The issues in Tuvalu

Water Supply

The islands of Tuvalu have progressively lost their fresh groundwater resources, not only due to sea-level rise, but also because of human pollution. In consequence, Tuvaluans have to rely on rainwater storage to meet their needs. However, the seasons on Tuvalu are getting irregular and difficult to forecast, leading to droughts and water shortage. In order to improve this situation, the adaptation plan recommends improved and increased water collection and water conservation techniques.

The residents of Tuvalu have large containers on their land in order to collect rain water. There have been periods of drought on Tuvalu – therefore collecting rainwater isn’t always an option.

Bottled water has been imported, however the plastic bottles need to go somewhere. More plastic waste is being created and this is having a huge environmental impact. There is little/no recycling options available on Tuvalu therefore the rubbish is just piling up. As the islands are regularly flooded the rubbish can be washed out into the oceans, this is also having an adverse impact on the environment, with lots of plastic waste ending up within the coral reefs.

Food Supply

More food is being imported to the islands as the residents are unable to grow as much as they used to.

The traditional foods, which were once in abundance, are now running out. The staple foods were coconut and fish. Traditional foods include pulaka, taro, bananas, breadfruit, crab, seabirds and pork.

Now that salt water is poisoning the ground it is difficult to find many of the traditional foods. The pigs on the island are also running out of food and the residents are finding it increasingly difficult to keep livestock.

Agriculture

Due to sea-level rise, the ground of Tuvalu is prone to increasing salinization, threatening the habitats of some plants, such as pulaka and coconut trees. Considering that pulaka traditionally is the staple food in Tuvalu, the adaptation strategy is to introduce salt-tolerant pulaka.

The traditional diet in Tuvalu is based on fish, coconuts and starchy vegetables like breadfruit, pulaka and taro. Fisheries have been depleted in recent years by an increase in water temperatures; erosion has caused the loss of tracts of livable and arable land along the shore, devastating crops and livelihoods.

The soil farther inland has suffered, too, with crop failures attributed to increases in flooding and higher salinity in the groundwater. The United Nations Food and Agriculture Organization has financed an effort to introduce salt-resistant banana plants to the islands, and another involving salt-resistant taro root is in the works.

Health

The shortage of water has also led to health problems. Where the water has become salty and this has been drunk it has led to high blood pressure issues. This can be extremely dangerous for pregnant women.

As water is at a premium water-borne infections and diseases can spread very quickly. The pathogens that cause these infections/diseases also thrive when there is increased temperatures. There has been an increase in diarrhoeal illness, which can be incredibly dangerous if there is little safe water to drink to replace the fluids lost from the body.

Mosquito (and other biting insects) and tick breeding grounds will have an increasing availability in the next years and decades because of higher tides and tropical cyclones. The increased availability will exacerbate the exposure of the Tuvaluans to water borne diseases and will increase the epidemic potential of the islands.

Due to the amount of imported food the residents of Tuvalu are starting to put on weight. They used to eat a mostly natural diet of fish and vegetables, however now they are eating more processed food and this is directly having an impact on their health.

Fishing

Climate change heats the ocean water and impacts the corals and consequently the marine fauna. The biodiversity of the ocean and of the atolls will decrease. In order to prevent this irreparable lost of species due to heat, fragile ecosystems have to be protected.

The biodiversity of the atoll and particularly in the shallower water in the lagoon, will not be the only affected by the impacts of the rising surface water temperature. The rising temperatures will also considerably reduce the shellfish and available fish resources. Considering that the Tuvaluans, on average, eat 500 grams of fish per capita every day, a reduction of the resource will have a disastrous impact of the livelihoods and, thus, also on development.

As climate change is heating the atoll's shallow lagoon, the coral – the natural habitat of the reef fishes – is bleaching and dying. On top of this, sewage-water spills are increasingly causing algal blooms in the lagoon, killing the small reef fishes and thereby threatening the lives of larger fishes depending on them.

The subsistence fishermen report that they have a harder time getting the daily fish for their families. According to interviews conducted by the fisheries department, the stories from the fishermen are mostly the same: they have to go further out in the lagoon than before (it is about 14km wide and 18km long), they have to fish longer to get the same amount of fish, and the fish they catch are smaller than they used to be.

Fish is not only a staple food; it is among the few traditional food items in which Tuvaluans are still self-sufficient.