

FLOWER POWER

COMPUTER-GENERATED IMAGE; COURTESY: FRANKLIN KRISTI



Franklin Kristi's design won the first prize in an international competition recently

IIT-Gn's senior design associate designs a lamp that doubles up as induction cooker. The solar lamp is modelled on sunflower's passive heliotropism to gather maximum energy from the sun by turning towards it

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Providing electricity to remote rural areas still remains a huge challenge for governments. In *Swades*, Shah Rukh Khan, who plays an engineer, builds a self-sufficient hydro-electric power plant to light up a village and solves the problem of irregular power supply. Fortunately, there was a water source in the village. But what about hinterlands that are grappling with water crisis as well? Franklin Kristi, IIT Gandhinagar's senior design associate, has come up with a uniquely designed lamp that works on solar power.

His 'Flower Power, Solar Lamp and Oven' acts as night lamp and doubles

up as induction cooker that runs on solar energy. The device mimics sunflower's natural engineering and repositions the solar panels as per the sun's direction to maximise the device's solar efficiency.

Kristi's project proposal won the first prize in a competition organised by Bionik-Netzwerk Hessen (Biomimetics Network Hessen) and Association of German Industrial Designers recently.

The concept, developed on the theme of biomimetics and 3D printing, was proposed keeping in mind the requirements of people in Asian

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Call it flower power

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and African regions. The continents gets adequate sunlight that can be converted to electricity to provide basic amenities like light and food for a family of four. "I drew my inspiration from nature. The design of the proposed product is modelled on sunflower's passive heliotropism and the touch-me-not plant. Just as the sunflower follows the sun's movement, the solar panels are able to rotate and gather maximum energy from the sun.

"Below the panels, I have proposed to install low energy consuming LED light. At night, the solar-panel shrinks like the touch-me-not plant and the LED or the light panel on the outer surface acts as a light source," said Kristi.

Kristi said that once charged the lamp can provide light for not less than six hours. Below the lamp is an induction tray that can be used for cooking. "The device stores the energy gathered during the day in the battery at the bottom.

"Using the battery and the induction tray installed in the device, one can even cook for not less than three hours," he added.

The concept may also help

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The solar panel may cost Rs 15,000 per unit, says Kristi

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FRANKLIN KRISTY

save natural resources like wood as villagers usually use wood and cow dung as fuel for cooking.

"Use of solar energy makes the device highly sustainable and fit for use in any terrain," he said. As per estimate, it may cost Rs 15,000 per piece. The device

will have wheels at the bottom to enable easy movement. Besides, the solar panel will be placed such that it can be cleaned and maintained without hassle. Kristi says that the project will now be put up for crowd-funding so that it becomes a reality.