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## INDUSTRY

## Bringing light into lives



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### Thrive energy's solar lamps help avoid injury, health issues

"What is the typical condition of the poor in most of the so-called developing countries ? Their work opportunities are so restricted that they cannot work their way out of misery.

...It is necessary, therefore, that at least an important part of the development effort should bypass big cities and be directly concerned with the creation of an agro-industrial structure in the rural and small-town areas": E.F. Shumacher

The British economist and author of the seminal 'Small is beautiful,' advocated use of intermediate technology, not too advanced as in the west nor obsolete, which would 'fit much more smoothly into the relatively unsophisticated environment where it is utilised. The equipment would be fairly simple and therefore understandable, suitable for maintenance and repair on the spot.'

On all three counts, Mr. Shumacher found a worthy disciple in Ranganayakulu Bodavala. A Takemi fellow from the Harvard School of Public Health, his solar-powered products are priced as low as ₹150 for 'bottom of the pyramid customers,' as his website '[thriveenergy.co.in](http://thriveenergy.co.in)' states.



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century to the poor and marginalised.

Backed by warranties and service guarantees, his products – fitted with light emitting diodes (LEDs) from Nichia, Japan and control circuits from the United States – are found not in hypermarkets or malls.

His supply chain is kept as short as possible, avoiding middlemen. The model's people-centric approach is manifested in the village-level solar kiosks, exemplifying energy entrepreneurship and enabling employment too.

In their decade and a half existence, Thrive products dispelled darkness in 15 countries, especially those hit by disaster or where their need was acute, such as Nepal, Afghanistan, Kenya, Tanzania and Haiti. Or last year on Republic Day, they brought light to children of Rohingya refugees at a United Nations High Commissioner for Refugees (UNHCR)-backed school in Balanagar, Hyderabad.

Two factors gave an impetus to the drive. The first was a Lumina field study of 500 homes in the Philippines. It observed near-complete elimination of health and injury issues following replacement of kerosene lanterns with grid-independent LED lamps. Another found a strong reduction in vision problems and visual fatigue among 472 workers in Thailand performing visually-demanding tasks.

The second was the 2011 census in India which said more than 1 lakh of the country's 6.35 lakh villages were not electrified.

Even those connected suffered from frequent power outages and load shedding.

#### Banishing darkness

Hence, millions of school children living in semi urban and rural areas have no access to clean and safe lighting for study after dark. More than 130 million (13 crore) such children depend on kerosene or oil-based lamps for studying at night.

The position is similar to several developing countries of Asia, Africa and South America where dependency on kerosene-lit lamps is very high. These lamps are accident prone, give very low light, emit smoke, soot and toxic fumes affecting eyesight and health of students adversely.

Dr. Ranga's endeavours for environment, vocational and livelihood improvement found an ardent advocate in Almitra H. Patel, Member, Supreme Court Committee for Solid Waste Management. In letters to Petroleum and Natural Gas Minister Dharmendra Pradhan and the then HRD Minister Smriti Irani, Ms. Patel – who was the first Indian lady to graduate from the Massachusetts Institute of Technology (MIT) – urged replacement of kerosene lamps with off-grid solar lights.

"Of India's 16.8 crore rural households, 7.25 crore, a staggering 43%, use kerosene," she said. According to her, "At a maximum cost of ₹4,400 crore, two to four solar lamps can be given to each home. This can save the nation the kerosene subsidy burden of ₹37,000 crore each year.

"Considering the 10-year life span of the solar lamp and panel, that could convert to a massive ₹ 370,000 crore savings over a decade. Besides eliminating the kerosene mafia and pollution arising from adulteration of autorickshaw fuel, it would ensure clean lighting, less medical expenses and fewer hutment fires," Ms. Patel reasoned.

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