

# Solar Powered Decentralised Rice Milling Unit in Jharkhand



## CONTEXT

Life Education and Development Support (LEADS) is an organization that works in the districts of Jharkhand, primarily in Khunti, Hazaribagh, Latehar, Ghumla (amongst others) to promote sustainable livelihood solutions in rural and tribal communities. They also work in urban areas with their base located in Ranchi. Within the livelihoods work, they focus on agriculture and natural resource promotion, animal husbandry for sustainable livelihoods and more. They have members grouped in Self Help Groups across the districts, some of which are driven by women participation and leadership.

In Latehar and Ghumla districts alone, they have 1,600 members who practice rice cultivation. These farmers live in very remote forested regions and predominantly belong to tribal communities.

## The Intervention

Kurokala village in Mahuadan Block, Latehar district is a remote village with Santhal communities residing there. They are all small and marginal farmers who grow rice for one season and practice horticulture farming as well. The farmers primarily grow a special variety, Black Jeera Rice along with some other varieties of rice which they consume and sell. 300 households cultivate paddy in this cluster of Mahuadan block with each household producing about 15-20 bags of paddy (10 quintals) per season. They keep enough paddy aside for self consumption and sell the rest.

Kisan Mahila Mandal is a women based SHG with 20 members who decided to take up the decentralized solar powered rice mill intervention as they observed the need for hulling of rice and polishing there. The nearest rice mill was in a town, about 10 kms away- large in scale, it was primarily catering to large farmers, bringing in paddy in larger quantities to be hulled. A small building infrastructure was set up with the help of the Jharkhand Livelihood Mission and the solar powered rice processing machines was installed in May, 2019. Multiple training sessions were conducted by SELCO Foundation staff for the women members. The women operate the machines, handle packaging, accounts, registers, maintenance etc.

The huller and polisher are two separate components with the huller processing 60 kgs per hour and the polisher cleaning 50 kgs per hour. With the machines running for 6 hours, they can mill 3 quintals of produce per day.

The decentralized mill is being run as a service model where they sell their produce through 4 middlemen who they have developed linkages with. Due to not having their own transportation, they sell to the middle men who come regularly and pick up the milled produce as well as paddy from the farmers. The middle men take the produce to markets in nearby towns like Daltonganj.

## COVID-19

The lockdown has severe repercussions in Latehar district, with many establishments having to close down. **This includes the oil mill, flour mill and the rice mill which people from the town and villages nearby would access. With this access being cut off, villagers from nearby villages of 5-6 kilometer radius started to come to the SHG run solar powered mill as they heard of it from the middlemen.** The SHG started to mill and polish the produce charging town folks INR 5 per kg and their associated Farmer Producer Organization members INR 2 per kg, as opposed to the usual rate of INR 3 per kg. The mill has been running for an additional 3 hours per day milling 150 kgs of paddy to rice per day.

Due to this, the SHG has been making profits even during the lockdown. People accessing this mill have been expressing that they prefer this as they have reduced time and expenses as the centralized mill in town would charge them INR 2 per kg but would not return the husk. Whereas, the SHG members have been returning the husk to the customers along with their hulled rice. The husk has many uses for the farmers in the form of mixing it with manure to make bio fuel, using it as fuel to keep the pots going which they use to make alcohol and laying poultry farms with this base to revoke ammonia. This husk is usually sold for INR 50-70 per bag for fuel used to make alcohol and INR 30-40 for the poultry shed with each bag weighing 20 kgs. The decentralized rice mill generates 60% rice and 40% husk of the paddy being fed. The solar powering has been very useful during the lockdown as the region suffers heavy load shedding and frequent power cuts. **If diesel were to be used as a backup fuel, they would take 2 days to procure diesel during the time of lockdown which would have hampered their service and production.**

## KEY TAKEAWAYS

- **Income and profit:** Even during the lockdown, due to the unit being located in a remote region, the SHG members remained unaffected and were allowed to operate through it. This brought in more customers, increasing their income and turning in profits.
- **Additional customer base:** Due to the mills in the town being shut down as a result of the lockdown, people from nearby villages and towns started to use this service to mill their produce. At least 100 people newly accessing this mill have expressed to the SHG members that they will only come to their centre henceforth even post lockdown as it is more economical, convenient and time saving.
- **Food security:** Farmers and communities from nearby villages and from Kurokala have been able to process their stored paddy to rice which is giving them food security in a time where access to essentials has been difficult.
- **Awareness on solar:** A lot of the visiting communities are seeing solar energy for the first time and have learnt of its existence, uses and applications beyond just lighting.
- **Combatting energy issues:** The remote region suffers a lot of power cuts, frequent load shedding and voltage dips which would have required the SHG to rely on diesel, if it weren't for solar. It takes 2 days to procure a batch of diesel and in the time of lockdown, it would have taken longer with additional permissions required to be able to access it, causing hindrances in their service.



*Photo taken in 2019, during the inauguration of the Decentralized Solar Powered Rice Mill*

# Tailoring Training Centre, Converts into a Mask Production Centre



## CONTEXT

Priscilla Centre, a training cum production centre for women based in Guwahati, Assam works with women, school-dropouts, widowed women from the states of Assam, Nagaland, Manipur and other neighbouring states on skill training. They conduct two year training programs post which the women who graduate are linked to other advanced skill training institutes. One of the main programs run by them is Sustainable Income Generating Program (SIGAP) focussing on textile based training which is conducted at their training centre in Guwahati and also at other partner grassroot NGOs. Priscilla Centre also has a sister concern which is a for-profit organization that helps with market linkages and selling of the products made by the trainees and graduates - sarees, kurtas, traditional clothing, bags etc.

SELCO Foundation partnered with Priscilla to understand their model better and explore sustainable energy interventions in their training centres.

## COVID19 AND RELIEF WORK

The training centre is located in Panbazaar, a main market area in Guwahati city which is under a containment zone due to positive cases that have been detected in the region. Due to this, the trainees and trainers from the city also have not been able to access the sewing machines as they are housed at the centre. All the trainees from neighbouring states like Manipur and Nagaland left for their respective home towns and districts right before the lockdown. This also led to a complete stop of the training program temporarily due to the lockdown.

Meanwhile, a senior tailoring instructor who lives in Guwahati city received a request from Satribari hospital for producing masks, caps and gowns for the hospital staff using the green coloured medical cotton based cloth. Using the sewing machine at her home, she single handedly met the demand of 300 numbers of masks, 100 numbers of caps and 50 numbers of gowns for the hospital within 20 days. The organisation has also received a certificate of acknowledgement on assisting the hospital at this dire time.

In the early days of the lockdown, the organization received a letter from NITI Aayog which states that NGOs have to use their financial resources, staff and skills to complement the government's efforts. As they received the letter towards the end of March close to the financial year, they had some remaining funds in their organizational account. Utilizing these funds, they could carry out 8 prescribed types of activities out of which they decided to choose two:

1. Preparing packets of dry rations which they would procure and deliver to villagers nearby. These are being delivered to families with no ration cards due to which they have not been able to access free rations through PDS.
2. Stitching masks for volunteers, a list of which was provided to them from the district administration.

To carry out the stitching activity, they roped in 4 of their graduates who lived nearby and had sewing machines at home. They did not have any form of livelihood due to the lockdown presently. The organization had a lot of stock cotton fabric which they delivered to the graduates to start stitching masks. Using their funds, they are paying the workers INR 20-25 per mask and they are making 500 masks a week. With the help of the graduates, current demand rate and availability of limited raw

material, the organisation is planning to produce 2500 units of masks for next month. Moreover, if the rate of demand is increased they will keep a repository of stitched new masks. However, to meet this demand there might be a requirement of working capital to procure the raw material.

## KEY TAKEAWAYS

- **Entrepreneurial Staff:** Due to the entrepreneurial nature of their senior staff and her contacts, she was able to provide critical PPEs to the hospital staff due to which the district administration was able to identify the organization and the potential work they were able to do during the lockdown period.
- **Income for Workers:** Their graduates who have no other source of income at the moment, are receiving work through the organization and steady income even during this lockdown period.



*Masks in production at the Priscilla Centre*