Solar irrigation gives Ankole farmers hope

That shift follows the installation of the Kafuro Solar-Powered Water Irrigation Project.

BY PHILIP WAFULA

As climate variability tightens its grip on Uganda's western highlands, farmers in Rubirizi District are turning to solar-powered irrigation not only to boost incomes but also to prevent agriculture from sliding into decline.

That shift follows the installation of the Kafuro Solar-Powered Water Irrigation Project, launched in December 2024, which is helping farmers in Kirugu Parish, Kirugu Sub-county, stabilise production amid growing climate uncertainty.

For years, farmers in the area relied almost entirely on rainfall to sustain crops such as coffee, bananas and vegetables. Dry spells routinely wiped out harvests, leaving fields idle and incomes unpredictable.

Local farmers say the core challenge was not soil quality or effort, but the lack of reliable access to water.

The Kafuro Solar-Powered Water Irrigation Scheme waters crops in Kirugu Parish, Kirugu Sub County, Rubirizi District. PHOTO/PHILIP WAFULA

PROJECT

The Ministry of Water and Environment's Senior Public Relations Officer, Mr Noel Muhangi, said the project is designed to strengthen food security and reduce climate vulnerability. "This is about reducing dependence on rain and it is a game-changer," he says.

Irrigation system

The Kafuro irrigation system was installed under a nationwide government programme led by the Ministry of Water and Environment and financed by UK Export Finance at a cost of €111 million (about Shs463 billion).

The project is being implemented by Nexus Green as part of broader efforts to reduce dependence on rain-fed agriculture in vulnerable regions.

Nexus Green's supervising engineer for Western Uganda, Ms Monica Twikirize, says 16 solar panels pump water from Lake Kyamwiga into a central reservoir, from where it is distributed to farmers through a network of pipes, minimising environmental impact.

For Mr Osbert Kanyesigye, a lay leader at Kihungye Church of Uganda, the system has transformed both farming practices and community stability.

"Repeated crop failures had previously weakened both households and the Church. We were trying to grow coffee and bananas, but we could only wait for rain. When the rains failed, everything failed," says Mr Kanyesigye.

Since the installation of the solar-powered system, he says farmers now harvest up to three times a year, and crops no longer dry up mid-season, compared with the previous two rain-dependent seasons.

Mr Apollo Byaruhanga, the water users chairman, says reliable water has encouraged farmers to work collectively. Together with farmers, including Mr David Kisembo, who owns a coffee milling machine, and Mr Bernard Twinamatsiko, who grows vegetables, the group has pooled 12 acres of land to maximise the shared irrigation infrastructure.

Advantages

"This water system forced us to organise; you cannot waste water when everyone depends on it," says Mr Byaruhanga.

Mr Kisembo says irrigation has stabilised his income by reducing losses during dry spells.

"We no longer wait for seasons; we now manage production," he says, adding that his annual earnings have risen from between Shs15 million and Shs18 million to more than Shs20 million.

Mr Twinamatsiko says the project has turned subsistence farming into a viable enterprise. Income from his onion, tomato, and cabbage business rose from about Shs3 million to more than Shs8 million in two seasons, enabling him to acquire more land and support his children's education.

Ms Adrine Kyotungire, who grows watermelons, bananas, and coffee, previously relied on water from the National Water and Sewerage Corporation, which she described as unreliable and costly.