



Pacific Ocean Climate Crisis Assessment (POCCA)

SUBMISSION TO THE UNFCCC GLOBAL STOCKTAKE

6 August 2022

The **Pacific Ocean Climate Crisis Assessment (POCCA)** is a research partnership between the University of Canterbury and the University of South Pacific and funded by the New Zealand Ministry of Foreign Affairs and Trade. It aims to provide a comprehensive, interdisciplinary, multi-methodological and integrated assessment of the climate crisis and oceans covering 16 countries in the Pacific region. Countries within scope include Cook Islands, Federated States of Micronesia, Fiji, Guam, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Timor Leste, Tokelau, Tonga, Tuvalu, and Vanuatu.

As a research consortium, POCCA gives voice to Pacific Indigenous knowledge systems and how they can work together in harmony with western scientific approaches. Pacific Indigenous knowledge of climate change is based on centuries of knowledge production, daily experience and observation, continuous adaptation, innovative responses to disasters, development of resilient mechanisms, protection of the environment and the centrality of interconnections between the ocean, sky, land, and people. This interdisciplinary approach supports the provision of integrated data often missing from Pacific regional positions on climate change, to help promote the unique Pacific voices and experiences, which is often subdued by the more technologically dominant countries.

The POCCA Scientific Steering Committee is pleased to submit this overview of the issues which the wider research team will discuss at a POCCA facilitated forum (17 August 2022) organised to inform the thematic areas of the Stocktake and questions below. Our submission is focused on the adaptation aspects of the Global Stocktake impacting the Pacific States and Ocean including incorporation of Indigenous knowledge, strengthening resilience, climate-mobility, finance, justice, and equity.

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The POCCA forum on 17 August will provide information relevant to the following GST questions:

Question 8. What are the levels of climate risks, observed and potential impacts and vulnerability of human and ecological systems caused by climate change in the Pacific?

Question 9. What is the state of adaptation efforts, support, experience and priorities based taking into account the best available science, gender perspectives, traditional knowledge, knowledge of indigenous peoples, and local knowledge systems?

QUESTION 10. What are the support needs of Small Pacific States and to what extent has progress been made towards assessing the support needs of developing country Parties?

Question 11. To what extent has progress been made towards enhancing the adequacy and effectiveness of adaptation and support provided for adaptation?

Question 12. How do national adaptation efforts contribute to adaptation goals (11/CMA.1, paragraph 14) including by contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2? What work on methodologies, including metrics, will be needed to better understand that progress and what is further needed?

Indicative Responses:

The initial work of the POCCA research team has highlighted the following overarching issues which inform the questions above:

CLIMATE EFFECTS, RISKS, STRESSORS, AND INDIGENOUS RESPONSE

- There is a recognised need for a far reaching shift to a new socio-economic paradigm which reduces the drivers of climate change and supports a transition to more sustainable future to reduce the negative impact of climate change on Pacific Island States
- Advancing climate resilient adaptation in the Pacific depends on recognising and building on established socio-cultural value systems and significant social, community or cultural capital, which includes strong partnership relationships, and access to social institutions such as family, community, and the church.
- Cultural capital, value systems, collective actions, reciprocity, relational networks, trust, and cooperation within kin are important cultural mechanisms to respond to climate crisis. The mobilization of all forms of resources, material, and non-material, by communities is key to building resilience.
- Other dominant social features that support Pacific societies include indigenous knowledge systems, values, practical skills and shared experiences.
- Reciprocal Communal labour helps sustain food security in times of disaster.
- In the Pacific, land is a fundamental aspect of social structures, spirituality and wellbeing and a support mechanism for food security in times of crisis.
- Culture, people, and traditional knowledges provide numerous practical ways to deal with stressors of climate change, adaptation, and resilience- these need to be incorporated into national strategies and identify the role of technology and science to work with local communities.

REGIONAL CLIMATE AND OCEAN STRATEGIES, POLICIES AND FRAMEWORKS – A STOCKTAKE OF CURRENT STATUS

- Pacific leaders have noted that escalating climate change related impacts coupled with the intensification of geostrategic competition, is exacerbating the region’s vulnerabilities.
- Pacific BOSs should continue to build necessary PFM capacity. Strong audits, robust control frameworks and strengthened public investment practices are important priorities and where relevant, should be integrated into country-specific PFM reform plans

- A specialised broker function for Pacific Big Ocean States (BOSs) to engage with the existing regional institutions and ongoing initiatives in disaster and climate change risk management should be developed to:
 - Support knowledge management and straightforward access to climate change risk data; and
 - Support the BOSs to weave together existing capabilities to develop and implement comprehensive climate change risk management and financing strategies under a unified framework.
 - Technical resources should be used to develop novel climate change risk financing mechanisms that address slow-onset climate impacts on assets, livelihoods, ecosystems, and public services.

THE OCEAN-CLIMATE NEXUS

- Collective measures must be taken to regulate and to prevent the overuse of shared resources.
- Pacific Indigenous knowledge in conjunction with natural science and important in providing a more holistic view of the Ocean- climate nexus.
Important to identify some of the challenges in gathering data in relation to how the ocean and interact with each other and how these impacts on climate change in the Pacific.

RELATIONSHIP BETWEEN PEOPLE AND THE OCEAN

- Pacific people's reliance on the sea from an ecological, cultural, and economic standpoint is significant and must be understood by non-Pacific countries in terms of adaptation and mitigation strategies
- Although regional organization have been established and have done well in some areas, there are concerns that better results and outcomes are needed
- The regional organizations need to strength regional identity and cooperation to help BOSs work together for the "advancement of their collective interests and the protection of their region for the general good."
- The intimate connections between Pacific peoples and their ocean resources should be a major focus for sustainability and environmental protection for future generations.
- Community-based resource management as a dynamic system of social intervention, shaped by local practices and influenced by a combination of internal and external inputs should be strengthened and mainstreamed.
- Monitoring, research, and intervention is significant to assess the impacts of the marine environment in the Pacific.
- There is a need to strengthen the ocean strategies for governments especially how they can focus on local needs. This needs to be supported by climate financing to achieve outcomes.
- Coastal fisheries need to be better understood, which at times make their contribution to the livelihood of people and the economies invisible and raises the dire need for their management trivial.

- There is a huge need for coastal climate proofing activities, which locals are familiar with, but they need to be supported by technology and financing from other organisations and countries.

IMPACT OF CLIMATE CHANGE ON BIODIVERSITY AND ECOLOGY, WITH SOLUTIONS FOR SUSTAINABILITY

- The Pacific, which contains key biodiversity hotspots in the world, is going through critical biodiversity crisis and the rate of loss of genetic diversity needs to be addressed.
- It is alarming therefore that Climate Change and Ocean associated policies across the Pacific have until recently been poorly connected to biodiversity policies and regulations because of lack of effective communications and integration across national management agencies.
- Such policy pathways all recognise the vital need for Ocean and marine protection but may lack explicit recognition of the critical need for holistic approaches to environmental management on islands.
- At the national level in Pacific SIDS the funding and human resources available to plan, implement and successfully monitor and evaluate progress via national government agencies is limited and in some developing countries there may be only 1 or 2 people working part-time on the required global convention national reporting.
- There is a great need for the revision and updating of outdated laws, policy lens shifts and adequate tracking of the success of these new integrated ocean policies in safeguarding biodiversity in the face of expected need for human food security and climate change impacts.
- There is a lack of transparency and coherence in funding for biodiversity in the region which requires more explicit inclusion in national and regional policy discussions.

CLIMATE CRISIS, COVID-19 and COMMUNITY HEALTH

- Successful *adaptation* responses in health should, where possible also address other social inequities for example, co-benefits of secure housing, and addressing poverty, alongside wellbeing issues such as disability or violence, physical and mental health.
- Successful climate *mitigation* policies should also integrate education about climate change and its impacts on health across all levels of education in the Pacific.
- There is now an opportunity to focus our attention on assessing multi-sectoral policies consider the impacts of both the pandemic and climate change on health and wellbeing of Pacific people.

CLIMATE CRISIS AND FOOD SECURITY

- Increased demand and dependence on imported non-traditional, convenience foods in response to reduced time for production, and lack of access to land in increasingly crowded urban and isolated rural communities especially in atoll islands may have bridged shortfalls in food production but has also increased the prevalence of non-communicable disease (NCD) crises among the Pacific Islanders.
- Training in climate resilient practices such as: planting of local resilient crops, efficient drainage systems, new cropping techniques, pest control methods, and agricultural

education/materials have been successfully incorporated in some community livelihood activities to help reduce crop damage, risks from pests and diseases that contribute to decline in crop yield and quality in conditions of changing precipitation patterns, extreme rainfall events and flooding.

- Preservation of marine areas (*Tabu*), expansion of freshwater ponds aquaculture for Nile tilapia, milk fish and prawns, oyster farming as ocean warming, heatwaves, acidification, coral bleaching and degradation, low reef fish availability, fish kill were experienced and observed.

CLIMATE CRISIS, HUMAN SECURITY, AND SOCIAL PROTECTION

- Much research and the narratives of human security, adaptation and wellbeing in the Pacific is frequently *deficit* focused. There is a need for increased focus on *strengthening Indigenous methods* of addressing disasters and climate planning.
- Gender equality is still an imperative in the region given the overlapping crises of low representation of women in formal political office, high levels of violence against women and the rigid gender segmentation of the labour force.
- In popular geographic discourse, the Pacific Region is typically rendered as an exotic place of danger, mostly powerless, in need of salvation, and heading towards extinction. For example, rendering of non-European places as hazardous geographies is an old cartographic tradition.
- Indigenous perspectives and approaches to climate change, need to be enhanced and facilitated by the local communities themselves. Too often indigenous perspectives and methods are not used to inform climate change mitigation and adaptation.

CLIMATE CRISIS, GEOPOLITICAL VULNERABILITY AND TRANSNATIONAL CRIME

- A nuanced and careful examination and analysis of climate related conflict triggers for the region as a whole, is required and for individual countries and communities.
- Ocean governance is of critical importance to the Pacific region due to its dependence on fisheries resources and the blue economy. Securing maritime boundaries and the high seas is a critical challenge for the Pacific due to the immediate stresses on marine resources (specifically fisheries) and the longer-term impact of climate change.
- Maritime boundaries have strategic significance and are a national and regional security issue. The maritime domain and the blue economy will increasingly play a critical role in the political and economic affairs of Pacific nations and is a potential fault-line for geopolitical competition in if external states sought to exploit vulnerabilities to gain influence over shifting resources or access.

IMPACTS ON SOCIO-ECONOMIC AND INFRASTRUCTURAL DEVELOPMENT.

- Given the limited resources and sources of economic livelihood for many Pacific BOSs, the climate crisis has and will continue to exacerbate existing socio-economic issues. At the same time, there are existing but sometimes obscured Indigenous economic alternatives that provide opportunities for adaptation and mitigation.
- BOSs reliance on fisheries, and agriculture, for food security, and economic development is vulnerable in a climate crisis. The vulnerability of economic livelihoods depends on the degree of ecosystem dependency to support those livelihoods.

- In the Pacific, a delicate equilibrium exists between ecosystem dependency and human vulnerability. The decrease in coral reef fisheries, inland, and coastal aquaculture will drastically impact the sector's efficiency, commodities, production, and the well-being of communities including both formal and informal economic livelihoods as well as government revenue and ability to support adaptation and mitigation and social security.
- The climate crisis impacts every aspect of Pacific economies. Impacts will be felt in industries that are reliant on the global economy, and developmental support from above and in activities organised from below. The strengths of existing and enduring Indigeneity in each place including Indigenous economic responses to the climate crisis, namely, Indigenous innovation, solidarity and resilience should be documented.
- As part of this transition, policy makers, NGOs, climate researchers and communities should look to Indigenous responses to climate challenges and possibilities for re-embedding these activities as a response to the climate crisis.

CLIMATE MOBILITY

- Pacific communities have long responded to environmental challenges through migration and relocation.
- Centralising Pacific knowledge and experiences of human mobility into formal state approaches to climate change adaptation is crucial if relocation strategies within and between Pacific Island States are to be successful and sustainable.
- It is also critical that the nuances of culture, customary land, and identity, are integrated into assessments of adaptation and debates over non-economic loss and damages.
- Pacific indigenous ways of knowing and understanding mobility, and Pacific peoples' actual experiences of mobility, offer knowledge that is crucial to current and future climate change adaptation.
- Community-based migratory systems can be integrated with formal state approaches in order to provide holistic and diverse approaches to climate change adaptation. This is especially important when dealing with relocation, as local cultures in the Pacific are characterised by a communal and customary form of land ownership.
- Mobility, from a Pacific indigenous perspective is not simply relocation nor a planned process of movement. Rather, mobility is viewed as a circular which is complex, long and multidimensional. Mobility should be viewed as an integrated suite of adaptive strategies Pacific islanders depend on for survival. Understanding the factors and processes associated with historical and current Pacific Island mobility will strengthen future adaptation.
- Forced mobilities resulting from climate change impacts will lead to growing challenges threatening Pacific Islands' security through issues such as land and food security, state-sovereignty, and culture preservation. Promoting the integration of indigenous knowledge, local communities, and customary governance mechanisms very early in the relocation process is critical to ensure the various forms of (im)mobility as adaptation response to the climate crisis are tailored to the local context and reflect the varied experiences and knowledges of Pacific Peoples.
- International developments in migratory law and adaptation processes have systematically excluded Pacific narratives and deep understanding of indigenous knowledge, recognizing the

importance of attachment to customary land, the challenge of immobility including the impact of loss of connection to land (*whenua, banua, fenua*) and other factors shaping mobility responses from an indigenous standpoint.

IMPACT ON CULTURAL HERITAGE—LAND, CULTURAL SYMBOLISMS, LANGUAGE, SACRED PLACES

- There is insufficient attention in the global public arena to the impacts of climate change on cultural heritage. By cultural heritage, we refer to all forms of this heritage, including physical, and, importantly, the intangible heritage. The intangible heritage embraces a wide range of expressive, performative elements, and includes languages, story, song, poetry, dance, ceremony, and all forms of artistic expression. It also takes in the sacred; that is, sacred and secret sites areas, places, and objects, and the knowledge, meanings, and spiritual and cultural practices associated with these.
- For Pacific peoples, as with all Indigenous peoples, all these elements of heritage are inextricably intertwined; they form parts of a whole system, underpinned by customary laws and values. It is also important to acknowledge that Pacific cultural heritage is a living, dynamic system; it is part of everyday life, and connects the spiritual dimension to the world of daily activities.
- Cultural heritage is also embedded in the ways in which peoples express themselves, through language, story, poetry, song and dance. It is in this context that the climate threats to cultural heritage, also impact expressive culture. The ongoing inter-generational transmission of cultural heritage is vitally important for the continuity and sustainability of Pacific identities.
- The strength and dynamism of village communities, drawing on ancient oral traditions, customary laws and practices, provides a real foundation for sustainable approaches to mitigating the effects of climate change. In this context there may be some hope, by ensuring these community practices are nurtured, maintained, and strengthened. This must also embrace the power of expressive and performative culture, in fostering awareness, education, and activism for climate change preparedness.
- The deep understanding and knowledge that Pacific peoples have, of the intricate inter-connections between the natural, and the cultural worlds is just one aspect that needs to be maintained and foregrounded in pursuing climate resilience.

LOSS AND DAMAGE

- To date there is an absence of a framework that can be used effectively to assess loss and damage, both economic and non-economic, for Pacific Island countries.
- There is a real need to define loss and damage and a set of relevant parameters to identify and pinpoint loss and damage caused by climate change. This also calls for an assessment framework (and methodology) to assess economic and non-economic losses and damages in the context of Pacific Small Island States (SIDS) circumstances and from a Pacific lens.
- The Pacific SIDS recognise the difficulty in putting a monetary value on non-economic losses such as loss of a sense of place, and loss of biodiversity including coral reefs, mangroves, marine life, land-based ecosystems, and other critical resources that the Pacific depends on for their livelihoods.

- The core issues and needs regarding loss and damage, raised by Pacific SIDS are still not addressed. An adequate fund is required to address loss and damage and for big emitters to pay for the losses they incurred. The debate and progress of loss and damage discussion is crucial for Pacific Island communities.
- PSIDS and other developing countries have been attempting to document the ongoing irreversible negative impacts of climate change they have encountered even after adaptation. Some of these include loss of land due to sea level rise, loss of food and sources of livelihood, loss of biodiversity, loss of culture and cultural properties.
- In documenting loss and damage communities have confronted limitations in measuring loss and damage; however, it is also important to note that these limitations are not barriers or excuses for not quantifying or qualifying loss and damage in Pacific communities.