

# See how your support is bringing about a positive change in rural communities through solar lighting

## Education

### *Studying is now full of joy.*

Providing children like Saadhna, the opportunity to study in the evening with the bright illumination of a certified LaBL solar lantern.

- Children are able to study in the evening with better illumination and with no harmful CO<sub>2</sub> emissions
- Solar lighting through LaBL has changed the lives of students in un-electrified residential tribal schools in India



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### **Yamuna Khader Pushta slum cluster, Delhi-Noida Highway**

In this slum cluster, not far from the bright lights of the national capital, children live without electricity, clean water and sanitation. Gyan Shakti Vidyalaya, an LaBL Partner Organization, holds classes for about 350 children in the area. Till some time back these children studied by the light of kerosene lamps at night. It burnt their eyes and often the light was too dim to read. And then, the solar lanterns came as a ray of hope. For children like Soni Kumari, a class V student, the lantern has brought the promise of a new life. Solar lighting has helped her study for her exams and now she has topped her class with the highest marks. "We received the lanterns right before our examination and I studied by the light of the solar lantern." Children of the slum now aspire to be doctors and teachers.



Dr R.K. Pachauri, DG, TERI, with children of the Yamuna Khader Pushta slum cluster

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### **Podi Uproda village, Korba district, Chhattisgarh**

For the students of the Kasturba Gandhi Balika Vidyalaya, a residential school for girls of disadvantaged sections, the lantern is the window to the world. Until a solar charging station was commissioned here, they had no access to light. Life came to a halt at sun set. Stuck with kerosene lamps and lack of alternatives, these girls choked their way through their studies. The solar lantern became a life-changer in their dark world. The girls now study longer and use their time before dusk to pursue vocational and cultural activities or sports. They have also mastered the art of operating the charging station. As the principal, Prabha Gupta says, "The morale of our students has gone up since the arrival of the lanterns. There is marked improvement in their academic performance and many are pursuing their hobbies. They're definitely more complete individuals today."



Students of the Kasturba Gandhi Balika Vidyalaya study by the lantern

## Livelihood

### *Harnessing solar power for livelihood*

Solar lighting has brought new pride for women like Bina Devi, who now has a new source of livelihood that's enhancing her income and standard of living.

- Enables villagers to carry out income-generating activities in a smoke free environment
- Provides villagers additional productive hours
- Women encouraged to become solar charging station operators and trained solar technicians



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### **Govindorampur village, South 24 Parganas district, West Bengal**

Govindorampur, a small village situated amidst the world's widest delta and the largest mangrove forest, called the Sundarbans, is devoid of reliable electricity supply. With the implementation of the LaBL solar charging station in the village, the initiative has now been able to ensure longer working hours for rural communities and has particularly been able to facilitate betel-leaf farming in the village, which is one of the main sources of livelihood here. Being a shade-bearer species, betel leaves are extremely sensitive to heat and sunlight. The betel bushes are cultivated under the shadow of bamboo fence covered with leaves from other trees. The leaves can be plucked from the field only after sunset. Since the leaves cannot tolerate heat generated from even a kerosene lamp, the farmers were bound to stop work when it got too dark. 'Earlier, while plucking betel leaves we used kerosene lamps for light at night. However, due to the heat generated by the kerosene lanterns, the leaves used to dry up quickly and by the time they reached the market, they were hardly of any value', says one betel leaf farmer. The use of kerosene lamps during leaf plucking at night also caused the leaves to smell of kerosene. Now the villagers use solar lanterns to pluck the leaves, and clean and sort them before taking them to the market. 'The leaves remain fresh throughout' quoted a farmer who has been using the solar lantern from quite sometime now.



A villager plucking betel leaves under the bright light of a solar lantern in West Bengal

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### **Hatibandha village, Kamrup district, Assam**

This weaver-village, famous for its fine silk, was buried in darkness. The weaver's day ended at sunset and the looms fell silent. A solar charging station installed here has transformed lives in a major way. It has enabled the weavers to put in additional hours of work at night and thereby supplement the family income. Says Anjali Rabha, vice-president of the weaver's society, "*Moi Solar light pai nathoi anandita haiso. Atia ami ratio kapor baba paro, karan dinat ami gharua bahut kam kariba lage aru kapor bowar babe kam samay pao. Rati kapor bowar babe atia amar aai agatkai braise*" (I'm delighted to have this solar lantern. Now we can also weave at night, since we hardly get time during the day. Our income too has gone up).



Ganga Devi, a weaver in Assam, can now with her work at night by the light of the lantern

## Health

### *Access to medical aid at night is now possible!*

Facilitating midwives to safely bring life on earth like that of the granddaughter of Mangli Bai, whose birth was facilitated in the rural village under an LaBL solar lantern.

- Midwives use solar lanterns for safe child delivery at night
- Health workers use the lanterns to attend to medical emergencies at midnight
- Primary Healthcare Centers that lack electricity, can provide medical aid after dark such as administering fluids, injections, physical examinations and stitches.
- Smoke-free light has helped improve the health conditions in villages



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### **Mahtabera village, Saraikela Kharsawan district, Jharkhand**

Sawri Tudu is exhilarated with the new light in her life. The light of the bright LaBL solar lantern which she rents each day from the nearby solar charging station has turned her nights into day. The struggle to cook in the dark amidst the harmful fumes of kerosene lamp is now over. Sawri's day starts as early as 4 o'clock in the morning preparing lunch for her husband who leaves for work at an industrial unit operating out of the neighboring Gamharia town. "Earlier I could barely see what I am grinding on the pestle stone" says Sawri. The single kerosene lamp used in her small hut had to be shared with her husband who got ready while she cooked in the kitchen. Besides, the fumes emanating from the kerosene lamp filled her small hut with an uneasy smell. She remarks, "It's not good to inhale these fumes right when the day starts. No matter where I go, what I do later in the day, I continue to have a sense of being around these fumes". Now with the improved solar lanterns, Sawri says she can not only cook in a clean environment but can also see what she is grinding and cooking and can finish her work on time.



Solar lanterns have helped housewives to cook in a kerosene smoke-free indoor environment

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### **Okilapal village, Kendrapara district, Orissa**

For health workers like Santi Maharana, the lantern has become an essential work tool. With no electricity, attending to emergencies was a hazardous affair. Often they had to depend on kerosene lamps or candles. The light was insufficient and blew out on a windy night. But the solar lantern has enabled Santi to attend to emergencies and even go to the homes of her patients at odd hours of the night without the fear of snakes and scorpions. Moreover, the general health of the solar lantern users in the village has improved says Santi. The fumes from the kerosene lamps often caused respiratory problems and headaches but with the solar lantern, people no longer have such issues. "Solar lights are like blessings to us in this dark part of the world," she says.



Village health workers can now provide urgent medical aid during midnight

## Women's Empowerment

### *Promoting women's economic security through solar lighting*

Empowering woman like Salubai Cimaji Madhe who saw light for the first time in her life at the age of 103years

- Enables women to complete their household chores in a smoke-free environment
- Gives women more time to engage in income-generating activities such as traditional handicrafts.
- Opportunity to socialize after dusk and commute
- Women entrepreneurs encouraged to become solar charging station operators



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### **Bade Longiyan village, Bhagalpur district, Bihar**

The lantern has changed the face of this sleepy hamlet. Women like Nargis, Mojma, Sahbajoo, and Tartila who were earlier confined to their homes are now participating in self help groups. They have learnt to read and write and take charge of the station - right from keeping accounts to calling TERI directly for technical assistance. "...Nargis didi pahle yun na thi. Parde mein ghar se bahar kadam uthane se hichkichati... samay uske liye mano tham sa gaya tha..." (Nargis didi wasn't like this earlier.... She would hesitate to step out of her house even in a veil...it seemed like time had come to a standstill for her.), said one of the women SHG member.



For this women self-help group of Bade Longiyan village, Bihar, the lantern has brought new found empowerment

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### **Chota Kankarana village, Jaipur district, Rajasthan**

The villagers of Chota Kankarana in Rajasthan have been very conservative when it comes to empowerment of women. Most of the girls in the village are either school dropouts or have never been admitted to a school. Rohitashwari Devi is a teacher by vocation who mentors these girls and teaches them so that they can get admission in the school. She took up the opportunity to become a solar charging station entrepreneur mainly to motivate villagers to send their girl children to school and pave way for their future. She herself is the mother of 3 daughters and her eldest daughter Rekha is the first girl in the village to join college. As an entrepreneur she rents a camel cart every fortnight to deliver solar lanterns to a Mata mandir on a hilltop in the village which organises jagrans. She might not have attended any B-School for management training yet she has learned these skills to expand her clientele and deliver the services



Rohitashwari Devi in Rajasthan is bringing about a revolution in her village, the solar way

## Bio-Conservation

### *Improving eco-systems around bio-reserves*

For villagers like Baisakhiya, age 28, taking care of her farmland situated amidst a forest during the night is not longer a dark struggle. Using a solar lantern she and her family can now avoid conflict with wild animals near bio-reserves.

- In villages within and around eco-reserves, the lantern acts as incentive for wildlife protection
- Lanterns help deter animals from approaching human settlements within the forest area
- Using solar lanterns helps reduce the consumption of fuel wood for lighting needs



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### **Bhid village, Sawai Madhopur district, Rajasthan**

This village, bordering the Ranthambore National Park, does not have electricity. The forest department is apprehensive about electrification since it may lead to accidental electrocution of animals. Tiger Watch, TERI's partner organization, has taken the solar lantern to this area and the impact is palpable. The lantern has enabled villagers to supplement their income and also helped build a sense of trust between the villagers and Tiger Watch officials. The villagers now provide them information on poachers and this has helped conservation efforts. "*Hum log amdani ki badhat se khush hain, aur Tiger Watch ke liye janwar aur unke shikariyon par nazar rakhte hain*" (We're very happy with the increased incomes and keep an eye on animals and poachers for Tiger Watch), says Mukesh Chandra Gurjar, the entrepreneur in the village.



The villagers in Bhid, a forest village in Ranthambore National Park, Rajasthan are happy to see their children use solar lanterns for education

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### **Majhe Tola village, Dindori district, Madhya Pradesh**

In the forest village of Majhetola, situated amidst the Bandhavgarh Tiger Reserve in Madhya Pradesh, solar lanterns disseminated under the Lighting a Billion Lives initiative has lead to a significant reduction in fuel wood consumption for lighting needs. "Earlier the villagers consumed 25kgs of fuel wood per day for lighting, now the number has reduced to 10 kgs because most of the villagers are now using solar lanterns to meet their lighting needs." says Manohar Singh, a member of the forest protection committee operating in the reserve. Solar lanterns are also used by the villagers to protect their fields and homes from wild animals. The bright light emanating from the lanterns keeps wild-animals at bay which has significantly reduced the instances of man-animal conflict in these forest communities.



Manohar Singh, a member of the Forest Protection Committee operational in Bandhavgarh Tiger Reserve, Madhya Pradesh