Mini series

Onion drying project in arid regions - Joint work between AAI and the drying machine maker Taikisangyo Co., Ltd- <Part 1>

End of technical cooperation project and development challenges

The technical cooperation project of JICA in Kassala, Sudan, has supported capacity building of extension workers through a number of pilot activities for four years since 2011. The pilot activities ranged from horticulture to mechanized agriculture, and from irrigation agriculture to traditional rain-fed agriculture. The project has also supported livelihood improvement of women in farming villages. The project has come to an end, having yielded a good level of positive impact, achieving set targets.

However, a project end does not mean an end of development challenges which countries and regions face. Sometimes, one solution may generate a new development challenge. Therefore, we had a frank discussion with Sudanese counterparts on what the needs are in the next stage of support based on the achievements and milestones of the technical cooperation project. These discussions started from 6 months before the end of the project, and a range of development cooperation ideas were suggested. Among them, support for value addition of horticultural crops and promotion of export were found to be important for improving farmers' livelihood. Therefore, we decided to explore possible continued support through different means from JICA project support. We suggested our key counterparts to establish the NGO National Organization for Technology Assimilation (NOTA) and collect local information.

Collecting information from a farmer in an onion field

Interviewing farmers

In the horticultural zones of Kassala, there used to be a major onion drying business and dry onions were important export items. However, when a large plant stopped its business around 10 years ago, the price of fresh onions sharply dropped. Stabilization of onion prices at a reasonable level and stable amounts of shipments have become a major task. After continuous discussions with NOTA, it was decided to focus our attention on the issue of agricultural produce processing among many other development challenges. The target is to revive the onion drying and processing plant. The old plant was constructed with financial support from the former Soviet Union (Russia). Dry onions were exported to European countries such as the Netherlands, Belgium and Germany. However, the large size of the facility meant there were a lot of management and maintenance problems with high costs for operation. Given this, we decided to examine the feasibility of establishing several small-scale drying and processing bases, and to revive the plant in a much simpler way. To establish a stable production system for exporting dry onions, and to minimize the running cost, we examined the possibility of introducing electric drying machines on a pilot basis. We concluded that we would first verify the suitability of electronic drying machines by trying them locally.

Large scale onion drying and processing plant

Extension workers introducing a small electric dryer to farmers

Surface basin irrigation in an onion field

Harvesting onions

In April, 2015, as soon as I returned from Kassala, Sudan after the project ended, I went to visit Taikisangyo Co., Ltd, a drying machine manufacturer in Okayama Prefecture, Japan, to discuss potential collaboration. I never dreamed that we could introduce electric driers to Kassala, Sudan so quickly. However, soon after that, our collaboration concept was selected for a feasibility survey for a new project under JICA's partnership with Japanese private sector framework. With Taikisangyo Co., Ltd, the electric drying machine introduction project commenced. In this mini-series, we will report on the overview and progress of the onion drying project as the feasibility survey.