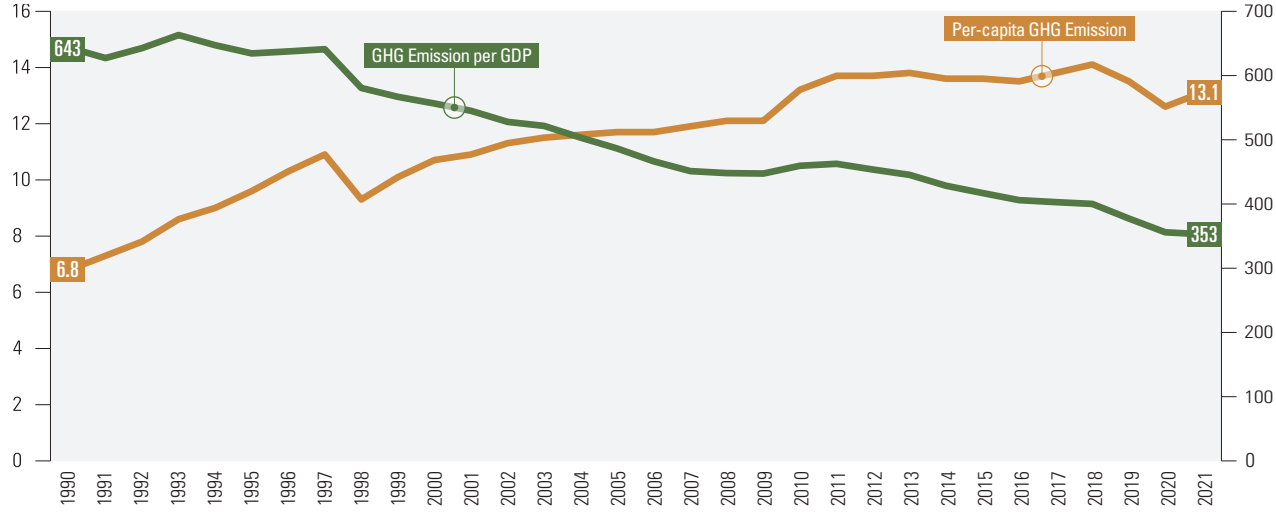
the ratio of forests to the national territory among OECD countries. The Korean government has pushed forward policies to expand the afforestation areas, increase the area of forest tending, create urban forests in the living space and boost the production of forest biomass, so as to actively take advantage of forest sinks. In addition, efforts are underway to expand blue carbon by creating ocean forests, establishing tidal flat vegetation and designating marine protected areas.

The per-capita GHG emissions also turned to an upward trend, recording 13.1 tCO2eq. in 2021. This is an increase of 3.6% from 12.6 tCO2eq. in the previous year, which is attributed to a 3.4% increase in the total emissions despite a 0.2% decline in the population year-on-year. Like the total emissions, the per-capita GHG emissions reached the peak in 2018, followed by a decrease for the two consecutive years. However, they shifted back to growth in 2021 owing to a rise in the total emissions and a decline in the population in 2021.

With 352.7 tCO2eq. per billion KRW in 2021, the GHG emissions per GDP again experienced a long-term reduction despite the economic recovery. Korea's GDP increased by 4.3% y-o-y following the economic recovery from COVID-19 whereas emissions rose by only 3.4%, indicating an improvement in the emission intensity.

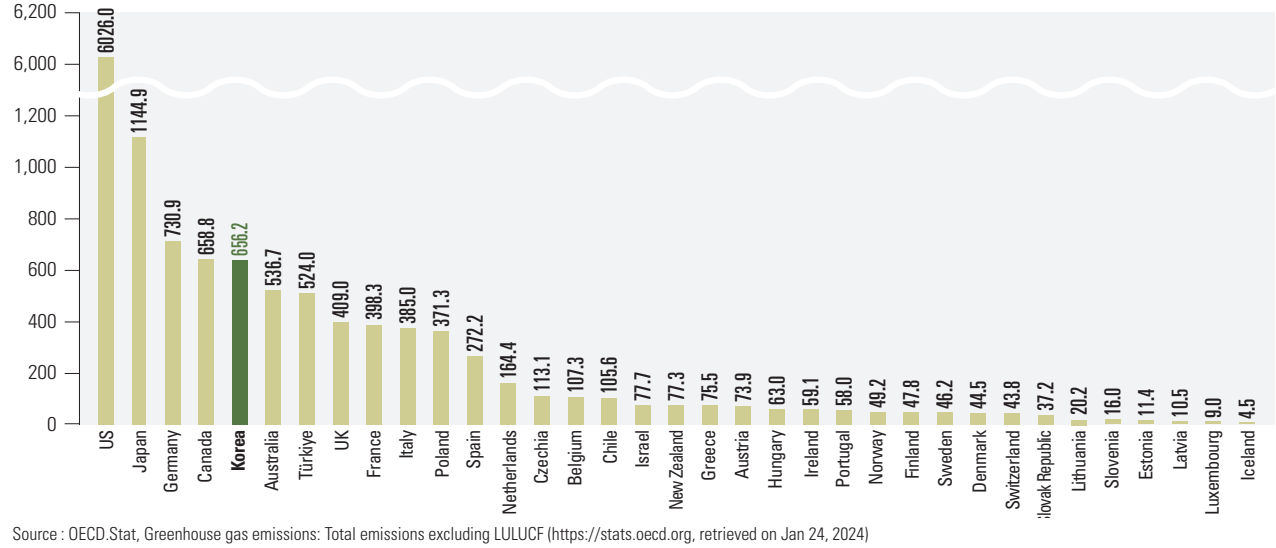
In comparison with OECD countries in 2020, Korea

**GHG Emissions per Capita and GDP, 1990~2021** (Unit: tCO2eq./person, tCO2eq./billion KRW)




Source : Ministry of Environment, Greenhouse Gas Inventory and Research Center, 2023 National GHGs Inventory Report (https://www.gir.go.kr, retrieved on Jan 10, 2024)

**Total GHG Emissions by OECD Country, 2020** (Unit: million tCO2eq.)



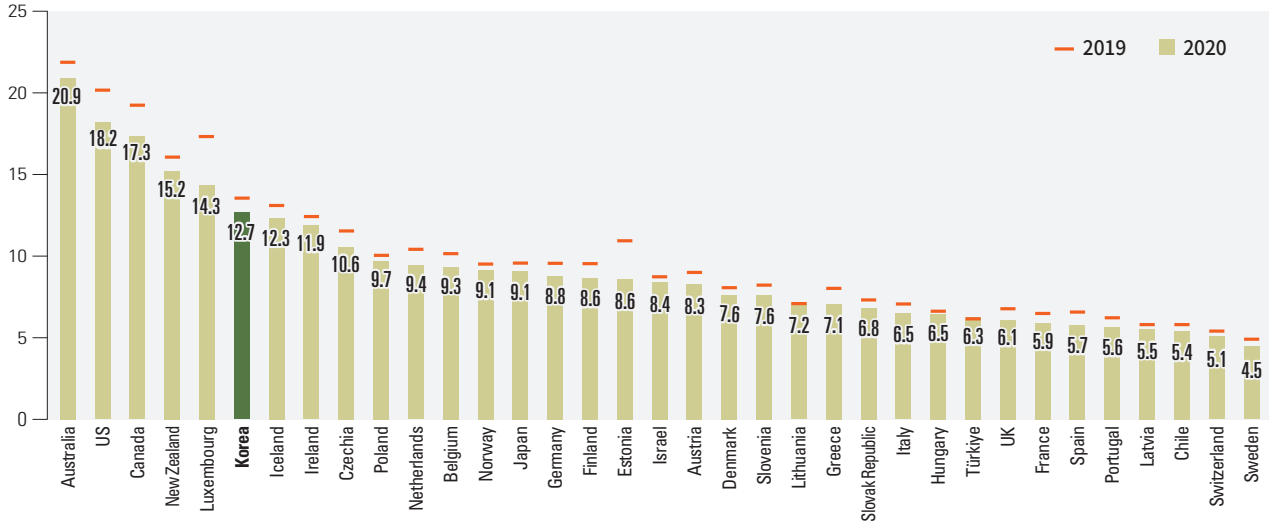

Source : OECD.Stat, Greenhouse gas emissions: Total emissions excluding LULUCF (https://stats.oecd.org, retrieved on Jan 24, 2024)

ranked 5th in terms of total GHG emissions after the United States (6,025.97 million tCO2eq.), Japan (1.144.93 million tCO2eq.), Germany (730.92 million tCO2eq.) and Canada (658.79 million tCO2eq.). While it appears that Korea moved up in the ranking from 6th to 5th, there was no shift in the actual ranking since data of Mexico, the 4th largest emitter in 2019, was not included in the calculations.

In terms of per-capita GHG emissions in the same year, Korea stood at 12.66 tCO2eq., coming in 6th place following Australia (20.89 tCO2eq.), the United States (18.18 tCO2eq.), Canada (17.32 tCO2eq.), New Zealand (15.19 tCO2eq.) and Luxemburg (14.32 tCO2eq.), which is the same ranking as the previous years'. Compared to 2019, the per-capita GHG emissions decreased in all countries, except for Türkiye and Lithuania.

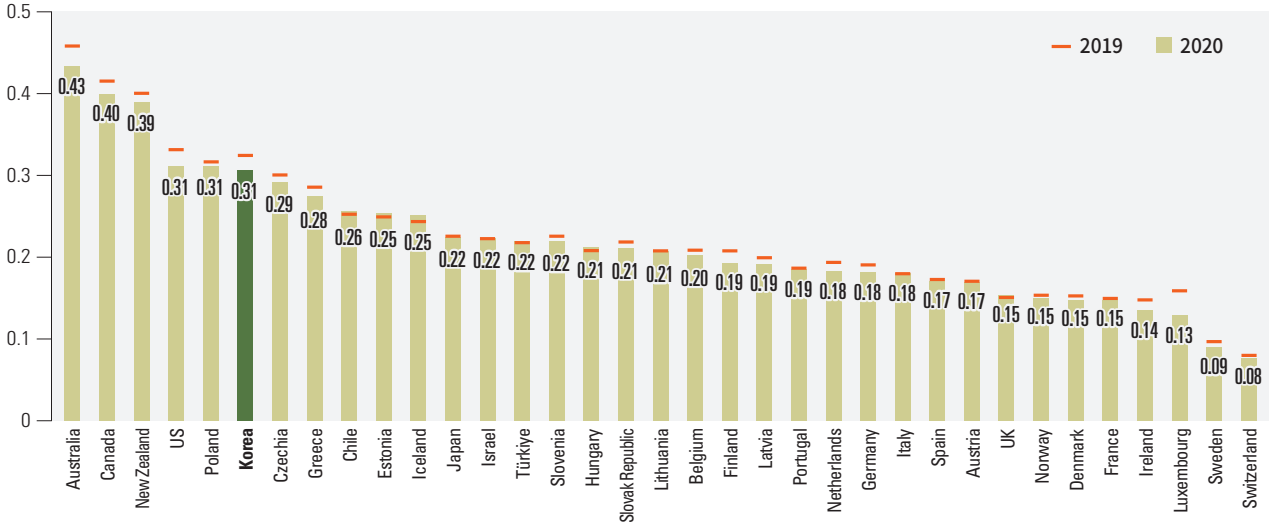
Korea has the 6th largest GHG emissions per 1,000 dollars of GDP after Australia (0.434 tCO2eq.), Canada (0.399 tCO2eq.), New Zealand (0.389 tCO2eq.), Poland and the United States (0.311 tCO2eq. each). Compared to 2019, all countries saw a reduction in their GHG emissions per GDP, excluding Iceland, Hungary, Chile, Türkiye, the United States, Italy and UK. With Poland rising up to 4th from 6th place in the previous year, Korea's emission ranking per GDP changed for the better to 6th from 5th in the previous year.

**Per capita Total GHG Emissions by OECD Country, 2020** (Unit: tCO2eq./person)




Source : OECD.Stat, Greenhouse gas emissions: Total GHG excl. LULUCF per capita (https://stats.oecd.org, retrieved on Jan 24, 2024)

**Total GHG Emissions per GDP by OECD Country, 2020** (Unit: tCO2eq./1,000 dollars)




Source : OECD.Stat, Greenhouse gas emissions: Total GHG excl. LULUCF per unit of GDP (https://stats.oecd.org, retrieved on Jan 24, 2024)

# 14 LIFE BELOW WATER

# Conserve and sustainably use the oceans, seas, and marine resources for sustainable development

Although plastics are useful in industries and our daily life, they remain in nature for a long time, causing various issues. About 80% of plastics in the ocean come from land (Meijer et al., 2021), and fishing nets (fishing gear) also generate plastic waste in the sea. As ocean plastics pose a serious threat to marine ecosystems, urgent action is required to solve the issue of ocean plastic pollution. The international community has endeavored to devise international norms to combat plastic pollution. In September 2023, the UN Environment Assembly (UNEA) announced its draft version of Global Plastics Treaty and agreed to sign a legally enforceable treaty by 2024. The Plastics Treaty is expected to contain measures to cut back pollution at all stages ranging from plastic production to use and consumption.

Along with marine waste collected returning to an upward trend in Republic of Korea, the plastic ratio out of marine waste has exceeded 90% for the first time. While the size of marine protected areas has been gradually increasing, such as 'Korean tidal flats', including Shinan Tidal Flats on the western coast, designated in July 2021 as UNESCO world heritage, the ratio remains at 1.81% in the jurisdictional waters. More efforts are needed to reach the global target of 30%.

To conserve marine ecosystems, it is necessary to sustainably manage fishing activities and fish stocks. The number of illegal, unreported and unregulated (IUU) fishing activities in Korea has been maintained at three or fewer for the recent years. There are also ongoing efforts to enhance sustainability of fisheries by implementing the Total Allowable Catch (TAC) scheme in full scale by 2027.

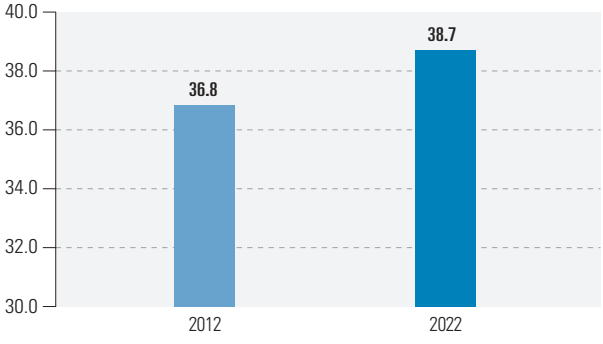
## Biodiversity protected areas growth is weak

**(SDG 14.5.1)**

Marine protected areas refer to the protected areas designated in the ocean. The size of protected areas can significantly vary depending on which types of protected areas are included. SDG 14.5.1 indicates the proportion of protected areas relative to marine areas, measured as the average share of marine key biodiversity areas that are designated as protected. A key biodiversity area (KBA) is defined as an area which key biological species inhabit, and its criteria are determined by the International Union for Conservation of Nature (IUCN). In Korea, these areas are mainly designated around migratory bird sanctuaries, such as major river estuaries, Muan tidal flats and Cheonsuman Bay. The ratio of these sites designated as a protected area increased from 36.8% in 2012 to 38.7% in 2022. However, the ratio falls far below the OECD average (64.2%) of 32 coastal countries. Korea ranks 26th out of 32 countries in terms of marine protected area coverage.

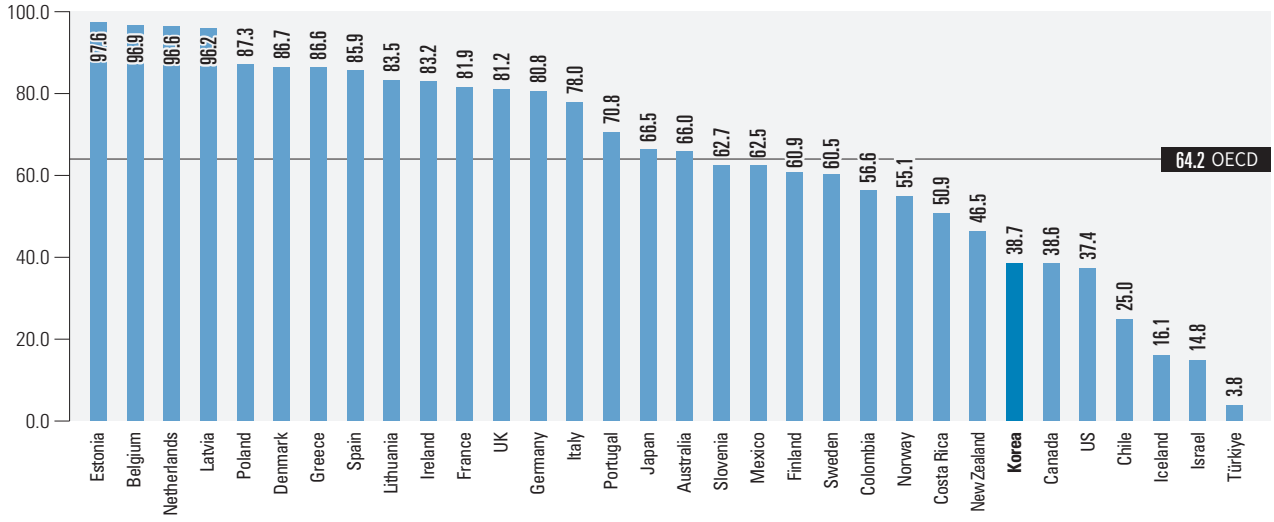
When calculated based on the domestic marine area (jurisdictional waters), the ratio of marine protected areas drops to a very low 1.81%. The OECD average stands at 19.2%, and with a marine protected area of 7,952㎢, Korea ranks 28th out of 32 member countries. This data is sourced from the Korea Database on Protected Areas (KDPA) or the World Database on Protected Area (WDPA). In the data, 'marine protected areas' refer to a wide range of marine protected areas encompassing environmental conservation waters, fishery-resources protected areas, natural environment conservation areas, marine/coastal national parks, provincial parks and natural monuments, as well as marine protected areas and wetland protected areas under the Conservation and Management of Marine Ecosystem Act. It is also very encouraging that the international community has resolved to expand the marine protected areas to 30% by 2030 and Korea has also joined this initiative. However, the current percentage of designated areas falls a lot below the 30% target. In response, the Ministry of Oceans and Fisheries has sought to expand marine protected areas by newly designating marine protected areas and implementing other effective areas-based conservation measures (OECM).

**Coverage of Protected Areas in Relation to Marine Key Biodiversity Areas, 2012, 2022** (Unit: %)



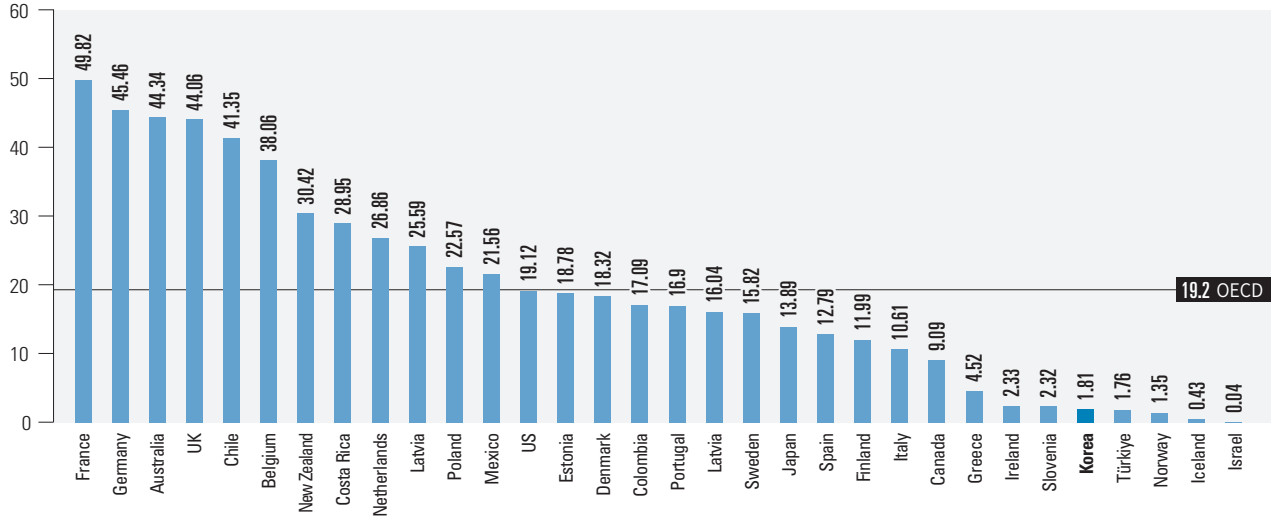

Source : UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Sep 12, 2023)

**Coverage of Protected Areas in Relation to Marine Key Biodiversity Areas by OECD Country, 2022** (Unit: %)




Source : UN SDG Indicators database (https://unstats.un.org/sdgs/dataportal, retrieved on Sep 12, 2023)
Note : Percentage of area designated as protected as a Key Biodiversity Area (KBA) as defined by IUCN

**Marine Protected Area Coverage, 2023** (Unit: %)



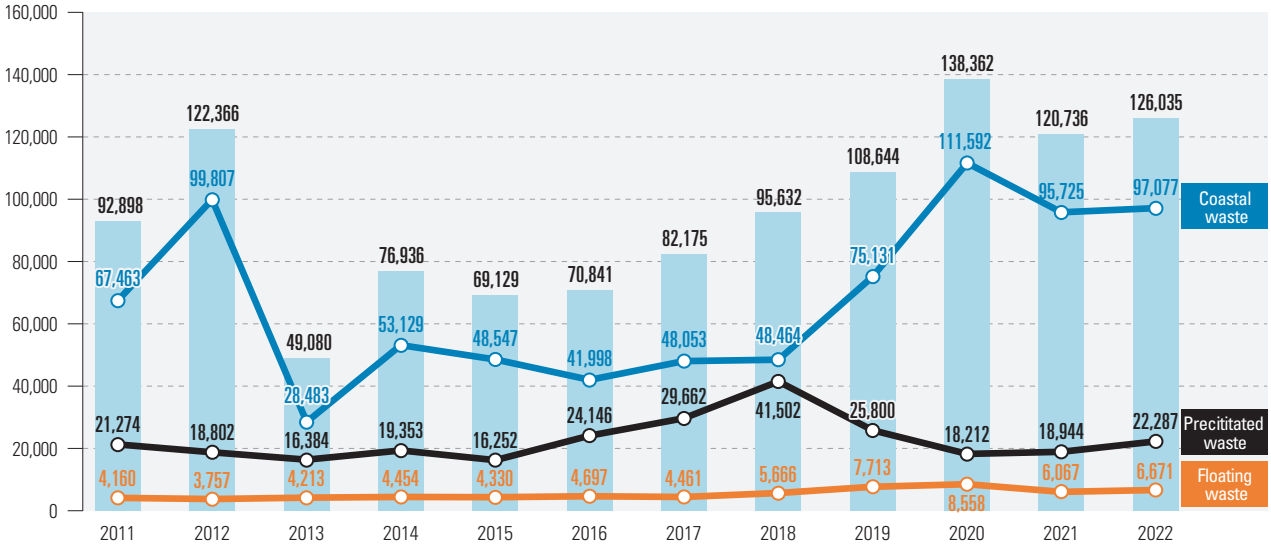

Source : UNEP-WCMC, Protected Area Profile for each country from the World Database on Protected Areas, October 2023 (www.protectedplanet.net, retrieved on Oct 31, 2023)
Note : Percentage of area designated as a protected area in Korea's maritime (jurisdictional) waters, based on KDPA

## A steady increase in coastal plastic waste generated (SDG 14.1.1)

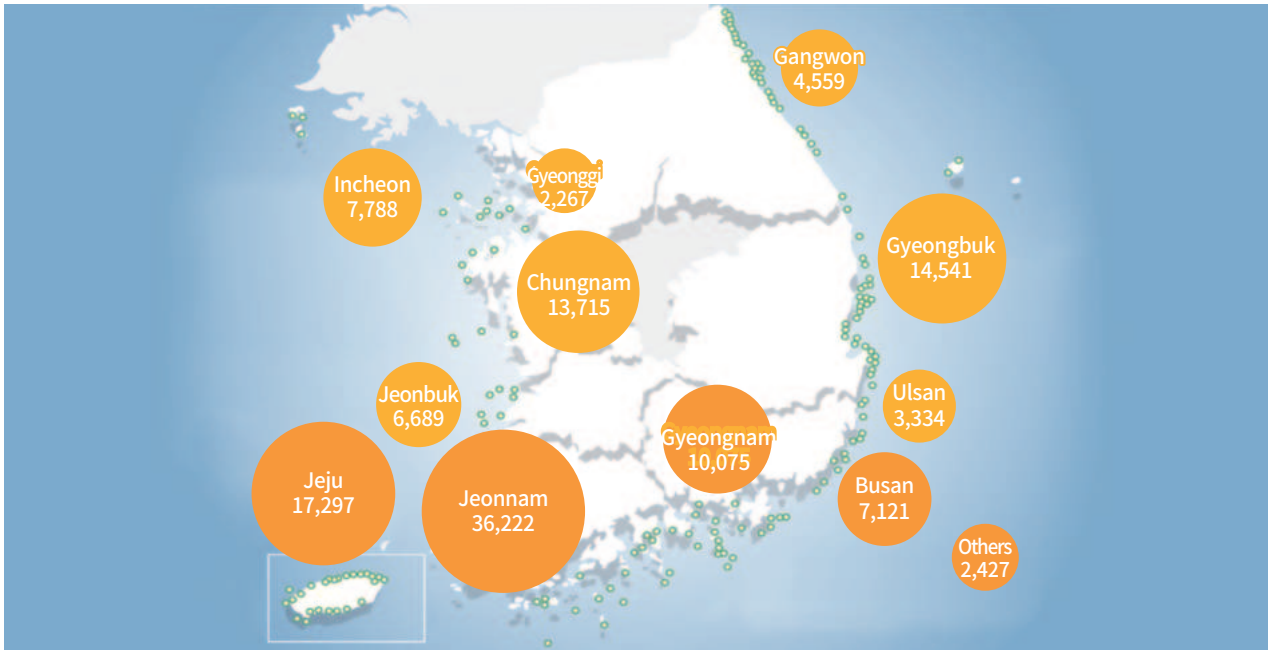
Except for a reduction in 2021, the amount of marine waste collected has been on an increase each year since 2015. The total waste collected stood at 126,035 tons in 2022, consisting of 97,077 tons of coastal waste, 22,287 tons of precititated waste and 6,671 tons of floating waste. A high amount of waste was collected in the following regions: 36,222 tons in Jeonnam, 17,297 tons in Jeju, 14,541 tons in Gyeongbuk and 13,715 tons in Chungnam. It appears that more waste was 'collected' in these areas with relatively long coastal lines, rather than the waste being 'generated' there.

Meanwhile, according to the National Marine ecosystem Monitoring program, out of the total coastal waste, the plastic waste (based on the number of wastes) has accounted for more than 80% since 2018, surpassing the 90% mark for the first time in 2022. The program is an ongoing national project of Korea to monitor coastal waste, where waste is collected from 60 coastal areas nationwide once every two months, and types of waste are classified into plastic, paper, timber and metal.

**Amount of Marine Waste Collected, 2011~2022** (Unit: tons)




**Amount of Marine Waste Collected by Region, 2022** (Unit: tons)




Source : Korea Marine Environment Management Corporation, Marine Environment Information System (https://meis.go.kr, retrieved on Sep 12, 2023)

**Status of Plastic Waste out of Total Coastal Waste, 2018~2022** (Unit: No. of Wastes, kg, %)

| Category | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| No. of Plastics | 25,971 | 24,639 | 26,867 | 110,107 | 165,876 |
| Ratio of Plastics to the Total Coastal Waste (%) | 81.6 | 80.2 | 83.4 | 88.5 | 91.0 |
| Plastic Weight (kg) | 2,585.1 | 1,698.6 | 1,014.9 | 2,899.4 | 2,136.7 |
| Ratio of Plastic Weight to the Total Coastal Waste (%) | 58.8 | 62.9 | 46.0 | 51.3 | 49.2 |

Source : Korea Marine Environment Management Corporation, Marine Environment Information System (https://meis.go.kr, retrieved on Sep 12, 2023)
Note : Years were limited from 2018 to 2022 based on the national coastal waste monitoring data to ensure consistency in survey methods. The nationwide survey was conducted on 40 locations from 2018 to 2020 and on 60 locations from 2021 to 2022

### Korea as a country ratifying and implementing the UN Convention on the Law of the Sea (SDG 14.c.1)

The United Nations Convention on the Law of the Sea (UNCLOS) is a comprehensive law governing maritime affairs, including conservation of marine ecosystems, rights and duties for the use of marine resources, marine technologies and procedures for conflict reconciliation. Adopted in 1982, it came into effect in 1994. It has currently been ratified by 169 countries (as of Oct 2023). The Korean government signed the convention in 1983, and the national assembly also ratified it in 1996. From the perspective of SDG 14.c.1, it serves as a legal framework for all activities occurring in the ocean, including conservation of marine resources and sustainable use. SDG 14.c.1 measures the number of countries making progress in ratifying, accepting and implementing, through legal, policy and institutional frameworks, two implementation agreements under the UNCLOS.

These two agreements are Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (ratified by 152 countries, including Korea, which also ratified the UNCLOS; referred to as Part XI Agreement) and Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (adopted in 1995 and effective from 2001, ratified by 93 countries, ratified by Korea in 2008; hereinafter referred to as UN Fish Stock Agreement). The Part XI Agreement defines the deep seas as universal heritage of mankind while the UN Fish Stock Agreement mainly contains regulations on high-sea fisheries.

### Compliance with international standards for deep-sea fisheries (SDG 14.6.1)

In order to sustainably use marine resources, especially fish stocks, it is necessary to maintain healthy ecosystems which fish inhabit and ensure that humans' fishing activities should not lead to a reduction in fish stocks. As fish are naturally born, grow and reproduce, sustainable use of fish stocks can be achieved if fish are caught as much as they reproduce. However, humans' fishing activities are an economic activity for profits. If we minimize the spending on fishing activities and increase catch to the maximum, we can maximize profits; however, fish stocks cannot be sustainably maintained. Thus, SDG 14.6 bans fishing subsidies that contribute to illegal, unreported and unregulated (IUU) fishing and overcapacity and overfishing and refrains from new introduction of similar subsidies. To this end, an indicator has been established to measure the extent to which international norms are implemented to eradicate IUU fishing. That being said, it is very challenging in real life to measure the implementation degree of various international norms. Nevertheless, all countries are required to sincerely implement the international norms adopted to put an end to IUU fishing.

In relation to this, analyzed was the number of IUU fishing activities by Korean deep-sea fishing vessels. As the deep-sea fisheries cover fishing activities in high seas or other countries' exclusive economic zone (EEZ), relevant international norms must be implemented. The count of IUU fishing by Korean deep-sea fishing vessels has remained at three or fewer each year, except for multiple occurrences in 2011, 2013 and 2015. In particular, there has been only one case each year since 2019 when three cases occurred. This indicates that Korea's deep-sea fisheries have been conducted in line with international criteria and highlights Korea's high level of compliance with international norms.

### Full-fledged implementation of Total Allowable Catch (TAC) to all fishing vessels by 2027 (SDG 14.4.1)

SDG 14.4.1 indicates the scale of fish stocks on the

**Number of IUU Fishing Occurrence by Korean Deep-sea Fishing Vessels, 2010~2021**

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Occurrence | 2 | 17 | 1 | 27 | 3 | 15 | None | 2 | None | 3 | 1 | 1 |

Source : Ministry of Oceans and Fisheries (MOF), Survey on the Current State of Deep-sea Fisheries, p.142, MOF's internal materials

biologically sustainable levels. In other words, it refers to the ratio of fish stocks within sustainable levels out of total fish stocks. It is necessary to properly manage fish stocks, in order to sustainably maintain fish stocks to a certain amount. The management of fish stocks is divided into three regulations, including input regulations that restrict various input elements needed for fishing activities, output regulations that put a limit on catch, and technical regulations that control catch seasons and fish sizes.

In Korea, the Total Allowable Catch (TAC) is a major regulatory instrument that controls outputs. It ensures sustainable management of fish stocks by establishing the annual total allowable catch (TAC) per fish species. Introduced in 1999 with just four species, the number of managed fish species expanded to 16 in 2023. It is applied to only 17 types of business that catch these corresponding fish species. In terms of output management, this is only half of the fishery production in the entire coastal areas.

In September 2023, the Ministry of Oceans and Fisheries announced its plans, through 'Fishery Advancement Measures', to implement the TAC on a full scale to all fishing vessels by 2027. It is to promote qualitative growth by sustainably managing all fish species that can be caught by fishing vessels, beyond quantitative expansion of fish species subject to TAC. By doing so, it is expected to restore fish stocks and lead to higher fishery productivity in the long term.

**Fish Species Subject to Total Allowable Catch (TAC), 1999, 2023**


Source : Korea Fisheries Resources Agency, Introduction of TAC (https://www.fira.or.kr, retrieved on Oct 06, 2023)



**Definition**

- **Straddling Fish Stocks** : Fish inhabiting high seas and exclusive economic zones (EEZ) of coastal countries, including pollack, cod and squid
- **Highly Migratory Fish Stocks** : Fish with a wide range of activities, extensively traversing high seas and exclusive economic zones (EEZ) of coastal countries, including tuna, mackerel pike and sharks
- **Other Effective Area-based Conservation Measures (OECM)** : Areas contributing to conservation of ecosystems, adopted in the Kunming-Montreal Global Biodiversity Framework (2022) with an aim to expand the ratio of protected areas and OECM to 30%, although they are not designated as a protected area

# 15 LIFE ON LAND

# Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 15 aims to ensure conservation and promotion of biodiversity and genetic diversity as well as sustainable use and management. However, the assessment reports of relevant agreements under the United Nations Environment Programme (UNEP) predicted that at the current pace, it would be very challenging to achieve this goal (GBO-5, 2020; IPBES, 2019). The 5th Global Biodiversity Outlook (GBO-5), the global assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019), and the assessment report of the Intergovernmental Panel on Climate Change (IPCC, 2023) all mention climate change, biodiversity loss, environmental pollution and resulting land degradation as major drivers of the current environmental issues. In these reports, experts pinpoint that the land-use changes due to human activities are the main culprit causing climate change and biodiversity loss. The IPBES-IPCC Joint Workshop Report (Pörtner et al., 2021) stated that 77% of the land has been transformed under the direct influences of human activities and predicted that 83% of wild mammals (based on biomass) has been lost due to habitat loss, potentially making a large number of species endangered down the road. All of these reports emphasize the need for ambitious and innovative changes, so as to reverse the current trend of declining biodiversity.

Relevant agreements under the UNEP have proposed challenging goals to conserve terrestrial ecosystems and ensure sustainable use. In 2022, the Convention on Biological Diversity (CBD) adopted '2021-2030 Kunming-Montreal Global Biodiversity Framework', taking initiative to innovative changes in the international community for conservation of biodiversity and ecosystems for the next 10 years after 2020. In particular, it has adopted very challenging goals to expand protected areas on both land and sea to 30% of the total land by 2030, restore 30% of the damaged ecosystems, and implement biodiversity-based spatial planning in all national land plans. The 2021 Glasgow Climate Pact under the UNFCCC stressed conservation and restoration of forest ecosystems to deal with climate change. The International Union for Conservation of Nature (IUCN) and the 5th UN Environment Assembly (UNEA-5, 2022) presented the nature-based solutions based on conservation and restoration of ecosystems and sustainable use/management as a way to respond to climate change. On top of that, the EU announced challenging goals and laid strong institutional foundations for conservation and protection of ecosystems through the establishment of EU Biodiversity Strategies in 2021 and the enactment of the EU Nature Restoration Law in 2023.

Despite a significant increase in areas under sustainable forest management since 2000, Korea's Red List Index has been on a steady decrease, with no further expansion of protected areas for biodiversity. More ambitious and active actions are required to conserve terrestrial ecosystems and ensure sustainable use.



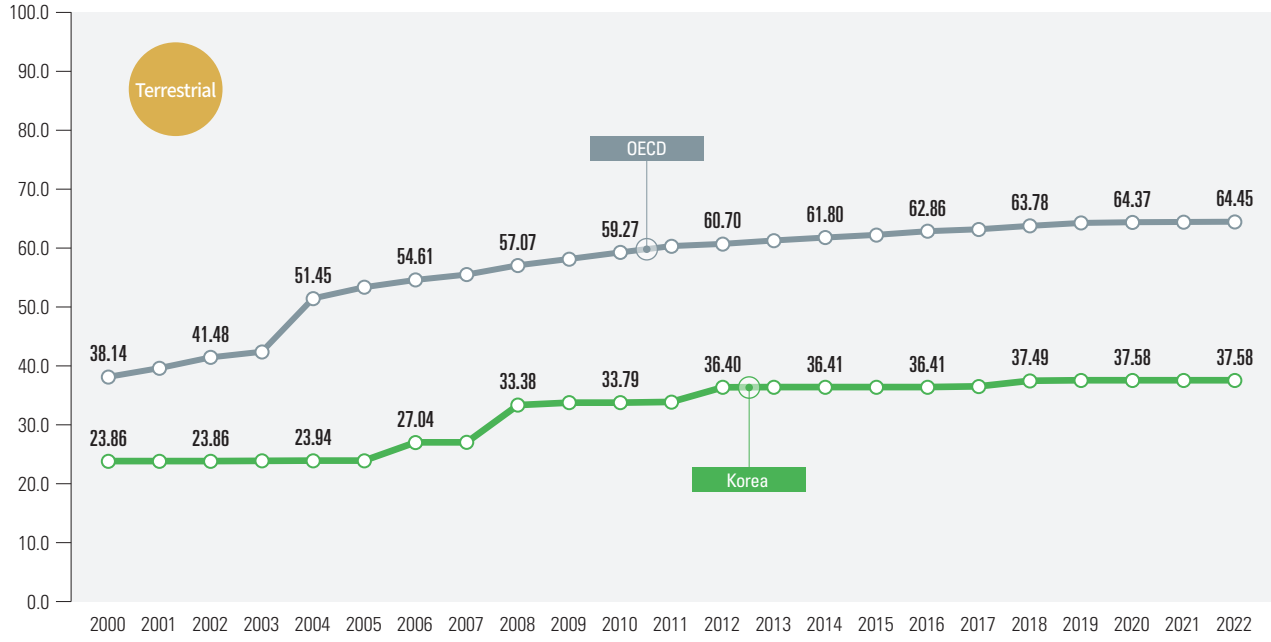
### Terrestrial biodiversity protected area growth has stalled (SDG 15.1.2)

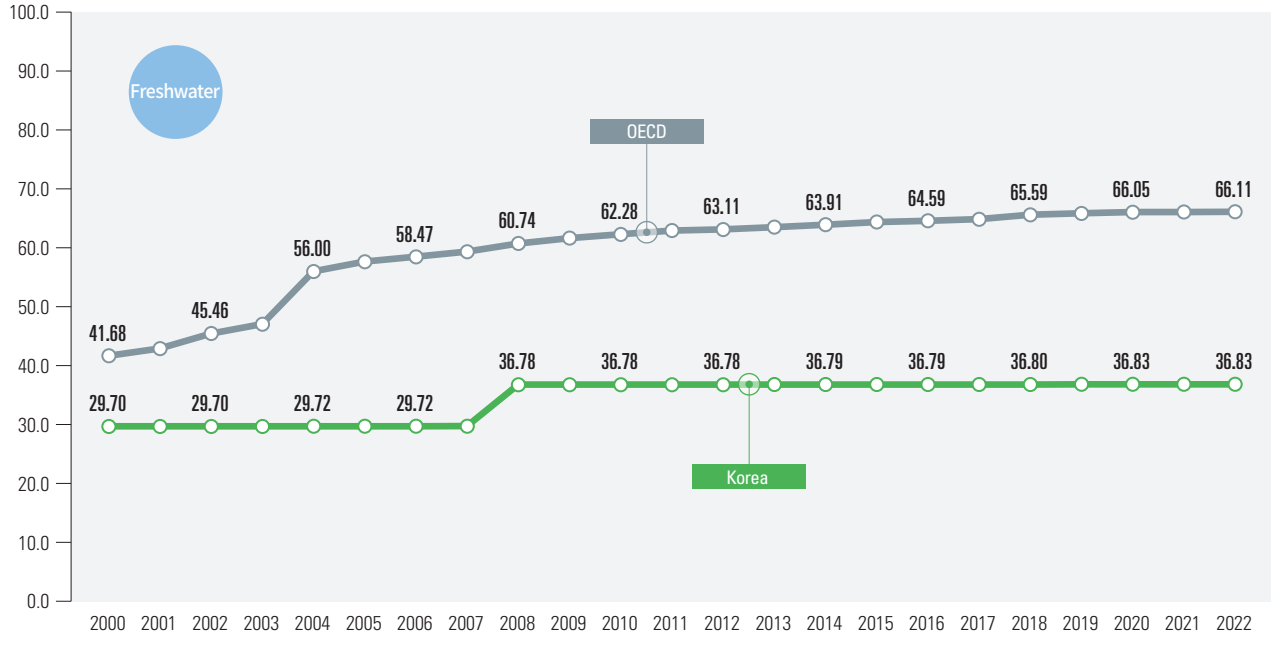
The Kunming-Montreal Global Biodiversity Framework, newly established in Dec 2022, has adopted action plans to increase the proportion of protected areas (PA), including both terrestrial (including freshwater) and marine areas, as well as areas managed under the other effective area-based conservation measure (OECM), although not regarded as PA, up to 30% of the total land by 2030. In accordance with 14 relevant Acts, including the National Environment Conservation Act, Korea has also designated as protected areas and managed sites crucial for ecosystems and biodiversity. According to the report, by the end of 2023, Republic of Korea's terrestrial protected areas as a percentage of its land area is 17.45%, and active efforts are needed to raise it to 30%.

However, the figures for the terrestrial and freshwater key biodiversity areas indicators covered by the SDGs are higher. They refers to the proportion of protected areas relative to the total terrestrial and freshwater key biodiversity area, which is different from the proportion of protected areas and OECM areas relative to the total land, the indicator adopted in the Kunming-Montreal Global Biodiversity Framework as an action plan. However, these proportions of protected areas both for terrestrial and freshwater biodiversity have seen only modest growth since the 2010s. Notably, since 2008, the proportion of protected areas in freshwater ecosystems has been almost stagnant (0.05 percentage points in 2022 compared to 2008). In particular, the proportion of protected areas for freshwater ecosystem has been almost stagnant since 2008 (an increase of 0.05%p in 2022 from 2008). In 2022,

the biodiversity protected areas stood at 37.58% for terrestrial ecosystem and 36.83% for freshwater ecosystem out of their respective total area of ecosystem. It was expansion by 13.72%p for terrestrial biodiversity and by 7.13%p for freshwater biodiversity from 2000 to 2022. However, for the same period, the proportion of biodiversity protected areas on land and freshwater in OECD countries increased by 26.31%p and 24.43%p respectively. The current ratioproportions of protected areas in 2022 reached 64.45% for terrestrial ecosystem and 66.11% for freshwater ecosystem. It clearly shows that the growth of protected areas designated has been lackluster in Korea. Such a sluggish expansion of protected areas in Korea is attributed to multiple reasons, such as poor monitoring and management of the protected areas and their surroundings; the lack of survey/research for discovery of protected areas and the inadequate compensation system for landowners of

**Proportion of Protected Areas for Terrestrial and Freshwater Key Biodiversity Areas, 2000~2022** (Unit: %)




Source : UN, National Statistics Portal(https://kosis.kr, retrieved on Oct 03, 2023)
Note1 : This refers to a ratio of biodiversity protected areas compared to the total area of ecosystems
Note2 : Percentage of area designated as protected as a Key Biodiversity Area (KBA) as defined by IUCN

ecologically important areas. Therefore, relevant institutions and polices should be put in place, including a payment system for ecosystem services, to expand protected areas.

### Lackluster growth of areas under sustainable forest management (SDG 15.2.1)

Sustainable forest management aims to conserve and reinforce economic, social and environmental values of forests, and its implementation progress is monitored based on five indicators, namely the annual net change of forest areas, total amount of terrestrial biomass in forests, ratio of protected forests, rate of areas covered by long-term forest management plans and certified areas for sustainable forest management. Among these five, certified areas for sustainable forest management are considered the best indicator capturing the sustainable utilization level of forests. The UN Convention on Biological Diversity's Kunming-Montreal Global Biodiversity Framework also stressed the importance of sustainable forest management, putting forward the certified areas for forest management as a management indicator for assessing its implementation, along with action plans.

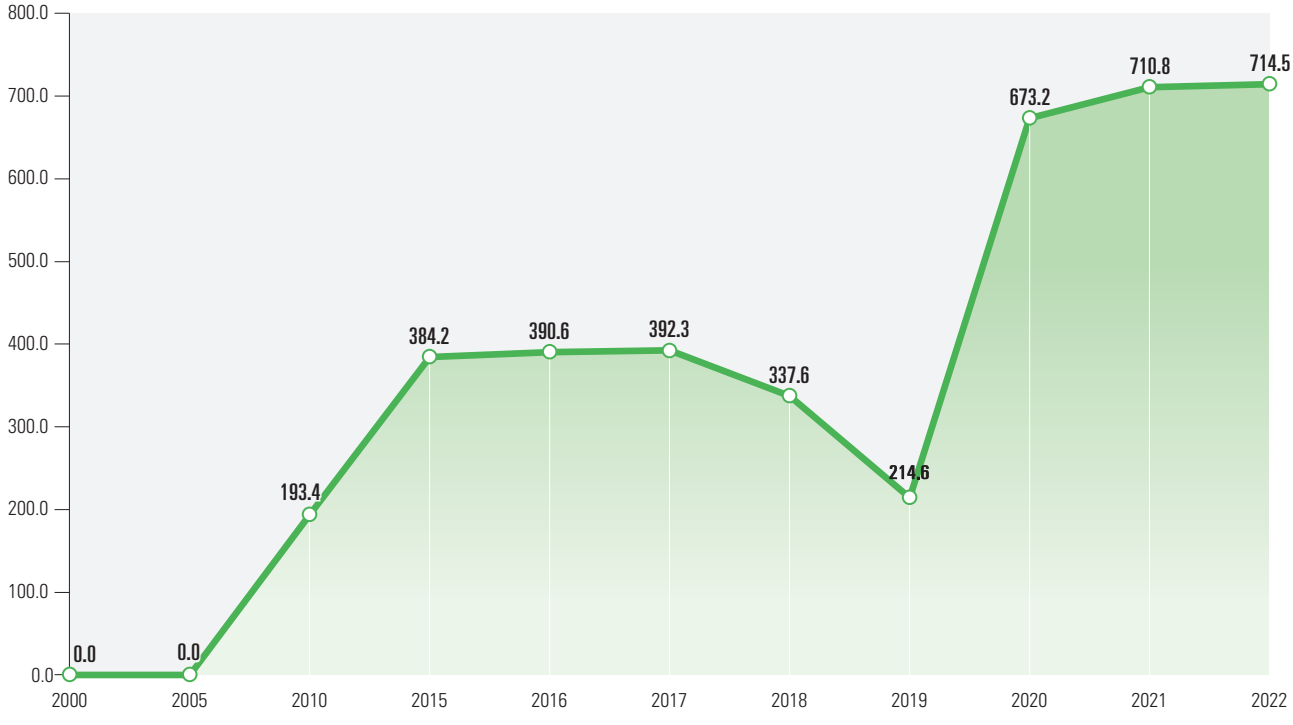
The internationally recognized certification schemes for sustainable forest management include the FSC(Forest Stewardship Council) mainly prevalent in North America and PEFC (Programme for the Endorsement of Forest Certification) in Europe. In 2015, Korea developed its own scheme called the Korea Forest Certification Council (KFCC) and it has been operating since then. The KFCC was mutually recognized by the PEFC in 2018. Domestic organizations which, had predominantly acquired certification from the FSC before, began to register with the KFCC since 2016. As the FSC certification was expired (5 years), many rapidly switched to KFCC certification in 2019. Such a transition also affected statistics, causing significant fluctuations from 2019 to 2020.

In line with the global trend of emphasizing the importance of sustainable forest management, Korea has steadily expanded its forest management certification scheme. There has been a continuous increase in forest areas in Korea certified under its forest management certification scheme, reaching 714,500 ha in 2022. However, the growth has been modest since a noticeable surge during the transition to the KFCC in 2020. Considering a high rate of forest areas relative to the total land in Korea, it is necessary to put in



**Certified Areas for Forest Management, 2000~2022**

(Unit: 1,000ha)




Source : UN, Forest Areas under the Independently Verified Forest Management Certification Scheme(https://kosis.kr, retrieved on Oct 03, 2023)
Note : This refers to forest areas certified under the forest management certification schemes independently

place policy, scientific and institutional foundations and engage in active implementation for expansion of forest areas under sustainable management.

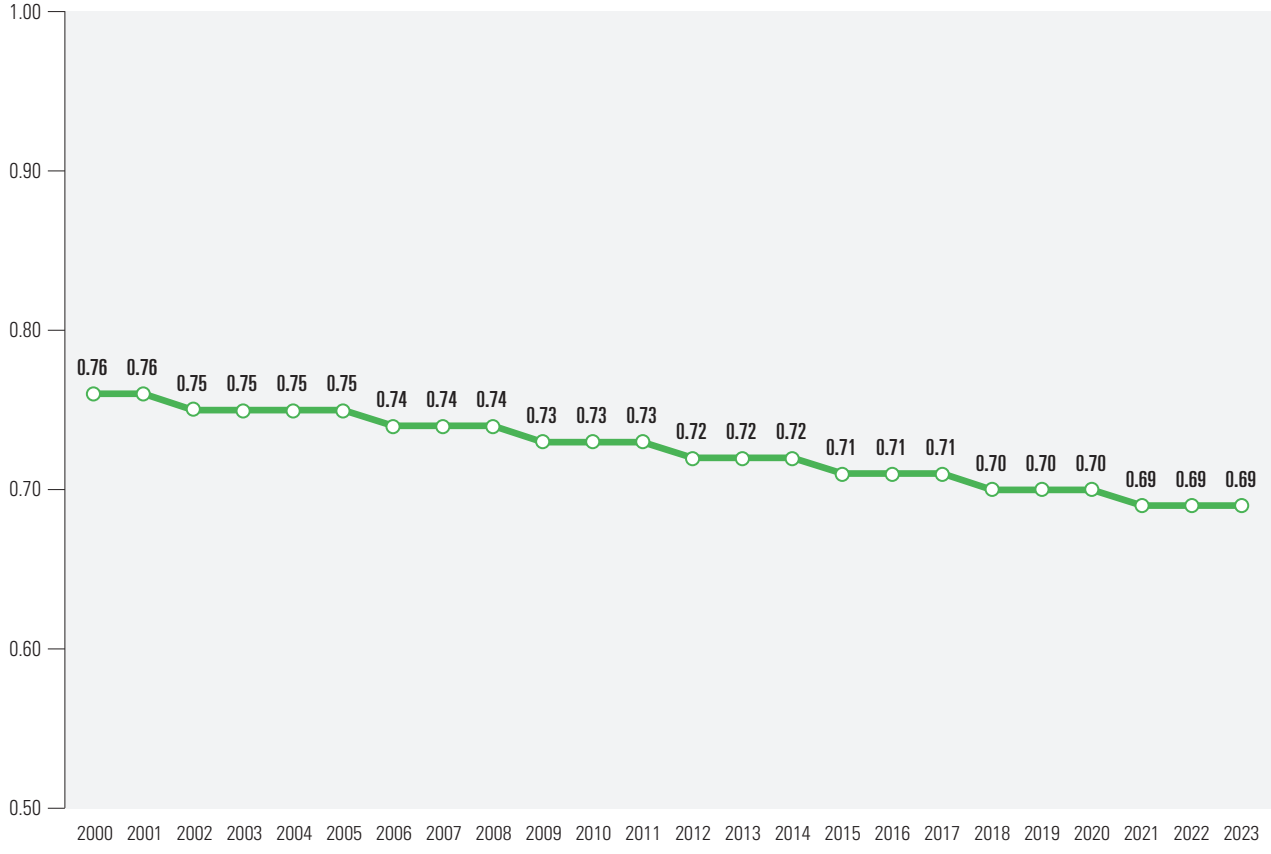
### Red List Index of Korea has continued to worsen (SDG 15.5.1)

In order to prevent extinction and conserve biodiversity, the international community utilizes the Red List Index, developed by the IUCN, as an indicator that comprehensively assesses and monitors the current state and threats of wildlife. Accordingly, the Red List Index was presented as a major indicator monitoring the protection of endangered and endemic species in the 'Kunming-Montreal Global Biodiversity Framework' under the Convention on Biological Diversity. In Korea, the National Institute of Biological Resources issues the National Red List. The Red List created is reported to the IUCN and OECD, based on which the OECD calculates the Red List Index for Korea.

With the Red List Index, it is possible to quantify and calculate the changing trends of the number of biological species based on the Red List, a list of the IUCN's threatened species. In accordance with this index, the stages of extinction are divided for biological species. They include the following 7 categories: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened and Least Concern. The stages of extinction are expressed on a scale of 0 (extinction of all species) to 1 (least concern for all species). The closer to 0, the higher risk of extinction for threatened and endemic species and the lower biodiversity.

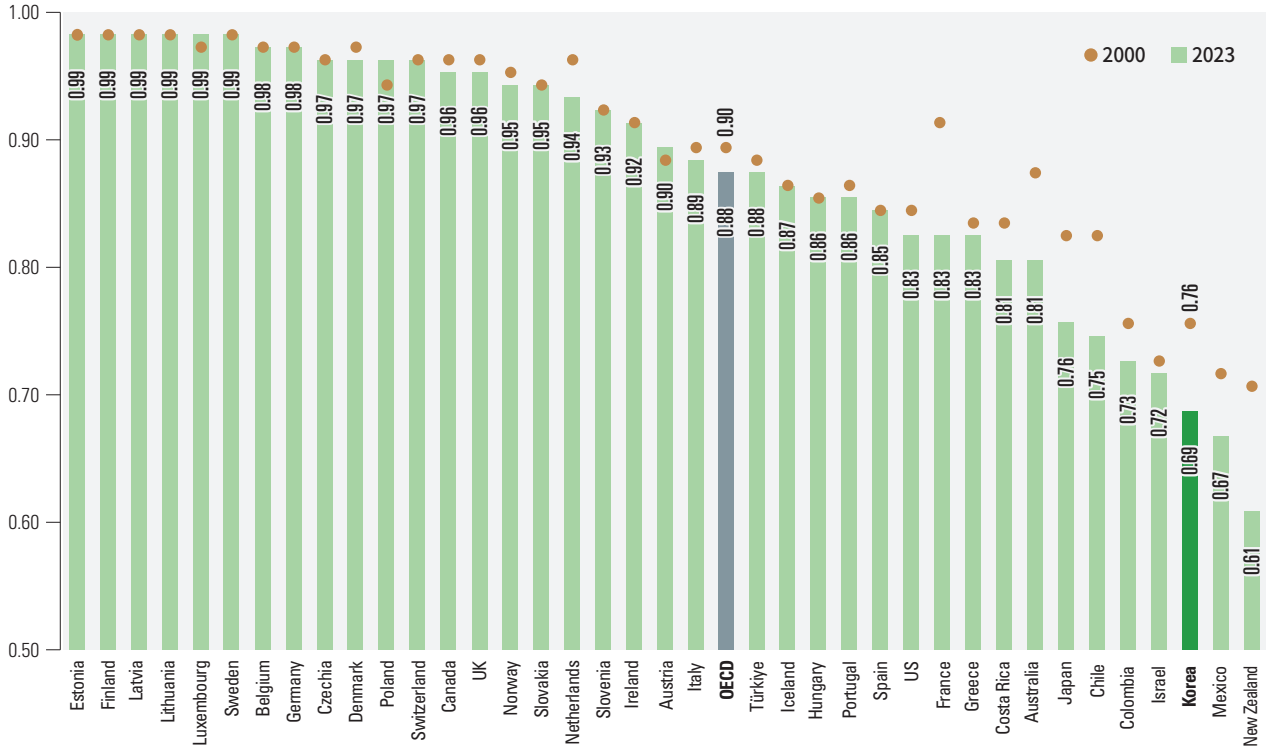
In most of OECD countries including Korea, the Index has been maintained or reduced during the 2000-2023 period. The average Red List Index for OECD countries decreased by 0.02, from 0.90 to 0.88. The largest decrease was in New Zealand (-0.10), followed by France (-0.09). Korea, Japan, and Chile. Australia decreased by 0.07. In most European countries, the Index hovers 0.9, with Poland (0.02), Luxembourg (0.01), and Austria (0.01) posting gains. Thus, it is necessary to take active measures to conserve threatened species.

**Red List Index of Korea, 2000~2023**




Source : UN, Red List Index (https://kosis.kr, retrieved on Oct 03, 2023)
Note : The index is on a scale of 0 to 1, with values closer to 1 meaning a greater risk of extinction for threatened and endemic species and lower biodiversity

**Red List Index by OECD Country, 2000, 2023**




Source : UN, Red List Index of Threatened Species (https://kosis.kr, retrieved on Dec 13, 2023)
Note : The index is on a scale of 0 to 1, with values closer to 1 meaning a greater risk of extinction for threatened and endemic species and lower biodiversity



**Definition**

- **Kunming-Montreal Global Biodiversity Framework** : Adopted by the CBD COP 15 held in Montreal, Canada in 2022, the framework is comprised of 4 goals and 23 targets that the international community has agreed to achieve by 2030 for promotion of biodiversity
- **Nature-based Solution** : NBS refers to actions to protect, restore and sustainably manage ecosystems as a way to solve various nature-related and societal challenges, such as climate change, food, water, disasters, health and biodiversity

# 16 PEACE AND JUSTICE

# Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Addressing peace, justice and effective institutions, SDG 16 aims to eradicate violence and crimes, promote fairness and inclusiveness, and establish transparent and accountable institutions in order to operate public policies and private economy in an efficient and fair manner. Globally, the death toll from conflicts have exploded due to bloody clashes in Israel-Palestinian region, following the Ukraine war. Besides that, there are also many signs, such as a rise in homicides and human trafficking, making the achievement of SDG 16 all the more challenging.

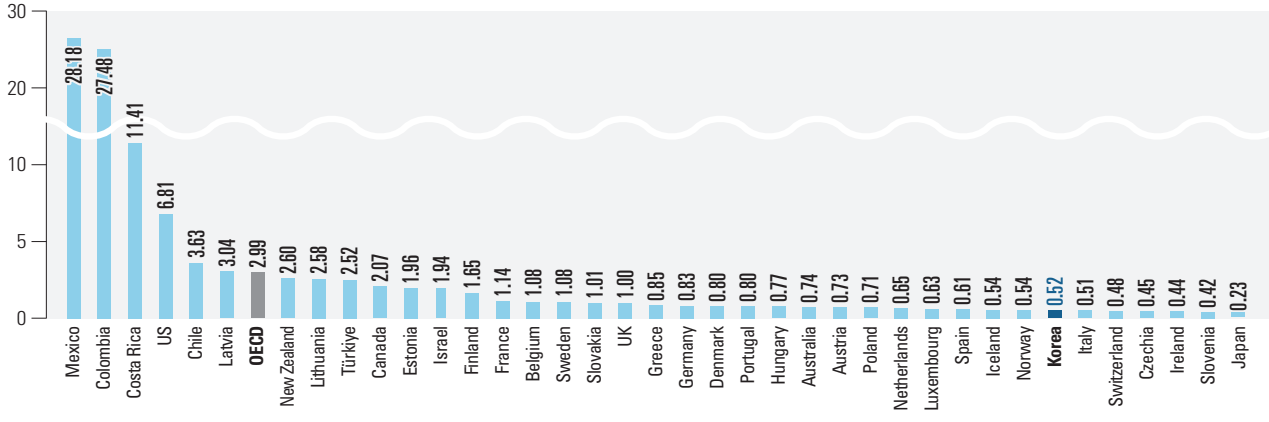
In Republic of Korea, the homicide rate has been on a steady decrease since the 2010s. Physical punishment and verbal abuse against children have also decreased due to long-standing efforts to improve institutional frameworks and public awareness. In particular, there has been a noticeable decline in the rate of students experiencing physical punishment and verbal abuse from teachers. However, peer violence from classmates or students who are year(s) ahead or behind in the same school still remains a threat. Meanwhile, although SDG focuses on reducing the pretrial detention rate at correctional institutions to ensure the human rights of pretrial detainees and promote access to justice, the pretrial detention rate in Korea stood at 34% in 2022, still remaining at a range of 30% for the past 15 years. The ratio of those experiencing discrimination for reasons like gender, age or economic status was equal to 14.3% in 2022. Women and youth are more likely to experience discrimination based on not only their gender and age but also various other reasons.

## A decrease in the occurrence of homicides over the past decade (SDG 16.1.1)

In Korea, the occurrence of homicide cases has been on a downward trend since the 2010s. In 2022, the number of homicide cases (offenders) stood at 275. It can be also expressed as the homicide rate of 0.54, representing the number of homicide victims per 100,000 population. This figure went down by 37.0% from 0.85 in 2011. Despite a slight increase compared to the previous year, the homicide rate seems to maintain a downward trend over the long term. In 2021, the OECD average of homicide rates was 2.99 per 100,000 population, and Korea (0.52) ranked 7th lowest among 38 countries. When compared to the global average, excluding three countries with significantly high homicide rates, namely Mexico (28.18), Colombia (27.48) and Costa Rica (11.41), Korea's homicide rate still remains considerably low. Meanwhile, Japan's homicide rate is the lowest among OECD countries at 0.23 per 100,000 population, which is less than half of Korea's.

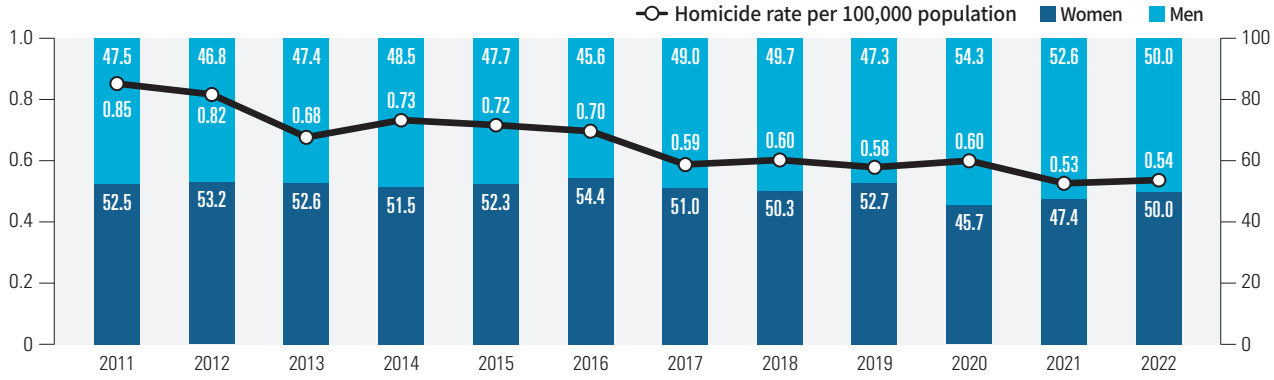
Looking at the sex distribution of homicide victims, there were more female victims than male victims until 2019. However, for two consecutive years in 2020 and 2021, male victims accounted for over than 50%, showing a reversal in the gender ratio. In 2022, the ratios of female and male victims were equal, with each representing 50%. When breaking

**Homicide Rate by OECD Country, 2021** (Unit: No. of persons per 100,000)



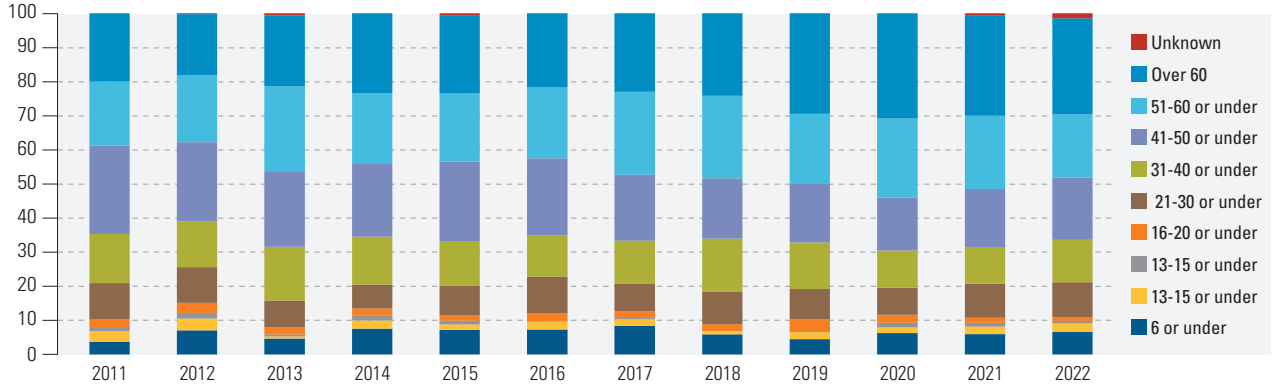

Source : UN SDG Indicators Database(https://unstats.un.org/sdgs/unsdg, retrieved on Nov 4, 2023)
Note : The data for the UK and Finland is from the year 2020, and for New Zealand, it is from the year 2019

**Homicide Rate and Victim by Sex, 2011~2022** (Unit: No. of persons per 100,000, %)




Source : National Police Agency, Crime Statistics Data(https://kosis.kr, retrieved on Oct 4, 2023)
Note : The homicide rate was calculated based on the number of victims to homicides (offenders) per 100,000 population, and mid-year population was used. Cases with sex of the victim unidentified were excluded

**Age Distribution of Homicide Victim, 2011~2022** (Unit: %)




Source : National Police Agency, Crime Statistics Data(https://kosis.kr, retrieved on Nov 04, 2023)

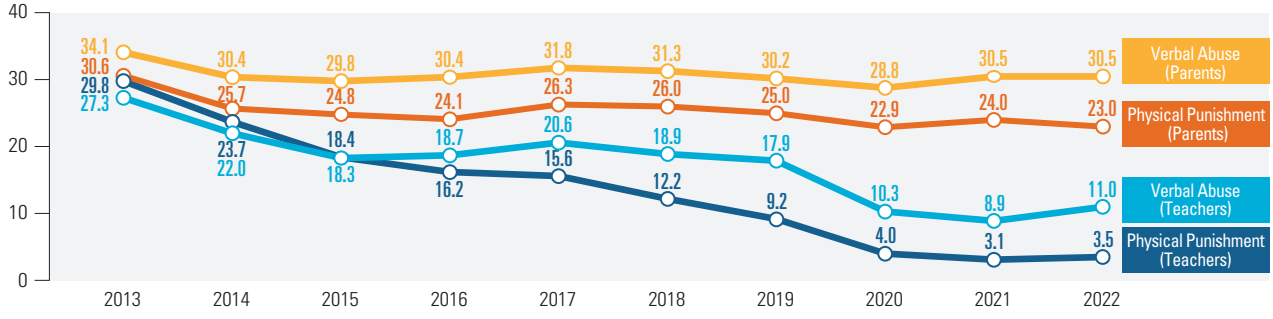
down victims into age groups, those aged over 60 accounted for 28.1% in 2022. This figure used to stay at 20.0% until 2011, indicating a noticeable increase due to population aging. Victims aged 20 or younger made up 10.9% out of the total, with more than half being infants and toddlers aged 6 or under. Despite an overall decrease in homicides, it is necessary to pay more attention to victims such as the elderly and young children, who are susceptible to crimes.

### Physical punishment and verbal abuse from teachers have decreased, but peer violence still remains as a threat (SDG 16.2.1)

SDG 16 aims to eradicate violence and abuse in all kinds against children. The Convention on the Rights of the Child (CRC) also ensures protection of children from all forms of physical and mental violence. In the past, physical punishment was considered as a means for education and discipline in Korea, but there have been improvements in public awareness and institutions through long-term efforts. The Elementary and Secondary Education Act was revised in 2007 to stipulate protection of human rights for students under the international human rights treaties; and the enforcement decree of the Act was also amended in 2011 to explicitly ban physical punishment in schools. On top of that, the Child Welfare Act was amended in 2015 to prohibit parents' physical punishment and verbal abuse, and the parental disciplinary authority provision in the Civil Act was abolished in 2021.

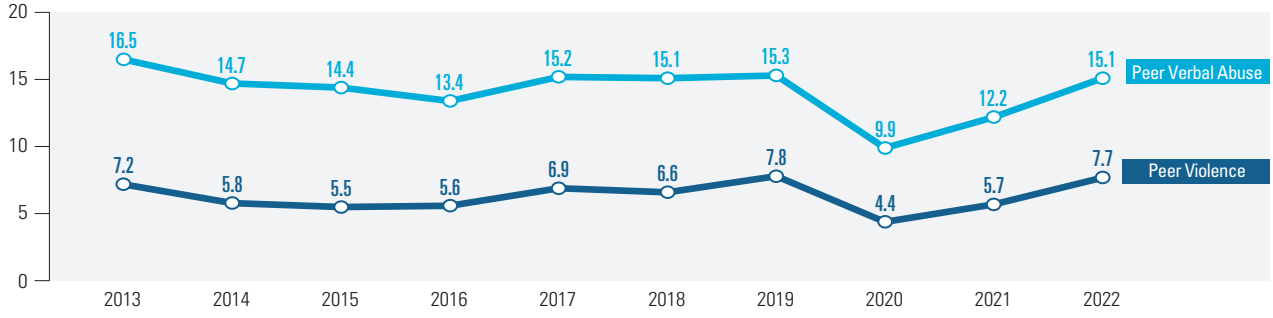
Over the past decade, physical punishment and verbal abuse against children have been on a decrease. According to Survey on the Current State of Human Rights for Children & Youth conducted by the National Youth Policy Institute, the proportion of children who experienced physical punishment in elementary, middle and high schools dramatically declined from 29.8% in 2013 to 3.5% in 2022, almost a one-tenth

**Proportion of Children & Adolescents Experiencing Physical Punishment and Verbal Abuse, 2013~2022** (Unit: %)




Source : National Youth Policy Institute, Survey on the Current State of Human Rights for Children & Youth, Experience of Physical Punishment, each year (https://kosis.kr, retrieved on Sep 14, 2023)
Note1 : This survey was conducted on 4th graders or higher in elementary schools and students in middle and high schools.
Note2 : Percentage of people who experienced physical punishment (corporal punishment) or disrespectful or abusive words (verbal abuse) at least once in the past year

**Proportion of Children & Adolescents Experiencing Peer Violence, 2013~2022** (Unit: %)




Source : National Youth Policy Institute, Survey on the Current State of Human Rights for Children & Youth, Experience of Violence from Other Students, each year (https://kosis.kr, retrieved on Sep 22, 2023)
Note1 : This survey was conducted on 4th graders or higher in elementary schools and students in middle and high schools
Note2 : Percentage who have been severely called names, insulted (bullying), or hit (assault) by a friend or peer at school at least once in the past year



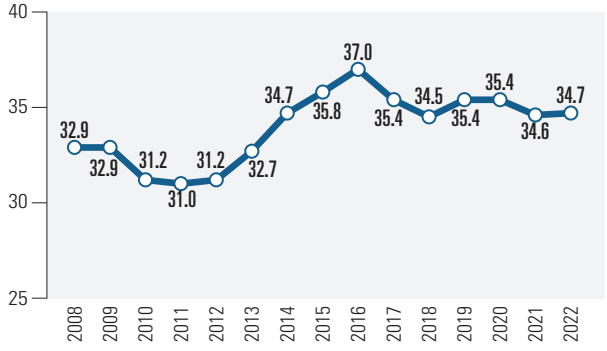
reduction in just nine years. The proportion of students who heard offensive or insulting language from teacher also more than halved from 27.3% in 2013 to 11.0% in 2022. The proportion of children who were subjected to physical and verbal abuse by their parents decreased from 30.6% and 34.1% in 2013 to 23.0% and 30.5% in 2022, respectively. However, there has been no noticeable reduction in the rate of children experiencing physical punishment and verbal abuse from their parents since 2014, indicating a need for improvements. The rate of experiencing physical punishment and verbal abuse fell dramatically in 2020 when the face-to-face education was curtailed due to COVID-19, and such a downward trend has continued. That being said, it is necessary to monitor the trend on a long-term basis.

Unlike from the reduction in physical punishment and verbal abuse from teachers in schools, there has been no clear decline in peer violence from other students (i.e., classmates, senior-junior relationship), posing a threat to the school life of children and adolescents. The rate of students experiencing peer violence went down slightly during the pandemic, but it rose again to the previous levels in 2022. In 2022, the proportion of students assaulted or beaten by peers stood at 7.7% and that of those experiencing severely offensive and insulting language amounted to 15.1%.

### The proportion of unsentenced detainees at correctional facilities has been stagnant at the 34% range (SDG 16.3.2)

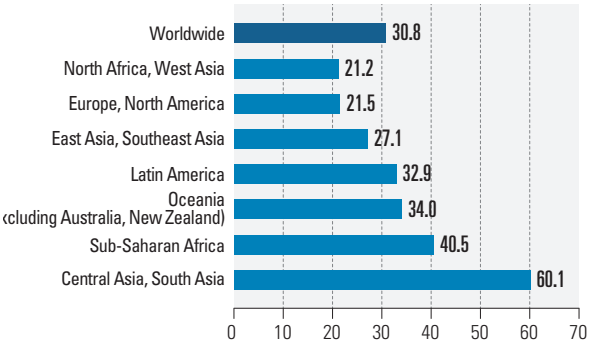
Under SDG 16.3 aiming to promote the rule of law and access to justice, SDG 16.3.2 is to minimize the detention of individuals before their sentence is determined through trial, ensuring human rights of pretrial detainees. The Korean criminal justice system upholds the principle of investigation without detention to ensure the presumption of innocence, the right to defense and human rights of the accused and allows pretrial detention to be conducted only within the necessary scope to secure safety of the

**Proportion of Unsentenced Detainees of Overall Prison Population, 2008~2022** (Unit: %)



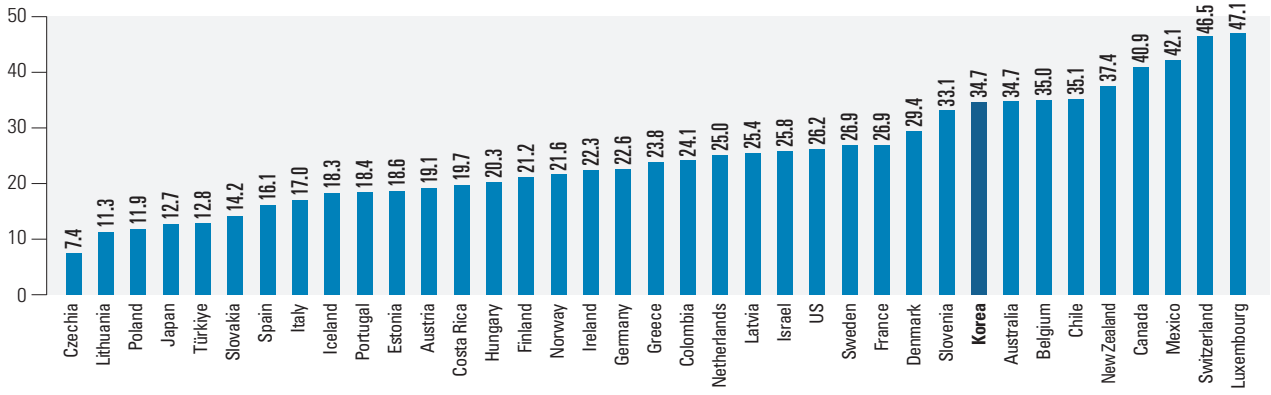

Source: Korea Correctional Service under the Ministry of Justice, Yearbook of Correctional Statistics, each year, Rate of Pretrial Detainees out of Inmates in Correctional Facilities

**Proportion of Unsentenced Detainees of Overall Prison Population in Worldwide, 2021** (Unit: %)




Source : UN, 2023, The Sustainable Development Goals Report 2023: Special Edition, p.45.2023)

**Proportion of Unsentenced Detainees of Overall Prison Population by OECD Country, 2021** (Unit: %)




Source : UN SDG Indicators Database(https://unstats.un.org/sdgs/unsdg, retrieved on Aug 18, 2023)
Note : This survey includes 37 countries out of 38 OECD members, except for the United Kingdom (no data). The data for Korea is from the year 2022; Colombia and Canada is from the year 2020; and for Belgium and Israel, it is from the year 2018 and 2016 respectively

suspect and evidence. In 2022, the rate of unsentenced detainees at correctional facilities reached 34.7%, remaining stagnant at the 30% range for the past 15 years.

Throughout the world, there has been no clear trend of improvement in the rate of unsentenced detainees in correctional facilities since the establishment of SDGs in 2015. The rate of unsentenced detainees in Europe and North America was 21.5% while the rate reached 60.1% in Central Asia and South Asia. Even among OECD countries, the rates are in a wide spectrum, ranging from under 10% in the Czech Republic (7.4%) through close to 50% in Luxemburg (47.1%). Korea ranks 9th out of 37 countries.

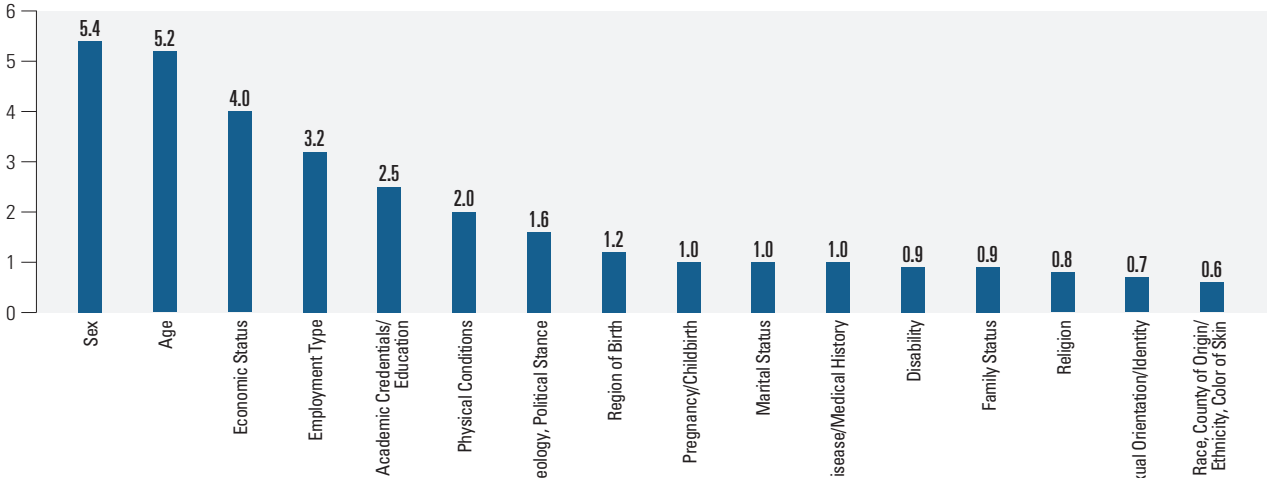
## Sex and age-based discrimination experiences are the most striking (SDG 16.b.1)

Survey on Human Rights Awareness conducted by the National Human Rights Commission of Korea shows that the proportion of individuals who responded that they had experienced discrimination for any reason over the past year stood at 14.3%. When broken down by the reasons of discrimination, the proportions of sex and age discrimination topped the list at 5.4% and 5.2%, respectively. Discrimination based on economic status, type of employment, academic credentials/education and physical condition was also reported at 4.0%, 3.2%, 2.5% and 2.0% respectively.

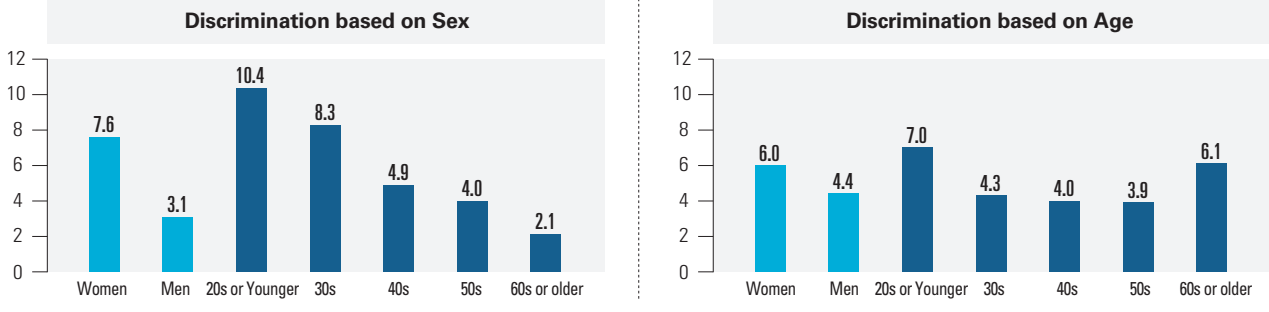
Discrimination experiences differ depending on gender and age groups. Women (7.6%) experience gender-based discrimination twice as much as men (3.1%). The younger the individuals, the more likely they are to face sex-based discrimination. In fact, the discrimination rate reached 10.4% for individuals in their 20s or younger. The proportion of discrimination experiences based on age is relatively higher for individuals in 20s or younger (7.0%) and those in 60s or older (6.1%). When considering sex, women (6.0%)

experience more age-based discrimination than men (4.4%). Moreover, women and younger generations not only have higher rates of discrimination experiences based on sex and age, but they also tend to experience discrimination for more various reasons. Regarding discrimination experiences based on economic status and type of employment, simple laborers experience discrimination the most within the occupational classification (8.7% based on economic status, 8.6% based on type of employment).

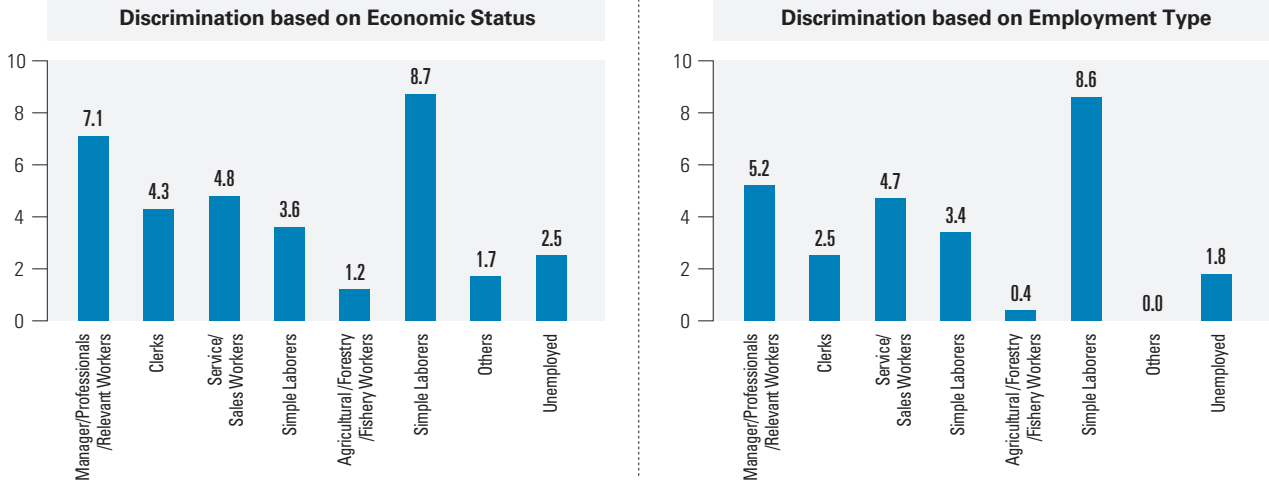
**Rate of Discrimination Experiences by Reason, 2022** (Unit: %)




**Rate of Discrimination Experiences by Sex and Age, 2022**




**Rate of Discrimination Experiences by Occupation Classification, 2022**




Source : National Human Rights Commission of Korea, Survey on Human Rights Awareness, 2022(https://kosis.kr, retrieved on Sep 30, 2023)
Note : This shows the ratio of respondents who answered "yes" to experiencing discrimination based on the corresponding reason(s) over the past year, and the response "no" includes "N/A"

# 17 PARTNERSHIPS FOR THE GOALS

# Strengthen the means of implementation and revitalize the global partnership for sustainable development

Aiming to strengthen implementation means for effective achievement of SDGs, SDG 17 emphasizes the role of the international community in vitalizing global partnership for sustainable development and promoting the participation of various development actors. To this end, it pursues the inclusive partnerships involving various stakeholders, such as governments of partner countries, development cooperation organizations, businesses, academia, and the civic society. SDG 17 encompasses a wide range of sectors, including resources for development, technologies, capacity-building, trade, consistency of policies and systems, multilateral partnerships and data monitoring and accountability.

As social and economic activities have been contracted due to the spread of COVID-19 and the global economic growth rate has declined significantly, the scale of international assistance has recently expanded to support the socio-economic recovery in developing nations. Notably, major donor nations have increased their support for refugees and humanitarian aids in response to the Ukraine war, pushing the international community's official development assistance (ODA) to reach an all-time high of 204 billion dollars (tentative figure) in 2022, a 13.6%p increase y-o-y. However, Republic of Korea's ODA size stood at 2.79 billion dollars in 2022, a decrease of 3.0% from the previous year. This decline of 90 million dollars y-o-y is attributed to the influence of exchange rate fluctuations and the base effects from a significant increase in the assistance during the previous year. The rate of ODA to Gross National Income (GNI) recorded 0.17%, up by 0.01% from the previous year. Also, Korea is increasing its ODA to the statistics sector in response to the need to reduce data gap between countries by strengthening statistical capacity.

As socio-economic vulnerability has deepened due to the COVID-19 pandemic, there is growing demand for cooperation to strengthen the foundation for growth and economic and social resilience of developing countries. In particular, Least Developed Countries (LDCs), which are highly dependent on external sources due to their low incomes and domestic savings and ineffective mobilization of domestic financial resources, experienced economic contraction at home and abroad as a result of COVID-19 and a sharp decline in foreign direct investment (FDI) and overseas remittances. It is necessary to provide active support for least developed countries through the expansion of ODA, trade and investments.

However, amid intensifying strategic competition between the US and China, international policy coordination and the foundation for cooperation to respond to global challenges such as climate change are gradually weakening. With exacerbating global crises, the post-pandemic international community is faced with challenging issues like inflation, inter-country conflicts and a crisis in global supply chains, caused by international tensions and insufficient cooperation. Due to such a changing dynamic in the international landscape, conditions for international development and cooperation are rapidly deteriorating. Therefore, in this post-pandemic era, a paradigm shift in development cooperation is required for inclusive resilience and sustainable growth, along with support for developing countries to implement their SDGs, so as to reinforce international cooperation and coordination in response to the reshaping global economic structure.



### The rate of ODA to GNI increased to 0.17%

**(SDG 17.2.1)**

The volume of Korea's ODA stood at 2.79 billion dollars (provisional value) in 2022 based on the grant equivalent, a decrease of 3.0% compared to the previous year. This reduction of 900 million dollars from the previous year is attributed to the depreciation of the assistance budgets denominated in foreign currency due to the exchange rate rise and a base effect from the remarkable growth in assistance performance (27.7%) in 2021. The ODA volume grew at the biggest margin (620 million dollars) in 2021 since the accession to the OECD DAC, driven by the rollover of ODA funds unexecuted due to COVID-19 and demands for emergency response to the pandemic.

Looking at ODA performance by type of assistance, Korea offered 2.19 billion dollars in bilateral aids and 600 million dollars in multilateral aids. The bilateral aids can be divided into (1) grant assistance (1.5 billion dollars) which increased by 8.2% compared to the previous year as ODA projects started to normalize with the end of the COVID-19 pandemic in 2022 and (2) credit assistance (690 million dollars) that fell by 11.9% y-o-y due to exacerbated performance of program loans for support to weather COVID-19. Meanwhile, multilateral aids (600 million dollars) experienced a 15.3% decrease compared to the previous year owing to the influences from a higher exchange rate and the a return to normal levels of investments and contributions to international financial institutes that had

temporarily expanded due to the COVID-19 pandemic.

Although Korea's ODA volume decreased by 3% y-o-y, the percentage of ODA to the Gross National Income (GNI), which indicates the rate of ODA to the economic size, increased by 0.01%, reaching 0.17%. At this rate, however, Korea was ranked in 28th out of 30 DAC member states and this even falls short of the half of the OECD DAC average (0.36%). There should be continuous efforts to expand ODA down the road. In the '3rd Comprehensive Plan for International Development Cooperation (2021 to 2025)' adopted by the International Development Cooperation Agency in 2021, Korea plans to continue to increase its volume of ODA for SDG implementation, aiming to more than double the amount by 2030 compared to 2019.

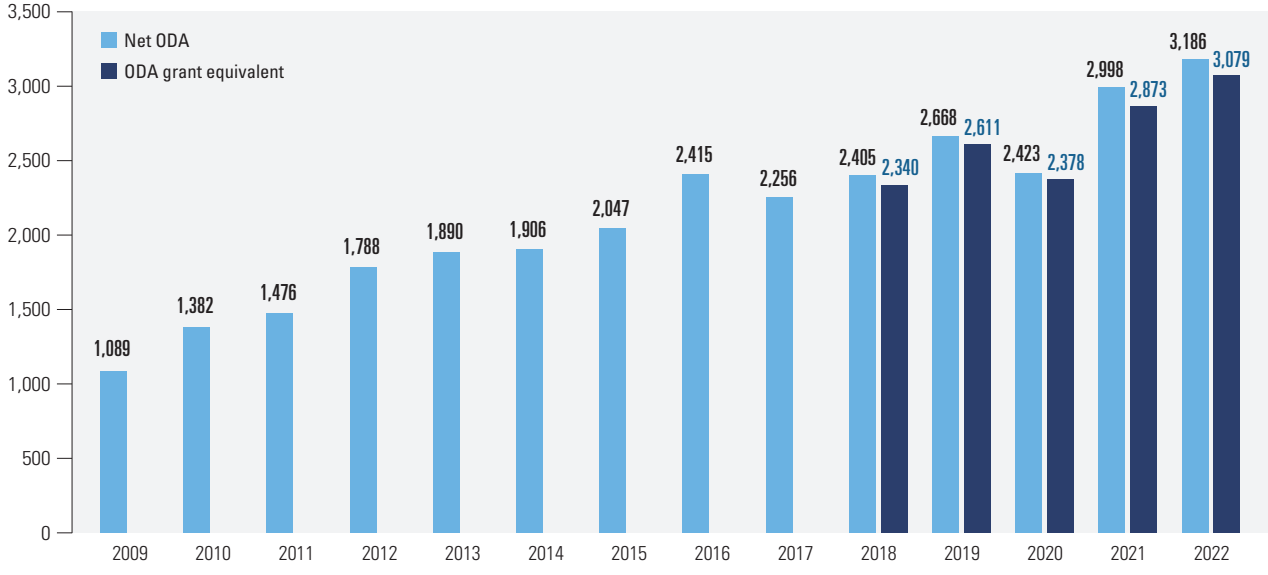
According to the OECD's tentative ODA statistics in 2022, DAC members' ODA volume increased by 13.6% compared to the previous year, reaching a record-high of 204 billion dollars. This is because major donor nations like the United States largely expanded their support for refugees and humanitarian aids related to the Ukraine war. Expenditures on handling and reception of refugees in donor nations surged from 12.8 billion dollars in 2021 to

**Korea's ODA Performance, 2021~2022** (Unit: 1 million dollars, %, %p)

| Category | 2021 | 2022 | previous year | Change rate | Ratio(%) |
|---|---|---|---|---|---|
| ▪ Total (A+B) | 2,873 | 2,786 | 86 | △3.0% | 100.0 |
| - Bilateral ODA (A) | 2,168 | 2,189 | 21 | 1.0% | 78.6 |
| Grant | 1,384 | 1,498 | 114 | 8.2% | (68.4) |
| Credit | 784 | 691 | 93 | △11.9% | (31.6) |
| - Multilateral ODA (B) | 704 | 597 | 107 | △15.3% | 21.4 |
| ▪ ODA/GNI | 0.16 | 0.17 | 0.01 | - | - |

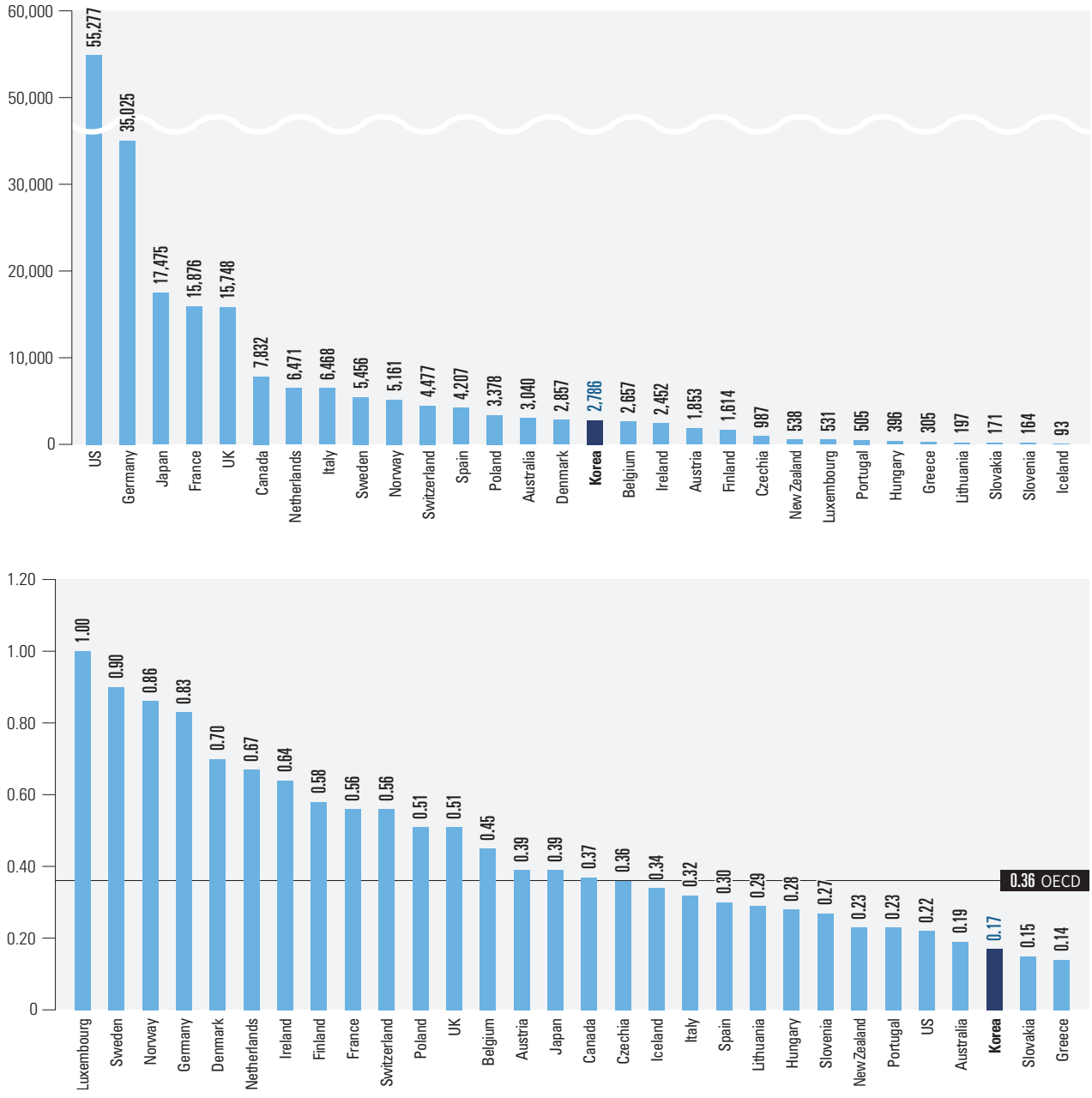
Source : Joint press release by International Development Cooperation Headquarters of the Office for Government Policy Coordination (Apr 13, 2023)
Note1 : Based on the grant equivalent
Note2 : The tentative figures were used for the year 2022

**Korea's ODA Volume, 2009~2022** (Unit: 1 million dollars)




Source : OECD.Stat (https://stats.oecd.org); OECD, 2023, "Korea" in Development Co-operation Profiles (https://www.oecd-ilibrary.org)
Note1 : Constant 2021 prices
Note2 : The tentative figures were used for the year 2022

**ODA Volume and Rate of ODA to GNI by OECD DAC Member, 2022** (Unit: 1 million dollars, %)




Source : OECD DAC, ODA Levels in 2022-Preliminary data, p. 8, 2023
Note1 : Based on grant equivalent
Note2 : The tentative figures were used for the year 2022 (updated 12 April 2023)

29.3 billion dollars in 2022, accounting for 14.4% out of the total ODA volume. Excluding refugee costs in donor nations, the size of ODA in 2022 rose by 4.6% from in real terms. The ODA volume for Ukraine rose from 918 million dollars in 2021 to 16.1 billion dollars in 2022, including 1.8 billion dollars in humanitarian relief. In 2022, the ODA volume grew in 26 DAC member states, most of which are due to a rise in refugee costs within donor nations. Countries with significant increases include Poland (+255.6%), the Czech Republic (+167.1%), Ireland (+125.1%), Lithuania (+121.6%), Slovenia (+48.7%) and Austria (+36.2%).

In 2022, the ODA volume in major DAC member states was as follows: 55.3 billion dollars (+15.6% y-o-y) in the United States, 35 billion dollars (+5.3%) in Germany, 17.5 billion dollars (-0.9%) in Japan, 15.9 billion dollars (+2.4%) in France and 15.7 billion dollars (+0.2%) in the United Kingdom. Besides them, there were also other contributors, including the Netherlands supporting 6.5 billion dollars

(+22.4%), Switzerland 4.5 billion dollars (+14.4%), Poland 3.4 billion dollars (+243.3%), and Ireland 2.5 billion dollars (+112.3%). In the OECD DAC member states, the ratio of ODA to the GNI significantly rose from 0.33% in 2021 to 0.36% in 2022. However, there are only five countries, namely Luxemburg, Sweden, Norway, Germany and Denmark that are above the UN recommendation of 0.7%.

Korea has steadily expanded its ODA volume since joining the OECD DAC in 2010 and has engaged in efforts to meet the DAC's recommendation in multiple aspects. However, its ODA/GNI ratio still stays very low at 0.17%, far below the recommendation level of 0.7%. In addition, the grant element out of the entire ODA slightly decreased from 90.5% in 2020 to 85.2% in 2021. That said, Korea has endeavored to improve its ODA both in quantity and quality, pushing up the share of its untied ODA, which does not impose any restriction on aid projects, from 62.7% in 2019 to 70.5% in 2021. The recommended level of aids to LDCs as a percentage of the GNI stands at 0.15% to 0.20%. In Korea, the share has been on a rise from 0.05% in 2020 to 0.06% in 2022.

## Highest proportion of bilateral ODA to LDCs

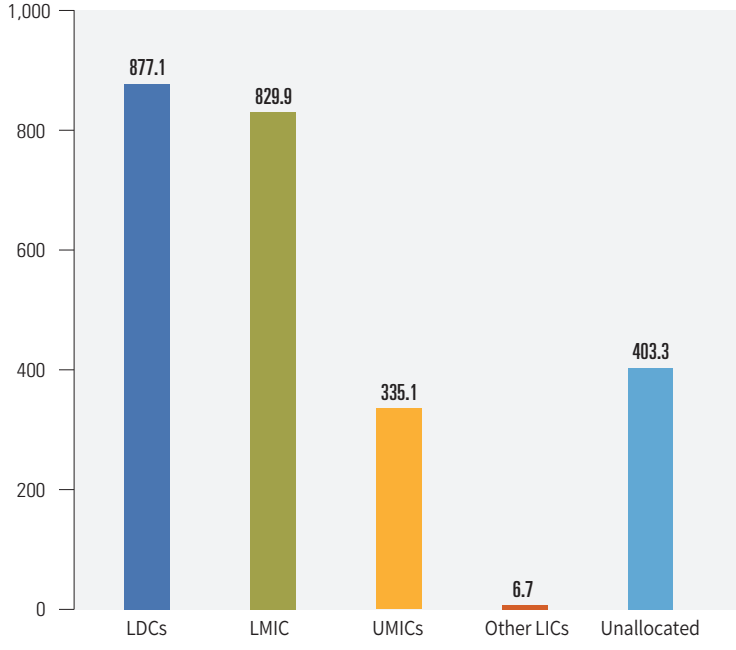
**(SDG 17.2.1)**

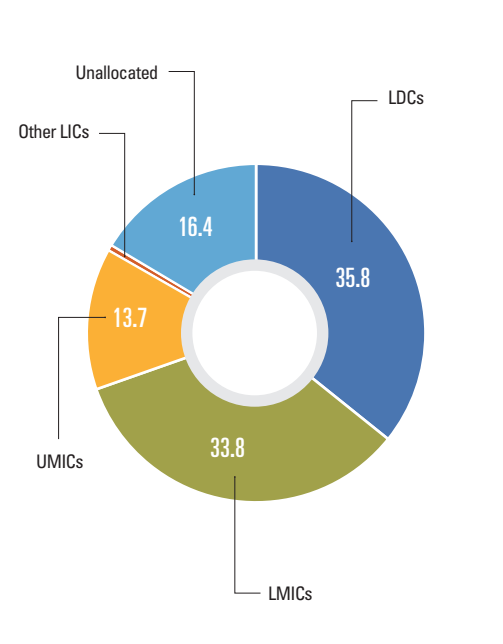
Korea's ODA for LDCs stood at 877.1 million dollars in 2021, accounting for 35.8% in the total bilateral ODA, which is higher than the DAC average of 22.9%. In Korea, aids to LDCs take up the largest share out of the bilateral ODA, followed by aids to low- and middle-income countries (LMICs) with 829.89 million dollars (33.8%) and upper middle-income countries (UMICs) with 335.09 million dollars (13.7%).

In general, LDCs are highly dependent on external resources due to low income and domestic savings and difficulties in effectively mobilizing domestic resources. The bilateral ODA has become very crucial as there are multi-layered challenges caused by COVID-19, such as economic contraction at home and abroad, sluggish foreign direct investment, a sudden drop in overseas remittances and exacerbating liabilities. There is an urgent need to expand ODA for sustainable development as the governments in LDCs are only capable of providing income/food support, loans/guarantees and tax breaks on a limited basis due to their inadequate anti-virus system to control and prevent

**Bilateral ODA Rate and Volume by Income Group, 2021**

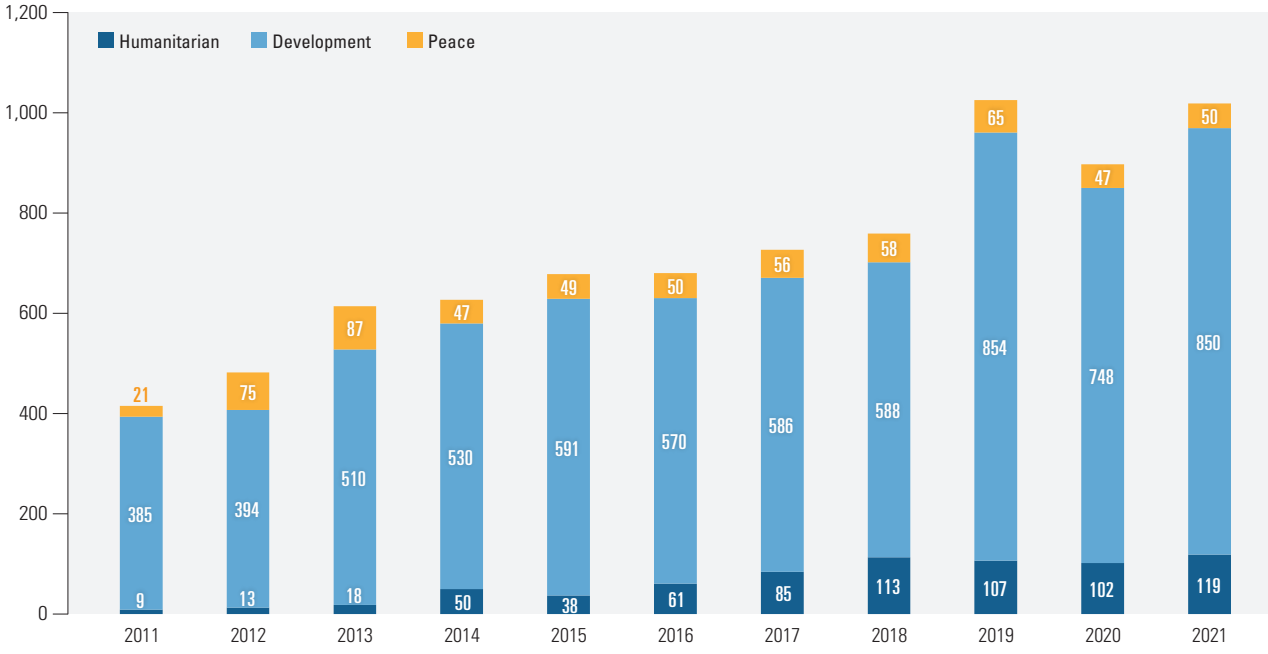
(Unit: 1 million dollars, %)




Source : OECD, Development Co-operation Profiles: Korea, 2023
Note : Based on gross disbursements

**Korea's Assistance Trend for Fragile States and HDP Nexus, 2011~2021** (Unit: 1 million dollar)




Source : OECD, Development Co-operation Profiles: Korea, 2023
Note : Based on gross disbursements

infectious diseases, i.e., poor healthcare capacities and the lack of water/sewage facilities. In 2021, Korea allocated 17.2% of its bilateral ODA to help land-locked developing countries facing enormous constraints on economic development due to their inland location. As a result, a total amount of 421.20 million dollars were offered to inland countries, such as Ethiopia, Laos and Nepal.

Moreover, Korea also provided 91.30 million dollars or 3.7% of its bilateral ODA to small island developing states (SIDSs) that are considered by the international community as priorities for support out of LDCs. Aimed at reinforcing assistance to Pacific islands, the Korean government held the '2023 Korea-Pacific Islands Summit' under the theme of 'Navigating towards Co-Prosperity: Strengthening Cooperation with the Blue Pacific' on May 3, 2023 in Seoul. For sustainable partnerships with Pacific islands, Korea plans to increase ODA and KOR-PIF cooperation funds and push ahead with cooperative projects tailored to needs of each country. In addition, it will integrate capacity-building/training/educational programs into 'KOR-PIC Blue Pacific Capacity-building Project' and triple the number of trainees, so as to help them to minimize damage from climate change with tailored technical support in response to climate crisis they have faced and to share Korea's experience of economic growth.

With expanding efforts to support fragile states in the international community, Korea's ODA volume to these countries reached 1 billion dollars in 2021, which accounts for 41.5% out of the nation's entire bilateral ODA. Out of aids extended to fragile states in 2021, the share of the development sector took up the largest share at 83.5%, followed by the humanitarian sector at 11.7% and peace at 4.9%. In the international community, development assistance to these fragile states is largely considered as emergency relief and recovery focusing on humanitarian aids in the aftermath of conflicts or disasters. Recently, assistance to fragile states has gone beyond humanitarian relief and found its way to realign relevant policies and come up with strategic measures for support, so that assistance itself can also contribute to development, conflict prevention and peach-building.

In particular, the UN announced the 'Humanitarian-Development-Peace Nexus', confirming the link the connects humanitarian assistance, development and peace-building. In June 2017, Korea also devised its strategy to support fragile states. However, to improve resilience of fragile states, it is also urgent to reinforce their local systems and put in place a cooperative framework to prevent conflicts in the international community. In recent years, the international community has cemented the cooperative framework

that connects and complements humanitarian assistance, cooperative projects for development and peace-building activities through the Humanitarian-Development-Peace (HDP) Initiative. Discussions on humanitarian assistance and peace nexus are based on the notion that aids to fragile states should be provided in the long term, to help them find solutions to their underlying vulnerabilities, build resilience to future crises and minimize impacts from the current risks.

### A decreasing rate of investments in LDCs

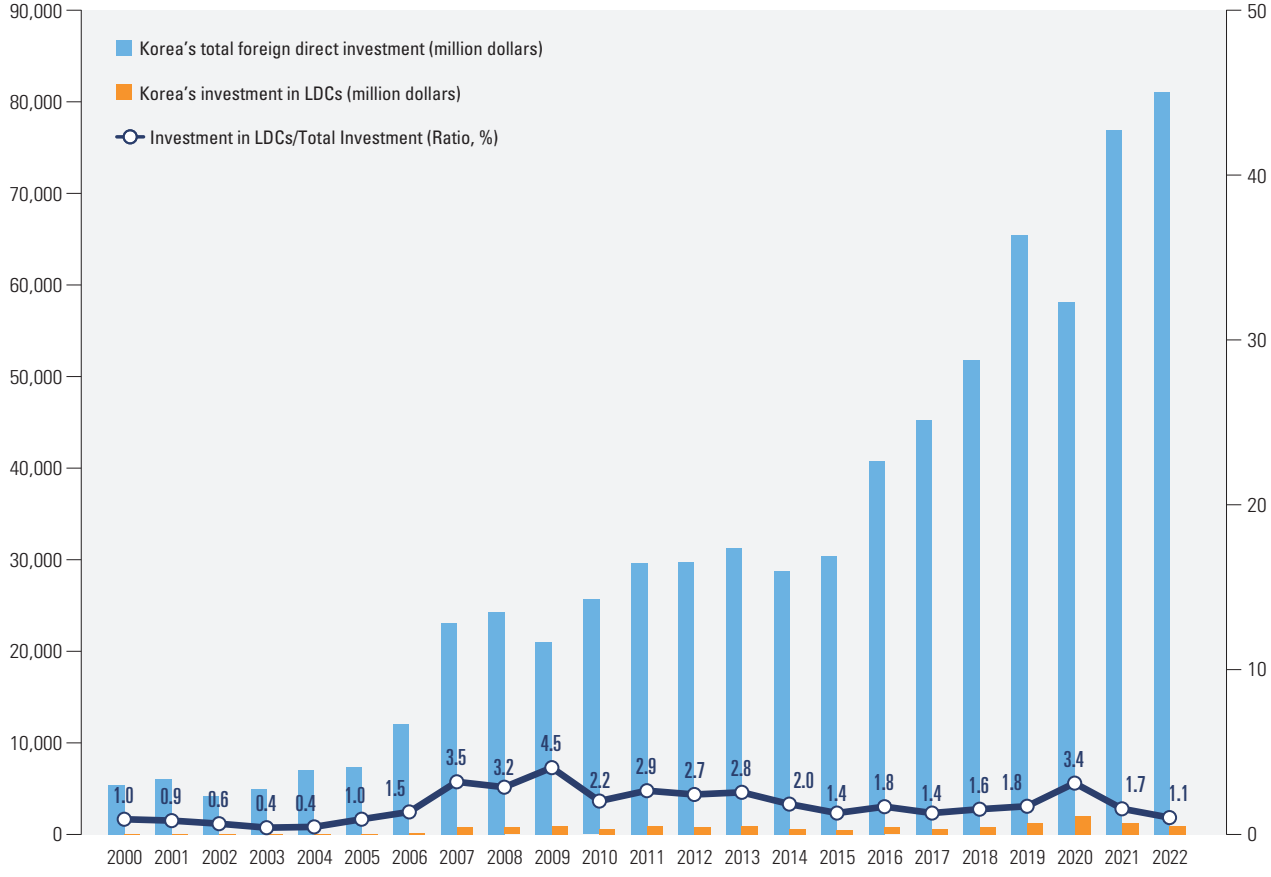
**(SDG 17.3.1 / 17.5.1 )**

It is necessary to secure various resources for implementation of SDGs. In particular, it is also crucial to mobilize additional resources, such as foreign direct investments (FDI), portfolio investment, remittances and private loans, to ensure that resources flow into developing countries. With the expanding global value chain and production networks, Korea's overseas direct investment (ODI) has continued to grow. Korea's overseas direct investment significantly expanded to 65.49 billion dollars in 2019 after recording 31.21 billion dollars per year in 2013. Although it went down to 58.15 billion dollars y-o-y in 2020 due to the border closure and trade reduction caused by the spread of COVID-19, it again rose to 76.88 billion dollars in 2021 and 81.1 billion dollars in 2022.

As, out of resources required to implement SDGs, private investment normally focuses on middle-income countries, it is important to adopt and implement plans to promote investment for LDCs. As private companies' activities, investment and innovation for low-income countries are recognized as a key growth engine to achieving SDGs in terms of higher productivity, inclusive economic growth and job creation, it is necessary to promote investment in LDCs for active foreign direct investment. Korea's foreign direct investment in LDCs was equal to only 420 million dollars in 2015, but it recorded 1.21 billion dollars and 2 billion dollars in 2019 and 2020 respectively. This is due to a steady



**Foreign Direct Investment and its Share in Least Developed Countries, 2000~2022** (Unit: 1 million dollars, %)




Source : Korea Eximbank, Overseas Investment Statistics (https://stats.koreaexim.go.kr/sub/interstateStatistics.do, retrieved on Sep 20, 2023)

increase in investment into LDCs in Asia, such as Cambodia, Myanmar, Laos and Bangladesh.

However, under the influences of COVID-19, investment in LDCs has continued to decline, falling to 1.28 billion dollars in 2021 and further plummeting to 860 million dollars in 2022. The share of Korea's FDI in LDCs was on a steady reduction from 4.5% in 2009 through 2.8% in 2013 and further down to 1.8% in 2019. There was a temporary jump to 3.4% in 2020, but it again dropped to 1.1% in 2022.

### Korea's statistical capacities are at the top rank, with a plan to extend ODA to statistics

**(SDG 17.18.1 / 17.18.2 / 17.18.3)**

With the importance of data being emphasized as an essential element for evidence-based policy-making, SDG has set the statistical capacity-building support as a target (17.18). The main idea of this target is to 'enhance statistical capacities of developing nations to produce high-quality, timely, reliable and disaggregated data.' In particular, disaggregation of data can also serve as a statistical strategy to fulfill the inclusive goal of "Leaving No One Behind."

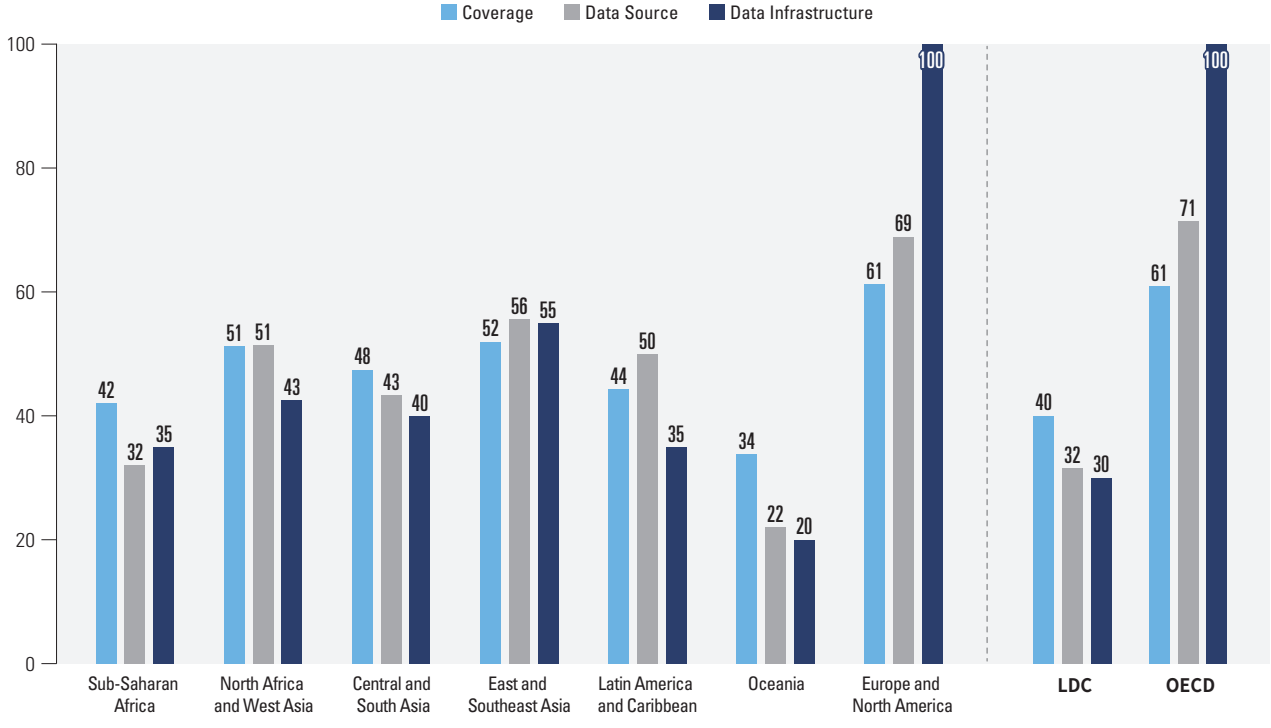
As an indicator to check the implementation of the target, national statistical capacities are measured in the following three dimensions: coverage, data sources and data infrastructure. Coverage is defined as the extent to which statistical indicators considered significantly important in 22 social, economic and environmental areas are available in time-serial and disaggregated levels; data sources is a composite measure of whether countries have data available from the following sources: Censuses and surveys, administrative data and geospatial data; data infrastructure measures standards and methods addressing compliance with recognized frameworks and concepts. Each dimension is measured on a scale of 1 to 100.

Korea is in the top quintile for all three dimensions, with 61 points for coverage (6th out of 195 countries), 82 points for data source (3rd out of 174 countries) and 90 points for data infrastructure (4th out of 190 countries).

In terms of national statistical capacities, the level of statistical capacities remains low in regions other than Europe and North America. In particular, Sub-Saharan Africa and Oceania have lower capacities compared to other regions.



**Statistical Capacities in World Regions(Median Value)** (Unit: points (1~100))




Source : UN SDG Global Database (retrieved on Dec 29, 2023)
Note1 : Coverage is based on the data form Open Data Watch in 2022, while Data Source and Data Infrastructure are based on data from the World Bank in 2019
Note2 : Regional divisions base on UNSD's classification system. Oceania includes Austria and New Zealand

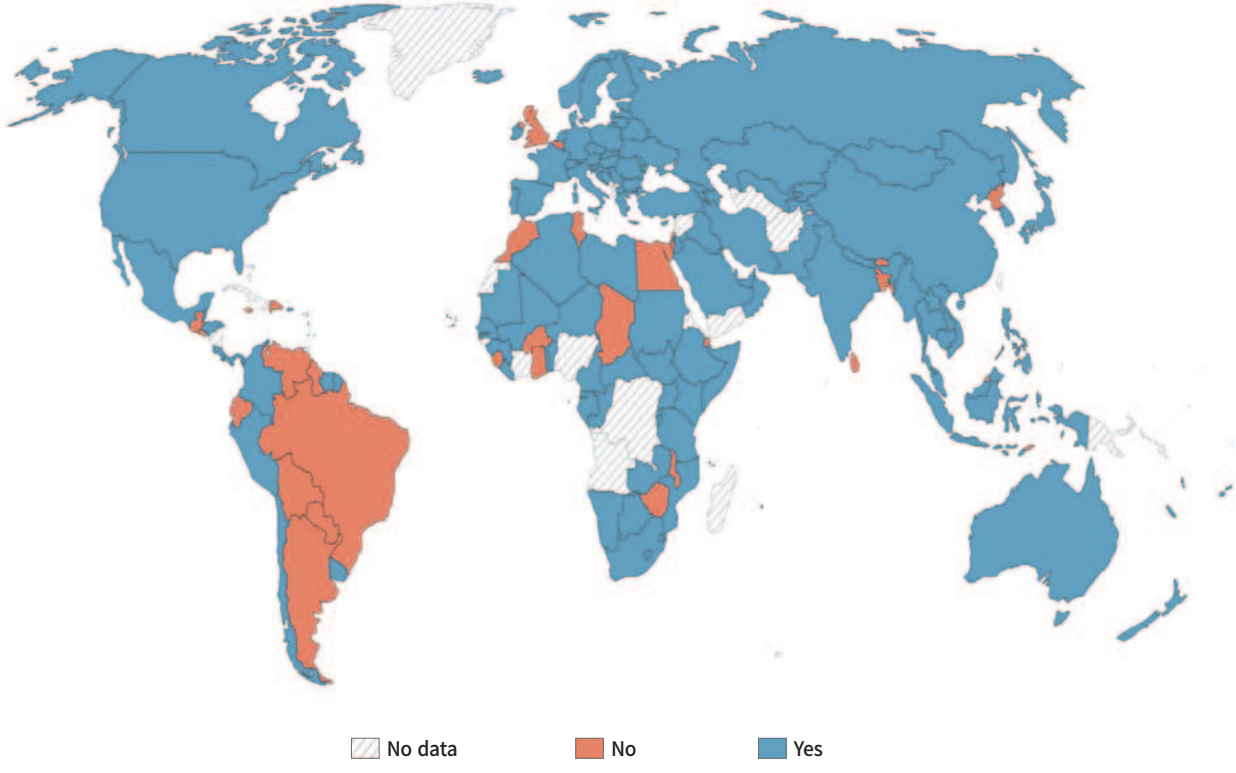
The most striking gap is observed in the domain of data infrastructure. OECD countries reached 100 points whereas LDCs scored only 30points.

Data infrastructure should consider statistical systems and budgets, together with international standards. Other indicators, suggested to check the implementation of the target, include whether there are statistical legislations in place that comply with the Fundamental Principles of Official Statistics (SDG 17.18.2) and whether national statistical plans are implemented with sufficient resources available. Korea has statistical legislations and national statistical plans with funding available (SDG 17.18.3). In 2022, 147 countries were equipped with statistical legislations worldwide while 156 countries were implementing their national statistical plans, out of which 100 countries had fully-funded plans. The number of countries enforcing national statistical plans declined from 143 in 2019 to 133 in 2020 and then it rose to 156 in 2022. As for countries with well-funded plans, the number decreased from 91 in 2019 to 83 in 2020 and 2021 before increasing to 100 in 2022. Such a reduction in 2020 can be explained by the influences of COVID-19 (UN, 2023).

There are differences in the ratio of countries with fully-funded national statistical plans, depending on regions. As seen in statistical capacities, in Sub-Saharan Africa and Oceania, the ratio of countries with statistical finances was a very low, standing at 34.3% and 27.3% respectively. By group, LDCs had a way low rate at 15.2%, showing a considerable difference from 94.4% in OECD countries.

Given statistical capacities and statistical systems in place, Korea has a high level of statistical capacities and is required to globally support activities to strengthen statistical capacities of LDCs in the future. Since 2012, Statistics Korea has provided support to 9 countries (five in Asia, three in Central/North America and one in Africa), to reinforce capacity-building, such

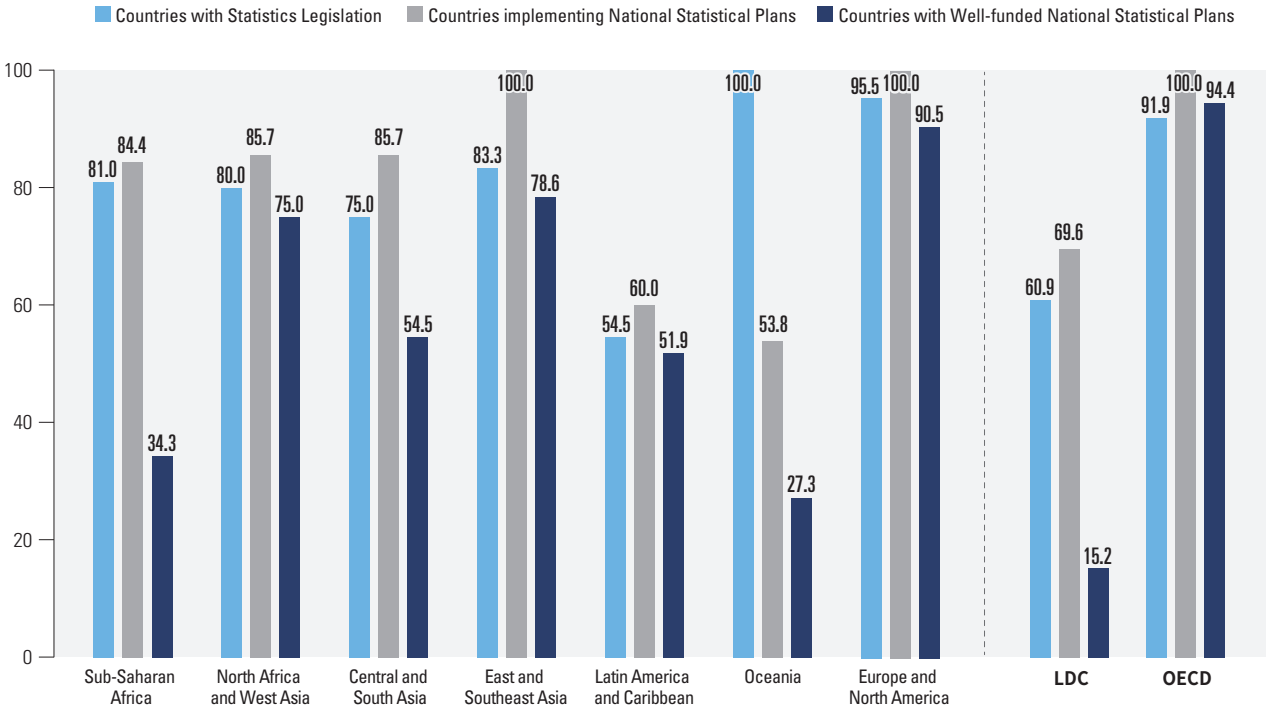
**Countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics, 2022**




Source : Our world in data(https://ourworldindata.org/sdgs/global-partnerships, retrieved on Dec 29, 2023)

as national statistical planing and consulting, the establishment of various statistical systems and local and invitational training. In particular, the SDGs are considered as one of major topics during the invitational training for statistical capacity-building. The ODA budget in Statistics Korea saw a 6.6-fold quantitative growth, increasing from 500 million KRW in 2012 to 3.3 billion KRW in 2022. However, the proportion of Statistics Korea's ODA accounted a mere 0.09% out of the total ODA budget (2.79 billion dollars in 2022). The agency is set to diversify recipient countries and expand the volume of assistance down the road (Statistics Korea, 2023).

**Statistical Legislations and National Statistical Plans in Place by World Regions** (Unit: %)




Source : UN SDG Global Database (retrieved on Dec 29, 2023).
Note1 : Rates are calculated for the countries for which information is available
Note2 : Regional divisions base on UNSD's classification system. Oceania includes Austria and New Zealand

**Definition**

- **Untied ODA** : method of assistance that does not limit suppliers of imported goods and services that a recipient country purchases to the donor nation or a few countries
- **Grant Element** : It serves as an indicator representing the degree of grants out of resources provided under the financial terms of ODA. It is measured by the difference between concessional loans and the present value of the principal/interests. Previously, according to the financial terms of ODA, a discount rate of 10% was applied, regardless of income groups, with a grant element of 25% or higher. However, in the OECD DAC HLM (high-level meeting) held in Dec 2014, ODA eligibility criteria for concessional loans were changed in 2018; since then the grant equivalent has been applied
- **Grant Equivalent** : In 2018, the OECD DAC differentiated the grant element recognized as ODA into income groups and changed the measurement method from net disbursements (gross disbursements – total redemption) to the grant equivalent (gross disbursements x grant element). The thresholds for the grant elements by income group includes 45% or higher for low-income countries, including LDCs, 15% or higher for low- or middle-income countries (LMICs) and 10% or higher for upper-or middle-income countries (HLMICs)

## Purpose and Use

Consisting of 17 goals and 169 targets, SDGs were agreed by countries all around the world at the UN General Assembly in September 2015 to be universally achieved by 2030. Encompassing all sectors including economy, society and the environment in a cross-sectional manner, SDGs reflect the key principle 'Leave No One Behind (LNOB)'. To attain the goals by 2030, nations have monitored their progress at the High Level Political Forum (HLPF) each year and held a summit meeting in every four years.

Voluntary achievement should come first from various groups, including national and local actors, to achieve the SDGs on a global scale. To this end, the 2030 Agenda recommends each and every nation to devise their sustainable development goals and monitor their progress on a regular basis. In 2022, Korea upgraded the Act on Sustainable Development under the jurisdiction of the Ministry of Environment to the Framework Act on Sustainable Development under the Office for the Government Policy Coordination, to reinforce the nation's implementation of sustainable development. At the same time, it also refurbished monitoring functions by including the Statistics Korea as an agency that also serves as the Sustainable Development Committee.

As an authorized national focal point of SDG data in Korea, the Statistics Research Institute under Statistics Korea has been collecting domestic SDG data, providing them to international organizations and publishing the Sustainable Development Goal in the Republic of Korea: Progress Report. Following the publication of the preliminary version 『Korea's SDG Data and Progress through the Global Lenses』 in 2019, it has issued the SDG in the Republic of Korea: Progress Report annually, both in Korean and English, at the end of March since 2021. It includes time-series analysis regarding in a possible scope and analysis by disaggregated group according to domestic demographic groups or regions for meaningful and sufficient analysis. In addition, it diagnoses Korea's current state by comparing with major countries. It focuses on enhancing data usability and visibility in analysis results by making the most of visual aids, such as graphs. Efforts have been made to elaborate on technical terms so that it can be easily understood by the civil society, the general public and students.

This report serves as policy data for policy practitioners and researchers in each area, and can be also used as supporting data for coming up with policies for sustainable development. Furthermore, it is not only utilized as data for policy publicity, education and communications for the general public, press/media and civic society, but it is also provided to relevant overseas agencies and researchers as it is published in English version in parallel. The report is posted on the websites of the Statistics Research Institute and Statistics Korea for easy access for all.

## Data Source

Statistical data from Korea SDG Data Platform (https://kostat.go.kr/sdg) established by Statistics Korea and Online Indicators Portal(https://index.go.kr/sdg) were used first for analysis of indicators, and then reliable data were collected from relevant approved statistics and policy data depending on the need for additional analysis. To collect global data, the UN SDG Database was utilized, together with data from international organizations responsible for each indicator to ensure latest and disaggregated data analysis.

## History

* The cover color of the report represents a specific goal's color.

2024

SDG in the Republic of Korea:
Progress Report 2024
(Korean/English)

2023

SDG in the Republic of Korea:
Progress Report 2023
(Korean/English)

2022

SDG in the Republic of Korea:
Progress Report 2022
(Korean/English)

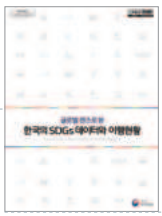
2021

SDG in the Republic of Korea:
Progress Report 2021
(Korean/English)

2020

Korea's SDG Data and Progress
through the Global Lenses 2020
(English)

2019



Korea's SDG Data and Progress
through the Global Lenses 2019
(Korean)

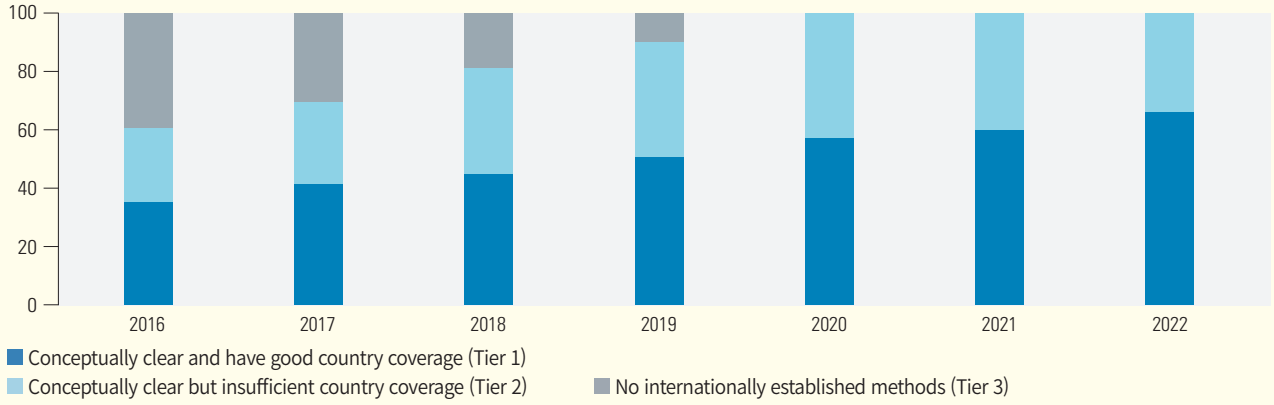
Website on which the report is posted:
kostat.go.kr/sdg or index.go.kr/sdg

Statistical data play an important role in providing data that lays the crucial foundations for accelerating the progress of SDG and taking firm policies and actions. This is because we are able to make a more accurate and detailed diagnosis regarding the current situation through assessments based on reliable, timely and disaggregated data. In response, the UN has supported activities in various aspects to strengthen statistical capacities concerning SDG indicators. As a results, there have been significant strides.

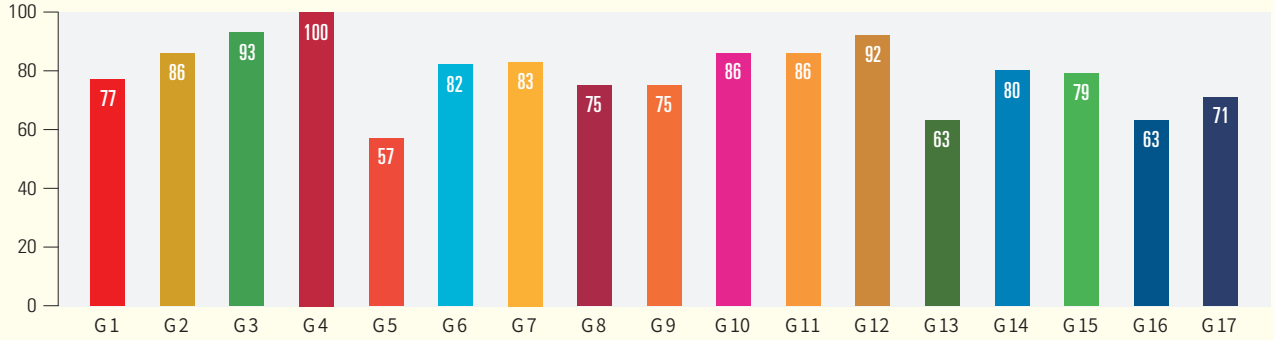
By the time the global SDG indicator framework was drafted in 2016, a concerning 39% of the SDG indicators lacked internationally established methodology or standards (Tier 3). In just 4 fours in 2020, all indicators had a well-established methodology or standards. The proportion of indicators that are conceptually clear and have good country coverage increased significantly from 36% in 2016 to 66% in 2022 (Tier 1), ensuring data accuracy, comparability and reliability of the global indicator framework. However, about 34% of indicators have still insufficient country coverage, requiring continuous capacity-building of nations lacking statistical capacities.

Korea's availability of data corresponding to global SDG indicators stood at 79% in 2023. Statistics Korea has provided relevant data and metadata services on its platform by collecting domestic and overseas statistics in line with the concept of global SDG indicators. Considering the goal-specific data availability, there are still six goals with less data availability compared to the average. Among them, gender equality (Goal 5), climate change (Goal 13) and peace and justice (Goal 16) showed weak data availability.

**Tier Status of Global SDG Indicator** (Unit: %)




**Korea's of SDG Data Availability by Goal(as of Dec. 2023)** (Unit: %)



# Global Indicator Framework for the SDG

From 2023, core indicators and rotation indicators for each goal have been selected for systematic and comprehensive monitoring. Core indicators will be used annually, and rotation indicators will be used for monitoring every 3-5 years.

* Indicators utilized for monitoring since 2019 was shown

## Goal 1 End poverty in all its forms everywhere

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 1.1 | By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day | 1.1.1 | Proportion of the population living below the international poverty line, by sex, age, employment status and geographical location (urban/rural) | ○ | | | | |
| 1.2 | By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions | 1.2.1 | Proportion of population living below the national poverty line, by sex and age | ○ | | ○ | ○ | ● |
| | | 1.2.2 | Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions | | | | | |
| 1.3 | Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable | 1.3.1 | Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons with disabilities, pregnant women, newborns work-injury victims and the poor and the vulnerable | ○ | ○ | ○ | ○ | ● |
| 1.4 | By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance | 1.4.1 | Proportion of population living in households with access to basic services | | | | | |
| | | 1.4.2 | Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation and (b) who perceive their rights to land as secure, by sex and by type of tenure | | | | | ● |
| 1.5 | By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters | 1.5.1 | Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population | | ○ | | | |
| | | 1.5.2 | Direct economic loss attributed to disasters in relation to global gross domestic product(GDP) | | | | | |
| | | 1.5.3 | Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 | | | | | |
| | | 1.5.4 | Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies | | | | | |
| 1.a | Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions | 1.a.1 | Total official development assistance grants from all donors that focus on poverty reduction as a share of the recipient country's gross national income | | | | ○ | |
| | | 1.a.2 | Proportion of total government spending on essential services (education, health and social protection) | | | | | ● |
| 1.b | Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions | 1.b.1 | Pro-poor public social spending | | | | ○ | |

## Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 2.1 | By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round | 2.1.1 | Prevalence of undernourishment | ○ | ○ | ○ | ○ | ● |
| | | 2.1.2 | Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES) | | ○ | ○ | | ● |
| 2.2 | By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons | 2.2.1 | By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons | | | | | |
| | | 2.2.2 | Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type(wasting and overweight) | | | | | |
| | | 2.2.3 | Prevalence of anaemia in women aged 15 to 49 years, by pregnancy status (percentage) | | | | | ● |
| 2.3 | By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment | 2.3.1 | Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size | ○ | ○ | | | ● |
| | | 2.3.2 | Average income of small-scale food producers, by sex and indigenous status | ○ | ○ | ○ | ○ | |

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 2.4 | By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality | 2.4.1 | Proportion of agricultural area under productive and sustainable agriculture | | | ○ | | |
| 2.5 | By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed | 2.5.1 | Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities | | | | | |
| | | 2.5.2 | Proportion of local breeds classified as being at risk of extinction | ○ | | | ○ | |
| 2.a | Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries | 2.a.1 | The agriculture orientation index for government expenditures | | | | | ● |
| | | 2.a.2 | Total official flows (official development assistance plus other official flows) to the agriculture sector | | | | | |
| 2.b | Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round | 2.b.1 | Agricultural export subsidies | | | | | |
| 2.c | Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility | 2.c.1 | Indicator of food price anomalies | | ○ | | ○ | |

## Goal 3 Ensure healthy lives and promote well-being for all at all ages

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 3.1 | By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births | 3.1.1 | Maternal mortality ratiol | ○ | | | | ● |
| | | 3.1.2 | Proportion of births attended by skilled health personnel | | | | | |
| 3.2 | By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births | 3.2.1 | Under-5 mortality rate | ○ | | | | |
| | | 3.2.2 | Neonatal mortality rate | | | ○ | | |
| 3.3 | By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases | 3.3.1 | Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations | | | | ○ | |
| | | 3.3.2 | Tuberculosis incidence per 100,000 population | | | ○ | | |
| | | 3.3.3 | Malaria incidence per 1,000 population | | | | | ● |
| | | 3.3.4 | Hepatitis B incidence per 100,000 population | | | | | |
| | | 3.3.5 | Number of people requiring interventions against neglected tropical diseases | | | | | |
| 3.4 | By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being | 3.4.1 | Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease | ○ | ○ | | | |
| | | 3.4.2 | Suicide mortality rate | ○ | | ○ | | |
| 3.5 | Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol | 3.5.1 | Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders | | | | | |
| | | 3.5.2 | Alcohol per capita consumption (Aged 15 years and older) within a calendar year in litres of pure alcohol | | | | | ● |
| 3.6 | By 2020, halve the number of global deaths and injuries from road traffic accidents | 3.6.1 | By 2020, halve the number of global deaths and injuries from road traffic accidents | ○ | | | | |
| 3.7 | By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes | 3.7.1 | Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods | | | | | |
| | | 3.7.2 | Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group | | | | | |
| 3.8 | Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all | 3.8.1 | Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all | | ○ | | | |
| | | 3.8.2 | Proportion of population with large household expenditures on health as a share of total household expenditure or income | | | ○ | | |
| 3.9 | By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination | 3.9.1 | Mortality rate attributed to household and ambient air pollution | | | | | |
| | | 3.9.2 | Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services) | | | | | |
| | | 3.9.3 | Mortality rate attributed to unintentional poisoning | | | | | ● |

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **3.a** | Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate | 3.a.1 | Age-standardized prevalence of current tobacco use among persons aged 15 years and older | | | | ○ | |
| **3.b** | Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all | 3.b.1 | Proportion of the target population covered by all vaccines included in their national programme | | | ○ | | |
| | | 3.b.2 | Total net official development assistance to medical research and basic health sectors | | | | | |
| | | 3.b.3 | Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis | | | | | |
| **3.c** | Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States | 3.c.1 | Health worker density, by type of occupation | ○ | ○ | ○ | ○ | ● |
| **3.d** | Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks | 3.d.1 | International Health Regulations (IHR) capacity and health emergency preparedness | | ○ | ○ | ○ | |
| | | 3.d.2 | Percentage of bloodstream infections due to selected antimicrobial-resistant organisms | | | | | |

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **4.1** | By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes | 4.1.1 | Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex | ○ | ○ | ○ | ○ | ● |
| | | 4.1.2 | completion rate(primary education, lower secondary education, upper secondary education) | | | | | |
| **4.2** | By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education | 4.2.1 | Proportion of children aged 24-59 months of age who are developmentally on track in health, learning and psychosocial well-being, by sex | | | | | |
| | | 4.2.2 | Participation rate in organized learning (one year before the official primary entry age), by sex | | | | ○ | |
| **4.3** | By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university | 4.3.1 | Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex | ○ | | | ○ | ● |
| **4.4** | By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship | 4.4.1 | Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill | | | ○ | | ● |
| **4.5** | By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations | 4.5.1 | Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated | ○ | ○ | ○ | | |
| **4.6** | By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy | 4.6.1 | Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex | ○ | | | | |
| **4.7** | By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development | 4.7.1 | Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies, (b) curricula, (c) teacher education, and (d) student assessment | | | | ○ | |
| **4.a** | Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all | 4.a.1 | Proportion of schools offering basic services, by type of service | | ○ | | | |
| **4.b** | By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries | 4.b.1 | Volume of official development assistance flows for scholarships by sector and type of study | | | | | ● |
| **4.c** | By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States | 4.c.1 | Proportion of teachers with the minimum required qualifications, by education level | | | | | ● |

## Goal 5 Achieve gender equality and empower all women and girls

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **5.1** | End all forms of discrimination against all women and girls everywhere | 5.1.1 | Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex | | | | | |
| **5.2** | Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation | 5.2.1 | Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age | | ○ | ○ | ○ | ● |
| | | 5.2.2 | Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence | | | | | |
| **5.3** | Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation | 5.3.1 | Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18 | | | | | |
| | | 5.3.2 | Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age | | | | | |
| **5.4** | Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate | 5.4.1 | Proportion of time spent on unpaid domestic and care work, by sex, age and location | ○ | ○ | ○ | | |
| **5.5** | Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life | 5.5.1 | Proportion of seats held by women in (a) national parliaments and (b) local governments | ○ | ○ | ○ | ○ | ● |
| | | 5.5.2 | Proportion of women in managerial positions | ○ | ○ | ○ | ○ | ● |
| **5.6** | Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences | 5.6.1 | Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care | | | | | |
| | | 5.6.2 | Number of countries with laws and regulations that guarantee full and equal access to women and men aged 15 years and older to sexual and reproductive health care, information and education | | | | | |
| **5.a** | Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws | 5.a.1 | (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure | | | | ○ | |
| | | 5.a.2 | (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure | | | | | |
| **5.b** | Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women | 5.b.1 | Proportion of individuals who own a mobile telephone, by sex | | | | | |
| **5.c** | Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels | 5.c.1 | Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment | | | | | |

## Goal 6 Ensure availability and sustainable management of water and sanitation for all

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **6.1** | By 2030, achieve universal and equitable access to safe and affordable drinking water for all | 6.1.1 | Proportion of population using safely managed drinking water services | ○ | | | ○ | ● |
| **6.2** | By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations | 6.2.1 | Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water | | | | | ● |
| **6.3** | By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally | 6.3.1 | Proportion of domestic and industrial wastewater flows safely treated | | | | | ● |
| | | 6.3.2 | Proportion of bodies of water with good ambient water quality | | ○ | ○ | | |
| **6.4** | By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity | 6.4.1 | Change in water-use efficiency over time | | | | ○ | ● |
| | | 6.4.2 | Level of water stress: freshwater withdrawal as a proportion of available freshwater resources | ○ | | ○ | | |
| **6.5** | By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate | 6.5.1 | Degree of integrated water resources management | | ○ | ○ | | |
| | | 6.5.2 | Proportion of transboundary basin area with an operational arrangement for water cooperation | | | | | |
| **6.6** | By 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes | 6.6.1 | Change in the extent of water-related ecosystems over time | ○ | | | ○ | ● |
| **6.a** | By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies | 6.a.1 | Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan | | | | | |
| **6.b** | Support and strengthen the participation of local communities in improving water and sanitation management | 6.b.1 | Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management | | | | | |

## Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 7.1 | By 2030, ensure universal access to affordable, reliable and modern energy services | 7.1.1 | Proportion of population with access to electricity | | | | | |
| | | 7.1.2 | Proportion of population with primary reliance on clean fuels and technology | | | | | |
| 7.2 | By 2030, increase substantially the share of renewable energy in the global energy mix | 7.2.1 | Renewable energy share in the total final energy consumption | | | | | |
| 7.3 | By 2030, double the global rate of improvement in energy efficiency | 7.3.1 | Energy intensity measured in terms of primary energy and GDP | ○ | ○ | ○ | ○ | ● |
| 7.a | By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology | 7.a.1 | International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems | ○ | ○ | ○ | ○ | ● |
| 7.b | By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support | 7.b.1 | Installed renewable energy- generating capacity in developing countries (in Watts per capita) | | | | | |

## Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 8.1 | Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 percent gross domestic product growth per annum in the least developed countries | 8.1.1 | Annual growth rate of real GDP per capita | ○ | ○ | ○ | ○ | ● |
| 8.2 | Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors | 8.2.1 | Annual growth rate of real GDP per employed person | | | | | |
| 8.3 | Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services | 8.3.1 | Proportion of informal employment in total employment, by sector and sex | | | | | |
| 8.4 | Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead | 8.4.1 | Material footprint, material footprint per capita, and material footprint per GDP | | | | | |
| | | 8.4.2 | Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP | | | | ○ | |
| 8.5 | By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value | 8.5.1 | Average hourly earnings of employees, by sex, age, occupation and persons with disabilities | | ○ | | | ● |
| | | 8.5.2 | Unemployment rate, by sex, age and persons with disabilities | ○ | ○ | ○ | ○ | ● |
| 8.6 | By 2020, substantially reduce the proportion of youth not in employment, education or training | 8.6.1 | Proportion of youth (aged 15-24 years) not in education, employment or training | | | | | |
| 8.7 | Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms | 8.7.1 | Proportion and number of children aged 5-17 years engaged in child labour, by sex and age | | | | | |
| 8.8 | Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment | 8.8.1 | Fatal and non-fatal occupational injuries per 100,000 workers, by sex and migrant status | ○ | ○ | ○ | ○ | ● |
| | | 8.8.2 | Level of national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status | | | | | |
| 8.9 | By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products | 8.9.1 | Tourism direct GDP as a proportion of total GDP and in growth rate | | | | | |
| 8.10 | Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all | 8.10.1 | (a) Number of commercial bank branches per 100,000 adults and (b) number of automated teller machines (ATMs) per 100,000 adults | | | | | |
| | | 8.10.2 | Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider | | | | | |
| 8.a | Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries | 8.a.1 | Aid for Trade commitments and disbursements | | | | | |
| 8.b | By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization | 8.b.1 | Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy | | | | | |

## Goal 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 9.1 | Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all | 9.1.1 | Proportion of the rural population who live within 2 km of an all-season road | | | | | |
| | | 9.1.2 | Passenger and freight volumes, by mode of transport | | ○ | ○ | | ● |
| 9.2 | Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries | 9.2.1 | Manufacturing value added as a proportion of GDP and per capita | ○ | | ○ | | |
| | | 9.2.2 | Manufacturing employment as a proportion of total employment | ○ | ○ | ○ | ○ | ● |
| 9.3 | Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets | 9.3.1 | Proportion of small-scale industries in total industry value added | | | | ○ | |
| | | 9.3.2 | Proportion of small-scale industries with a loan or line of credit | | | | | |
| 9.4 | By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities | 9.4.1 | $CO_2$ emission per unit of value added | | | | | |
| 9.5 | Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending | 9.5.1 | Research and development expenditure as a proportion of GDP | ○ | ○ | ○ | ○ | ● |
| | | 9.5.2 | Researchers (in full-time equivalent) per million inhabitant | ○ | ○ | ○ | ○ | ● |
| 9.a | Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States | 9.a.1 | Total official international support (official development assistance plus other official flows) to infrastructure | | | | | |
| 9.b | Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities | 9.b.1 | Proportion of medium and high-tech industry value added in total value added | | | | | |
| 9.c | Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020 | 9.c.1 | Proportion of population covered by a mobile network, by technology | | | | | |



## Goal 10 Reduce inequality within and among countries

| Target | | Indicator | | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2021 | 2022 | 2023 | 2024 |
| 10.1 | By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average | 10.1.1 | Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population | | | | | |
| 10.2 | By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status | 10.2.1 | Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities | | ○ | | | |
| 10.3 | Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard | 10.3.1 | Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law | | | ○ | | |
| 10.4 | Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality | 10.4.1 | Labour share of GDP | | | ○ | ○ | ● |
| | | 10.4.2 | Redistributive impact of fiscal policy | ○ | ○ | ○ | ○ | ● |
| 10.5 | Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations | 10.5.1 | Financial Soundness Indicators | | | | ○ | |
| 10.6 | Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions | 10.6.1 | Proportion of members and voting rights of developing countries in international organizations | | | | | |
| 10.7 | Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies | 10.7.1 | Recruitment cost borne by employee as a proportion of monthly income earned in country of destination | | ○ | ○ | | ● |
| | | 10.7.2 | Number of countries with migration policies that facilitate orderly, safe, regular and responsible migration and mobility of people | | | | | |
| | | 10.7.3 | Number of people who died or disappeared in the process of migration towards an international destination | | | | | |
| | | 10.7.4 | Proportion of the polulation who are refugees, by country of origin | | | | | ● |
| 10.a | Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements | 10.a.1 | Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff | | | | | |
| 10.b | Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes | 10.b.1 | Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows) | | | | | |
| 10.c | By 2030, reduce to less than 3 percent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 percent | 10.c.1 | Remittance costs as a proportion of the amount remitted | | | | | |

## Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **11.1** By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums | **11.1.1** Proportion of urban population living in slums, informal settlements or inadequate housing | ○ | ○ | ○ | ○ | ● |
| **11.2** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situation, women, children, persons with disabilities and order persons | **11.2.1** Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities | ○ | | ○ | ○ | |
| **11.3** By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries | **11.3.1** Ratio of land consumption rate to population growth rate | | | | | |
| | **11.3.2** Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically | | | | ○ | |
| **11.4** Strengthen efforts to protect and safeguard the world's cultural and natural heritage | **11.4.1** Total per capita expenditure on the preservation protection and conservation of all cultural and natural heritage, by source of funding(public and private), type of heritage (cultural, natural), level of government (national, regional and local/municipal) | | | | | ● |
| **11.5** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations | **11.5.1** Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population | | | | | |
| | **11.5.2** Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters | | | | | |
| **11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management | **11.6.1** Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities | ○ | ○ | ○ | | ● |
| | **11.6.2** Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted) | ○ | ○ | | | |
| **11.7** By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities | **11.7.1** Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities | | ○ | ○ | ○ | |
| | **11.7.2** Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months | | | | | ● |
| **11.a** Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning | **11.a.1** Number of countries that have national urban policies or regional development plans that (a) respond to population dynamics, (b) ensure balanced territorial development, (c) increase local fiscal space | | | | | |
| **11.b** By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels | **11.b.1** Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 | | | | | |
| | **11.b.2** Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies | | | | | |

## Goal 12 Ensure sustainable consumption and production patterns

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **12.1** Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries | **12.1.1** Number of countries developing, adopting or inplementing policy instruments aimed at supporting the shift to sustainable consumption and production | | | | | |
| **12.2** By 2030, achieve the sustainable management and efficient use of natural resources | **12.2.1** Material footprint, material footprint per capita, and material footprint per GDP | | | | | |
| | **12.2.2** Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP | | | | | |
| **12.3** By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses | **12.3.1** a) Food loss index and b) Food waste index | ○ | | | | ● |
| **12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment | **12.4.1** Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement | | | | | |
| | **12.4.2** (a) Hazardous waste generated per capita and (b) proportion of hazardous waste treated, by type of treatment | ○ | | ○ | ○ | ● |
| **12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse | **12.5.1** National recycling rate, tons of material recycled | ○ | ○ | ○ | ○ | ● |
| **12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle | **12.6.1** Number of companies publishing sustainability reports | | ○ | | | ● |
| **12.7** Promote public procurement practices that are sustainable, in accordance with national policies and priorities | **12.7.1** Degree of sustainable public procurement policies and action plans implementation | | | | | ● |
| **12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature | **12.8.1** Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies, (b) curricula, (c) teacher education, and (d) student assessment | | | | | |

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **12.a** Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production | 12.a.1 Installed renewable energy generating capacity in developing countries (in Watts per capita) | | | | | |
| **12.b** Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products | 12.b.1 Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability | | | | | |
| **12.c** Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities | 12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) | | | | | |

## Goal 13 Take urgent action to combat climate change and its impacts

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries | 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population | | | ○ | ○ | ● |
| | 13.1.2 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 | | | | | |
| | 13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies | | | | | |
| **13.2** Integrate climate change measures into national policies, strategies and planning | 13.2.1 Number of countries with nationally determined contributions, long-term strategies, national adaptation plans, strategies as reported in adaptation communications and national communications | | | | | |
| | 13.2.2 Total greenhouse gas emissions per year | ○ | ○ | ○ | ○ | ● |
| **13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning | 13.3.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies, (b) curricula, (c) teacher education, and (d) student assessment | | | | | |
| **13.a** Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible | 13.a.1 Amount provided and mobilized in United States dollars per year in relation to the continued existing collective mobilization goal of the $100 billion commitment through to 2025 | | | | | |
| **13.b** Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities | 13.b.1 Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans, strategies as reported in adaptation communications and national communications | | | | | |

## Goal 14 Conserve and sustainable use the oceans, seas, and marine resources for sustainable development

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution | 14.1.1 (a) Index of coastal eutrophication; and (b) floating plastic debris density | ○ | ○ | ○ | ○ | ● |
| **14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans | 14.2.1 Number of countries using ecosystem-based approaches to managing marine areas | | | | ○ | |
| **14.3** Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels | 14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations | | | | | |
| **14.4** By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics | 14.4.1 Proportion of fish stocks within biologically sustainable levels | | ○ | ○ | ○ | ● |
| **14.5** By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information | 14.5.1 Coverage of protected areas in relation to marine areas | ○ | | ○ | | ● |

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **14.6** By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation | **14.6.1** Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing | | | | ○ | ● |
| **14.7** By 2030, increase the economic benefits to Small Island Developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism | **14.7.1** Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries | | | | | |
| **14.a** Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries | **14.a.1** Proportion of total research budget allocated to research in the field of marine technology | | | | ○ | |
| **14.b** Provide access for small-scale artisanal fishers to marine resources and markets | **14.b.1** Degree of application of a legal/regulatory/policy/institutional frame work which recognizes and protects access rights for small-scale fisheries | | | | | |
| **14.c** Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want" | **14.c.1** Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources | | | | | ● |

## Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements | **15.1.1** Forest area as a proportion of total land area | ○ | | ○ | ○ | |
| | **15.1.2** Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type | | ○ | ○ | ○ | ● |
| **15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally | **15.2.1** Progress towards sustainable forest management | | ○ | ○ | ○ | ● |
| **15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world | **15.3.1** Proportion of land that is degraded over total land area | | | | | |
| **15.4** By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development | **15.4.1** Coverage by protected areas of important sites for mountain biodiversity | | | | | |
| | **15.4.2** Mountain Green Cover Index | | | ○ | | |
| **15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species | **15.5.1** Red list Index | ○ | | ○ | ○ | ● |
| **15.6** Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed | **15.6.1** Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits | | | | | |
| **15.7** Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products | **15.7.1** Proportion of traded wildlife that was poached or illicitly trafficked | | | | | |
| **15.8** By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species | **15.8.1** Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species | | | | | |
| **15.9** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts | **15.9.1** (a) Number of countries that have established national targets in accordance with or similar to Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 in their national biodiversity strategy and action plans and the progress reported towards these targets; and (b) integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting | | | | | |
| **15.a** Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems | **15.a.1** (a) Official development assistance on conservation and sustainable use of biodiversity (b) revenue generated and finance mobilised from biodiversity-relevant economic instruments | | | | | |
| **15.b** Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation | **15.b.1** (a) Official development assistance on conservation and sustainable use of biodiversity (b) revenue generated and finance mobilised from biodiversity-relevant economic instruments | | | | | |
| **15.c** Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities | **15.c.1** Proportion of traded wildlife that was poached or illicitly trafficked | | | | | |

## Goal 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **16.1** Significantly reduce all forms of violence and related death rates everywhere | **16.1.1** Number of victims of intentional homicide per 100,000 population, by sex and age | ○ | | ○ | ○ | ● |
| | **16.1.2** Conflict-related deaths per 100,000 population, by sex, age and cause | | | | | |
| | **16.1.3** Proportion of population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months | | | | ○ | |
| | **16.1.4** Proportion of population that feel safe walking alone around the area they live | ○ | | ○ | | |
| **16.2** End abuse, exploitation, trafficking and all forms of violence against and torture of children | **16.2.1** Proportion of children aged 1-17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month | | ○ | | | ● |
| | **16.2.2** Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation | | | | | |
| | **16.2.3** Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18 | | | | | |
| **16.3** Promote the rule of law at the national and international levels and ensure equal access to justice for all | **16.3.1** Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms | | | | ○ | |
| | **16.3.2** Unsentenced detainees as a proportion of overall prison population | ○ | | | | ● |
| | **16.3.3** Proportion of the population who have experienced a dispute in the past two years and who accessed a formal or informal dispute resolution mechanism, by type of mechanism | | | | | |
| **16.4** By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime | **16.4.1** Total value of inward and outward illicit financial flows (in current United States dollars) | | | | | |
| | **16.4.2** Proportion of seized, found or surrendered arms, whose illicit origin or context has been traced or established by a competent authority in line with international instruments | | | | | |
| **16.5** Substantially reduce corruption and bribery in all their forms | **16.5.1** Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months | | | | ○ | |
| | **16.5.2** Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months | | | | ○ | |
| **16.6** Develop effective, accountable and transparent institutions at all levels | **16.6.1** Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar) | | | | | |
| | **16.6.2** Proportion of population satisfied with their last experience of public services | | | ○ | | |
| **16.7** Ensure responsive, inclusive, participatory and representative decision-making at all levels | **16.7.1** Proportions of positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions,by sex, age, persons with disabilities and population groups | | | | | |
| | **16.7.2** Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group | | | ○ | | |
| **16.8** Broaden and strengthen the participation of developing countries in the institutions of global governance | **16.8.1** Proportion of members and voting rights of developing countries in international organizations | | | | | |
| **16.9** By 2030, provide legal identity for all, including birth registration | **16.9.1** Proportion of children under 5 years of age whose births have been registered with a civil authority, by age | | | | | |
| **16.10** Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements | **16.10.1** Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and humanrights advocates in the previous 12 months | | | | | |
| | **16.10.2** Number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information | | | | | |
| **16.a** Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime | **16.a.1** Existence of independent national human rights institutions in compliance with the Paris Principles | | | | | |
| **16.b** Promote and enforce non-discriminatory laws and policies for sustainable development | **16.b.1** Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law | | | | | ● |

## Goal 17 Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **17.1** Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection | **17.1.1** Total government revenue as a proportion of GDP, by source | | | | | |
| | **17.1.2** Proportion of domestic budget funded by domestic taxes | | | | | |
| **17.2** Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries | **17.2.1** Net official development assistance, 1) total and 2) to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI) | ○ | ○ | ○ | ○ | ● |
| **17.3** Mobilize additional financial resources for developing countries from multiple sources | **17.3.1** Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of gross national income (GNI) | | | | ○ | ● |
| | **17.3.2** Volume of remittances (in United States dollars) as a proportion of total GDP | | | | | |
| **17.4** Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress | **17.4.1** Debt service as a proportion of exports of goods and services | | | | | |
| **17.5** Adopt and implement investment promotion regimes for least developed countries | **17.5.1** Number of countries that adopt and implement investment promotion regimes for developing countries, including LDCs | | | | ○ | ● |
| **17.6** Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism | **17.6.1** Fixed Internet broadband subscriptions per 100 inhabitants, by speed | | | | | |
| **17.7** Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed | **17.7.1** Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies | | | | | |
| **17.8** Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology | **17.8.1** Proportion of individuals using the Internet | | | | | |
| **17.9** Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation | **17.9.1** Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries | | | | | |
| **17.10** Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda | **17.10.1** Worldwide weighted tariff-average | | | | | |
| **17.11** Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020 | **17.11.1** Developing countries' and least developed countries' share of global exports | | | ○ | ○ | |
| **17.12** Average tariffs faced by developing countries, least developed countries and small island developing States | **17.12.1** Weighted average tariffs faced by developing countries, least developed countries and small island developing States | | | | | |
| **17.13** Enhance global macroeconomic stability, including through policy coordination and policy coherence | **17.13.1** Macroeconomic Dashboard | | | | | |
| **17.14** Enhance policy coherence for sustainable development | **17.14.1** Number of countries with mechanisms in place to enhance policy coherence of sustainable development | | | | | |
| **17.15** Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development | **17.15.1** Extent of use of country-owned results frameworks and planning tools by providers of development cooperation | | ○ | | | |
| **17.16** Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries | **17.16.1** Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals | | | | | |
| **17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships | **17.17.1** Amount of United States dollars committed to public-private partnerships for infrastructure | | | | | |

| Target | Indicator | Monitoring Indicator by Year | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2021 | 2022 | 2023 | 2024 |
| **17.18** By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts | **17.18.1** Statistical capacity indicator for SDG monitoring | | | | | ● |
| | **17.18.2** Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics | | | | | ● |
| | **17.18.3** Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding | | | | | ● |
| **17.19** By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries | **17.19.1** Dollar value of all resources made available to strengthen statistical capacity in developing countries | | | | | |
| | **17.19.2** Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration | | | | | |

Data figures for each year are available on the site below

**Statistics Korea's Online Indicators Portal**
(https://www.index.go.kr/sdg)

or

**Korea SDG Data Platform**
(https://kostat.go.kr/sdg/en)

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# Abbreviations

**AOI** Agriculture Orientation Index

**CBD** Convention on Biological Diversity

**FAO** Food and Agriculture Organization

**FDI** Foreign Direct Investment

**GDP** Gross Domestic Product

**GNI** Gross National Income

**ICT** Information and Communication Technology

**ILO** International Labour Organization

**IPCC** Intergovernmental Panel on Climate Change

**ITU** International Telecommunication Union

**IUCN** International Union for Conservation of Nature

**IUU** Illegal, Unreported and Unregulated

**JMP** Joint Monitoring Program for Water Supply, Sanitation and Hygiene of WHO/UNICEF

**KBA** Key Biodiversity Area

**KDPA** Korea Database on Protected Areas

**LDCs** Least Developed Countries

**LICs** Low Income Countries

**LULUCF** Land Use, Land-Use Change and Forestry

**NDC** Nationally Determined Contribution

**ODA** Official Development Assistance

**OECD** Organization for Economic Cooperation and Development

**OECD DAC** OECD Development Assistance Committee

**PISA** Programme for International Student Assessment

**PPA** Power Purchase Agreement

**RPS** Renewable Portfolio Standards

**SDG** Sustainable Development Goals

**SOCX** Social Expenditure Database

**TALIS** Teaching and Learning International Survey

**UNCLOS** United Nations Convention on the Law of the Sea

**UNEA** United Nations Environment Assembly

**UNFCCC** United Nations Framework Convention on Climate Change

**WHO** World Health Organization

**WMO** World Meteorological Organization

**WTO** World Trade Organization

“We reaffirm our unwavering commitment to achiving this Agenda and utilizing it to the full to transform our world for the better by 2030.”

**- Transforming Our World: The 2030 Agenda for Sustainable Development (para.91) -**

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**Publication Date:** March 2024

**Publisher:** Statistics Research Institute, Statistics Korea
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**Website:** http://sri.kostat.go.kr

**ISSN** 2765-3803

9 772765 380000 45
ISSN 2765-3803

Government Publications Registration Number
11-1240245-000071-10



# SDG IN THE REPUBLIC OF KOREA: PROGRESS REPORT 2024