

## ACCELERATING PRODUCTIVE USE OF ELECTRICITY IN RURAL UGANDA THROUGH SOLAR HOME SYSTEMS AND WATER PUMPING: THE ALUR HIGHLANDS COFFEE ALLIANCE

More than 16,000 members of the Alur Highlands Coffee Alliance (AHCA) in the West Nile region of Uganda are experiencing an improved life, thanks to USAID. In 2013, USAID established the AHCA project aimed at improving coffee production and food security which created a strong farmer network and structure. In 2018, using this existing regional network, the Power Africa Uganda Electricity Supply Accelerator (Power Africa Uganda Accelerator) rapidly developed new markets for solar products in remote parts of Uganda. Access to solar PV-powered water pumps to irrigate coffee plots improved agricultural production, while new solar home systems provided farmers and their families with safe and cost-effective lighting for the first time.

USAID and Power Africa launched the Power Africa Uganda Accelerator in 2017 to increase access to electricity. AHCA members in the West Nile region had almost no access to electricity. They were too far from the isolated electricity grid in West Nile, lacked customer awareness on solar power, and had few financing

options. To alleviate these barriers, the Power Africa Uganda Accelerator worked to connect the AHCA community with solar companies and financial institutions such as local banks and Savings and Credit Cooperative Societies (SACCOs). By demonstrating solar technology opportunities to farmers and providing them education on solar product financing, the Power Africa Uganda Accelerator rapidly increased demand for solar products.

Taking advantage of the now robust farming extension network, the Power Africa Uganda Accelerator provided education, training, and an introduction to solar products for hard-to-reach rural farmers. In the AHCA community network, local farmers looked to AHCA field officers and lead farmers for advice. More than 300 lead farmers received training on solar energy and solar products for agriculture—for example, through solar-powered water pumping. The lead farmers passed this knowledge on to their local farm groups through Power Africa Uganda Accelerator-created end-user guides, a catalog of solar companies, and profiles

of financial institutions in the West-Nile region. Using these materials, lead farmers successfully trained more than 6,000 farmers on the benefits of solar PV systems which resulted in more than 8,000 solar home system sales.

Ebil Andrew, the AHCA field supervisor explained, *“The field officers and the lead farmers introduced the solar companies to the communities. Because the lead farmers were elected by the communities, they occupied a special position which they used to help the solar companies when marketing. The lead farmers were key in generating sales leads for the companies.”*

Working with AHCA, the Power Africa Uganda Accelerator encouraged financial institutions to tailor financing for solar

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—Denis Mutti  
Fenix International

systems and to design loans for the realities of farmers' incomes. Thanks to USAID and Power Africa, banks and SACCO's in the region now offer financing for solar products with loans customized to the needs of farmers, allowing farmers to repay after the harvest. One bank in the region, Centenary Bank, tripled their lending commitments. According



Demonstrating the use of a solar water pump at a local training. Photo: Gloria Birungi/Power Africa Uganda Accelerator.

to Denis Mutti of Fenix International (a solar company operating in the region), “Power Africa linked us to high-value networks including AHCA. Working through high-value consumer networks helps to keep the cost of sales down and makes it easy to follow up on repayments and to provide after-sale service. All I have to do is to reach out to the community leader.”

### USING THE FARMER NETWORK TO LIGHT VILLAGES

The benefits of clean energy go beyond farming. AHCA farmer **Mangenga Patrick**, his wife **Afoyocan Sharon**, and their eleven children never thought their home would become a model of progress in the Zombo district. Until recently, their only source of lighting was small paraffin lanterns which their four school-age children would use to study at night. These lanterns provided poor quality light, were smoky, and required ongoing fuel purchases.

Thanks to the Power Africa Uganda Accelerator training, Mangenga’s family now has access to significantly improved lighting—lighting that is cleaner, clearer, and requires no ongoing fuel purchases. In the training, the couple was introduced to solar companies active in West Nile. They decided on a system from a local solar company, Village Power, and are ecstatic about the system. “My children were complaining about the paraffin lanterns. Sometimes, the paraffin would run out and



Above: Mangenga Patrick and his family read at night with the new solar-powered lighting. Below: Students in classes at night at the Benduli Primary School. Photos: Gloria Birungi/Power Africa Uganda Accelerator.

*we had to travel long distances to get to the nearest shop for fuel. We decided that we needed to put an end to that,”* Mangenga explained.

Farmers are not the only ones benefiting from solar power. In the neighboring Arua district, access to solar power is creating better educational opportunities through a local school, Benduli Primary School, which is the only government-aided primary school the region and enrolls more than 900 students annually.

In 2018, **Valentine Oledra**, the school headmaster, initiated an ambitious school improvement plan. He wanted more contact between teachers and students with increased reading hours. Evening lessons were the best way to achieve these priorities, but that required access to lighting—something the school did not yet have. He welcomed a proposal from an AHCA-trained lead farmer who suggested the school purchase a solar system from a local company to light two



classrooms for students to read beyond 6:00 pm, freeing up time after classes for extracurricular activities. Within a month, the school installed a four-light solar system that provides light to the classrooms and the headmaster’s office.

*Valentine noted, “Access to lighting has increased our contact hours with the students. They can now study at school in the evenings which helps them to avoid distractions at home. We believe that lighting is key to improving academic performance.”*

Over three million Ugandans now have access to electricity, thanks to support from the Power Africa Uganda Accelerator and USAID. For these Ugandans the future is brighter, with new possibilities for students, parents, and farmers.

**AHCA BY THE NUMBERS**

- 6050** farmers trained
- 8627** solar home systems sold
- 300** lead farmers trained



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