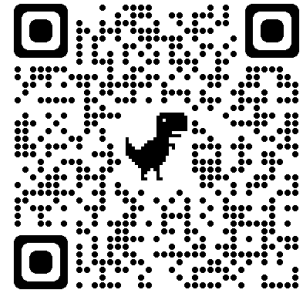


Japan's inflatable homes offer relief to disaster areas



<https://www3.nhk.or.jp/nhkworld/en/news/videos/20231102173022158/>

The ever present threat of earthquakes in Japan has spawned a number of innovations when it comes to dealing with natural disasters. A temporary dwelling developed here is gaining attention overseas for its comfort and ease of assembly. NHK World's Sano Yoshiaki has more.

Antakya in southern Turkey was devastated by earthquakes that hit that hit the region earlier this year. Soon after the disaster, 3 tent shaped dwellings arrived from Japan. They have plenty of headroom and the floor area is the size of a standard hotel unit. There's enough space for a family of four. Japan plans to send about 100 of the temporary homes to Turkey within this year.

The home was developed by Professor Kitagawa Keisuke. He started on the quest to build it after being issued a challenge of sorts by elementary school children staying in an evacuation shelter after the 2011 Great East Japan Earthquake and Tsunami.

Boys in the 3rd and 4th grade told me they couldn't understand why it takes half a year to build temporary housing. They said "You're a college professor. You should be able to figure out how do it within a few weeks." The professor teamed up with a private company to develop the house. Setting it up is very easy. First, it's unpacked from its case. Then it's fixed to the ground and inflated with an air pump. The next step is spraying polyurethane foam on the inside. This is designed to keep the home comfortable regardless of the weather outside. The whole job is done in about 4 hours. Testing shows the dwelling can withstand winds of almost 290km per hour. Stronger than the gusts produced by a super typhoon. Professor Kitagawa is also focusing his research on lowering costs by using materials that can easily be sourced locally in the disaster hit areas. Starch glue in particular has caught his attention. As an adhesive, it's made from potatoes which are found pretty much anywhere.

If you mix it with water and finely shredded paper and fabric, you get something like this.

Now you have the heat insulating material for the dwelling. Lined with polyurethane, it costs about \$80,000 to make one of these homes. But, Kitagawa says using a plant-based glue made from potatoes, corn, or rice, will reduce the costs significantly. From Japan's Tohoku region, to Turkey in the middle-east, lessons learned from past disasters and being applied and refined to help people cope with whatever may come next.

Source: (NHK World News)

Now discuss the questions with a partner.

1. What is your opinion of the temporary dwellings? Can you think of any improvements or complaints?
2. Have you or anyone you know ever had to go to an evacuation shelter?
3. Can you think of any other areas that need these homes?
4. Do you know any other Japanese inventions that are useful in emergency situations?
5. Can you imagine an invention that you wish someone would create for disaster situations?