Emergency Shelter: 7 Ways Architects Are Innovating in Low-Cost, Prefab Design

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Nidhi Upadhyaya

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Floods, fires, earthquakes and migration conflicts have uprooted the lives of many across the globe, especially in recent years. Those in developed countries or bigger cities can access the required support for rehabilitation in these times. But it is the communities in remote areas and underdeveloped nations that don't even have their most basic needs met when in such situations, adding to the emotional and financial burden left behind by calamities.

Appropriate shelter solutions can be the first step in helping build these communities. A few designers have stepped in to address these problems and conceptualize low-cost solutions that are easy to construct even by unskilled workers and can ease the burden of victims and refugees in these situations. These prefabricated modules come with power generation solutions, quick assembly mechanisms and customizable expansions to adapt to a variety of regions and circumstances.

Folding Pod by Hariri & Hariri Architecture, Concept

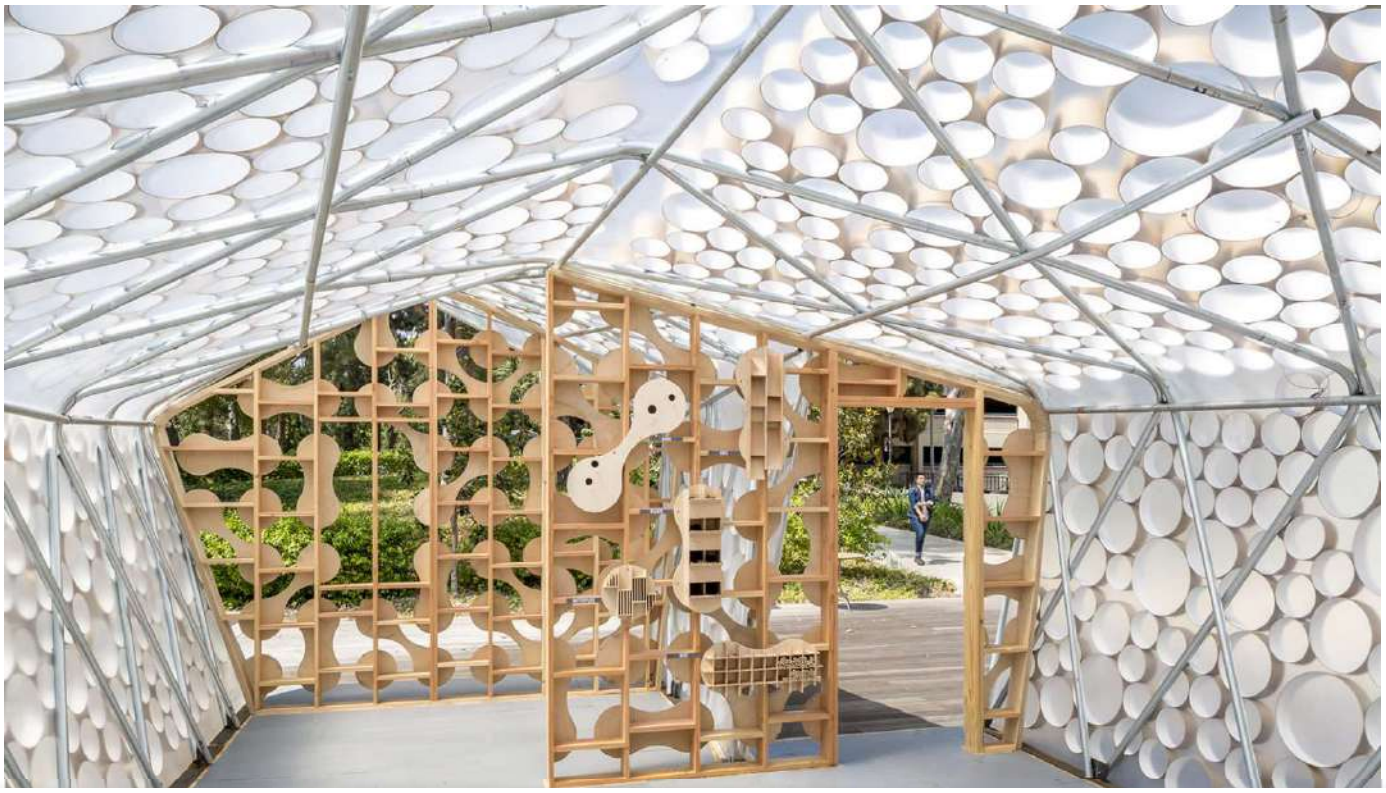
The emergency shelter is designed and developed by Hariri & Hariri Architecture to replace traditional tents in

The pods can be erected without any additional labor or construction costs by simply using a button. They also feature a portable solar-powered generator to provide power within. Each pod can accommodate a family of five.

Hex House; A rapidly deployable, dignified home by Architects For Society, Amman, Jordan

Catering to victims of both man-made and natural disasters, the modular home aims to create a home that is cost-effective and dignified. This design evolved from a collaboration between Architects For Society collaborated and Chalmers University in Gothenburg, Sweden to create a shelter for Syrian refugees in the Al-Zaatari Camp.

The self-supporting Hex House is created using insulated metal panel technology that makes it sustainable, durable



Bi(h)OME by kevin daly Architects, Los Angeles, California

This design is lightweight, low-cost, aesthetic and sustainable. It is proposed as a residential addition for an elderly patient, student or a rental unit. It is semi-permanent nature allows it to be leased, taken apart and reinstalled based on the user's needs. The unit contains a bedroom, living room, kitchen and bathroom and is made of two layers of ETFE. Photovoltaic cells can be added to the external walls based on the availability of natural light and LED lights can be added to the inner layer. What makes it an ideal auxiliary home is the fact that it is almost entirely recyclable.


PARENTS' BEDROOM
WC
OUTDOOR SPACE
CORRIDOR
KIDS' BEDROOM
KITCHEN
LIVING SPACE

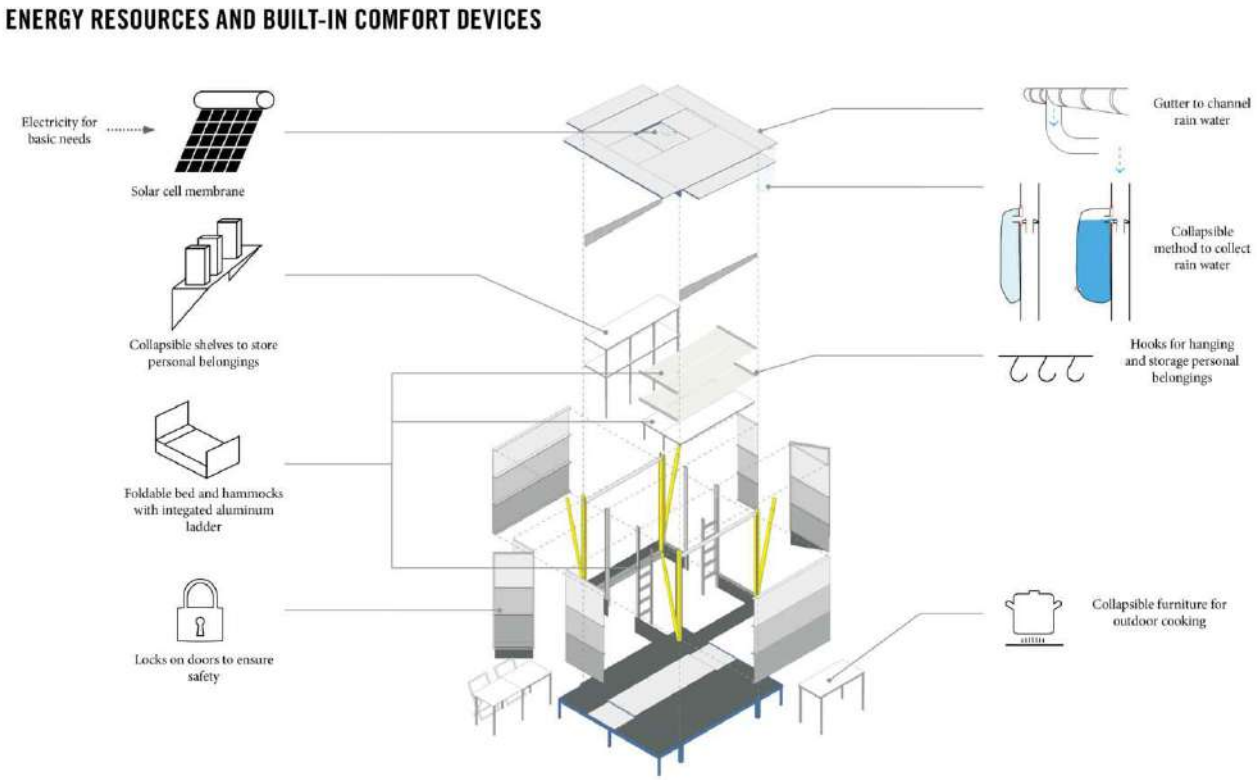
This home empowers communities by giving them a chance to collaborate with the construction team. Taking inspiration from the traditional gecekondu homes in Istanbul, this house can also be easily assembled using concrete and timber. This home is designed to resist natural catastrophes like earthquakes, hurricanes and some floods. In case there is damage, it can also be reconstructed rapidly.

The main component of the design is a prefabricated concrete core that contains the kitchen and bathroom. This core is supposed to be supplied by a local construction company. Residents can build a light wooden structure around this core to suit their needs.

AbleNook Disaster Relief Dwelling by Sean Verdecia and Jason Ross, Concept

The AbleNook module is a rapidly deployable shelter built using interlocking components that can be quickly assembled by anyone. It uses universal walls panels and structural members that clip together in different

Much like the previous project, the {S.E.E.D} Shelter is not site-specific. Having seen the increasing number of natural disasters and low quality of shelters supplied by the United States, Vitale wanted to create a shelter that addressed the basic needs of people. These modules are prefabricated, cost-effective and customizable to suit different requirements and sites.



Living Shelter – A Solution For Disaster Relief by WY-TO

The shelter is specifically designed for disaster relief in Southeast Asia. It is a collapsible structure that is inspired by the vernacular kampung homes. The unit has multiple openings for natural ventilation and its system is designed to withstand hot and humid climates. Apart from electric connections, the unit comes with a water bag for water collection, solar panels and foldable furniture.

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Nidhi Upadhyaya is an architect and journalist from Mumbai, India. When not working, she can be found binging on DIY videos, experimenting with art mediums or making a dent in her large to-read list. She has previously worked as Features Writer for Elle Decor India, Assistant Editor for India Inc, Art Director for the print edition of Bombay Binge and is currently the Editorial Assistant at TED-Ed in New York.

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