

# SOLAR RAIN MAKERS ENHANCE FOOD SECURITY

SunCulture's solar water pumps and irrigation systems enable farmers to access a steady supply of water, engage in precision irrigation, and store energy to power lights and appliances.

Their systems can pump up to 2,500 litres per hour from wells, rivers, or dams instead of requiring farmers to rely on rain or environmentally harmful pumping systems. This helps ensure the stability of the water supply.

Once installed, solar-powered water pumping requires minimal operating and labour costs, making it less costly and labour-intensive for farmers to grow fresh fruits and vegetables.

SunCulture offers a range of irrigation packages with and without energy storage. Their portable option is called 'Rain Maker'. To facilitate success, SunCulture also provides capacity building in farming practices. Their call centres offer advice and support to help ensure the equipment is used to its best advantage in conjunction with changes to standard practices and behaviours.

SunCulture's systems can also power household energy needs, such as phone charging and lighting. They use localised weather and soil data to generate recommendations for farmers, and can be networked to collect other types of data for collective uses.

In 2015, SunCulture received EEP Africa financing to pilot their project. They have since grown from about 50 to about 300 employees and have expanded to several other countries.

This early financing helped them raise additional equity from angel investors, venture capitalists, strategic investors, and the African Development Bank's Facility for Energy Inclusion Off-Grid Energy Access Fund, which is also supported by NDF.

## TARGETED OUTCOME AND IMPACT

During the project, SunCulture sold systems primarily in Kenya but also Uganda, Tanzania, and Zambia. SunCulture's customers report significant time savings per day and older customers also report fewer bodily aches from bending and carrying so much water. A recent impact report conducted by 60 decibels found that 87% of customers report increased confidence in growing healthy crops when using the SunCulture system, and 93% of customers report improvements in their quality of life.

Food insecurity is a huge issue in the regions where SunCulture is active. After briefly suspending their Pay-As-You-Grow programme due to the COVID-19 crisis, SunCulture experienced their strongest sales month ever when the programme was restarted in July 2020. The pandemic has further highlighted that people want solutions that increase their autonomy and food security even when access to money is restricted.

SunCulture reports that their irrigation increases agricultural productivity by increasing crop yields by 2-5 times and dairy outputs by 1.5-2 times. It enables farmers to cultivate more land, harvest higher-value crops, and grow during the dry season. As a result, their customers can often see income increase of 5-10 times.

Just in Kenya, scaling solar irrigation to the total addressable market would feed 2.7 million food-insecure people and add EUR 1.5 billion to GDP.<sup>11</sup>

In 2019, SunCulture calculates that they eliminated 4,000 tCO<sub>2</sub>e, added 35,000 tons to annual food production, and added USD 7 million to smallholder GDP. In recognition of this success, SunCulture was awarded EEP Africa Project of the Year in 2019.

**Project developer:**  
SunCulture

**Technology:**  
Solar (irrigation)



**Key synergies:**



**Key linkages:**

**Adaptation**

- Land use changes
- Business continuity planning

**Resilience**

- Continuous access to essential services
- Increasing resources to poor/vulnerable

**Location:**

East Africa  
(Regional)



One 66-year old woman on a smallholder farm in Kenya no longer has to spend 17 hours a week to make 10+ trips per day to her well to fetch water. With her SunCulture system, she now gets 4,000 litres of water per day for her cows, household needs, and crop irrigation. Her cows have doubled their milk production, which earns her USD 7.60/day. By farming just a quarter acre of her land, she is able to earn an additional USD 1,500 per year selling her vegetables locally.