



Ministry of Agriculture,
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Seung-ho Choi, Foreign Press Spokesperson

TEL: +82-44-201-1120

E-mail: csh9731@korea.kr

S. Korea's First Master Plan for Promotion of the Growth of the Smart-Farming Industry for the Years 2025–2029

Sejong, 26 February 2025 — The Ministry of Agriculture, Food and Rural Affairs (MAFRA) has established the First Five-Year Master Plan for Promotion of the Growth of the Smart-Farming Industry for the Years 2025–2029, in accordance with the Act on Fostering and Supporting Smart Farming. The five-year plan lays out policy directions and major projects for the government and the agro-industry to collaborate on over the next five years.

- An agro-industry means an industry with forward- and backward-linkages with agriculture and agri-food products, as well as crop and livestock farming.

The Korean government has designated the spread and advancement of smart

farming as a national task of the highest priority and implemented a package of measures to address agricultural challenges such as extreme weather conditions and a shrinking workforce. Specifically, the MAFRA has provided support for farmers engaging in conventional farming to introduce information and communications technologies (ICT) to their farms; has invested in the R&D on agricultural technologies; and has laid the foundations for smart-farming education and for technology verification. The MAFRA also eased relevant regulations so that vertical farms can be built on farmland or an industrial complex to promote the growth of the smart-farming industry. The combined efforts of the government and the agro-industry have been contributing to the ongoing growth of companies providing equipment and services related with large smart farms. However, there is still a shortage of complexes of smart farms specializing in production of different agricultural product items. Also, there are not enough of specialized companies and technical personnel to back such complexes.

Accordingly, the MAFRA has formulated the first five-year blueprint for taking the Korean smart-farming industry into a globally competitive level. Under the plan, the MAFRA will turn 35% of 55,000-hectare greenhouses across the nation into smart farms and apply one or more smart-farming technologies to 20% of the size of the major producing area of field crops. The MAFRA will also strengthen the system for responding to a shrinking workforce and climate change by ensuring that smart farming can be widely introduced by a larger number of farmers, and will create an innovation ecosystem to advance smart-farming technologies and related industries.

A major producing area of agricultural products means a producing area of agricultural products, which account for a large portion of the yield of domestic

agricultural products or which are required to be controlled in terms of their yield and shipment.

The major projects of the five-year master plan are as follows:

- 1. The MAFRA will designate clusters where smart farms and related industries sit together. Accordingly, local governments will create such clusters.**

In 2025, the MAFRA will designate smart-farming fostering zones in four cities (*si* in the Korean administrative unit) and counties (*gun* in the Korean administrative unit) across the country, and bring long-term lease-based smart farms for young farmers, smart farming-related companies, and related forward- and backward-linked industries together to the zones.

The MAFRA will also work out a plan to turn smart-farming zones of open fields for cultivation of kimchi cabbages, apples, etc. into smart-farming hubs composed of diverse functions such as open-field smart-farming education, technology verification, etc. As a measure to respond to extreme weather events, the MAFRA will provide smart-farming solutions, easy to use and highly effective, for major producing areas where eight field crops are cultivated through mechanized farming and five major fruits are produced, along with support for smart-farming education, consulting, etc.

- 2. The MAFRA will nurture “smart” farmers with smart-farming business management expertise and skills.**

To this end, the MAFRA will double the number of specialized vocational

education institutes of providing a field training programme from 2 in 2024 to 4 in 2025, and will introduce a new government-licensed profession called a “smart-farming manager” who is capable of providing specialized education and consulting.

The MAFRA will also make efforts to lower the barriers that farmers face in introducing smart-farming technologies. To this end, the MAFRA will increase the scope of the agricultural product items that will be covered by the Smart-Farming General Fund as well as the size of the fund. The Smart-Farming General Fund aims to alleviate farmers’ financial burdens for farming business management by allowing them to take out a loan at a lower interest rate. The range of the items for which ICT facilities and equipment are provided as support measures for agricultural cultivation will be extended to include fruit crops and vertical farms.

3. The MAFRA will strengthen the R&D of smart-farming technologies and develop standardized Korean models of smart farming.

R&D on open-field smart-farming technologies

The MAFRA will implement diverse measures to make progress in overcoming challenges such as climate change and a shrinking workforce in rural areas, as well as to ensure that autonomous agricultural machinery and agricultural robots can be more widely used. To this end, the MAFRA will advance smart-farming technologies for cultivation of crops on open fields, such as drones and robotics. The MAFRA will also establish testing standards applied to autonomous agricultural machinery and agricultural robots to test and verify whether such machinery and robots conform to specific standards, testing methods,

requirements, guidelines, etc. The government support to help farmers take out a loan at a lower interest rate in purchasing agricultural machinery will also be provided.

Development of standardized Korean models of smart farms and vertical farms as well as improvement of smart farm energy efficiency

The MAFRA will develop standardized Korean models of smart greenhouses and vertical farms and strengthen their compatibility and export competitiveness. Also, the government support will be provided for R&D on improvement of energy efficiency and reduction of greenhouse gas emissions, as well as for verification of such technologies. The government investment will be made to ensure that technologies of using new renewable energy can be more widely applied and supplied to smart farming.

4. The MAFRA will lay the foundation for the development of smart farming-related industries.

The MAFRA will select companies delivering a strong performance in smart farming-related industries and provide them with intensive support in terms of taking out a loan, receiving an investment, etc. Also, high-performing agricultural corporations will be allowed to expand the range of their business to include the production of smart-farming equipment and services.

The MAFRA will lay the foundation for turning smart-farming data into assets, as well as for promotion of smart-farming data transaction to invigorate the growth of the smart-farming data industry. The government efforts will be made to ensure that standards for smart-farming ICT equipment and data can be

widely adopted in smart farming-related industries. The MAFRA will also make efforts so that Korean companies can expand the exports of their smart-farming products and services. Specifically, the MAFRA will expand cooperation with foreign governments with regard to opening overseas markets for Korean exporters; increase support for Korean exporters to demonstrate their smart-farm technologies to potential overseas buyers; and expand support for consortiums of smart-farm exporters.