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University develops simple apparatus that generates energy from cow's urine

NAMAKKAL: With the entire state reeling under a severe power crisis, especially the rural areas, the department of livestock production and management at the Veterinary College and Research Institute in Namakkal has come up with a simple electricity generating apparatus whereby farmers will be able to generate energy from cow's urine.

Talking to TOI, head of the department Dr V Ramesh Saravana Kumar said the apparatus is based on a simple scientific principle and will be able to generate 10 volts of electricity continuously for 120 hours (five days) from two litres of cow urine. "All we need is 10 to 12 plastic cups, each filled with 200ml of urine, thin copper plates as the positive poles and a thin zinc plates as negative poles. One needs to spend just Rs80 to setup the apparatus," he said.

Describing the apparatus Ramesh said the positive and negative poles in the cups are connected by single core wires or hook-up wires that form two separate networks. The two output wires can be connected to any desired device. "When copper and zinc plates come in contact with uric acid movement of electrons begin, generating electricity. The output dips after five days, when the urine has to replaced," he added.

With the help of the model, college students demonstrated that five wall clocks and a zero watts bulb can be operated simultaneously. "While electricity can also be generated from urine of other cattle, cow's urine is used as it is abundantly available. A cow can produces 16 to 20 litres of urine every day. Proper collection of urine from cows can help farmers generate more electricity," Ramesh said.

Ramesh said the pungent urine smell can be avoided by keeping the apparatus outdoors and using a long wire to connect it to the output device. He said the apparatus was a boon for children residing in rural areas as connecting it with an LED bulb, like the ones used in powerful torches and positioning them properly can provide hours of light for study.

A bigger model can be used to light up an entire house, including the cow shed. Farmers, who have already seen the model, have appealed to technical institutions to generate bigger and more efficient models with provisions to store electricity.