Energising change

# Sustainable Energy for Smallholder Farmers in Ethiopia, Kenya and Uganda (SEFFA)

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| Countries | Ethiopia, Kenya and Uganda |
| Technology | Solar water pumping, solar drying and solar cooling |
| Project period | 01/2021-12/2023 |
| Implementers | German Development Cooperation (GIZ), the Netherlands Development Organization (SNV) and the Netherlands Enterprise Organization (RVO) |
| Budget | EUR 8,000,000 by the IKEA Foundation |
| Partners | Local Ministries and government partners, NGOs and the private sector |
| Objective | Supporting scalable, innovative business cases using renewable energy services and technologies to improve production and livelihoods of smallholder farmers in the dairy and horticultural value chains in Ethiopia, Kenya and Uganda. |
| Indirect cumulative results by 2023 | Smallholder farmers and related local businesses of agricultural value chains improve their livelihoods, increase their resilience to climate change and contribute to Greenhouse Gas GHG emissions reduction. |

## Background

Smallholder farmers living in Sub-Saharan Africa earn less than 1.90 USD per day on average. Nearly one-quarter of the population suffers from undernourishment.[1] At the same time, climate change impacts smallholders in Africa disproportionately due to higher incidences of drought, floods, and increasing average temperatures. In rural regions in Ethiopia, Kenya and Uganda, smallholder farmers often have no access to energy services or use expensive and harmful energy sources which prevent them from efficiently farming and preserving agricultural products. At the same time, the high potential of renewable energy technologies and related energy services for PUE remains largely unused. The lack of access to sustainable and affordable energy technologies and services is the core problem which is addressed by this project.

## Objectives

With the funding provided by the IKEA Foundation the project will support smallholder farmers in Ethiopia, Kenya and Uganda in accessing and using solar energy to improve their livelihoods and increase their resilience to climate change. Improving livelihoods and decreasing poverty and food-insecurity hinges on increasing the productivity and climate resilience of smallholder farmers. For this, smallholders must boost and diversify their production and income sources.

Specifically, the lack of access to modern energy used for improving production, termed Productive Use of Energy (PUE), limits the development opportunities for smallholder farmers living off the national electricity grid. The global market already offers some PUE technologies, however, to date very few are accessible to smallholder farmers in the target countries.

[1] FAO et al., 2019

This is due to a challenging market environment that hinders the development of viable PUE business cases. The project aims at finding innovative, scalable business cases which ensure market availability of PUE technologies and services for smallholder farmers and other value chain actors.

## Approach

With its market-based approach, the project aims at increasing the availability of PUE technologies and services as well as demonstrating the economic rationale of such investments for smallholder farmers. In the long term this will contribute to and enhance more mature markets, increase interest in investment by farmers and service providers, and stimulate demand for small-scale PUE technologies targeted by the project, which are:

- ✓ Solar Irrigation for horticultural and livestock
- ✓ Solar drying for horticulture
- ✓ Solar cooling for horticulture and dairy
- ✓ Renewable energy community hub

The project transfers lessons-learned from technology trials and pilots from both Kenya and Uganda to accelerate the development in the focus country Ethiopia, where half of all PUE business cases will be piloted. To support the pilots, knowledge gaps in business and technical skills as well as financing needs will be identified and addressed with capacity building measures, such as trainings, workshops and technical demonstrations.

## Impacts and outcomes

By using sustainable and affordable energy technologies and services, smallholder farmers and local businesses along the agricultural value chains improve their livelihoods, increase their resilience to climate change and contribute to GHG emissions reduction.

Solar powered technologies for dairy value chains are used in Kenya.

The following three key outcomes are expected to be achieved by the project:

- ✓ Increased access to PUE technologies for smallholder farmers through viable, scalable business cases.
- ✓ Local value chain actors (thereof at least 25% women and 30% youth below the age of 35 years) are capacitated in sustainable operation of PUE technologies.
- ✓ Businesses mainstreaming PUE technology provide sustainable energy services to smallholder farmers and their livelihoods.

## Learning and innovation

Driving innovation and sharing knowledge across the three countries is at the center of the project approach to accelerate impact. The advantages of this exchange of experience-based knowledge and innovation, both vertically between the countries and horizontally within the countries, is expected to have a defining positive effect on the project results. To support this, the project will set up an Innovation Fund to accelerate new opportunities for business cases that are at an ideation stage.


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