

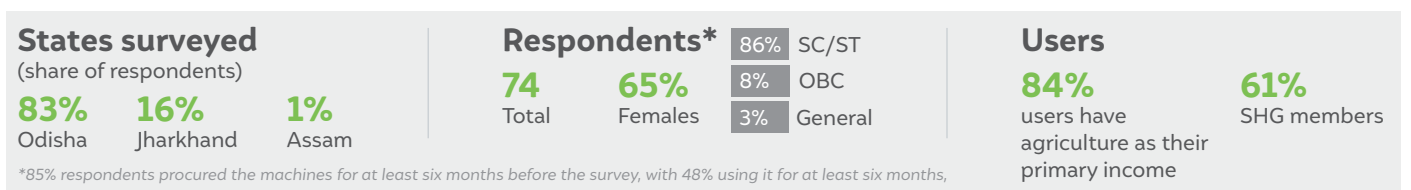
# IMPACT OF MICRO SOLAR PUMPS ON RURAL LIVELIHOODS



Image: Khethworks

A hyper-efficient, portable, open-well submersible pump system, designed for small farmers with a land holding of up to two acres. The pump increases income by expanding the irrigated area, increasing cropping cycles and displacing diesel use. It also reduces the overall effort that typically goes into starting and operating diesel pumps for irrigation. Till date, approximately 1,500 micro solar pumps have been deployed in India.

The findings below are from a primary survey conducted through in-person and telephone interviews between February - September 2022.



## INCOME IMPACT

Users experienced income increase



**94%**



**96%**

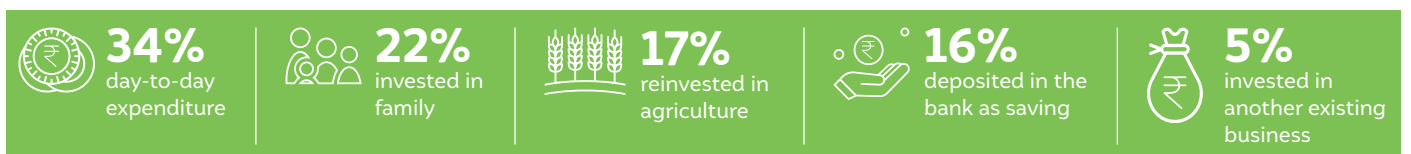


**₹ 12,500**

increase in annual income for a typical user from a baseline income of ₹ 50,000

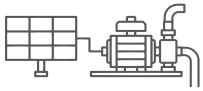
Source: CEEW analysis 2022

Top five spends of increased income



Source: CEEW analysis 2022

## PRODUCTIVITY IMPACT



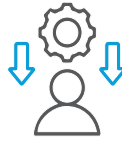
**96%**  
users reported  
satisfaction with the  
micro solar pump



**91%**  
users increased the  
annual cropping cycles  
after adopting the pump



**70%**  
of users reported  
an increase in the  
total irrigated area



**41%**  
of users reported a  
reduction in effort  
involved in irrigation

Source: CEEW analysis 2022

## Technology usage at the time of survey



### Top three reasons for not using it

**40%**

Faults in the unit  
that need repair

**40%**

Due to the  
monsoon rains

**20%**

Cultivation not  
yet begun

Source: CEEW analysis 2022



## SOCIAL IMPACT

**99%**

users reported improvement in  
confidence to earn and work

**99%**

users experienced  
increased support from  
family members/spouse

**97%**

users now have a better ability to  
buy assets and save on own

Source: CEEW analysis 2022



## IMPACT ON WOMEN

**98%**

report increased  
participation in public/  
community events

**96%**

believe they have the  
relevant knowledge and  
skills to become self-reliant

**80%**

more confident about  
using public/private  
transport on own

**76%**

believe they have  
better agency to take  
decisions in family

Source: CEEW analysis 2022



## ENVIRONMENTAL IMPACT

**11 MT**

of CO<sub>2</sub>e abatement per year\*

\*For every 100 units of solar pump unit used for 4 hours daily for about 110 days a year.  
Source: CEEW analysis 2022

## About Powering Livelihoods

Powering Livelihoods, a CEEW-Villgro initiative, mainstreams clean energy-based livelihood solutions. The findings presented here are based on the Programme's interim impact assessment conducted by CEEW.

### Authors



**Divya Gaur**  
divya.gaur@ceew.in



**Priyatam Yasaswi**  
priyatam.yasaswi@ceew.in



**Abhishek Jain**  
abhishek.jain@ceew.in

For queries / more  
details, please email  
the authors

Scan to read the  
complete report!

