

RAISING CASSAVA PRODUCTIVITY THROUGH TECHNOLOGY

Along the dusty road in Wang Chapflu Sub-district in Kamphaeng Phet Province are myriad cassava plantations on both sides. Cassava - well-known for needing very little input and attention – is a cash crop in this area.

Sripho Kayankannawee, Head of Moo 2 Village in this sub-district, participated in the NSTDA-DOA-LDL project to increase cassava productivity in 2014 after visiting the project's cassava plantation in Nakhon Ratchasima Province. He recalls that for years, farmers in his community grow cassava with little knowledge. They used cultivar that they heard was good, never measured fertilizer input, planted as many plants as possible, thinking that more plants would yield more roots, and never calculated the production cost. "Despite applying large amount of fertilizer, our yield never improved," Sripho laments.

Hoping to see improvement in their productivity, Sripho and over 100 cassava

growers in Kamphaeng Phet decided to join the project. Each participant started off with a 5-rai (0.8 ha) plot. The very first things they had to adopt were plant spacing and fertilizer application based on soil analysis. Plant spacing had to be increased from 40-50 cm. to 80 cm. Soil samples were sent for analysis. The test showed low levels of nutrients, and therefore the project's expert team suggested an application of organic matter and proper amount of fertilizer.

The average yield of the first crop increased to 5 tons/rai (31.25 tons/ha). Sripho's plot – serving as a demonstration plot and installed with a drip irrigation system – achieved 6 tons/rai (37.5 tons/ha). Farmers' confidence was boosted by this outstanding



result. In the following cropping season, they applied these planting techniques to all of their farmland and had drip irrigation installed on their own. However, due to drought crisis, the productivity dropped to 2-3 tons/rai (12.5-18.75 tons/ha). “Farmers were devastated, and started to turn against the project,” Sripko remembers the dark period. Fearing that farmers would abandon this project and go back to the old planting practice, Sripko, the project’s expert team and owners of cassava starch factories in the area met with farmers and explained the effect of climate on crop productivity and the need for proper drip irrigation installation. This intervention brought back the members. Training on drip irrigation installation was provided. The yield in the following season bounced back. Some member even got as high as 7-8 tons/rai (43.75-50 tons/ha).

Sripko’s 31-rai (4.96 ha) cassava plot has proven to be an excellent demonstration and trial plot. His field has been used by many agencies for cassava variety tests and demonstrations of soil-test-based fertilizer application and farm equipment. Farmers learned from his field can achieve as high as 9 tons/rai yield (56.25 tons/ha).

Apart from planting techniques and input (soil, fertilizer, water) management, plant cultivar is also an important factor affecting productivity. Members are provided with recommended cultivars for each soil type. “To achieve high productivity, we choose high starch content cultivar and improve our yield through planting techniques and management,” Sripko reveals.

It has been five years since cassava growers in Kamphaeng Phet joined the NSTDA-DOA-LDL project to improve cassava production. Productivity under rainfed condition is 5 tons/rai (31.25 tons/ha) or more, whereas an irrigated field can yield up to 6-7 tons/rai (37.5-43.75 tons/ha). In addition to higher productivity, the benefit that they gain is the reduced production cost, especially fertilizer cost.





“We change the way we plant cassava and have to tend our farm more than we used to,” Sripko adds. “But it can be done. There is no need to hire labors. Once we see the fruit of our effort, we want to work more and take better care of our field. It becomes our pride.”

NSTDA, in collaboration with the Department of Agriculture (DOA) and the Land Development Department (LDL), implements a project aiming to improve cassava productivity by providing and demonstrating, to farmers, knowledge and technologies including soil analysis, soil-test-based fertilizer application, recommended cultivars for specific soil type, pest and disease management and the use of drip irrigation system. Four demonstration plots were established in Kanchanaburi and Kamphaeng Phet provinces. The project later expanded to Lampang, Kalasin and Ubon Ratchathani provinces.

