



CLIMATE CHANGE IMPACT CASE STUDY: Tuvalu

SUMMARY

This study highlights climate change impacts on Tuvalu and potential intra-regional climate-induced migration

BACKGROUND

- Tuvalu is highly vulnerable to climate induced hazards, including tropical cyclones, storm tides, flooding, and droughts. (United Nations Development Program [UNDP] et al., 2022)
- Additionally, its low-lying geography and limited capacity to manage and respond to disasters increase the country's vulnerability. (UNDP et al., 2022)
- As the world's fourth smallest country, all of Tuvalu's islands are 3 meters or less above average sea level. Coastal erosion, loss of land, drought, soil evaporation, and freshwater salinization are just some of the threats posed. (Henson, M. et al., 2020)
- Tuvalu's low-lying geography poses an existential threat to all Tuvaluans due to projected sea-level rise and other factors exacerbated by climate change. (Henson, M. et al., 2020)
- Coastal erosion, loss of land, drought, soil evaporation and freshwater salinization may become drivers of migration
- A pre-existing Tuvaluan community resides in Suva, Fiji, potentially paving the way for the possible addition of migrants affected by climate change in their home country
- There are discussions about others joining the existing community in Suva if forced migration occurs



Hon. Minister Simon Kofe filming a video statement in Tuvalu on climate mobility, for COP26 (Tuvalu.TV)

Source: Devpolicy Blog. <https://devpolicy.org/tuvalu-preparing-for-climate-change-in-the-worst-case-scenario-20211110/>

CHALLENGES

- In Tuvalu, all of the population resides within 1 kilometer of the coast. (Henson et al., 2020) This makes communities highly vulnerable to climate change impacts such as sea-level rise.
- Tuvalu governments have opposed development of relocation plans as a solution to the climate crisis. (Kofe, 2021)
- Many Tuvaluans would not consider leaving their ancestral land even when faced with direct threats from climate change. (Henson, M. et al., 2020)



Sea wall, Tuvalu. Credit: TCAP/UNDP.

Source: UNDP Climate. Flickr, <https://flic.kr/p/2nPhHLn>

CLIMATE CHANGE IMPACT PROJECTIONS

- According to a risk assessment led by the United Nations Development Program (UNDP) and International Organization for Migration (IOM), sea levels across Tuvalu are projected to rise with high certainty. According to the report, until 2050, projections under both a RCP2.6 (which represents a low emissions scenario that aims to keep global warming likely below 2°C), and RCP6.0 (which represents a medium to high emissions scenario) scenario suggest similar changes: “The median climate model projects a sea level rise of around 12cm by 2030 and 27 cm by 2050 under RCP2.6, and of 11 cm until 2030 and 22 cm until 2050 under RCP6.0.” (UNDP, et al., 2022)
- According to the report, sea level rise is expected to increase wave induced flooding in the future, causing increased coastal erosion and inundation, with a significant increase from 2050 onwards. This flooding will increase the salinity of soils and threaten freshwater resources. Many low-lying island states in the Pacific will become uninhabitable by 2060-2070 under a high-emissions scenario, according to the assessment. (UNDP, et al., 2022)
- Additionally, the assessment projects that air temperature over Tuvalu is projected to rise with high certainty. “Compared to pre-industrial levels, the projected air temperature will very likely rise by between 0.9 and 1.3 °C by 2030, depending on the scenario. Under the lower emissions scenario RCP2.6, changes projected until 2080 more or less stabilize around the year 2050 levels, ranging between 1.2 and 1.5 °C in 2080 (very likely range). In contrast, under the medium to high emissions scenario RCP6.0, emissions will increase much stronger (between around 1.2 and 1.7 °C by 2050, and 1.6 to 2.5°C by 2080).” (UNDP, et al., 2022)

KEY POINTS

- Freshwater insecurity is considered the top human vulnerability with livelihood impacts in the Tuvalu National Adaptation Programme of Action (NAPA), created by the Department of Environment in 2007. (Iese et al., 2022)
- “Climate change impacts which worsen the threat of cyclones, droughts, erosion, rising air and water temperatures, saltwater intrusion and storm surges continue to place pressure on Tuvalu’s hydrology and freshwater resources. The lack of consistent rainfall and adequate catchments for drinking water and other household, community and food security activities are negatively impacting the health and quality of life of many Tuvaluans.” (Iese et al., 2022)
- During Tuvalu’s wet season (roughly October–March), Tuvalu is particularly vulnerable to cyclones which can have severe impacts on infrastructure, health, and food and water security. (Iese et al., 2022)
- The frequency and intensity of cyclones is expected to worsen due to climate change, and tropical cyclones are a significant hazard in Tuvalu. Tuvalu has experienced two recent tropical cyclones: Tropical Cyclone (TC) Pam occurred in March 2015 and impacted 4,613 people, while TC Tino occurred in January 2020 and impacted 5,500 people. (Iese et al., 2022)
- However, a United Nations Development Program (UNDP) and International Organization for Migration (IOM) risk assessment finds that “the few existing projections on tropical cyclone formation affecting Tuvalu indicate a decreasing trend, but an increase in maximum wind speeds.” (UNDP, et al., 2022)
- Tuvalu released its national policy on climate change in 2012, titled “Te Kaniva: Tuvalu Climate Change Policy 2012-2021.” The policy takes into account the recommendations of local and international stakeholders. The document stresses the importance of mitigation and adaptation strategies and calls on the international community to adhere to commitments and provide financial support. (Henson et al., 2020)
- There are seven goals in the policy report and the seventh goal focuses on “guaranteeing the security of the people of Tuvalu from the impacts of climate change and the maintenance of national sovereignty.” (Henson et al., 2020)
- Fiji has offered two migration routes to other countries in Oceania, including Tuvalu. In Fiji’s capital, Suva, there is a Tuvaluan population and there have been talks about joining this population if forced migration due to climate change becomes a reality for Tuvalu. The other route is through the purchase of land in Fiji, which Kiribati did in 2014. (Henson et al., 2020)
- However, the government has resisted the development of relocation programs. For example, former Prime Minister Apisai Ielemia publicly rejected the notion of being considered climate refugees. Like other people in Oceania, many Tuvaluans would never consider leaving their ancestral land. (Henson et al., 2020)
- The Tuvalu Coastal Adaptation Project (TCAP) (2017 - 2024) is contributing to strengthening the resilience of Tuvalu against climate change. Implemented by the UNDP in partnership with the Government, the project seeks to improve coastal protection on the islands of Funafuti, Nanumea and Nanumaga. While new measures will act as a buffer during storms, the project also strives to build the capacity of national and local governments and communities in adapting to climate change. (Tuvalu Coastal Adaptation Project [TCAP], 2018)

SOURCES

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- Header Image: Tuvalu Atoll by Michael Coghlan, <https://flic.kr/p/KcfcfF>



Climate Change Impact Case Study Prepared By:
Center for Excellence in Disaster Management & Humanitarian Assistance
456 Hornet Avenue, Building 76, Joint Base Pearl Harbor - Hickam, Hawaii 96860-3503
Telephone: 808.472.0518 | DSN: 315.472.0518
<https://www.cfe-dmha.org>