



The greenhouses would provide each family member with enough food to be self-sufficient | Photo source The University of Westminster

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AN INFLATABLE GREENHOUSE MADE FROM SHELLAC-COATED BAMBOO PAPER



AGRICULTURE & ENERGY

The project aims to help residents of Jaipur to grow their own food in favour of a more self-sufficient, vegetarian diet

Spotted: To encourage the residents of Jaipur to take up a more plant-based diet, British design student Eliza Hague has developed a concept for an inflatable greenhouse made from shellac-coated bamboo paper.

Meat consumption globally continues to increase, especially in countries such as India which are flourishing economically. The aim is to encourage communities in Jaipur to grow their own food in favour of a more self-sufficient, vegetarian diet which would alleviate the toll of meat-based farming.

The area of land required for a meat-heavy diet is about **ten times that required for a vegetarian diet**. As Hague, who studies at the University of Westminster **explained**, “If everyone on earth had this diet, we would need at least two planet earths to feed us all”. “Despite its population consisting of 337 million vegetarians, 71 per cent of people living in India have a meat-based diet”, she added.

Drawn to its cheap, lightweight and translucent properties, the designer decided on the sustainably sourced and locally manufactured material of bamboo to make the paper. She coated it in shellac – a natural resin extracted from trees – to provide durability and greater weather-resistance. After that, Hague stuck various sheets of the bamboo paper together and folded them like origami to create hollow forms.

Rows of these bamboo-paper greenhouses could then be connected to shared houses made from soil, providing shelter from Jaipur’s extreme temperatures by absorbing and storing heat. These

would be shared by multiple families and would provide each family member with enough food to be self-sufficient, creating communal “greenhouse villages” in the city’s more rural and isolated areas.

Written By: Katrina Lane

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Takeaway:

There is an incentive from the Indian government for farmers to use greenhouses, in order to increase the reliability of harvests and income. However, the most popular greenhouse covering material in India is polyethylene sheeting, which needs replacing annually and creates a lot of plastic waste. Thus as well as encouraging a less meat-heavy diet, Hague’s project could also provide a sustainable and local alternative to the polyethylene plastic sheeting normally used for polytunnels.