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SWADESH IN BASTAR

How Lift Irrigation Changed Lives in Kelaur Village

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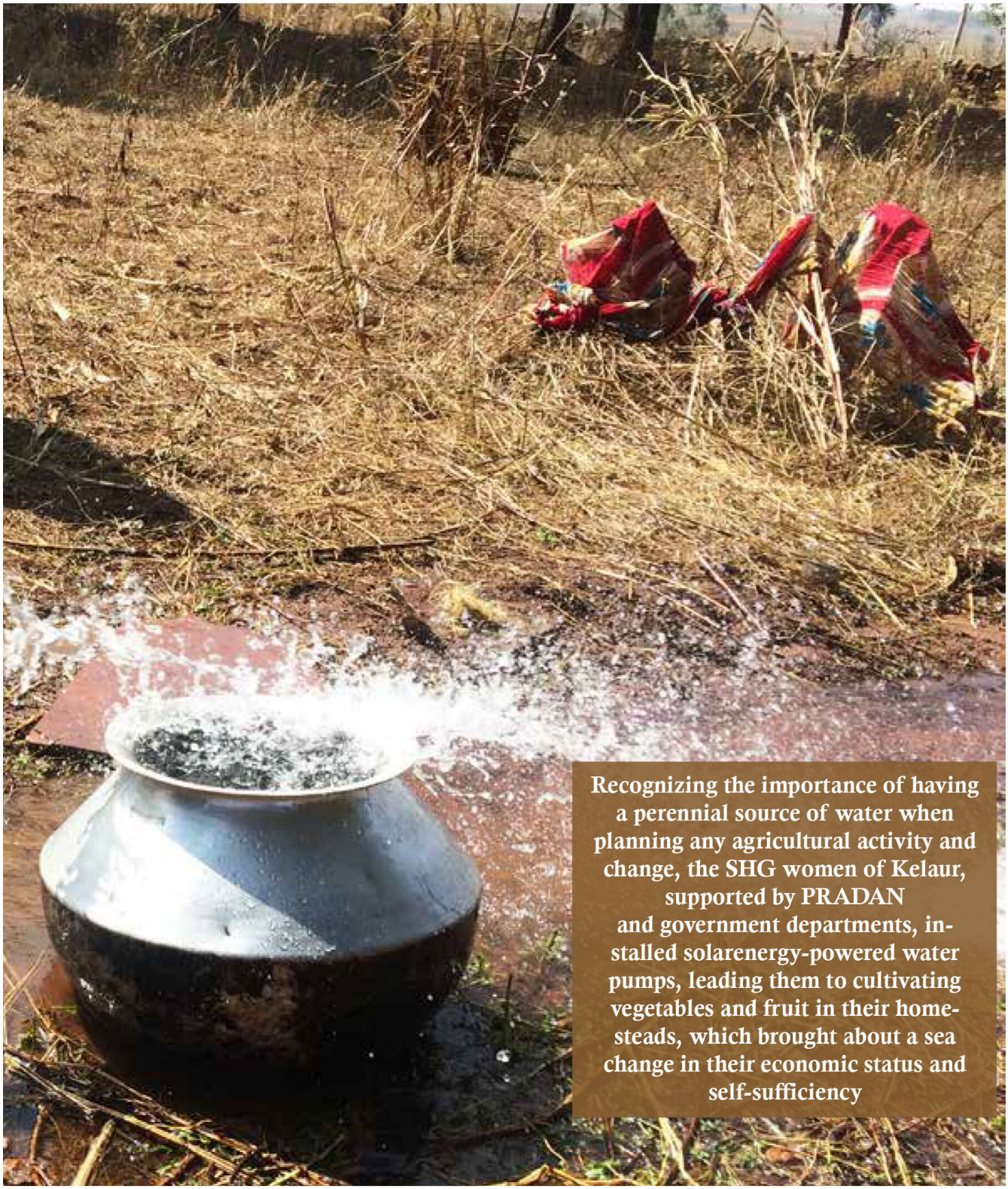
-PRADAN



Recognizing the importance of having a perennial source of water when planning any agricultural activity and change, the SHG women of Kelaur, supported by PRADAN and government departments, installed solarenergy-powered water pumps, leading them to cultivating vegetables and fruit in their homesteads, which brought about a sea change in their economic status and self-sufficiency

Preface

Agriculture in Central India is dominated by paddy cultivation with a large section of farmers only engaging in kharif agriculture. The same village, post-kharif season is filled with uncertainty, and very few households engage in profitable agriculture in the rabi and summer seasons. Some of the reasons behind this are traditional; yet,this is mainly due to the rocky terrain and undulating lands, leading to non-availability of water for crops. In Kelaur, the didis of the Self-Help Groups (SHGs) have found a new direction and have started reaping the benefits of their hard work. This article documents the efforts of the community, the civil society organisations and the government department, which led to this transformation in Kelaur.

Kelaur Village and Its Conditions

Parwati, a tribal woman from Kelaur grampanchayat(GP), wonders if borrowing food from neighbouring households is a permanent solution to her and her family's troubles. She has been managing her household needs with the income from working in the fields and by selling rice and livestock as per needs. Like other families in the village, she and her husband have many different sources of income, for example, she works as a shepherd sometimes and her husband works as labour in construction and in the fields.

This, however, is not a permanent solution for the sense of insecurity, which she experiences each year post-kharif when water levels go down and there are few options to work in the villages. With weary eyes she shares that this is the case with almost all the families and this insecurity has become a permanent part of their lives and they certainly believed that this will never change. Kelaur is one of the 46 Gram Panchayats (GPs) under Darbha block of Bastar dis-

trict. It has 321 households and is home to the Bison Horn Maria tribes, only present in Madhya Pradesh (MP) and Chhattisgarh (CG). This ethnic group speaks the Gondi language and usually resides in sparsely located villages on top of hills, in rocky terrains, away from hustle and bustle of towns and cities. They are notified as Schedule Tribes (STs) in the Constitution.

Agriculture is the primary livelihood for the village residents.With time, more and more households are migrating to Andhra Pradesh and Telangana for labour work. There are many cases in which those who migrated for work have returned sick and without their payment.

One of the reasons for this is that most of these young boys and girls have only had primary education and have had very little exposure to the outside world, thus making them more vulnerable to exploitation. A few people have mortgaged and sold their assets, including part of their agricultural land, for survival.

Small Steps Leading to Big Changes

In 2016, 22 women from Kelaur, including Parwati, formed two SHGs—Kaner Phool and Gangadey—with support from PRADAN, a civil society organization (CSO) working in the region since 2009. SHGs are formed at the local level by collectivizing women from same socio-economic backgrounds to build a support system within the villages and which gradually moves towards finding collective solutions. During the many meetings, the lack of livelihood opportunities within the village came up as one of the major obstacles for almost all the SHG members.

Because most of the families are acquainted with farming, it was decided to strengthen agriculture instead of exploring other options for income generation. A major impediment to agriculture was the absence of any irrigation facility in the villages. Thus, the group started brainstorming about ways by which water could be brought to their homestead lands for irrigation.

PRADAN's Experience of Lift Irrigation

PRADAN has been working in rural areas since 1983 and has successfully installed lift-irrigation systems in many villages in Gumla and West Singhbhum. These are functional even after 15 years of installation. These lift-irrigation models, which primarily ran on diesel,allowed communities to begin vegetable cultivation in their homesteads and on unused fallow land. Another reason for the success and sustenance of this intervention is that there is always need for vegetables in nearby villages and, hence,there is constant demand for it.

In addition, PRADAN ensured that the community was involved from the beginning of the planning activities; thus, the main ownership for it was of the community and not of the other stakeholders. The experience of PRADAN in Jharkhand also validates that communities will engage in agricultural activities for the entire year if water is available for the fields, leading to additional source of income for the families and also increased nutritional diversity in the food intake of families.

Replicating the Idea in Bastar with Solar Energy

In Bastar, the additional challenge is the lack of continuous supply of electricity in the villages, which is crucial for the pumps to lift water. The high electricity bills and the maintenance of the pump were big challenges.Diesel pumps were not an option because the community could not bear the recurring and high cost of diesel required to run the pumps. During discussions in the community,the use of solar energy came up as a viable option for lifting water from the stream. It has low maintenance costs and no re-curringmonthly electricity bills. SHG members were taken foran 'exposure visit' to Jharkhand,- to understand the benefits of lift-irrigation-based vegetable farming.

In addition, the SHG members were oriented by PRADAN staff, through videos, on the process to be adopted. These efforts were fruitful and motivated the SHG members to try it in their own villages. During that time, the government announced the Saur Sujalascheme, in whichthe Chhattisgarh Renewable Energy Development Agency(CREDA) offers full subsidies on solar pumps and solar plates.

The only financial implication involved was the processing fee of Rs 10,000, which would be borne by the community. With support from CREDA and technical inputs from PRADAN, the SHG members installed a solar pump-driv-en, lift-irrigation system to pump water from a nearby perennial pond to their homestead lands. Small and medium farmers of CG, who wanted to install solar pumps,were eligible for this subsi-dy under this scheme.

The solar energy system was sanctionedon an individual's name, and anagreementwas arrived at that thesolar base pump could be utilized by all members. In lift-water irrigation, the pump is the costliest and the primary equipment, and additional money is needed for the installation of pipes. The pump costs around Rs 2 to 3 lakhs, depending on its horsepower;the cost of the pipes is dependent on the distance between the fields and the source.

In Kelaur, the pump was covered under the Saur Sujala scheme, and Rs 60,000 for the pipes and

Jai Nag (Care Taker of Solar System and Pump Operater)

the installation was taken as a loan from the Village Organization(VO)formed under the National Rural Livelihood Mission (NRLM) and PRADAN. Fourteen SHGs are part of this VO, the main objectivesof which are strengthening the livelihoods of vulnerable and deprived households and helping members financially and socially. Norms were articulated for taking loans from the VO; all the SHGs registered under the VO were eligible for this support. One of the important conditions is that this loan money has to be used only for strengthening livelihoods.

Management of the Solar Pump

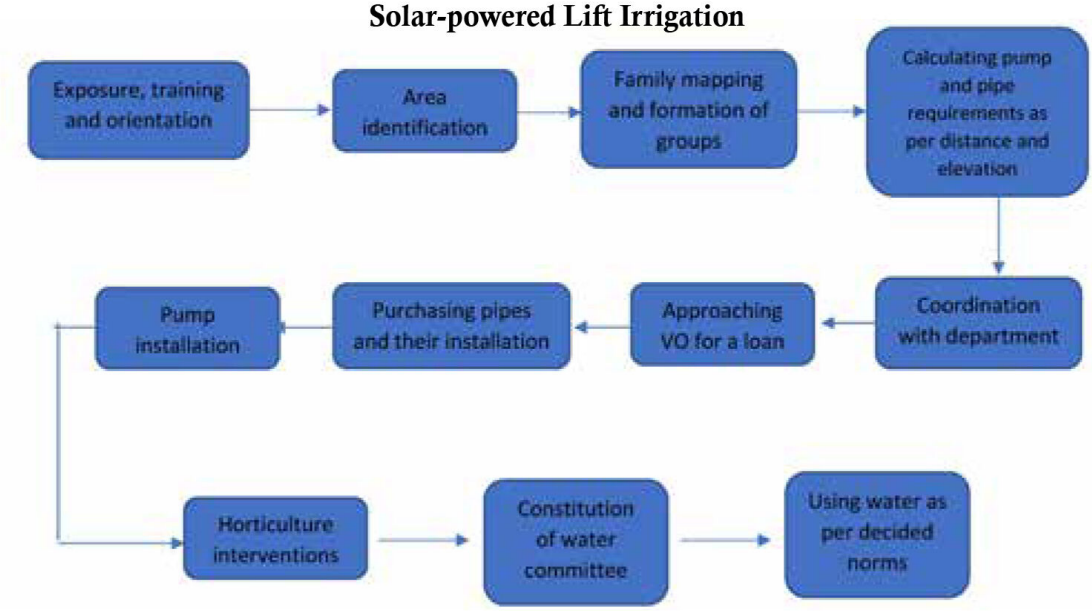
Proper management of the installed lift-irrigation system is important for the intervention to be successful in the long run. Hence, a water committee, comprising all the families using the water, was formed. During SHG meetings, Rs 40 per month rent is collected from each of household. A separate cash book is maintained by the SHG accountant for this and the money is used for the maintenance of the pump and pipes, and for providing wages tothe pump operator. The pump operator is responsible for ensuring that water reaches each homestead land and for taking care of the solar pump system.

Intervention Outcomes

Parwati is happy, seeing the crops in her homestead land. Now, both she and her husband have got enough work on their land, tending to the mango plants and pulses and vegetables through the year. She expresses her joy by saying, "Now, we are earning money and are also able to pay for the books, uniforms and education of our children. Earlier, my house was not in a good condition; now I have reconstructed it." Since the installation of the lift-irrigation facility on their homestead lands in 2017, 22 households in Kelaur have been cultivating three crops a year.

This is a significant change, and families now earn an additional net income of Rs 15,000 to 20,000 by the sale of vegetables and mangoes from their homestead land. Previously, they earned only Rs 1,000 to 2,000 during the kharif season. This income has become even more crucial in times of COVID 19 when the entire economy is under stress and everyone is unsure of their future. These households have been able to

Solar-powered Lift Irrigation



manage their household expenses by selling vegetables in the nearby local markets. Thus, their situation is much better than other households.

Challenges Faced

Like any other intervention, these interventions have their share of challenges. The open grazing of livestock by local communities is one of the biggest challenges to the standing crops within the homestead. However, with better fencing arrangements instead of the current stone fencing, this challenge can be overcome. This leads to another major challenge—the capital-intensive nature of this intervention.

In a situation in which people are not able to earn a decent livelihood, it is difficult to expect large, initial investments from them for installing the liftirrigation. However, people can leverage existing government schemes, which support solar pump installation and liftirrigation.