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Security Implications of climate change and rising sea levels in the Pacific Islands Countries

Author: Pranitha Pullamaraju, India

Abstract

The phenomenon of Climate Change is global and has numerous repercussions on countries and people around the globe. However, climate change disproportionately impacts certain countries like the Pacific Island Countries (PICs). Though they contribute to only 0.03% of global greenhouse gas emissions, are facing an existential threat of climate change. The paper attempts to discuss the impact of climate change and the rising sea levels in the Pacific Island Countries (PICs) through a security lens. We assess the legal and sovereign implications of climate change and its threat to economic food and human security and proceed to look at the wider regional and geopolitical implications. To navigate the sea of change in the PICs, we suggest that a collaborative effort is the need of the hour.

Security Implications of climate change and rising sea levels on the Pacific Islands Countries

Climate change, defined as the long-term shifts in temperature and weather patterns by the United Nations, is a global phenomenon. Climate change has profound consequences ranging from its impacts on shifting weather patterns and rising sea levels to its implications on food production and human security. The trend of rise in sea levels has witnessed an unprecedented increase and reached a record high in 2021 (WEF, 2022). Climate projections reveal that the sea level will rise by 90 cm and 45 cm by 2100, under strong and zero emissions, respectively (IPCC Report, 2018).

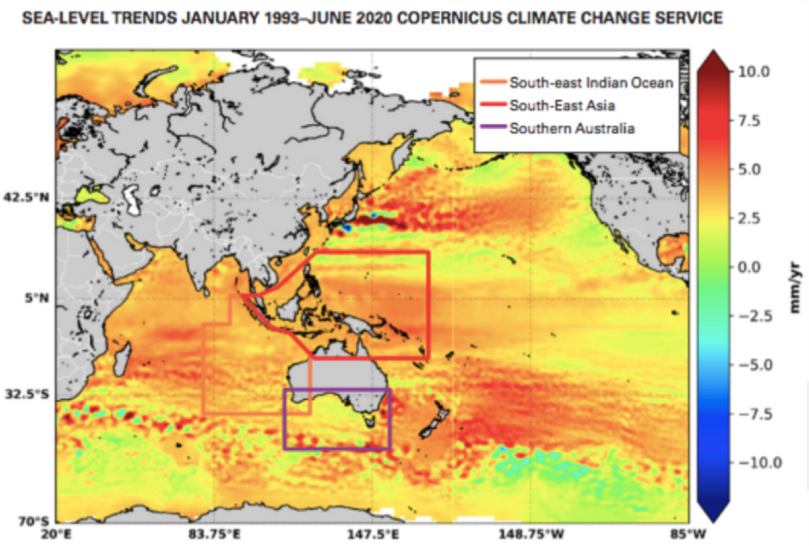

Figure: Sea-level trends from 1993 to 2020
Source: Copernicus Climate Change Service

Climate change has been increasingly delineated as a security challenge, with analysts portraying it as one of the most pressing challenges of the current era (Parry, 2007). Climate change exacerbates existing threats that can affect global security by affecting the geopolitical landscape and aggravating the existing security challenges whilst giving rise to unpredictable threats (Fetzek & McGinn, 2020). The United Nations General Assembly (UNGA) expressed its cognisance that climate change could have security implications through the A/64/281 resolution in 2009. The sixth Intergovernmental Panel on Climate Change (IPCC) assessment report envisions for small islands a medium risk of economic, livelihood and infrastructural loss in the near term (2030-2040) and an aggravated risk in the long term (2080-2100) (Field et al., 2014). The fact that 70% of the most climate-vulnerable countries and small island states are also some of the major politically unstable nations (SIWI Report, 2021) is a risk to collective security.

Territorial consequences stemming from climate change and rising sea levels could disrupt global cooperation and threaten the livelihoods of communities in the coastal areas, especially the Pacific Island Countries (PICs), where 69% of external shocks (economic and environment) are attributable to hydrological events (Devadason, 2019). This led to climate change being identified as the “single greatest threat” to the regional security of the PICs (Boe Declaration of 2018).

The Pacific Island Countries: A brief

The islands of the Pacific have a rich environment with a diverse marine ecosystem. Divided into the ethnic-graphic ternions of Melanesia, Micronesia and Polynesia, the tropical Pacific comprise around 7500 islands scared across an area of 30 million km^2. 500 out of the 7500 islands are inhabited, 14 are independent nations, and others are territories of France or the United States.

Although PICs are accountable for merely 0.03% of Green House Gas emissions globally, they are disproportionately vulnerable to the climate-change threat (Parsons, 2022).

The Global mean sea level is an important climate indicator, providing information on how the ocean is warming and how much the ice is melting. The predicted sea level rise of 25 cm to 58 cm along the Pacific island coasts (SPREP Factsheet No. PF-003) would have devastating effects on islands situated at or merely above the mean sea level. While a 25 cm rise in sea level increase in the sea level relative to historical average over the specific measurement period may not seem significant, it can have far-reaching consequences for the islands in the Pacific region. Small Island Development States (SIDS) are home to 65 million people who are increasingly vulnerable owing to the greater thrust of economic activity in the coastal areas (Mass & Carius, 2012). Reef islands such as Kiribati, Marshall Islands and Tuvalu are increasingly vulnerable to climate change, and islands like Papua New Guinea (PNG), Solomon Islands, Tonga, and Vanuatu are most prone to disasters.

Legal and sovereign implications of rising sea levels in the PICs

The concept of security, as defined through the lens of the Pacific Islands, encompasses non-traditional security issues, including economic, food and human security, among others. Higher mean sea levels, combined with extreme weather patterns could have devastating impacts on infrastructure, loss of productive land and agriculture which could in turn increase the risk of debt distress causing financial instability. By disrupting economic activity and negatively influencing growth, climate change may potentially reduce the national capacity of impacted PICs, thus undermining governance and surveillance capacities leading to crimes, trafficking, and illegal fishing (McPherson, 2017).

Exclusive Economic Zones (EEZs) are an essential economic asset owing to their capacity for deep-water fishing and mining. As rising sea levels encroach coastlines, smaller islands risk losing land and contraction of their EEZs. Furthermore, it increases the ambiguity in law about the effect of rising sea levels on base points used to calculate and fix EEZs. This led to Marshall Islands passing the “Maritime Zones Declaration Act” in 2016, delineating its maritime boundary. Numerous other Pacific islands took pre-emptive measures as encompassed within the framework of UNCLOS to safeguard their economic stability and future sovereignty.

Source: strategybridge.org

The potential for submergence of a state in the Pacific islands through climatological factors risks displacing people, internally and externally. Approximately 97 percent of the population (three million people) of the 21 Pacific island countries and territories excluding Papua New Guinea live within 10 kilometers of the coast (Andrew et. al, 2019). Currently, there is the absence of a framework defining a state with no landmass (Devadason, 2019), which could be the future of a few PICs. An occurrence like this would most likely challenge the definitions of 'statehood' and 'sovereignty' and could lead to losing privileges, including memberships in global organisations, aid and loan eligibility etc. Cross-border displacement of people creates hostilities, social tension coupled with the risk of violence and even endangers the legal status of an individual since there is the concept of 'climate refugees' is not formally recognised.

Climate change and its impact on lives and livelihood in the PICs

Erosion of the coasts and sea-water intrusion negatively impact coastal inhabitants and agricultural land, causing water, food insecurity and a host of other issues. The cultivation of food is climate-sensitive, having a long-term impact on the agriculturally dependent economies; for instance, PNG and the Solomon Islands, where roughly 70% of islanders are employed in this sector (ADB, 2015) since flooding of saltwater into agricultural lands is making them uncultivable. Loss of agricultural land is in turn causing increased dependence on low-nutritional imports in a region with some of the highest Non-Communicable Diseases rates in the world (around 70% to 75%) and 1 in 3 children suffering from stunting as a result of malnutrition (UNICEF, 2019). The

overall health of coastal inhabitants is also impacted owing to the rampage of climate-sensitive diseases.

Economic impacts of climate change on the PICs

With a temperature increase of 2°C to 4°C, economic losses are projected at USD 1 billion in damages to water resources (IPCC Report, 2018). The increase in temperature has the potential to reduce average rainfall by 12% to 18% whilst intensifying tropical cyclones in the North-West Pacific by 12% to 15% (Qin et al., 2023). Tonga, Niue and Vanuatu rank among the highest Average Annual Losses (AAL) owing to natural disasters for the PICs approximating 5.8%, 4.4% and 6.6% of their national GDP (Freestone & Cicek, 2021). Fish and zooplankton are migrating to a higher latitude because of acidification, deoxygenation and warming of the oceans affecting the circulation pattern of the ocean (WMO, 2021). Projections suggest that a reduction in tuna biomass in the EEZ of PICs may result in a loss of government revenue of 15% annually (Pacific Community, 2023).

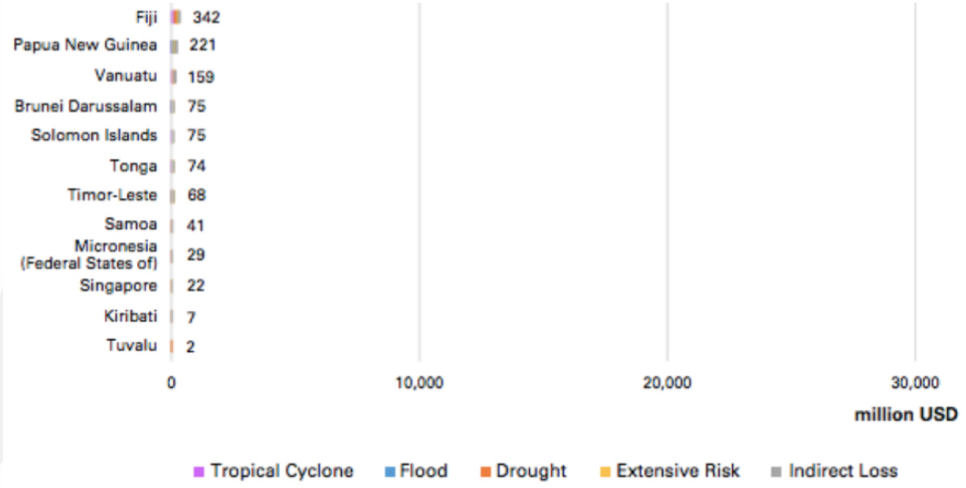

Figure: Average annual losses from climate-related hazards

Source: ESCAP, 2021: The Risk and Resilience Portal

Coastal erosion, disasters and coral bleaching, among several others, have second-order consequences in diminishing tourism potential and, subsequently, economic losses. Tourism is the single largest revenue source in Tonga, and in Fiji, it replaces the primary economic activity, i.e., the export of sugar. The Word Bank notes that from 1950 to 2011, harsh weather occurrences in the PICs impacted nearly 9.25 million, causing ten thousand deaths and an estimated damage of $3.2 billion. A Category 5 tropical cyclone named Harold led to significant damage in Tonga and the Solomon Islands in April 2020 and affected nearly one-fifth of the populations in Fiji and Vanuatu (IMDC, 2020). Long-term adaptation measures would cause dearly to the PICs, with estimates of US $10 to $40 million annually for every PIC by 2040 for protection against rising sea levels, and this is most likely unaffordable. Concessional permits for

deep-sea mining or increasing fishing may be required if foreign aid or remittances do not rise. (Chiang, 2015).

Geopolitics for influence in the PICs

The Pacific Island Region is popularly known for being a patchwork of geo-political interests woven together by the United Nations Convention on the Law of the Sea (UNCLOS), shaped by World Wars and tinted by globalisation (UNSC, 2023). Climate change is a crucial area where China is trying to influence the regional narrative (Kemish, 2023). China and regional powers like Taiwan are looking at establishing predominance in the PICs, not merely due to the riches EEZ has in store. China is seeking new deals with PICs by offering concessional finance and sponsoring development projects in the short term, which would help China establish a naval base and expand its reach in the long term. Recognition of Taiwan as the Republic of China by the PICs provides Taiwan legitimacy and an avenue for indirectly accessing international organisations. Pacific inhabitants, however, express dismay with the strategic competition amongst external partners and hold the belief that the global community has not given climate change the attention it needs (Kemish, 2023).

Navigating the Sea of Change in the PICs

The Addis Ababa Action Agenda of the Third International Conference, the Pacific Agreement, and the Sustainable Development Goals (SDGs), all adopted in 2015, call for a change in global conduct to avoid reaching a point of no return. They constitute the region's first and last line of defence in guaranteeing their survival. Vanuatu's initiative in tabling a UN resolution to define climate change as a Human Rights issue in late 2022 and its adoption in March of 2023, as observed by Ishmael Kalsakau, Prime Minister of Vanuatu, "Marked the beginning of a new era in multilateral climate cooperation which places human rights and intergenerational equity at the forefront of climate decision-making."

The PIC's encounter with climate change would potentially serve as a signpost to what comes next for planet Earth. Building Pacific resilience translates to unlocking permanent interests of the region, including economic empowerment, renewable energy and agriculture, homegrown investments, fisheries and tourism. With a small population size and limited resources, PICs ought to pursue collaborative strategies to manage threats from climate change (Hauger, 2015).

Since island communities have been adapting their environment for hundreds of years through 'nature-based solutions' like mangrove plantations to stabilise shorelines, cooperation in the Pacific should also focus on mitigation. This must include better agricultural practices, renewable energy, and re-forestry, calling for a new partnership forum and transformative cooperative arrangements. Nationally Determined Contributions (NDCs) of industrial

nations must move beyond targeting emissions control (UNDP, 2017) to focusing on changing ocean conditions since mitigating the effects of sea-level rise is vital to maintaining the planet. Protecting the islands in the Pacific Ocean must thus be a worthwhile cause all on its own.

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