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AHMEDABAD: What do you do if you are left without electricity for long stretches of time? You make your own electricity. Simple. Niruttam Kumar Singh and Harvansh Yadav, a student-teacher duo from Gangagarh village in Bulandshaher, Uttar Pradesh, have made a cow dung battery that lights up electric bulbs, charges mobile phones and brings alive radios!

"In Gangagarh, we barely get five hours of electricity daily, making it difficult for students to study at night," says Yadav, who is in Ahmedabad to showcase his innovation at a workshop on 'Green Grassroots Innovation, Incubation and Enterprises' organised by the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) at IIM-Ahmedabad.

Three years ago, Yadav and Niruttam, a class 7, student came together to resolve the issue. "We knew cow dung produced biogas and decided to experiment with it to produce electricity.

We collected cow dung in a plastic container and put two discharged batteries in it. As we charged cow dung with a salt water solution, the positive and negative charges produced were collected in the batteries and interconnected in series to produce a current," Niruttan said.

The duo charged mobile phones with their innovation. "Each unit produces 1.5 volts of current," says Niruttam, adding, "The cow dung needs to be replaced once in 45 days. If one wants more efficiency, one can put sulphuric acid."

The two proudly say that their innovation has changed life in Bulandshaher. "Around 250 households in Gangagarh and neighbouring Kamonah, Jinamai, Risoolgarh and other villages **use our battery to light bulbs and listen to radio.** We teach them how to make such batteries free."

Niruttam is now planning to improve the design. "We want to use something that doesn't give a foul smell — cow urine perhaps." Meanwhile, this innovation is all set to charge mobile phones at Gujarat University. "We are planning to put a mobile phone charging unit in the campus for students," says professor Anil Gupta of SRISTI.