

Video 14: How to Save the Kiribati Islands

We've seen before that the Deep Underground concept can be used as a strong tool to fight climate change in several areas, but there is more to this concept.

We should fight climate change everywhere, starting where it occurs first. One of the early victims of climate change is the Kiribati Islands, a group of low-lying islands in the Pacific Ocean. These islands will probably be unable to be settled by the end of the century because of the increased sea level.

If we choose to fight climate change on every possible battlefield, we can't let this happen so easily. We should do whatever is possible to preserve at least some of those islands and keep people living there.

Beaches on the Kiribati islands are sandy, and the upper part of the surface consists of coral debris and sediments, but according to some geological investigations, limestone can be found below.

Islands are generally not more than 2–3 m above sea level. They have relatively good weather and have avoided being hit by major hurricanes, which makes it possible to construct a barrier. We propose a different kind of barrier, which can be simultaneously used as a living facility.

This picture shows several stages of barrier construction.

The first phase requires an excavation of the hole in the sand. The bottom must be sealed to prevent water inflow. Then, in the second phase, a simple house, which consists of two floors, can be constructed.

In phase three, we cover the first floor with sand. We can use the roof of the second floor as a walking path.

This way, we are getting an embankment that is able to defend the inland against the sea level rise of at least 2.5 m and up to 4-5 m if necessary.

Then, we have a construction that can be used for living, and there is a walking path by the sea.

Rock material, like compact limestone, is a precondition for using the Deep Underground concept successfully, so we can excavate material underground and use it for barrier construction.

If we do it wisely, we can create plenty of underground space, following the rules of the Deep Underground concept.

Why?

Climate change is not the only problem Kiribati has. There are many other challenges that are caused by the location and the distribution of islands, like:

- Most of the food must be imported.
- There are problems with the freshwater lenses above saltwater level.
- Some islands are overcrowded.
- Unemployment is high.

Building a barrier and underground facilities in the proposed way could create an elite touristic destination, and the Deep Underground concept, as we learned before, could provide energy, water, heat, food, clean transport, and much more space to those islands.

Needless to say, Kiribati doesn't have the money for something like that. However, if you think of a sunny island in the Pacific Ocean and a house on a sandy beach, you think about tourism.

A 100-km-long embankment with the construction can serve as many as 100,000 tourists at the same time, which may be enough to generate interest from businesses to invest. Therefore, tourism could be the key to saving Kiribati.