



**THE  
IMPACT  
PROGRAMME**

# DEEP DIVE: SUNCULTURE INSIGHTS

**COMPANY:** SunCulture **SECTOR:** Agriculture/Energy **COUNTRY:** Kenya **FUND:** Energy Access Ventures Fund

Impact Programme Deep Dives use a stakeholder-centric approach to measurement. They gather feedback on the products and services produced by companies (known as 'outputs'), and the material effect of these products and services on people's lives ('outcomes').

Research is based on five key principles:

- **Participatory.** Listening to data needs across companies, fund managers and asset owners to focus on metrics that can be decision-useful for all parties.
- **Value-added.** Helping businesses understand how they are creating value for their customers, suppliers and employees.
- **Right-sized.** Using research methods that are proportionate to the scale of impact and aligned with company culture.
- **Confidential.** Ensuring the safety of commercially sensitive data, and protecting the right of respondents to anonymity.
- **Independent.** Engaging researchers external to company and fund management to reduce bias and boost impartiality.

Deep Dive findings inform portfolio-wide impact reporting, and feed into business strategy and operations – helping to improve customer segmentation, supply chain management, brand positioning and marketing.

**Deep Dives** are in-depth research on the social performance of portfolio companies in the [CDC Impact Fund](#), which is part of the DFID Impact Programme. Each Deep Dive collects data from people experiencing impact. This information is then turned into insights for both businesses and their investors – as well as generating learning for the wider impact investing market.

## HEADLINE IMPACT

- SunCulture's solar-powered water pump saves customers time and money, replacing expensive diesel pumps and inefficient manual methods.
- The RainMaker has a multi-dimensional impact and can be used to irrigate farms, support livestock and meet household water needs like cooking and cleaning.
- Almost half of early adopters of the product reported an increase in farm yields and income due to the solar pump.

## COMPANY OVERVIEW

SunCulture sells affordable solar-powered water pumps and customized irrigation systems, bundled with ongoing support and financing. SunCulture was the first company to commercialize solar-powered irrigation in Africa and is the only one that provides a turnkey solar irrigation solution to farmers; in addition to industry-leading solar-powered irrigation systems and financing, SunCulture-trained technicians and agronomists provide on-farm training, soil analysis and agronomy support by mobile phone, and next-day delivery and installation anywhere in Kenya.

SunCulture is a portfolio company of Energy Access Ventures Fund (EAVF), a venture capital fund helping entrepreneurial businesses in Sub-Saharan Africa to bring reliable electricity and its benefits to low-income people in rural and peri-urban areas. EAVF has received investment from the CDC Impact Fund.<sup>1</sup>



<sup>1</sup> CDC's Impact Fund invests in funds and other intermediated vehicles that deliver high development impact. CDC committed Euro 21.5 million into EAVF.



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## RESEARCH FOCUS

Over 80% of land in Kenya is not suitable for rainfed agriculture, but only 3% of Kenyans irrigate – meaning agricultural yields trail world averages by approximately 50%.<sup>2</sup> Most farmers live off grid, and those farmers who do irrigate rely on expensive and environmentally unfriendly petrol pumps or inefficient manual methods. This creates a gap between how many farmers currently irrigate and how many need to irrigate to become more productive.

In 2017, SunCulture launched the RainMaker, a solar-powered water pump that can lift 7,000 litres of water per day and can pump from wells up to 100 metres deep, compared to current market alternatives that draw from 10 metres deep.<sup>3</sup> Using energy from a portable 120-watt solar panel and battery bank, the RainMaker is able to pump enough water to irrigate a half-hectare farm and fulfil household water needs like drinking, cooking and cleaning.

SunCulture wanted to gather feedback from its early adopter customers to better understand product satisfaction and to learn what more the company could do to further its mission of helping farmers to grow more while spending less. This involved carrying out stakeholder surveys to understand three dimensions of impact: the demographic and socio-economic profile of customers (**'who?'**); the concrete benefits of using the RainMaker (**'what?'**); and the depth of impact on variables such as time and cost saving (**'how much?'**).

To answer these questions the Impact Programme engaged the [Acumen Lean Data](#) team, who conducted in-person data collection with a representative sample of

RainMaker customers. 145 farmers were interviewed by telephone over a two-week period in October 2017.

The multi-stakeholder [Impact Management Project](#) considers five dimensions of company impact on people and planet:

- **Who** experiences change, and how underserved are they?
- **What** outcomes does the change relate to, and how important they are to the people (or planet) experiencing it?
- **How much.** How much of the change occurs in the time period in terms of depth, scale and duration?
- **Contribution.** How does the change compare and contribute to what is likely to occur anyway?
- **Risk.** How likely is the outcome to be different from what is expected?

## RESEARCH FINDINGS

- **Saving costs.** Before purchasing the RainMaker, half of customers used a fuel pump or a generator for water extraction. Electric water pumps are not viable without a connection to the grid, so farmers mostly used diesel, which made irrigation not just expensive, but an unaffordable option for many smallholders.

*"I don't have stress like before about petrol, cows are getting water well and I don't spend money for that."*

*"I save a lot of cash that I initially spent on buying petrol for pumping water."*

<sup>2</sup> <http://explorer.sustainia.me/posts/samir-ibrahim-saving-kenyan-agriculture-one-drip-at-a-time> and <https://www.youtube.com/watch?v=jdaQLIjrGU>

<sup>3</sup> The RainMaker includes a solar pump, controller, battery bank, portable solar panel and sprinkler. Delivery, installation, agronomy support and after-sales services are included in the price.

*"When I was using the petrol pump for pumping water, taking it to the river was difficult. Now, you can take this solar pump in parts to the river. If it was not for this, I would have given up on farming a long time ago, but now I am pursuing farming."*

*SunCulture customer*

*"The money I was using to purchase fuel for pumping water was a lot, sometimes [other people] steal the fuel so I was really suffering, now I have peace of mind."*

*SunCulture customers*

- **Saving time and effort.**

Most customers got their water manually before the RainMaker, which required enormous amounts of time, effort and energy to physically move water. People spent an average of 17 hours per week collecting water from wells, boreholes or communal rivers and lakes, time which has now been freed up for more productive uses and to tend to family needs.

*"I used to have to wait for someone to come help me with the other pump as I have arthritis my hands are too weak and had to pay him which was quite expensive."*

*SunCulture customer*



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“I don’t have to struggle to go to the river to get water, I just switch on the pump and you get water.”

“I have water constantly unlike before we had to really struggle to get water, as it was from the borehole.”

“I live with my parents and my own family. They have cows and sheep when my parents are left on their own they really get tired when fetching water manually so I decided to buy for them the machine so it can ease their burden.”

*SunCulture customers*

• **Farming output**

Although some customers had only been using RainMaker for a matter of months, half already reported an increase in their farm’s productivity due to the solar pump. While the research did not quantify these gains, farmers have since reported to SunCulture an average increase in crop yield of 300% per year.

“I have seen great increase in fact I have managed to plant cucumbers in extra patch of land, something I could not do before I had the pump.”

“I have water all the time even during the dry season I can plant crops as I wait for the rains to come.”

*SunCulture customers*

“Before I could not plant kale during the dry season, now we plant them all the time and sell them and have a good harvest.”

*SunCulture customer*

• **Beyond farming**

70% of customers use the pump to get their domestic water supply, in addition to land irrigation. The high use of the pump for domestic purposes such as water for washing clothes and general household consumption suggests that the RainMaker is creating value for families well beyond the farm.

• **Transformational potential**

SunCulture’s Net Promote Score (NPS) – a standard measure of customer satisfaction – is very high, outperforming both global and Acumen Lean Data benchmarks.<sup>4</sup> This suggests customers value the economic benefits and

reduced workload associated with the RainMaker and associated SunCulture services. Almost 90% of customers say that the RainMaker is now their main source of extracting water, making the product central to maintaining rural livelihoods.

**WHAT HAPPENED NEXT?**

The company’s design philosophy – Iterative Design for Eventual Affordability (IDEA) – aims to build high-quality products and make them increasingly available to lower-income farmers. RainMaker is now available on SunCulture’s pay-as-you-grow platform, meaning customers can make instalment payments via mobile phone rather than having to pay in full upfront, which is expected to increase affordability for smallholders.

As part of the Deep Dive, we worked with the SunCulture team to put in place a process for the company to generate repeated customer insights, using data points from the research that were found to be the most powerful. This is helping SunCulture to track segmentation, satisfaction and opinion across the customer journey over time.

<sup>4</sup> SunCulture’s NPS was higher than Acumen’s 2017 benchmarks for both agriculture and energy companies in Africa.

**FURTHER INFORMATION AND CONTACTS:**

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