



The Kano cools and could even be used to grow food | Photo source [Dyson Award](#)

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CLAY-BASED COOLER KEEPS FOOD COLD WITHOUT ELECTRICITY

 FOOD & DRINK

A team of students has developed a cooler that uses traditional clay construction to maintain food temperatures

Spotted: Although global access to electricity is growing, it has been estimated that around 1.2 billion people, or 16 per cent of the world's population, still live without a refrigerator. This can mean spending more money on food because fresh food must be purchased almost every day. A team of students from the Asia Pacific University has used traditional techniques to create a refrigerator, labelled the Kuno, that doesn't use electricity.

The Kuno has recently won a national Dyson Award for its design, which makes use of clay and features a double-walled construction around an inner chamber. Sand is poured into the space between the walls and is then soaked in water. The evaporation of water through the porous clay draws heat from an inner chamber, cooling the food stored there.

As an added feature, the top of the Kano provides room for soil, allowing users to plant herbs or other edible plants. When users water the plants in the top, the water flows into the sand, automatically cooling the inner chamber. The design allows people to grow their own food while helping to keep food fresh for longer.

According to [Kuan Weiking](#), one of the inventors of Kuno, "As a product designer, it is important that we look to design solutions that tackle societal challenges or problems — solutions that are both practical and widely accessible. We are grateful to have been given this opportunity to showcase our invention and share our mission to make a positive impact to the environment and local communities."

While the Kano is designed to keep food cool without using any electricity, we have covered other recent innovations that focus on reducing the electricity used for refrigeration. Some of these

include solar-powered refrigerators and the use of twisted fibres to increase the energy efficiency of refrigeration.

Written By: Lisa Magloff

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30th September 2020

Email: info@apu.com.my

Website: new.apu.edu.my

Takeaway:

The team that developed the Kuno was inspired by a traditional Malaysian water pitcher, called a Labu Sayong, which is made from clay. Although the Kuno works best in hot, dry weather, and is not big enough to use as a family refrigerator, it could help reduce time spent shopping and cooking, and food costs for people in many regions. The materials used to create the Kano are not only sustainable but are also very cost-effective and readily available around the world. It is even possible that similar designs could be used to reduce the cost of refrigeration for other uses, such as keeping medications cool in remote clinics.