

# 18 Korea

## Support to agriculture

Korea reduced its support to agriculture over the past thirty years. Producer support declined from 62.3% of gross farm receipts in 1986-88 to 46.7% in 2018-20, still well above the OECD average. Potentially most-distorting transfers dominate producer support, due to tariff rate quotas (TRQ) with high out-of-quota tariffs. Since 2015, all import restrictions on agricultural products apply in the form of tariffs and TRQs.

Transfers to specific commodities, mainly due to market price support (MPS), represented 90% of total support to farmers in 2018-20.<sup>1</sup> MPS is also the main component of single commodity transfers (SCT). The share of SCT in commodity gross farm receipts is over 60% for soybeans, red pepper, garlic, barley and rice.

Most remaining producer support goes towards direct payment programmes, agricultural insurance scheme and subsidies based on input use. Initial expenditure in 2020 on a new direct payment programme affected the level of support.

General services expenditures (GSSE) amounted to 12% of agricultural value-added in 2018-20, well above the OECD average. Of this, 80% went to the knowledge and innovation system, and the development and maintenance of infrastructure. Total support to agriculture (TSE) declined from 7.6% of GDP in 1986-88 to 1.5% in 2018-20, a proportion that remains much higher than the OECD average.

## Recent policy changes

A new direct payment scheme that integrates former direct payment programmes for rice, upland crops and less-favoured areas began in 2020. Due to this reform, rice payments are now based on historical entitlements and decoupled from current production. The scheme also reinforces environmental cross-compliance requirements.

The 2050 Carbon Neutral Strategy of Korea, a long-term plan for greenhouse gas (GHG) emission mitigation, was released in December 2020. It includes a national vision for GHG emission reduction and a strategic plan for agriculture, such as transition to smart farming, development of low-carbon agricultural practices and scaling-up of eco-friendly energy deployment.

Policy measures were implemented to attract young people to rural areas and to foster female farmers. These include facilitating the application of digital technology to the sector, providing education and training services, and expanding rural infrastructure. The 5<sup>th</sup> Master Plan for Fostering Female Farmers 2020-25 was also announced in 2020.

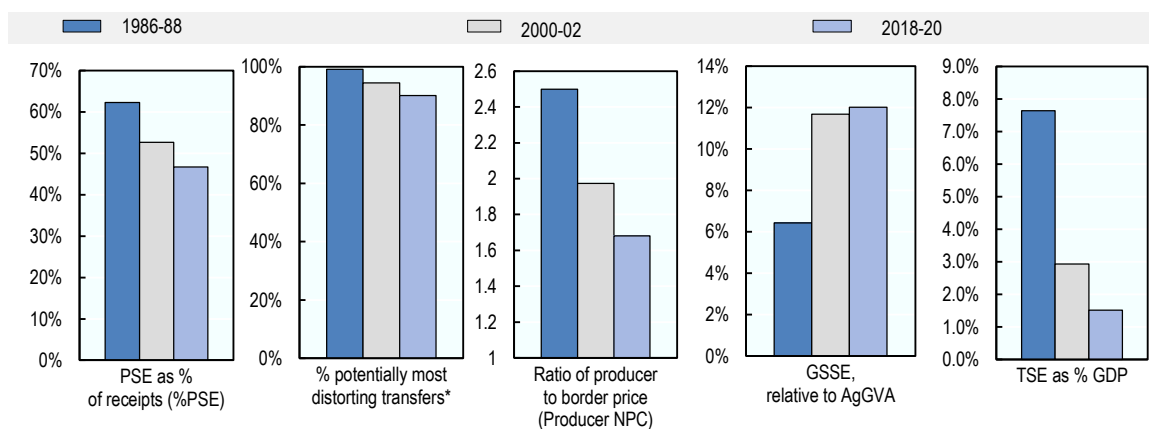
The government continues to promote advanced technologies to improve competitiveness in the agricultural sector. The Smart Agriculture Project includes construction of the Smart Farm Innovation Valleys that implement related policies including education for youth and demonstration of technology and equipment.

In response to the COVID-19 pandemic, the government provided emergency loans with concessional interest rates to farming households to address liquidity problems. Leasing fees for agricultural machinery and equipment were also subsidised on a temporary basis. To address the shortage of seasonal migrant workers in rural areas, the government alleviated visa regulations and increased the number of local job-matching centres. Also, efforts were made to respond to shifts in consumer demand, such as finding alternative distribution channels, launching nationwide promotion campaigns (for horticultural and floricultural products), and providing vouchers for local market purchases.

## Assessment and recommendations

- The agricultural sector faces a declining and ageing farm population, and pressures to improve productivity and meet societal demands such as the preservation of natural resources and the environment. Despite reforms, some agricultural policies still do not align with these objectives. The high level of support to producers, 2.6 times the OECD average, is dominated by market price support that distorts producers' decision-making, has potential to harm the environment and natural resources, and hinders agricultural innovation and the sector's capacity to adapt to climate change.
- Reforms of direct payments were finalised in 2020 and integrated the rice income compensation programme, which had been the most significant direct payment in Korea, into a new scheme. This is important to reducing market distortion through less commodity-specific support and diversification of agricultural production. Detailed policy measures and monitoring systems at the local level are required to facilitate farm-level implementation of the new scheme.
- Environmentally-friendly agriculture and preserving the ecosystem should become priorities to assure agricultural sustainability. The 2050 Carbon Neutral Strategy (2020) and the Climate Change Response Plan 2020-40 (2019) establish roadmaps for GHG emission reduction and climate change adaptation. Specific policy instruments need to be developed for the agricultural sector to achieve these targets. Further efforts are needed to reduce nutrient surpluses by improving animal waste management, and to manage irrigation water use in a sustainable way.
- Despite the latest policy measures to attract more people to the rural sector, the lack of young and skilled workers in agriculture, and the widening income gap remain key obstacles. Further efforts to develop rural infrastructure, create employment opportunities, facilitate social security payments for aged farmers wanting to exit the sector, and diversify income sources are needed to address labour shortage and low-income issues.
- Korea continues to promote digital technology through its "Smart Agriculture project". Although public investment in agricultural research and development (R&D) has grown over time, the government-led R&D scheme could still address the various needs of stakeholders. Private-sector investment and participation need to be strengthened to establish a more competitive, demand-driven R&D system.
- With swift policy responses to COVID-19, Korea avoided extensive lockdowns and limited economic damage to the agro-food industry. Nevertheless, economic recession and weaknesses in demand are likely to affect production, investment and employment in the sector. Furthermore, as this pandemic may bring long-term changes in production and consumption of agro-food products, the focus of policy or budget expenditure will need to change with market trends.

Figure 18.1. Korea: Development of support to agriculture

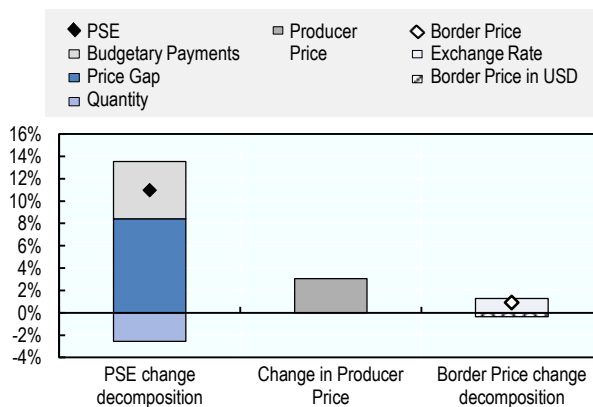


Note: \* Share of potentially most distorting transfers in cumulated gross producer transfers.

Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

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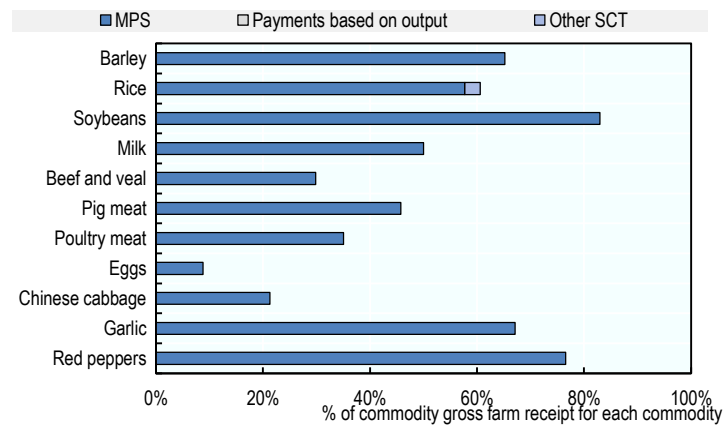
Figure 18.2. Korea: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

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Figure 18.3. Korea: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

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Table 18.1. Korea: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
<b>Total value of production (at farm gate)</b>	<b>16 985</b>	<b>26 360</b>	<b>43 495</b>	<b>45 493</b>	<b>42 633</b>	<b>42 357</b>
<i>of which: share of MPS commodities (%)</i>	74.3	63.3	60.9	60.4	60.8	61.7
<b>Total value of consumption (at farm gate)</b>	<b>17 247</b>	<b>33 199</b>	<b>60 191</b>	<b>63 367</b>	<b>59 280</b>	<b>57 928</b>
<b>Producer Support Estimate (PSE)</b>	<b>10 682</b>	<b>14 461</b>	<b>21 383</b>	<b>23 038</b>	<b>19 616</b>	<b>21 495</b>
Support based on commodity output	10 562	13 500	19 096	20 837	17 772	18 679
Market Price Support <sup>1</sup>	10 562	13 500	19 096	20 837	17 772	18 679
Positive Market Price Support	10 562	13 500	19 096	20 837	17 772	18 679
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	0	0	0	0	0	0
Payments based on input use	90	470	574	603	571	547
Based on variable input use	29	207	222	278	193	196
with input constraints	4	34	45	46	44	46
Based on fixed capital formation	57	246	175	185	198	142
with input constraints	0	18	37	34	37	41
Based on on-farm services	4	17	176	141	180	209
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	29	490	564	813	540	338
Based on Receipts / Income	29	292	76	70	78	80
Based on Area planted / Animal numbers	0	198	488	743	462	258
with input constraints	0	160	35	41	37	28
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	1 150	785	733	1 931
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	1 150	785	733	1 931
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	1	0	0	0	0
Based on long-term resource retirement	0	1	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
<b>Percentage PSE (%)</b>	<b>62.3</b>	<b>52.6</b>	<b>46.7</b>	<b>48.3</b>	<b>44.1</b>	<b>47.6</b>
<b>Producer NPC (coeff.)</b>	<b>2.50</b>	<b>1.97</b>	<b>1.68</b>	<b>1.72</b>	<b>1.62</b>	<b>1.71</b>
<b>Producer NAC (coeff.)</b>	<b>2.65</b>	<b>2.11</b>	<b>1.88</b>	<b>1.93</b>	<b>1.79</b>	<b>1.91</b>
<b>General Services Support Estimate (GSSE)</b>	<b>1 066</b>	<b>2 676</b>	<b>3 754</b>	<b>4 025</b>	<b>4 001</b>	<b>3 236</b>
Agricultural knowledge and innovation system	67	243	883	912	869	868
Inspection and control	26	126	320	355	316	289
Development and maintenance of infrastructure	467	1 811	2 133	2 354	2 314	1 730
Marketing and promotion	0	26	38	40	37	38
Cost of public stockholding	505	471	380	364	465	311
Miscellaneous	0	0	0	0	0	0
<b>Percentage GSSE (% of TSE)</b>	<b>8.9</b>	<b>15.6</b>	<b>14.9</b>	<b>14.9</b>	<b>16.9</b>	<b>13.1</b>
<b>Consumer Support Estimate (CSE)</b>	<b>-10 147</b>	<b>-15 369</b>	<b>-24 791</b>	<b>-26 948</b>	<b>-23 597</b>	<b>-23 829</b>
Transfers to producers from consumers	-10 015	-12 809	-17 402	-18 973	-16 375	-16 859
Other transfers from consumers	-205	-2 653	-7 424	-8 012	-7 257	-7 003
Transfers to consumers from taxpayers	73	93	35	37	35	33
Excess feed cost	0	0	0	0	0	0
<b>Percentage CSE (%)</b>	<b>-59.0</b>	<b>-46.1</b>	<b>-41.2</b>	<b>-42.6</b>	<b>-39.8</b>	<b>-41.2</b>
<b>Consumer NPC (coeff.)</b>	<b>2.45</b>	<b>1.86</b>	<b>1.70</b>	<b>1.74</b>	<b>1.66</b>	<b>1.70</b>
<b>Consumer NAC (coeff.)</b>	<b>2.44</b>	<b>1.85</b>	<b>1.70</b>	<b>1.74</b>	<b>1.66</b>	<b>1.70</b>
<b>Total Support Estimate (TSE)</b>	<b>11 821</b>	<b>17 230</b>	<b>25 172</b>	<b>27 100</b>	<b>23 653</b>	<b>24 764</b>
Transfers from consumers	10 220	15 462	24 826	26 985	23 632	23 862
Transfers from taxpayers	1 805	4 421	7 770	8 127	7 278	7 905
Budget revenues	-205	-2 653	-7 424	-8 012	-7 257	-7 003
<b>Percentage TSE (% of GDP)</b>	<b>7.6</b>	<b>2.9</b>	<b>1.5</b>	<b>1.6</b>	<b>1.4</b>	<b>1.5</b>
<b>Total Budgetary Support Estimate (TBSE)</b>	<b>1 258</b>	<b>3 731</b>	<b>6 076</b>	<b>6 264</b>	<b>5 881</b>	<b>6 084</b>
<b>Percentage TBSE (% of GDP)</b>	<b>0.8</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>
<b>GDP deflator (1986-88=100)</b>	<b>100</b>	<b>209</b>	<b>294</b>	<b>294</b>	<b>292</b>	<b>295</b>
<b>Exchange rate (national currency per USD)</b>	<b>812.03</b>	<b>1 224.03</b>	<b>1 148.54</b>	<b>1 100.19</b>	<b>1 165.29</b>	<b>1 180.13</b>

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.

A/An/R/I: Area planted/Animal numbers/Receipts/Income.

1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Korea are: barley, garlic, red pepper, Chinese cabbage, rice, soybean, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

## Description of policy developments

### Overview of policy trends

Korea's agricultural sector experienced a number of structural changes in a short period, concurrent with rapid industrialisation and associated economic growth. From the 1950s to the 1970s, the government concentrated primarily on increasing crop productivity and achieving self-sufficiency in staple foods, particularly rice.

Through the late 1980s and the 1990s, policy objectives were to restructure the sector and improve its competitiveness, in line with the opening of agricultural markets. With progressive liberalisation of agriculture and food markets, agricultural policies in Korea adopted more diverse objectives, ranging from enhancing productivity to improving long-term agricultural sustainability. Rapid growth and industrialisation led to income disparity between farm and urban households.

Since the first post-2000 decade, emphasis shifted to a broader set of objectives, such as vitalising the rural economy, expanding the export market, enhancing the environmental performance of agriculture and promoting the food industry. Moreover, multilateral and bilateral trade agreements required progressive structural adjustments in the agricultural sector. During the late 1990s and 2000s, non-tariff trade measures on agricultural products gradually converted to tariffs and TRQs, except for rice as agreed in the Uruguay Round Agreement on Agriculture. In January 2015, by a tariff scheme also replaced non-tariff measures on rice (OECD, 2018<sup>[1]</sup>).

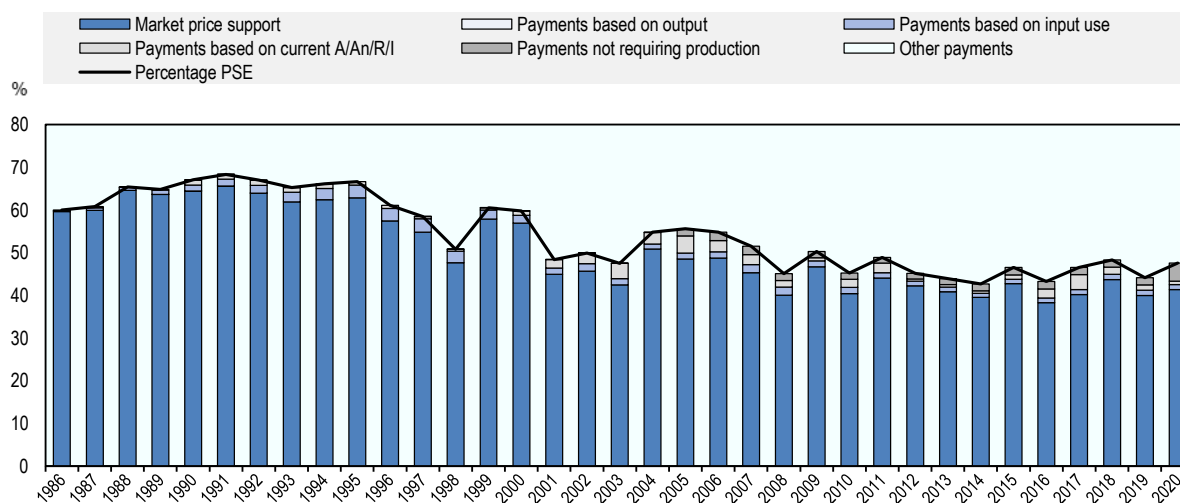
**Table 18.2. Korea: Agricultural policy trends**

Period	Broader framework	Changes in agricultural policies
Prior to 1970s	Relatively closed economy Policy focus on productivity and self-sufficiency	Price supports and government procurement programme for crops Subsidies for inputs (including fertiliser, seeds)
1980-1990	Exposure of domestic producers to open market Structural adjustment programmes	Tariff and non-tariff measures replaced by tariffs and tariff rate quotas (except for rice) Government procurement programme for crops Direct payment programmes (early retirement payments from 1997) Agricultural insurance scheme (from 1997)
2000-present	Responding to changing market demands Diversified policy objectives	Tariffs and tariff rate quotas Tariff concession through Free Trade Agreements Public stockholding scheme for major staple crops Direct payment programme for rice (2005-2019) Direct payment scheme reformed (from 2020) Environment-friendly agricultural programmes

Despite a decline in support to farmers as a share of gross farm receipts, Korea's level remains much higher than the OECD average. Market price support is a dominant component of total support to agriculture. The share of the MPS in total support shows only a moderate decrease during the last three decades (Figure 18.4). The share of support for general services slightly increased over the same period.

**Figure 18.4. Korea: Level and PSE composition by support categories, 1986 to 2020**

As a percentage of gross farm receipts



Note: A/An/R/I: Area planted/Animal numbers/Receipts/Income.

Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.

Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

### Main policy instruments

The Framework Act on Agriculture, Rural Community and Food Industry enacted in 2007 sets Korea's agricultural policy framework. It requires the government to establish a national policy plan every five years. The most recent plan, for 2018-22, includes four main policy objectives: (1) strengthening farmers' income safety net; (2) promoting innovation for sustainable agriculture; (3) enhancing food safety in the supply chain; and (4) improving rural welfare.

The public stockholding scheme for rice, known as the Public Storage System for Emergencies, was established in 2005. One of its objectives is to guarantee food security in times of natural disaster, or during a temporary shortage due to mismatching supply and demand. Under the scheme, the government purchases rice from farmers at market price during harvest season and releases the stocks at market prices when necessary. The government has a similar purchasing programme for soybeans.

Several direct payment programmes operate in Korea, including the early retirement payment, a payment scheme to promote environment-friendly production and payments for rural landscape conservation. The income compensation scheme for rice, which had been the main payment scheme in Korea, was integrated into a new direct payment scheme.

An agricultural disaster insurance scheme protects farmers against losses in crop yield and livestock in the form of insurance premium subsidies. The government also implemented a pilot project for agricultural revenue insurance for specific crops.

To promote rural development and sustain livelihoods in rural areas, the government provides support for people who move to farm villages and join agriculture activities. Support services assist with relocation or housing, and education and training programmes for farming. Also, incentives attract the younger population to rural areas.

The government increased investment in information and communication technologies (ICT) via its “Smart Agriculture Project”. The programme emphasises the use of digital technologies at farm level, including use of big data, artificial intelligence technology and real-time monitoring of crop growth information. The government expects digital technology to improve predictability and mitigate volatility, increasing agricultural productivity and reducing production costs.

Tariffs and TRQs continue to be the main trade policy measures applied to agriculture in Korea. In-quota rates range from 0% to 50% with out-of-quota rates between 9% and 887%. A TRQ volume of rice (408 700 tonnes, corresponding to about 10.7% of annual rice consumption) is maintained at a 5% tariff rate (the out-of-quota tariff is 513%).

Korea engages in seventeen bilateral and regional Free Trade Agreements (FTA). Some include significant tariff concessions for livestock and fruit products, but rice is excluded from tariff concessions in existing FTAs. Import tariffs on beef from the United States, Australia and Canada are being eliminated over a 15-year period since the entry into force of their respective FTAs (March 2012 with the United States, December 2014 with Australia, and January 2015 with Canada). Tariffs on pork meat from the European Union, the United States and Chile are being phased out over 10 years, and on pork meat from Canada over 13 years. Tariffs on chicken meat from the United States and the European Union are being abolished by tariff line over a period of 10 to 13 years after the respective FTAs came into effect.

### ***Domestic policy developments in 2020-21***

**A new direct payment system**, which combines the direct payments for rice, upland crops and less favoured areas into one scheme, was launched in 2020. The income compensation scheme for rice was turned into a decoupled payment programme primarily based on historical entitlements and accompanied by environmental cross compliance regulations through a reform. The action plans, legislation and budget allocation, which accompanied the launch of this new scheme, were finalised during 2019-20. The reformed scheme entered into force and was applied to farmers in 2020 (Korean Government, 2021<sup>[2]</sup>).

Given the labour shortage in Korea’s rural areas, strengthening capacity of youth and women is one of the key policy concerns. To attract young labour force, financial support (targeted loan or fund), and farmland lease are provided to young farmers. At the same time, the government expands investment in education and training services. In December 2020, a five-year action plan for fostering women farmers was announced. Its objective is to enhance women’s empowerment in rural community by promoting participation in business and leadership (Korean Government, 2020<sup>[3]</sup>).

The coverage of **the agriculture insurance** has been expanded in 2020 adding walnuts, red beans, barley, spinach, and apricots. To better deal with damages caused by natural disasters and to reduce the fiscal and administrative burden of the increased coverage, efforts to develop various insurance products, adjust the insurance subsidy rate, and avoid moral hazard of farmers are ongoing.

The government has focused on preventative measures and monitoring on animal diseases since the first domestic outbreak of African Swine Fever (ASF) in 2019. Government measures include culling of animals, restrictions on transportation of pig and excreta, extensive disinfection around affected areas, strengthened inspection of animal farms, and nationwide informational campaigns.

**The Smart Agriculture Project** aims at improving the application of advanced technologies in the sector, as well as attracting young and innovative farmers. Young farmers can benefit from leasing of agricultural facilities and farmlands in the smart farm complexes. Furthermore, the government plans to conduct a cross-sectoral research and development (R&D) to develop future technologies available for these smart farms.

In December 2020, the government released **the 2050 Carbon Neutral Strategy of the Republic of Korea** representing a long-term plan for greenhouse gas (GHG) emission mitigation. This plan includes a



national vision and strategic initiatives for achieving the GHG emission reduction target.<sup>2</sup> The strategy sets out four tasks for the agricultural sector: transition to smart farming; development and deployment of low-carbon agricultural practices; promotion of participatory policies for farmers and consumers; scaling-up of eco-friendly energy deployment (Korean Government, 2020<sup>[4]</sup>).

### *Domestic policy responses to the COVID-19 pandemic*

The government has offered emergency funding to farming households to address liquidity problems. As part of this initiative, farm households may benefit from low interest loans at favourable payment schedules. Leasing fees for agricultural machinery and equipment also temporarily decreased. Farmers and wholesalers in horticulture and floriculture, which have been among the most affected, benefitted from additional budgetary support, for instance, via the lowering wholesale transaction fees or rents, and increasing public procurement.

To address shortages of migrant seasonal workers, the government implemented policy measures to increase the sector's attractiveness and reduce short-term mismatch of the labour force. Visa regulations were temporarily alleviated so that foreign visitors or migrant workers from other industries could work in the agricultural sector. The number of local agriculture job-matching centres increased to attract more seasonal workers and volunteer workers.

Restaurants, food service providers and catering companies have been severely affected by social distancing and school closures. To facilitate the purchase of agro-food products and ease companies' liquidity constraints, the government expanded funds for these companies with further lowered interest rates. The companies are also encouraged to maintain employment through salary and expense subsidies.

As public catering companies were key consumers of organic products, organic producers have been encouraged to find alternative distribution channels. Efforts have been made to sell directly to final consumers via online and other channels. Active co-operation with local governments and agricultural co-operatives have also been undertaken. In addition, the government purchased organic products and provided packaged fruits and vegetables to self-quarantined people, pregnant women, and low-income families.

To recover the consumption level of horticultural and floricultural products, promotion campaigns have been rolled out at the national level through online and offline platforms. Both private and public sectors, including large companies, the central and local governments and public institutions, participated in the campaign.

In addition, various measures have been taken to promote domestic consumption and assure food security: providing vouchers for local market purchases; monitoring food stocks; and ensuring food accessibility for low-income households.

### **Trade policy developments in 2020-21**

The WTO verification procedures regarding a tariff on imported rice were finalised in January 2020. As a result, the tariff rate of 513% on rice was confirmed, and a TRQ of 408 700 tonnes is maintained with a 5% tariff rate. Taking imported volumes during the 2015-17 reference period, 388 700 tonnes were allocated to five countries in 2020 (157 195 tonnes for the People's Republic of China (hereafter "China"), 132 304 tonnes for the United States, 55 112 tonnes for Viet Nam, 28 494 tonnes for Thailand, and 15 595 tonnes for Australia). Korea Agro-Fisheries and Food Trade Corporation, a state trading enterprise, is in charge of managing the rice TRQ.

A new FTA with the United Kingdom has entered into force in January 2021. FTAs with Israel, Indonesia, and RCEP,<sup>3</sup> which were concluded in 2019-20, are under domestic ratification process. RCEP is the world's largest FTA and will lead Korea to further open up its agricultural sector. This could pose both a

challenge and also an opportunity to the sector. It is expected to improve market access for some Korean agricultural products (for example, apples, strawberries, and some liquor).

### *Trade policy responses to the COVID-19*

Given constrained air freight services and increase in transportation cost, the government maintained the existing export subsidies in 2020 and also helped exporters to find alternative export markets by providing market information.

## Contextual information

Korea's economy has been growing rapidly over the last two decades led by growth in international trade. Trade represented 32% of GDP in 2019, twice the average of the countries covered in this report. In contrast, the share of agriculture in GDP fell from 4.3% to 1.8%, and the share of agricultural employment declined from 10.6% to 5.1% during the period of 2000-18. Although the proportion of the agricultural sector in total exports slightly increased, Korea still remains a large importer of agricultural products.

Crop production accounted for 60% of the total value of agricultural production in 2019. There has been a significant change in its composition since 2000, due to a change of dietary pattern and diversification of production towards livestock and high value products (Table 18.3).

**Table 18.3. Korea: Contextual indicators**

	Korea		International comparison	
	2000*	2019*	2000*	2019*
<b>Economic context</b>			<b>Share in total of all countries</b>	
GDP (billion USD in PPPs)	872	2 231	2.2%	2.0%
Population (million)	47	52	1.1%	1.0%
Land area (thousand km <sup>2</sup> )	96	98	0.1%	0.1%
Agricultural area (AA) (thousand ha)	1 973	1 652	0.1%	0.1%
			<b>All countries<sup>1</sup></b>	
Population density (inhabitants/km <sup>2</sup> )	473	521	53	63
GDP per capita (USD in PPPs)	18 551	43 143	9 265	21 975
Trade as % of GDP	29	32	12.3	14.6
<b>Agriculture in the economy</b>			<b>All countries<sup>1</sup></b>	
Agriculture in GDP (%)	4.3	1.8	2.9	3.5
Agriculture share in employment (%)	10.6	5.1	-	-
Agro-food exports (% of total exports)	0.9	1.3	6.2	7.3
Agro-food imports (% of total imports)	5.2	5.5	5.5	6.7
<b>Characteristics of the agricultural sector</b>			<b>All countries<sup>1</sup></b>	
Crop in total agricultural production (%)	75	60	-	-
Livestock in total agricultural production (%)	25	40	-	-
Share of arable land in AA (%)	87	83	32	34

Notes: \*or closest available year.

1. Average of all countries covered in this report.

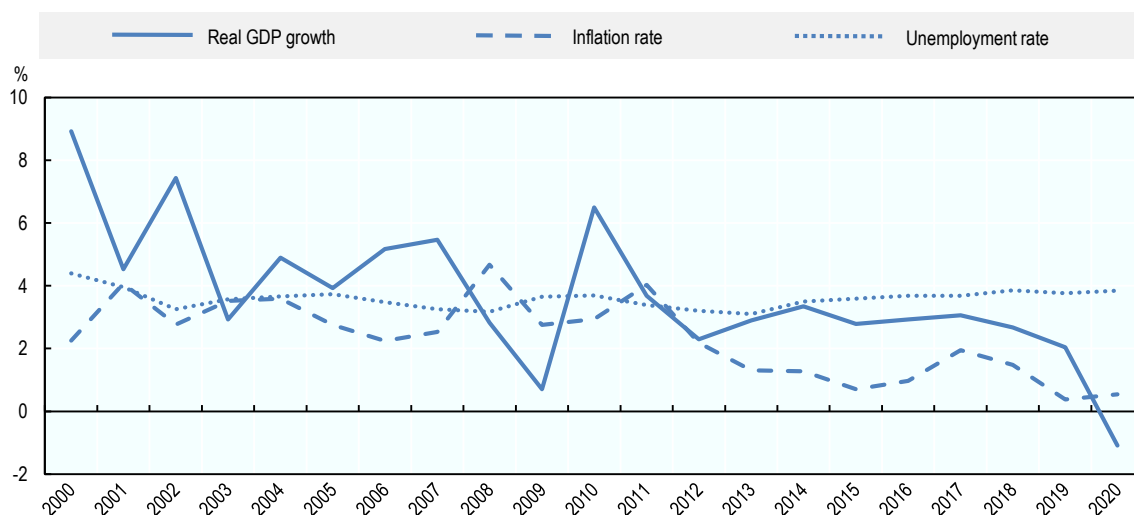
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Following the outbreak of the COVID-19 pandemic and related disruptions, GDP in Korea, while less affected than in many other countries, declined by 1% in 2020. Nonetheless, both the level of unemployment and inflation have remained low. As an export-oriented economy, Korea is vulnerable to weaknesses in foreign demand and to disruptions in global value chains. In response to COVID-19, a

range of policy measures limited the damage to domestic economy, but further global recession is likely to affect investment and employment (OECD, 2020<sup>[5]</sup>) (Figure 18.5).

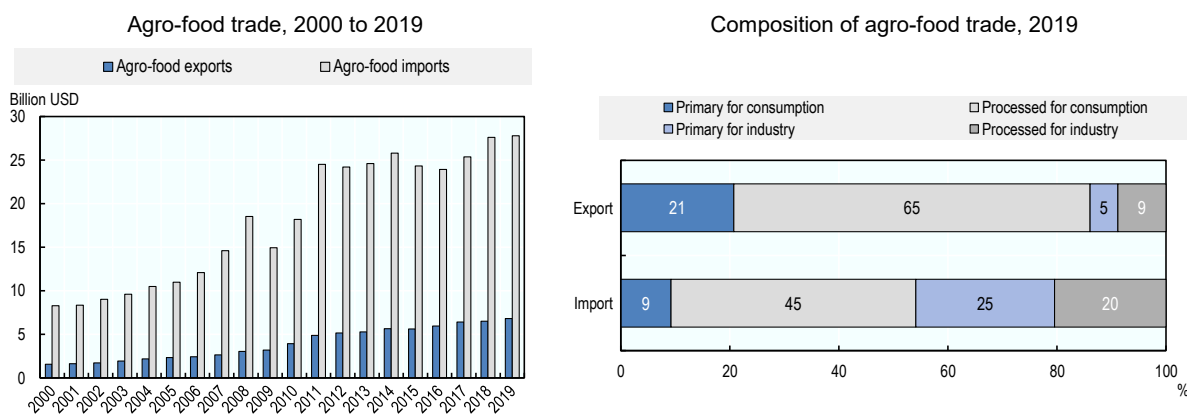
Korea is one of the largest net agro-food importers in the world. While over 85% of agro-food exports are products for final consumption, about half of imports are destined for further processing by the Korean industry. Key imported agricultural commodities include maize, soybeans and wheat for animal feed (Figure 18.6).

**Figure 18.5. Korea: Main economic indicators, 2000 to 2020**



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

**Figure 18.6. Korea: Agro-food trade**



Note: Numbers may not add up to 100 due to rounding.

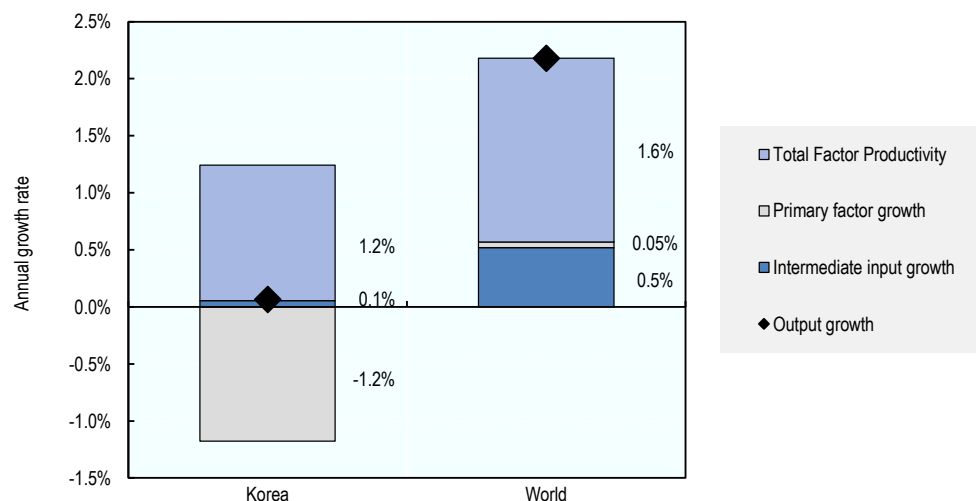
Source: UN Comtrade Database.

At 1.2% per year, total factor productivity (TFP) growth in Korea was slightly lower than the global average over the period of 2007-16. TFP growth offset the declining use of primary factors, resulting in output to remain largely unchanged (Figure 18.7).

The level of nutrient surplus per hectare has declined over the past two decades. However, average nitrogen and phosphorus surpluses are still well above OECD averages, partly due to intensive livestock

production. The share of agriculture in water withdrawal remains high compared to the OECD average, related to the fact that rice paddy fields account for more than 50% of agricultural land area, and water stress has been increasing and remains high compared to other OECD countries (Table 18.4).

**Figure 18.7. Korea: Composition of agricultural output growth, 2007-16**



Note: Primary factors comprise labour, land, livestock and machinery.

Source: USDA Economic Research Service Agricultural Productivity database.

**Table 18.4. Korea: Productivity and environmental indicators**

	Korea		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			<b>World</b>	
TFP annual growth rate (%)	3.5%	1.2%	1.6%	1.6%
			<b>OECD average</b>	
<b>Environmental indicators</b>	<b>2000*</b>	<b>2019*</b>	<b>2000*</b>	<b>2019*</b>
Nitrogen balance, kg/ha	254.0	212.2	33.2	28.9
Phosphorus balance, kg/ha	50.3	45.9	3.4	2.6
Agriculture share of total energy use (%)	2.9	0.9	1.7	2.0
Agriculture share of GHG emissions (%)	4.2	2.9	8.4	9.5
Share of irrigated land in AA (%)	45.4	42.8	-	-
Share of agriculture in water abstractions (%)	53.4	50.3	46.0	43.4
Water stress indicator	27.1	30.8	9.3	8.5

Note: \* or closest available year.

Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

## References

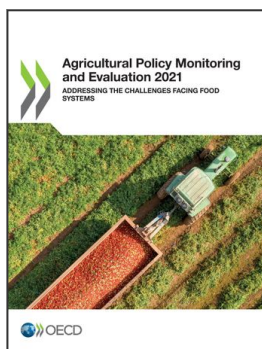
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## Notes

<sup>1</sup> The method for extrapolating total MPS for the agricultural sector from commodity-specific estimates was revised for Korea this year, as for other countries in the 2020 edition of this report. Commodities are now split in two groups: those for which imports are governed by TRQs, and those to which no TRQs apply. Consequently, time series for total MPS and PSE were revised.

<sup>2</sup> The National Roadmap for the reduction of GHG emissions (October 2019) set a target to reduce the GHG emissions by 37% from the BAU level by 2030, which is 24% lower than the 2017 level.

<sup>3</sup> Korea, 10 ASEAN member countries, China, Japan, India, Australia, New Zealand.



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