

New low cost 'Powerless Heating System' activated with water can heat food in remote areas

By TIOL News Service

NEW DELHI, DEC 03, 2022: A new low-cost heating system which can be activated by plain water anytime anywhere and does not require any fuel or electricity to heat or power it, can act as a heating solution in any location.

Lack of heating sources at remote places with no access or uncertain access to power sources is an inconvenience faced by many, especially in remote areas like the North East.

Dr. Sumer Singh, Associate Professor, Department of Design, IIT Delhi along with his research team addressed this with a technology that works on chemical energy. It is called 'Powerless Heating Technology'.

The active heating element consists of a mixture of eco-friendly minerals and salts, which generates exothermic energy resulting in heat on contact with water. This provides enough energy to raise the temperature of any food or beverage by 60 to 70 degree Celsius. The weight of the heater is only 50 grams, and after every heating, the by-product (natural mineral rock) inside the heating pad can be disposed of. The rock helps in improving the fertility of the soil and is 100 % biodegradable.

With this technology, users can heat ready-to-eat food, make instant noodles, and any beverage like tea, coffee, etc. The by-product of the heating process is a natural mineral that easily integrates into the soil without any toxic effects.

North East Center for Technology Application and Reach (NECTAR), an autonomous body under the Department of Science Technology, Govt. of India, supported Dr. Singh and his team to develop a food box and a liquid container that can be integrated with the Powerless Heating Technology. They have used it to develop containers which can heat food or & beverages on demand.

These products will be of great use to military personnel, tourists, and office-goers in the northeast. This Powerless Heating Technology eliminates the need for burning forest wood for heating purposes, thus also reducing forest fires, which is a major problem in the North-Eastern parts of the country. The prototypes were successfully developed and tested. Several FMCG companies are keen to launch it in the market.

Anchiale Technologies, a Gurgaon-based spin-off start-up, is scaling up this technology and has started supplying it to the Indian Navy and some food manufacturing companies. A patent for the technology has been filed. A nondisclosure agreement (NDA) has been signed with the Indian Tobacco Company (ITC) for integration of this technology in their food products.