

Lightening Lives & Livelihoods



**Odisha Tribal Empowerment &
Livelihoods Programme**
(ST & SC Development Department)

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In many village of rural India, particularly in the tribal belt of Odisha, most of the homes don't have electricity. The basic access to energy in form of domestic lighting is still a dream. This implies that the children can't study after sunset, nor the ladies are able to engage in any gain full livelihoods activities. Provision of Solar Lantern can be a solution to the above and is sustainable environmental friendly option available to millions of tribal across India. The Odisha Tribal Empowerment & Livelihoods Programme (OTELP) of ST & SC Development Department Govt. of Odisha, aims to bring about sustainable development with socio-economic transformation in tribal Odisha. It has an integrated perspective toward improving the quality of life of rural poor and ensuring equity and effective people participation.

A study reveals vulnerable household in Odisha burns around 60 - 80 litres of kerosene in a year to light their home and are forced to cook food inside. Respiratory diseases caused by toxic smoke kill 1.4 million women and children each year. Solar lanterns can replace kerosene, dramatically improving the household illumination, better health and more work hours at night. Provision of solar lantern also enable school children to complete assignments and continue their education beyond primary level.

The objective of familiarizing the Solar LED Lanterns among SHGs in OTELP programme areas was not only to introduce a whole new micro enterprise initiative but also to enable them to lighten other's house by selling their produce.

This micro enterprise initiative was started in the month of November'2011 with an aim to demonstrate the use of renewable sources of energy in reducing poverty through improved quality of life and increased livelihood opportunities in remote, non-electrified tribal villages of Odisha that are not likely to get electricity from the grid.



Hon'ble CM of Odisha purchasing Solar LED Lantern from Bonda SHG members during Adivasi Mela ,2012

Desi Technology Solutions was engaged by OTELP to train young women from seven self-help groups (SHGs) in its programme areas who were identified and promoted as women entrepreneurs to disseminate rural technology based on solar energy. The selected SHGs from 5



Trainer explaining the process in assembling

different programme districts were imparted training on technical know how to assemble the raw materials initially provided through the programme. With a strong desire to see their house illuminated, these illiterate young women worked hard for weeks to learn about using tools and material such as soldering, circuit boards, screwdrivers, multi-meters, solar panels and batteries. Effective hands on training for assembling equipment were taught to them using

diagrams and pictures. After they became confident in assembling the torches, they were asked to do it without the support of the trainer & could assemble equipment to make solar torches & lanterns.



One SHG Member practising herself during a hands on training

After completion of the technical training, the second round training started aiming to make them savvy on business practices and marketing techniques by having in depth knowledge of the special features of the solar LED Lantern and torches as compared to the available similar products in market in terms of quality, longevity, warranty, other features, price etc. The success behind the initiative was not to supply solar LED lanterns free to the beneficiaries but a different approach was taken by OTELP in order to make the approach sustainable and of wide acceptability. The technical know how was transferred

to the women SHG members. In turn the rural customer get the highly demanding renewable energy(source) qualitative product from the community itself with an affordable price and most importantly service at the door step.

The members have also identified and tapped the following locations to accelerate their business with "JYOTI" (ray of light) brand name for both lanterns & torches.



JYOTI Solar products for sale in a rural hat

- a. Nearby OTELP/Non OTELP villages
- b. Local Hat and nearby market
- c. Pushing sell to retail shop in block/district
- d. Exclusive outlets of TDCCOL(A Corporation under GoO)
- e. District showcase festivals/exhibitions/special occasions
- f. Exclusive outlet at Adivasi Ground, Bhubaneswar
- g. Tribal Schools

LED Torch which is now a days widely used everywhere are prepared in a micro enterprise mode by the same SHGs involved in making solar LED lantern. The SHG members have also thought of strategy how to boost the sales by paying commission to youth or any agency for touching newer locations with their product. This micro enterprise acts as a supporting initiative to solar LED lantern as torches will be a running and fast moving item as compared to solar LED lantern. The frequent sell of LED torch will also give regular cash flow to SHG members.

The field functionaries assisted the SHGs in preparing the business development plan and facilitated the funding assistance from revolving fund available in their concerned village

Development Committee on loan basis immediately after completion of the skill development training programme .

SHGs have started selling solar LED lanterns in two different models i.e. LAYA and DIVYA with a initial selling price set of Rs.2100/- & Rs.1750/- respectively to the SHGs. Deducting the cost of materials, the SHG makes an average profit of about Rs.400 per lanterns .Similarly LED torches are sold at Rs.80/- per torch with a profit of Rs.30/- per unit. On average an SHG assembles and sells about 50 lanterns per month or about Rs.20,000 net profit which increases the monthly income of each member up to Rs.2000.Similar models of solar LED lanterns are available in the local market with samer configuration as of JYOTI brand Lanterns at much higher price .

List of SHGs involved in preparing Solar LED Lanterns & torches

Sl.No.	Name of ITDAs	Name of Block	Name of VDC	Name of SHG
1	Baliguda	Baliguda	Geo Bajari	Jyoti
2	Baliguda	Daringibadi	Kukhi	Sushree
3	Paralakhemundi	R.Udayagiri	Ratnagiri Nalla	Shanti
4	Gunupur	Chandrapur	Nagabali	Maa Tarini
5	Gunupur	Kashipur	Sata Bhauni	Maha Laxmi
6	Malkanagiri	Khairput	Asan	Tumbeikonda
7	Nawarangpur	Papdahandi	Maa Kaladharani	Maa Thakurani

Thus, the demand for the lanterns is growing, which indicates economic empowerment for the women. To popularize and augment this initiative, the programme has also initiated dialogue with different corporate, govt. institutions for bulk selling of their products. The SHGs were also supported technical assistance to have better and attractive packaging of their products.

The objective is to help the poor tribal SHGs,in a very big way to access the rural and urban market as well to sell their product, earn a better livelihood in a process to enhance the quality of life too.



SHG members receive cheque against selling LED lanterns to a Govt. agency

Features of Solar Lantern

- ❖ Charged by solar panel
- ❖ Easy for village people to operate and maintain.

- ❖ Effectively illuminate a rural household a room size of 4m x 4m.
- ❖ It is 40 time brighter than a kerosene lantern and 30-50% more efficient than fluorescent lights.
- ❖ Reliable & Efficient during Rain, Storm, Cyclone
- ❖ 20 hours backup (after 1 full charging)
- ❖ Solid state high power LED with 100,000 hours of life.
- ❖ Smart Battery Indicator



JYOTI Solar range of products on display

Benefits

- Employment & livelihood for one person for every 100 lights
- Reduce kerosene consumption and prevent air pollution
- Make child study comfortably and help the house wives for better cooking.
- Clean, efficient and reliable eco-lighting for 20 hours a day, 365 days a year.
- No need to fear wild animals.
- No need to trek miles and wait in queue for kerosene.
- Even when the power fails in cities, villages still have light.
- Useful friend for farmers, fishermen, weavers, village artisans, dairy farmers, street vendors & small merchants.



Attractive packaging of JYOTI Solar LED lantern

Technical Specification

Description	LED high efficiency lamp charging lantern suitable for indoor and outdoor lighting. Super bright white LED have a 160 degree spreading angle, which provides a very even, dead-spot free lighting effect
Power Tension Luminous(Lumen)	1.2 Watt - 6 Volt DC - 85 Lumens
Back up Lead time	20 Hours
Life of the LED	100,000 burning hours
Charging mode	Solar / Electric
Solar PV Panel	3 W/6 Volt DC
Charge controller	Protection circuit for over charging and discharging.
Warranty	1 year on complete system
Maintenance	Users friendly

The women members are now focusing not only on sales, but on maintenance of the products too. This initiative has certainly enriched the quality of lives of the tribal women, who previously never thought of innovations and means of materialising it. They are also planning how to increase their product range by assembling street lights and other solar-operated equipment.

These women from remote villages of Odisha have started to use and promote green technology on earth by using renewable energy. They have created a new milestone and certainly paradigm for others being illiterate too. The OTELP programme has also witness being instrumental to bring low-cost and sustainable green technologies for drudgery reduction and pollution too...





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