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Opinions

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Korea's Agricultural ODA Policy towards Africa: Utilizing Appropriate Technology

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Given conditions that include a tropical climate, insufficient water resources and power grids, barren soils, and poor infrastructure, the additional absence of human capital makes for a very complicated and diverse reality with respect to Africa's agricultural underdevelopment.

Against this backdrop, the use of appropriate technology for development cooperation is again emerging as a new solution to the problem of "how we can contribute in a practical manner to the reduction of Africa's rural poverty."

Appropriate technology is regarded as "good technology" in that although small and simple in size, it can directly contribute to the

reduction of poverty among local residents. In fact, Africa requires easily executable and approachable technologies rather than grandiose development plans or modern technologies for solving poverty. We need to understand appropriate technology from a "people-friendly grassroots" aspect as a new alternative to supplement or substitute existing development methods.

It is true that in reality, there are few countries in Africa with sufficient capacity to absorb "western" prescriptions focusing on policy reform, good governance, rule of law, transparency, etc. Africa's underdevelopment should be investigated from diverse spectra, including socio-cultural perspectives, to identify natural and geographical limitations on top of a "Washington consensus" diagnosis.

As mentioned, factors hampering Africa's agricultural development are many: institutional barriers such as a lack of fertilizers and machinery, irrigation facilities, agricultural finance, exchange markets, and infrastructure, as well as natural conditions such as shortfalls in rainwater and diseases. Climate change leads to the degeneration of soil and desertification; drought further worsens the situation. In addition, unlike Asia, the tropical climate of Africa complicates the farming system, making it difficult to increase productivity. As a result, Africa is still unable to feed itself, while in contrast Korea and other Asian countries succeeded in achieving food self-sufficiency in the late 1960s. In such a manner, Africa's development conditions differ from those of other developing countries in many areas and thus require "tailored" measures for development cooperation.

Appropriate technology is believed to contribute effectively to reducing poverty by providing practical technologies that are simple but helpful. Appropriate technology development has been most active in the agricultural sector. USAID increased crop productivity in Namibia by applying the "mulching" technique which enabled soil temperature adjustment, prevented soil loss during the rainy season, and preserved moisture. Namibia was able to increase millet production 5.6 times per acre as a result. MIT and Kick Start have developed cheap farming tools that are easy to use. MIT built the "portable corn sheller" that enables farmers to collect corn kernels from stalks without having to carry heavy cornstalks to fixed-type corn shellers that are expensive and easily cause injury. Kick Start's "Money Maker Max" and "Money Maker Hip Pump" are irrigation pumps that are manually operated by foot. The light weight and durability of these pumps make them easy to use in rural areas where there is no electricity. Kick Start has sold 240 thousand pumps so far.

Another example is organic fertilizer. Fertilizer is an essential tool in enhancing agricultural productivity but poor farmers in Africa cannot afford expensive chemical fertilizers. The price of imported fertilizers increases as they are delivered to rural areas, and many farms cannot afford to cover the costs. As a result, the use of fertilizers per hectare in Africa is below 10kg compared to 380kg in East Asia and 170 in Latin America. This situation creates the need to develop organic fertilizer manufacturing technologies using recycled agricultural by-products, because most of these by-products are simply thrown away in Africa. Fertilizers can be produced at low cost through this process. A Korean company is already instructing organic fertilizer manufacturing techniques using ground coffee.

Gravity-powered irrigation, drip irrigation, and small-scale irrigation using rainwater catchment are also appropriate technologies. Such technologies are merely examples, as more appropriate technologies could be utilized in other areas. For example, in the case of stock-breeding, Korea has highly developed skills in nurturing highbred cattle through artificial insemination and the transfer of fertilized eggs. There is a need to review such skills that could contribute to Africa's livestock industry. These technologies are not temporary relief supplies but are tailored to the needs of partner countries, and are well-received by locals.

Appropriate technology is still a new concept in Korea and lacks consensus. However, Korea views appropriate technology as an important means for development cooperation. Like in other donor countries, private companies as well as government agencies, universities, and NGOs have initiated research and development into appropriate technology development.

In order to effectively find and develop the appropriate technologies suitable for African regions, research centers need be established in the corresponding agricultural area, so as to conduct joint research with researchers in partner countries. The research center and joint research will improve possibilities for applying the technology transferred to African countries.

The process of disseminating those technologies should include local farmers or agricultural professionals as participants and agents in all research phases, including the development of new crops. KIEP