

Figure 1 Zibusiso Ncube on a stripped t-shirt showcasing one of the solar inverters at Mashaba plant, picture by Lungelo Ndhlovu

Solar grid keeps livelihoods high, hospitals lit in rural Zimbabwe

The off-grid power system, has made it possible to effectively irrigate crops, boosting farming yields and fuelling economic growth

By Lungelo Ndhlovu

FRUSTRATED by the decreasing rainfall and the frequent breakdown of the diesel engines that powered their irrigation systems, solar grid plant keeps harvests high, hospitals lit in parched rural Zimbabwe.

The 99 kilowatt solar plant consisting of 400 solar panels with a distribution line stretching for 25 kilometres, is supplying five load centres, three irrigation schemes and a hospital in the drought-prone village of Mashaba in Gwanda South, near the Botswana border.

Zibusiso Ncube, the project team leader for Sustainable Energy for Rural Communities at Practical Action, a development organisation that supervised the construction and implementation of the solar grid since 2015, indicated that the development venture was aimed at providing energy access for productive use in rural communities.

"We implemented this project here in Gwanda, and Malawi as well. In Gwanda we have seen quite some results. Some of the results were not things we thought would happen in the life time of the project," he said.

Funded by the European Union, the OPEC Fund for International Development and the Global Environment Facility as part of a drive to promote universal access to modern energy in rural areas for \$3.2 million, the off-grid power system has continued to lift Mashaba rural communities since its beginning, four years ago.

"One of the major thing that we learnt from this project is the fact that providing energy access to rural communities provides the community a platform to innovate and think about solutions around how they can improve their lives," he said.

Ncube, revealed that one of the beneficiaries of this project, a solar energy kiosk owner, demonstrated innovation by providing solutions away from the intended purposes.

He indicated that an energy kiosk is a physical shop that retails energy products such as solar lanterns, solar fridges, solar water pumping kits, and battery charging facilities.

"A simple example is Khumbulani's shop who when the project started was meant to sell solar energy accessories, and provide phone charging for the rural immunities but the presence of having electricity allowed him to be able to innovate, plan and think about different things that he can do about the solar energy," he said.

Khumbulani Nyanisi, who innovated and started a welding business in rural Mashaba village, told *Zenger News*, his business is thriving having bought two cars this year, property for his home and the community's sought after blacksmith.

"Before the solar grid project, I used to do my welding using a petrol powered generator and fuel was very expensive, and it would only last me

a week. But, after the coming in of this project, I have a constant supply of electricity, powering my welding machine all the time," he said.

Nyanisi, has done many metal work projects in the community including steel window frames used in shops building, and for other villagers who require building materials involving steel work.

"I always attend to car breakdowns coming as far as Beitbridge, fixing their broken exhaust pipe systems and other elements which require metal soldering together. Besides welding, I'm also involved in the irrigation scheme powered by the same solar grid. I grow cabbages and carrots which I'm in the process of selling now," he said.

The off-grid power system supplies the Mankonkoni and Rustlers Gorge irrigation schemes which covers 32 hectares, the Mashaba Primary School, Mashaba Clinic and a Business Centre with un interrupted electricity power from solar energy.

Sithokozile Nyathi (36) Rustlers Gorge irrigation project farmer, said their village had been completely transformed into a serious farming zone since the introduction of the solar mini-grid.

"We are doing farming throughout the year. We grow wheat, potatoes, maize, tomatoes all year round unlike other communities who are not on the mini grid. The solar energy helps power our irrigation systems and we store water in tanks. It also allows us to do our farming at night because we can use lighting provided by the grid electricity," she said.

Practical Action has since left the solar project at the hands of the Mashaba community to run it, according to Ncube.

"The Mashaba Solar Mini-grid Community Trust will be the majority shareholder ownership of Mashaba Solar Mini-grid. The Community Trust will be owned by all the households in ward 19. Each of the 6 villages in the ward will have one board seat on the Board of Trustees and the community is not allowed to sell the project to any other partners," he said.

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