Irrigating Fields. Powering Dreams.

Promotion of Solar Water Pumps (IGEN-PSWP)

Commissioned by: German Federal Ministry for Economic Cooperation and Development (BMZ)

Project partner: Ministry of New and Renewable Energy (MNRE), Govt. of India

Project timeline: October 2018 - September 2024

Budget: EUR 5.5 million

Locations: Assam, Bihar, Jharkhand, Odisha, West Bengal

SDGs addressed:

Sunita Murmu does not wait for the rains to irrigate her field; she uses the sun.

In the village of Gurabanda, Jharkhand, where farmers have long relied on either the erratic monsoon, expensive diesel generators or unreliable electric pumps to water their fields, farmers like Sunita are discovering the benefits of portable solar water pumps.

“When I was invited to a demo one day, I had no idea what I was going to see,” says Sunita. “We gathered around a small well, but I was distracted while the *didi* (informed farmer) set up the apparatus. A few minutes later, however, when a loud gasp went up from the crowd, I hurriedly pushed my way to the front and saw that the pipe that she had inserted into the well was gurgling out fresh and cold water onto the ground! There was no dirty, smoky diesel engine involved and no wires or need for electricity. It was just a small solar panel that the *didi* had carried under her arm! I was sold.”

Sunita now single-handedly uses her own solar powered portable water pump to irrigate her field, growing more vegetables than before. She also experiments with new agricultural activities like kitchen gardening and poultry. Gone are her days of reliance on the rains.

The Indo-German Energy Programme 'Promotion of Solar Water Pumps (IGEN-PSWP)' delivered sustainable irrigation solutions to India's heartland. The objective was to nurture an enabling policy environment, shape future business models, enable access to finance by training bankers, open financial avenues, and create an informed team of farmers. To explore new sustainable business models, one of the activities was to pilot and test the use of Micro Solar Water Pumps (MSWP) (pumps below 1 Horsepower) in Jharkhand, Assam and Odisha. The successful installation of the MSWP allowed the farmers to increase their cropping intensity and to adopt other activities like kitchen gardening, poultry, poly house for plant nursery, among others, to generate additional income. To promote MSWP, women members of a local Farmer Producer Organization (FPO), called "Gharoni", were also trained to demonstrate the benefits of MSWP in near-by villages. These group of women has till now sold around 90 pumps and earns their additional livelihood.

“Solar-powered irrigation pumps, especially those with a power under 1hp, are environment-friendly and perfectly suited for use by small and medium farmers. These micro-pumps are easy to handle, transport and even share among neighbouring farmers, ” says Mr. Durga Dayal Patra, CEO of Gharonj, a FPO in Gurabanda.

“GIZ has been working with Gharonj under the PSWP project for the last three years, training our women members to promote solar water pumps through demonstration and personal interaction with farmers across five villages in East Singbhum. These women travel from village to village, selling solar water pumps, showing farmers how they can transform their fields and lives.”

Among these women ambassadors of solar water pumps is Alpana Panda. Having lost her arm in a tragic accident years ago, Alpana had relegated herself to the back of the household, allowing her husband to take care of affairs. In 2021, however, when his business began to falter, Alpana was forced to venture out to help with the expense and joined Gharonj.

Alpana now serves on the Board of Directors for Gharonj, a role that she and her family are proud of. In East Singbhum, the women of Gharonj are discovering their own potential, while they help farmers tap the potential of solar in agriculture.

“With each demonstration, I grew more confident,” smiles Alpana. “I used to be shy, afraid to even introduce myself, but now there is more meaning to my name. I finally have an identity.”