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PACIFIC CLIMATE SECURITY ASSESSMENT GUIDE

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Contents

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[1] http://www.weatheringrisk.org/

Acronyms

AAL	Average Annual Losses
ADB	Asian Development Bank
CROP	Council of Regional Organisations of the Pacific
EEZs	Exclusive Economic Zones
FFA	Forum Fisheries Agency
FRDP	Framework for Resilient Development in the Pacific
FSM	Federated States of Micronesia
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
NAPs	National Adaptation Plans
NCDs	Non-Communicable Diseases
NDCs	Nationally Determined Contributions
NGO	Non-Governmental Organisations
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
PBSO	United Nations Peacebuilding Support Office
PICs	Pacific Island Countries
PICT	Pacific Island Countries and Territories
PIF or Forum	Pacific Islands Forum
PIFS	Pacific Islands Forum Secretariat
PIK	Potsdam Institute for Climate Impact Research
PNG	Papua New Guinea
RCP	Representative Concentration Pathway
RMI	Republic of Marshall Islands
SIDS	Small Island Developing States
SPC	Secretariat of the Pacific Commission (The Pacific Community)
SPREP	Secretariat of the Pacific Regional Environment Programme
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USP	University of the South Pacific

Foreword

In the 2050 Strategy for the Blue Pacific Continent, Forum Leaders re-affirmed the region's expanded concept of security and highlighted that in the midst of an increasingly complex regional security environment, climate change remains the single greatest threat to the livelihoods, security and wellbeing of the peoples of the Pacific.

To achieve our Leaders' ambition of securing our sovereignty and territorial integrity in the face of the impacts of climate change, we need to first understand the impacts that climate change will have on the regional security landscape, as is highlighted in the Boe Declaration Action Plan.

In sharing this Regional Climate Security Assessment Guide with you, I hope to place a spotlight on climate change as a security issue for our Blue Pacific Continent and provide a helpful tool for policymakers across the region.

Through this assessment, we learn how climate change will challenge livelihoods and the blue economy, threaten land availability and usability, put pressure on food, water and health systems, exacerbate disasters and erode the resilience of our governments and vulnerable groups, affect mobility trends and challenge national sovereignty and regional stability.

But here in the Blue Pacific, we are up to the challenge. Indeed, work on climate change mitigation and adaptation cuts across all facets of Forum Leaders' agenda. This Assessment Guide continues that approach, as an important part of the region's broad-based effort to combat the impacts of climate change in all its complexity.

This guide compliments the Framework for Resilient Development in the Pacific by focusing specifically on climate change-induced drivers of social conflict, and by suggesting ways we can better understand and mitigate those drivers.

At the Pacific Islands Forum Secretariat, our key focus is delivering the Leaders' vision of a region of peace, harmony, security, social inclusion, and prosperity.

This Regional Climate Security Assessment Guide helps move us one step closer to achieving that vision.

Henry Puna
SECRETARY GENERAL
PACIFIC ISLANDS FORUM

Executive Summary

Forum Leaders, through the Boe Declaration, have defined climate change as “the single greatest threat to the livelihoods, security and well-being of the peoples of the Pacific”.

This is one of the most comprehensive statements on the link between climate change and human security globally. It highlights the way climate change affects every dimension of Pacific countries’ governance, external relations, identity and culture, threatening livelihoods, social cohesion, land, food, water, health, economies, and posing significant risks for individual, community, national and regional stability.

In some cases, these risks are already manifesting into increased social pressure and disputes resulting in the erosion of social norms that guide community life, and, ultimately, pose key questions around a future that seems deeply uncertain for Pacific countries and its communities.

If left unexplored and unaddressed, these interactions could cause further social discord, leading to social or political instability, or even violent conflict. Understanding and addressing those risks is an essential step to challenges that are new and complex in nature.

This Assessment Guide, developed through extensive consultation with regional specialists, key regional institutions, civil society and with Forum member representatives, aims to support the region’s effort to unpack those risks so that appropriate responses can be put in place.

It particularly targets national and subnational governments from Forum Member countries while also constituting an important reference for a broader range of stakeholders, including international organizations, regional bodies and interested individuals and practitioners. In alignment to the Boe Declaration Action Plan, it responds to Pacific countries’ need to have a context specific methodology to identify local climate security priorities that can inform decision making at different levels.

This methodology, based on the global “Weathering risks”, is included in section 4 named the “Guide on how to conduct Climate Security Assessments”. This constitutes the core part of this document and it includes a description of the analytical approach (including conceptual foundations, main elements of analysis, methods and tools, and how to identify responses) as well as guiding questions that users can adapt and/or adopt when conducting their own climate security assessments.

While this Assessment Guide was not conceived to, and is not designed to constitute a comprehensive regional climate security risk assessment (doing so would not be helpful given the diverse nature of climate risks present in individual Pacific Islands Countries), a section describing the main climate security pathways in the region has been included as section 2, to reinforce understanding of the predominate climate security trends across the breadth of the Blue Pacific Continent, and to provide a sound starting point for countries to then contextualize the analysis at a national or local level.

The identified regional climate security pathways cover five themes:

- How climate change challenges Pacific livelihood and its blue economy;
- The way climate change threatens land availability and usability, putting pressure on food, water and health security;
- How climate risks exacerbate disasters and erode the resilience of vulnerable groups and governments;
- The way climate change affects mobility trends and related risks and finally,
- The urgency that climate change creates to secure maritime boundaries and sovereignty and how climate change could undermine regional stability.

Suggested practices and approaches are described in section 3, as a way to outline the forms of action regional actors, Forum Members, and international partners could take to ensure plans, policies, and

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interventions are more informed by climate security considerations. They are not meant to be prescriptive or comprehensive (the diversity of Forum Members' national contexts prohibits this). Rather, they aim to provide ideas and options to guide further actions by relevant stakeholders.

Building on other existing regional analytical approaches and frameworks, and extensive knowledge and expertise already present in the region, the Assessments Guide's value-add is its emphasis on exploring the relationship between context, climate impacts, and security risks, and their collective security implications.

The key message underlying this Assessment Guide is its attempt to challenge the traditional view of security and to broaden the understanding of how diverse security threats in the Pacific are.

In doing so, the Assessment Guide is intended to encourage decision makers and the international community to think outside the box and to find innovative ways to respond to challenges that are new and very complex in nature, bringing new players onto the scene, and even reconsider how traditional responses to security threats have been managed thus far.

Ultimately, this Assessment Guide is intended as a contribution to the far-reaching effort required to achieve the Forum Leaders' vision of a safe, secure and prosperous region for Pacific Peoples.

SECTION 1
Understanding the Assessment Guide

1.1 Background

Climate change poses significant security risks[2] across the Pacific. The economic well-being and livelihoods of many of the estimated 12 million Pacific Islanders is threatened by climate change as it increases water, food and land insecurity, and increasingly pushes people to move from their homes.

These risks resulting from climate change in combination with increasing urbanization and growing inequality, can overwhelm societies and push them towards further instability and insecurity. While violent conflict and political instability remain relatively rare across the region, climate-related security risks[3] are becoming increasingly evident and presenting socially divisive consequences.

Since the establishment of the Pacific Islands Forum (PIF or Forum) in 1971, the region has collectively been working to counter security challenges and to build peace, harmony, social inclusion, and prosperity. Through the Forum, the region has adopted a broad definition of security developed through a human security[4] lens, which encompasses threats to livelihoods, physical security and well-being. Successive declarations including the Honiara Declaration (1992), Aitukaki Declaration (1997), Biketawa Declaration (2000), Niue Declaration (2008), Port Moresby Declaration (2015), and Kainaki II Declaration (2019) have been integral in advancing this conceptualisation.

More importantly, the 2018 Boe Declaration on Regional Security (Boe Declaration) underlines the centrality of climate change as a security issue in the Pacific region. The Boe Declaration represents one of the most comprehensive statements on the link between climate change and human security globally and specifically describes climate change as the "single greatest threat to the livelihoods, security and well-being of the peoples of the Pacific".

As part of the Boe Declaration, Forum Members recognised the need address the security implications of climate change by strengthening regional security cooperation and encouraging collective action on climate-related security risks.

This recognition was reaffirmed in the 2050 Strategy for the Blue Pacific Continent that was launched in July 2022. This strategy establishes a framework for the region's approach to working together to achieve the Forum Leaders' long-term vision and regional aspirations through seven key thematic areas, including on Peace and Security, and on Climate Change and Disasters.

To advance the implementation of the Boe Declaration, the Boe Declaration Action Plan (Action Plan) proposes a set of priority actions to shape the regional security environment at the national and regional levels. The first strategic area within the Action Plan specifically focuses on climate security with one the key proposed actions being 'understanding and contextualising the impact that climate change will have on the regional security landscape through its interaction with human security and conflict, through research and evidence-based knowledge products'.

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[2] Risk is defined as the potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential impacts of climate change as well as human responses to climate change. Relevant adverse consequences include those on lives, livelihoods, health and wellbeing, economic, social and cultural assets and investments, infrastructure, services (including ecosystem services), ecosystems, and species as defined by the IPCC. For more information, please see : https://www.ipcc.ch/site/assets/uploads/2021/02/Risk-guidance-FINAL_15Feb2021.pdf

[3] See the conceptual foundations paragraph (pag.35) for an in-depth discussion on climate-related security risks.

[4] See the conceptual foundations paragraph (pag. 35) for more information on the concept of human security.

This Regional Climate Security Assessment Guide, referred to as the Assessment Guide, is the first of its kind in the Pacific region. The Assessment Guide is a crucial knowledge product that will bolster the understanding and articulation of key climate-related security risks and strengthen advocacy by Forum Member Countries in global fora and negotiations.

1.2 Aims and Approach of the Assessment Guide

The Assessment Guide aims to support Forum Members to identify and articulate the impacts climate change has on national and regional security landscapes through its interaction with human security and conflict. National and regional actors can then better ensure their policies, plans, approaches, frameworks and strategies capture climate security issues and advance implementation of the Boe Declarations Action Plan.

The climate security trends described throughout Section 2 of this document are intended to provide a regional overview that actors can use to begin conducting national assessments. The suggested actions in Section 3 should then provide further guidance on how to adopt those findings and embed them throughout the policy landscape.

The core component of the Assessment Guide is outlined in Section 4, which outlines the methodology of conducting climate security assessments. This section is intended to assist national and regional actors to develop further understanding of climate security priorities specific to their local contexts.

While providing guidance and tools, the Assessment Guide is not meant to act as a policy framework itself but rather to support future evidence based national and regional policy formulation.

This Assessment Guide provides Forum Members with:

- An overview of key climate-related security risks along five pathways that are based on climate impacts;
- Suggested actions for improving climate security integration and conducting assessments at the regional and national levels; and
- A guide to support regional and national actors to conduct their own climate security assessments or integrate climate security considerations into existing analyses.

1.3 Guide Development process

The human centered approach to security in the Pacific underpins this Assessment Guide.

The development of this Assessment Guide is based on a mixed methodology, which combines quantitative and qualitative elements.

While specific climate-related information and impacts have been provided by the PIK, the qualitative analysis was informed by extensive review of pre-existing assessments, frameworks, research, strategies, briefs, plans, policies, and other analysis from global, regional and national entities, including Council of Regional Organisations of the Pacific (CROP) agencies, such as SPC, SPREP, University of the South Pacific (USP), Forum Fisheries Agency (FFA) and PIFS, civil society actors, academia, Pacific UN entities, and international organisations, such as Asian Development Bank (ADB).

Both regional and bilateral workshops have informed this Assessment Guide, which involved key regional experts, development partners, government actors, academia and civil society representatives. Global methodologies, particularly the 'Weathering Risk' methodology, underpin the development of this Assessment Guide.

1.4 Targeted Users

While national and subnational governments from Forum Member countries are the main target audience, the Assessment Guide can be tailored to, and utilized by, a broader range of stakeholders. These can include national-level government actors, international organisations, regional bodies and interested individuals and practitioners.

Those working on peace, security and conflict, climate change, disaster risks, resilience-building, community development and humanitarian responses should find this Assessment Guide helpful for their own work.

In particular, this Assessment Guide is intended to support:

- Security and peacebuilding actors to understand how climate change will impact security risks;
- Climate change and disaster risk actors to understand the knock-on effects that climate and disaster risks can have for social cohesion and security; and

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- Development and humanitarian actors and thematic experts who, as an example, work gender, equality and social inclusion, governance, energy, food and/or water, to understand how their work is affected by climate security risks.

1.5 Utilizing the Assessment Guide

The Assessment Guide provides users with a methodology to analyse and understand the links between climate change and security. It also provides guidance on how to use this knowledge to better inform policies, programs, and projects to address climate-related security risks. It is applicable across different sectors and thematic areas dependent on the needs of those areas.

Forum Members and other actors are able to use this Assessment Guide at any stage of analysis in order to ensure their assessments, policies or approaches are holistic and inclusive of climate security challenges.

This might range from identifying climate-related security risks to articulating what responses can be taken to address them. For example, it can be used to inform the development or revision of national security policies, national climate policies, and development or adaptation plans, and also to develop integrated programs and strategies that address climate-related security risks.

1.6 Adding Value to Existing Work, Approaches, and Frameworks

The Assessment Guide builds on other existing regional analytical approaches and frameworks, in particular climate impact and vulnerability assessments, environmental impact assessments, conflict, peace and security assessments, and humanitarian needs assessments.

Building on extensive materials, knowledge and expertise already present in the region, the Guide also uses an approach-focused strategy on the nexus between climate and security, with the aim of developing a comprehensive understanding of climate security in the Pacific without duplicating prior work. The Assessments Guide's value-add is its emphasis on exploring the relationship between context, climate impacts, and security risks, and their collective security implications.

In addition to supporting the achievement of the Boe Declaration Action Plan, the Assessment Guide is closely aligned to other important regional frameworks and policies, including the Framework for Resilient Development in the Pacific (FRDP), the Pacific Women Peace and Security Agenda, the Kainaki II Declaration, the draft Pacific Regional Climate Mobility Framework, and the 2050 Strategy for the Blue Pacific Continent.

SECTION 2

Setting the Climate Security Context

2.1 Climate Change Trends in the Pacific

Despite some progress being made during the 2021 United Nations Climate Change Conference (COP26), further advanced at the COP27, a significant gap remains in the level of ambition needed to mitigate the worst effects of climate change for the Blue Pacific Continent. Recent reports by the Intergovernmental Panel on Climate Change (IPCC)[5] and the World Meteorological Organisation[6] warn of a 'climate code red'.

The Pacific faces unavoidable and severe climate impacts since climate change is, in some respects, already proceeding at a faster rate in the Pacific than the global average. Climate projections indicate these climate impacts will increase greatly in the future. Air temperatures are projected to increase across the Pacific through to 2050 after already having increased during the last 65 years.

Precipitation patterns are likely to continue to shift, with continued decreases in French Polynesia and the southern subtropics, and continued increases in the northwest and southwest Pacific[7]. Droughts are likely to continue after already having been more pronounced between 1981 and 2010, though with a high degree of variation exists[8]. Sea-level rise will also continue while the Pacific is already experiencing up to four times more than the global average[9]. Sea-level rise poses considerable risks in particular for low-lying atoll nations, such as Kiribati, Tuvalu, and the Republic of the Marshall Islands (RMI).

Ultimately, increasing climate impacts that compound and reinforce one another will have profound economic, social, cultural, and environmental consequences for Pacific Islanders. For many, their livelihood, food, water, resource, and health security will worsen and only increase pressure on families, communities, states, and the region more as a whole. Section 2.2 will specifically explore how these climate hazards impact the security and well-being of communities in the Pacific. How these trends progress will depend on future global climate action: more ambitious reductions of greenhouse gas emissions to reach net zero as soon as possible remains of utmost importance to prevent more catastrophic outcomes.

2.2 Regional Climate Security Pathways

Climate change is expected to impact the Pacific region in various ways. Some of the most pressing impacts include increased annual surface temperatures, sea-level rise, saltwater intrusion, coastal erosion, and increased intensity of extreme weather events.

Collectively, these impacts are increasing water, land and food insecurity, undermining livelihoods and economic growth by hitting key economic sectors, such as tourism, fisheries and agriculture, and straining land and coastal infrastructure. Both internal and external mobility pressures are also being exacerbated as result of climatic impacts, with potential risks that need to be carefully considered and managed. Rising sea level and coastal erosion have huge implications on land usability and habitability.

[5] Working Group reports to the IPCC Sixth Assessment Report

[6] The State of the Global Climate 2021 Report

[7] Precipitation projections in the Pacific, are uncertain, which is largely related to our limited understanding of and ability to project large-scale climate drives such as the South Pacific Convergence Zone (SPCZ) or the ENSO circulation. Lack of observational data and limitations in downscaling climate data appropriately further complicate precipitation projections of Pacific island nations (Pringle, 2018 ; Iese et al, 2021 ; IPCC, 2022, 15).

[8] Though the effects of droughts are contingent on other factors, including geophysical characteristics, El Niño-Southern Oscillation (ENSO), and Interdecadal Pacific Oscillation (IPO)

[9] PACCSAP 2014. Sea level rise. CSIRO, Australian Aid, Australian Bureau of Meteorology

These effects are likely to seriously impact the security of almost every Pacific Islander and are putting increasing pressure on social, traditional and government institutions at the community, national, and regional levels. Understanding the social and political dimensions of climate change is key to better address climate-related security risks.

This section presents five key climate-related security 'pathways' for the Pacific. Each pathway focuses on a set of specific interactions and explains how climate change can contribute to more social and political instability and insecurity.

The five pathways presented below are intended to illustrate the dynamism in how climate, environmental, socio-economic, and political factors interact to potentially increase social and political insecurity and conflict risks.

It is important to highlight that climate impacts will almost certainly intensify over time and interact with other important political, economic, social and cultural trends in an ever-changing geopolitical context with various and varying effects on societies and states.

As a result, these pathways should not be considered static. They are also broadly applicable across the region, though when and how, and to what degree, they manifest at the country level depends on context specific factors.

Lastly, it is important to clarify that the following pathways do not purport to prescribe national priorities. Rather, they intend to help identify how climate insecurity manifests across the region so countries can identify further pathways and priorities themselves.

Users can also look to these pathways as a launch point from which countries can begin to identify potential signs of climate insecurity.

PATHWAY 1: Climate Change challenges livelihoods and the blue economy

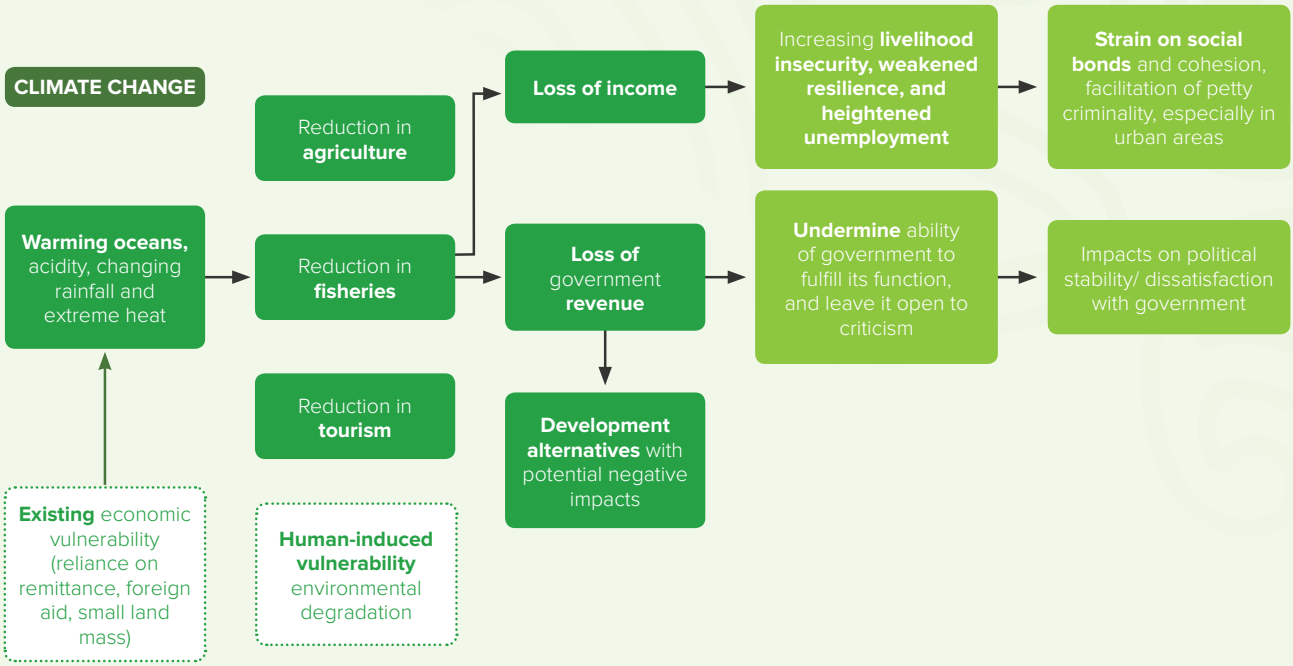

FIGURE 1: Illustration of pathway "Climate change challenges livelihoods and the blue economy"

Forum Members already face significant economic challenges. These include small markets, geographic remoteness, subsequent high import and transportation costs, low formal sector opportunities and high informal sector participation, high unemployment, and reliance on foreign aid.

Climate risks threaten to further exacerbate some of these issues. Many sectors will be affected, but fisheries, including commercial and subsistence, agriculture and tourism will be among the most impacted across the region[10].

Fisheries are central to the economies of many Forum Members, specifically to low-lying atoll nations. Larger volcanic countries, like Fiji and Papua New Guinea (PNG), have more diversified economies beyond fisheries, including resource extraction and tourism.

Risks for commercial fisheries include warming seas and increasing ocean acidification, which could force fish stocks out of many Forum Members' Exclusive Economic Zones (EEZs), especially under high emission scenarios. This in turn risks the reduction of vital license fee income on which some Forum Member countries rely. Associated industries, such as canneries, which provide formal sector jobs, are also threatened.

Warming seas and acidification, coastal erosion, storms, and some human activities degrade marine ecosystems and reduce biodiversity. Agriculture is threatened by increased heat, shifting rainfall patterns, drought, saltwater intrusion from storm surges and sea-level rise, all of which coalesce to reduce yields, livelihoods, and food security.

Tourism is a generally underdeveloped industry across many Forum Member countries, but it is seen as a possible growth sector. This potential could be stunted by climate risks with coastal erosion threatening to shift pristine beaches and rising sea level to submerge heritage sites, among other climate risks.

Biodiversity loss affects the natural beauty that attracts income-generating tourism and disasters challenge the viability of business for many operators. In addition, increased disasters and extreme weather events can divert tourists' interests to other destinations that are considered safer. These risks may reduce government revenue and individual livelihoods.

For many governments, revenue reductions resulting from longer-term impacts combined with high costs of addressing already present climate impacts undermine already overburdened public service delivery, making equitable development harder to achieve. As a result, governments will feel more pressure to find alternative income streams and diversify their economies.

This could include developing alternatives that bring with them their own social and environmental risks, such as expanding mining, opening protected marine areas for fishing, or seeking riskier investment opportunities. Since some of these risks come with transboundary dimensions, they can strain regional cohesion and cooperation.

Climate impacts affect fisheries and agricultural activities with implications for Pacific communities' livelihoods. Vulnerable groups, including women, youth, urban youth, and remote communities are disproportionately affected. For these groups, livelihood insecurity will also often overlap with water and food insecurity, which further increases pressure on communities and individuals.

Youth are especially affected by unemployment and underemployment with some differences across Pacific countries. In conjunction with other factors, such as limited educational opportunities, weak public services, and high inequality, this unemployment and underemployment could lead to grievances building among an increasingly large segment of the population.

This has had knock-on effects especially for urban youth, who sometimes develop negative coping mechanisms like turning to substance abuse or criminality, which can lead to negative mental health effects in the medium- and long-term. This reality has some precedent in the region as unemployed male youth can succumb to gang behavior and criminal violence. This is augmented by the fact that traditional roles of chiefs or family structures may be absent or be less adhered to in urban areas, ultimately undermining some of the positive social forces in their lives.

Several social and security implications arise from these pressures. In general, social cohesion is eroding at the community level under the weight of increased livelihood pressure and overlapping food and water insecurity. Social norms, in particular norms around collectivism and sharing, common across the Pacific are weakening as families increasingly fend for themselves under compounding environmental, social, and economic pressures.

[10] See Figure 1

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This also manifests through rising petty criminality across PICs as well as in increased domestic violence. Increases are particularly prevalent in urban areas, but rural and remote locations are also affected. However, closely knit family groups tend to reduce these incidents.

The implications from loss of livelihoods also affect state-society relationships. As pressures on livelihoods grow, the failure to provide its basic functions in an environment of increasing poverty and inequality can undermine state-society relationships and also increase grievances and democratic alienation. Urban communities are most sensitive to this risk, especially those in informal settlements. Protests against governments due to a lack of political, economic, and social change have occurred in various countries throughout the region, foreshadowing scenarios which may only intensify in the future as a result of climate change.

PATHWAY 1 Key Insights and Challenges

- Climate effects on subsistence economies will directly impact incomes of an estimated 75 percent or more Pacific Islanders. In some remote communities, the risk could rise to 100 percent.

- Commercial fisheries are increasingly under strain, which are a major revenue source for governments. All Pacific Island Countries and Territories (PICT) could see reduced stocks, though some are likely to be more affected than others. For example, RMI could see 90 percent fall in revenues by the end of the century under high emissions scenarios.

- Coastal fisheries are under pressure, which many Pacific Islanders depend on for sustenance and livelihoods. Reefs, in particular, are under threat, which has important implications for biodiversity. Stark reductions are already observed in some countries. In Samoa, live coral reef cover around the main island of Upolu was found to be below 1 percent cover at 50 percent of sites explored. Two years previous, this coral reef cover was below 10 percent at 78 percent of sites explored.

- The tourism sector is undermined from natural disasters across the region and this is threatening a possible income stream that showed promise prior to the COVID-19 pandemic. In Tonga, even prior to the Hunga-Tonga volcanic eruption and tsunami, sea-level rise had already damaged heritage sites and impacted infrastructure, which affected tourism revenues and economic growth prospects.

- Youth underemployment and lack of future prospects remains a significant challenge. Regionally, 23 percent of the population is unemployed, which is significantly higher than the global average of 12.6 percent. This figure is even higher in the Solomon Islands at 40 percent, RMI at 63 percent, and PNG at 68 percent. High rates of unemployment and a lack of perceived future improvement have put pressure on youth, especially in urban areas, which has led to reported rises in substance abuse and petty criminality.

- Norms that guide social life and that are integral for conflict mitigation, such as those around communal living, family and community relations, and community

leadership structures, are increasingly under pressure. In Fiji, Cook Islands, PNG, Samoa, Vanuatu, Federated States of Micronesia (FSM), and Solomon Islands communities reported feeling these norms, and, by extension, social cohesion, are being eroded due to pressures from loss of livelihoods among other climate induced factors.

- Though there has been marked improvements in gender equality across the Pacific, in particular through regional and national initiatives and policies declaring gender equality as a priority, challenges still remain. Traditional gender norms often perpetuate inequalities and women are still largely absent in decision making. In business and government sectors in particular, women continue to suffer disproportionately at the hands of climate change.

- Individuals are becoming increasingly stressed about providing with less, which is leading to increased instances of domestic violence.

- Extended families are increasingly in dispute over the distribution of resources. Migrants who stay with them also express higher feelings of guilt given resource constraints, especially if they struggle to find work to contribute themselves.

- As quality of life and well-being decreases, Pacific Islanders will expect the government to ameliorate poor conditions. If government fails to act Pacific Islanders may become disenfranchised. This disenfranchisement will only worsen if the government is seen as benefiting through corruption, via development, infrastructure, or material wealth gleaned from their land as high value exports, while fewer people see improvements to their livelihoods. A high proportion of people already view both government and business corruption as a serious problem. Over 50 percent of respondents in a Transparency International survey of 10,000 people across the region believed corruption will worsen.

- Governments are keen to diversify their revenue streams, but they need to be cautious in their chosen means so not to undermine ecological stewardship or regional cohesion. There has been public opposition to some of these activities. For example, increased logging in the Solomon Islands contributed to protests in 2021. Regionally, disagreement on these activities is expressed in regional and international public fora, openly showcasing rare discord between PICT.

PATHWAY 2: Climate Change threatens land availability and usability, putting pressures on food, water and health security

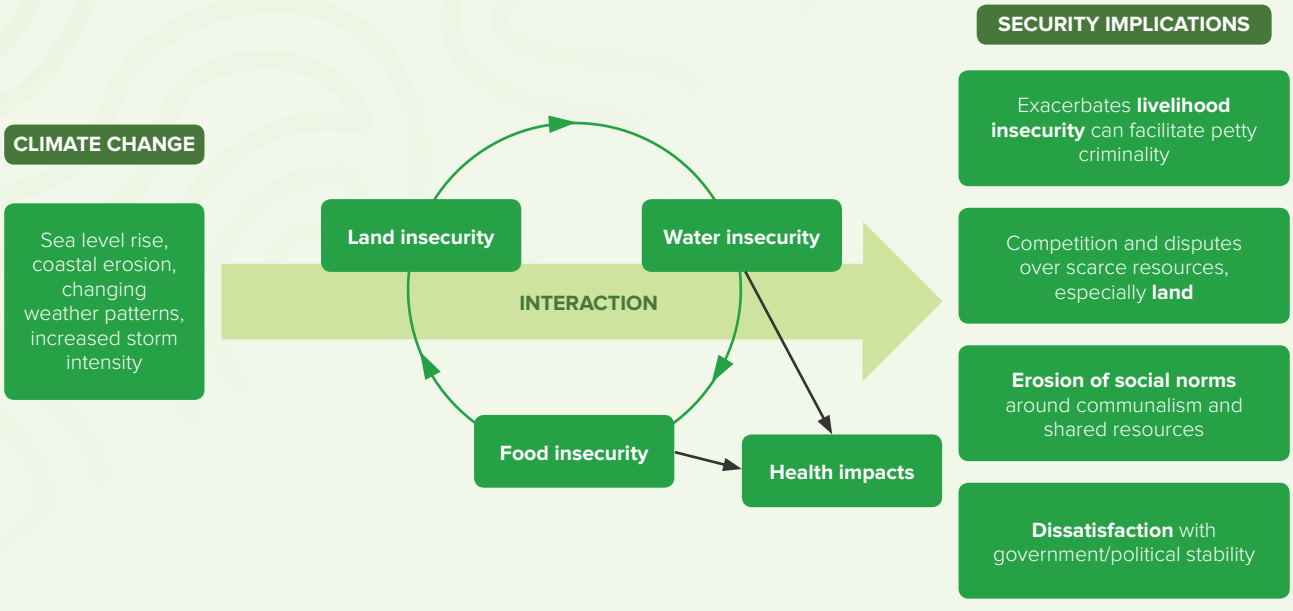

FIGURE 2: Illustration of pathway "Climate change threatens land availability and usability, putting pressures on food, water and health security"

© Fakatokaga Namoto, Tuvalu.

Sea-level rise, coastal erosion, and extreme weather events, such as storm surges, droughts, and flooding, are impacting the availability and usability of land across the Pacific. These risks interact with pre-existing land pressures including continued population growth, increased rates of urbanisation and development, and insufficient urban planning. Both climate risks and human-induced trends, such as population growth and urbanisation, will continue and compound into the future and, as a result, reinforce exposure and vulnerability[11].

The degree of possible land loss driven by climate change is varied, but the countries that are atoll states are most impacted. In addition to the threat of permanent inundation in the long-term, the more immediate concern is temporary but consistent episodes of flooding.

This is caused by the confluence of sea-level rise, coastal erosion, storm surges and high tides, all of which led to temporary, but devasting, inundation. Repeat episodes can erode the quality of soil and water systems and effectively make land unliveable for inhabitants, as livelihood, food and water insecurity increases.

Larger volcanic countries, such as Fiji, Vanuatu, Solomon Islands, and PNG, face similar risks as these atoll states as many of their largest cities, towns and developed areas are located along coastlines, on reclaimed land, or on rivers. Even well before permanent inundation, tensions over access to, and availability of, land will increase. The loss of usable land will have severe impacts on food and water insecurity and lead to subsequent health and cultural implications.

Tensions over land are already increasing. Perceived misuse and unfair access over limited shared resources can lead to inter-community and inter-familial disputes. This can have many significant implications for social cohesion given the primacy of family in social life. For example, given that ownership of islands or land-areas may be dominated by a small number of extended family groups, social discord within them can strain social cohesion of the entire community.

Tensions are also rising between family groups, especially in instances of migration, as land is shared with extended families. Mobility results from a range of drivers, including sudden onset events and slow onset processes, but both can contribute to increasingly constrained resources. Remote areas face different challenges in this regard and

[11] See Figure 2

the likelihood of this tension depends on the size of islands with atoll islands more constrained than others.

Urban areas are particularly affected by this pathway given the rapid increases in population density. Urban areas often lack habitable land, which creates conflicts between community members who move there and local landowners. Poorer groups are especially vulnerable to tensions since many live in informal settlements that can occupy customary or state lands.

This leads to tensions with customary landowners, or even with other migrant groups, on limited state-owned lands. Violent tensions between urban customary landowners and migrant communities are generally rare across the Pacific. However, instances of violence have occurred before and could reignite again.

Land governance plays an important part in shaping these dynamics, especially in the ways state and customary land systems interact and overlap. Their interaction has important implications for adaptation since the state must manage traditional tenure rights while simultaneously considering national needs. Additionally, governments need to use land for adaption carefully since certain interventions can aggravate climate risks further.

Efforts to reclaim land can provide some relief for these urban spaces, but, if done incorrectly, they can contribute to ecological degradation. For example, dredging and sea walls can lead to more coastal erosion.

Land loss overlaps with, and worsens, food and water insecurity. As mentioned, coastal erosion due to sea level rise more easily facilitates sea water inland, increasing salinity of soil and fresh water. This combines with other climate factors, such as rising temperatures and changing rainfall patterns which can reduce agricultural yields and reduce fresh water recharge. Together these factors worsen food and water insecurity.

Exacerbated food and water insecurity will, in turn, increase health risks. Increased food insecurity translates into increased reliance on food imports. Often these imports are high in calories, but low in nutrients, leading to malnutrition and non-communicable diseases (NCDs). Lacking access to plentiful and safe drinking water also facilitates the spread of water-borne illnesses and makes sanitation more difficult further compounding health risks.

The loss of land from total inundation or loss of land usability also has implications for identity. Land is intrinsically tied to the self for Pacific Islanders and customs, norms, rituals, and traditions are embedded within that land and its food and water systems.

While efforts are already being undertaken, with climate impacts affecting land availability and its usability there is an increased need to work collectively to avoid the potential loss of cultural practices.

Together, land, food, and water insecurity can increase pressure to the point where existing cooperative norms break down with effects on social cohesion. The increasing challenges and tensions around land, water, and food have the potential to escalate into larger scale insecurity.

PATHWAY 2 Key Insights and Challenges

- The vast majority of Pacific Islanders live along bodies of water, which increases their exposure to sea-level rise. As of today, excluding PNG, 97 percent of Pacific Islanders live within 10km of the coast, (this reduces to about 50 percent when accounting for PNG), 90 percent live within 5km of the ocean, and 30 percent live within 1km of the coast. For Tokelau and Tuvalu, these figures can reach 100 percent.

- Many Pacific Islanders perceive an increasing loss of land. In Nauru “one third of households” experienced sea-level rise during in the decade leading up to 2016. The rates are even higher in atoll states like Tuvalu and Kiribati at 72 percent and 68 percent, respectively.

- Growing competition over land security can facilitate or exacerbate tensions between those who own land and those who “informally” settle on it. How land is managed and controlled often plays an important role in these dynamics. The vast majority of land in the region, between 80-90 percent on average, is customarily held, offering both opportunities and barriers for management. For example, customary land gives families access to shelter, sustenance, wealth, and history/identity, but this land can also limit options available for disaster displacement or community relocation in extreme scenarios.

- Tensions over land scarcity are rising, especially within families. Family units may choose to use land in a certain manner without regard for other family members. In response to land availability or usability pressures, chiefs who often have overarching authorities, may use land in a way in which all family members may not explicitly agree or support. Depending on the system, customary kinship members may be obligated to honour chiefs based on social practice. This is more likely to occur in systems where chiefs retain considerable power, such as in Samoa, and in remote communities.

- In response to land loss, individuals and governments have increasingly turned to land reclamation activities. However, land reclamation has key limitations and, if done improperly, can create environmental and conflict risks. New land can lead to new conflicts between governments and local communities over ownership or use.

- Food insecurity continues to intensify across the Pacific due to climatic and other natural disasters, population growth, urbanisation, and poor economic conditions.

- Food imports, in response to climate stress, are contributing to vulnerability due to increased negative health impacts and the potential risks associated with volatility in food supply and cost. 27 percent of the food consumed in Vanuatu is imported, while import rates are as high as 91 percent in RMI. Lower income groups are especially impacted, which means food security may become determined by wealth to a greater extent than ever before. Given that approximately 30 percent of all Pacific Islanders live in poverty rate, many people may find themselves unable to afford food during price elevations.

- Water insecurity remains a key challenge across the region. Water stress especially affects atoll states who are forced to rely almost exclusively on rainwater catchment systems. Currently, clean water infrastructure continues to be lacking as only approximately 20 percent of people having access to piped water across the region and these figures disproportionately affect low-income groups.

- Land governance issues, in particular balancing customary landowner rights with national needs and priorities, could complicate various climate security aspects, like disaster response and climate change adaption. For example, in the Solomon Islands, customary ownership mandates that the landowner also owns freshwater resources found on those lands, such as rivers, streams, or water tables. With increased recognition of the importance of access to fresh water, landowners are becoming more vigilant about claiming that these water sources reside on their land. Though this is within their right, it can also pose challenges for government who are needing to provide water for a growing population, especially in urban areas. Similar pressures exist in Tuvalu, Kiribati and RMI.

- Economic activities and urban development, though integral for national development, can aggravate land issues, including availability. According to the latest data available, in 2018, agriculture accounts for an average of 14 percent of all land use throughout the Pacific, with variations as low as 4.2 percent in Solomon Islands and as high as 60 percent in Tuvalu. Infrastructure, in the form of causeways, airports, ports, and landfills also utilize a considerable amount of land area. Furthermore, logging, mining, and tourism in select countries such as the Solomon Islands, PNG and Fiji, occupy large tracks of land and in some cases contribute to further land reduction due to related environmental degradation.

- Land loss is not only experienced physically, through reduction in availability or usability, but also culturally. For example, in the Cook Islands and Tonga, climate-induced land loss has strong cultural dimensions where some burial grounds on family land have been eroded due to seasonal storm surges.

- Sea-level rise, coastal erosion, and intrusion of water cause considerable damage to electricity power lines, water utility pipes, and other important infrastructure.

PATHWAY 3: Climate risks exacerbate disasters and erode the resilience of vulnerable groups and governments

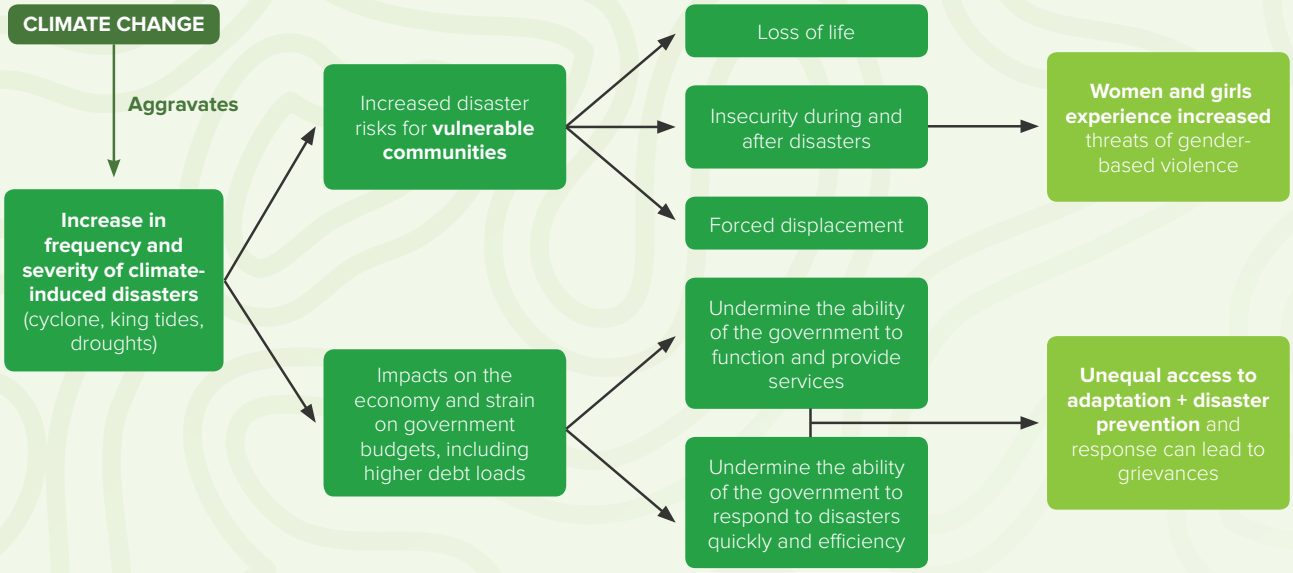

FIGURE 3: Illustration of pathway "climate risks exacerbate disasters and erode the resilience of the vulnerable and the government"

The Pacific Islands region is one of the most exposed to climate-induced disasters, including tropical cyclones, flooding, and droughts. Projections around frequency and intensity are hard to make with certainty.

Yet, historical trends indicate a decrease in frequency but an increase in intensity for some climate risks, like tropical cyclones, which is likely to continue. Regardless, impacts will worsen in the future with implications for the physical well-being of Pacific Islanders, including threats to lives, well-being, assets, and economies[12].

Exposure to disasters comes from a mix of geographic (e.g., elevation, seismology, location on ring of fire) and human-induced factors, (e.g., settlement, industry, and infrastructure location), including environmental degradation. The latter can be induced by poor economic practices, like illegal logging, which contributes to flash floods during torrent rains, and wastewater dumping from extractives, which breaks down corals and facilitates more intrusive coastal erosion.

This could even include individual attempts to reinforce against disasters, like lagoon soil dredging for sea wall defences, that actually threatens to unintentionally exacerbate these disasters.

Disasters can directly impact the security of individuals and communities:

- Individuals suffer threats to life, which disproportionately affect women and those who are dependent on others, such as children and people with disabilities.
- Individuals and communities can see property and livelihoods destroyed during disasters with significant consequences for food, water, and health security. That can overlap with pre-existing resource constraints, putting more pressure on individuals and families.
- During, and after, disasters, individuals and communities can experience higher insecurity as security services are often overwhelmed. Women and girls are especially affected, their insecurity can include increased rates of gender-based violence during disaster periods. Such violence manifests not just in the home, but also in disaster evacuation centres.
- Displacement undermines the resilience of those forced to move and puts pressure on communities or families who receive the displaced people because resources may already be overextended.

[12] See Figure 3

While disasters impact many in the region, low-income communities are especially vulnerable. Poorer communities are often found in hazard-prone locations or remote areas. This means the community may lack access to basic services, including health services, which leave them susceptible to climate-borne diseases, and will often be harder to reach during and after disasters.

Lack of resources and susceptibility to disasters mean these communities often experience repeated exposure to disaster events, which often leaves them without the means to recover. This creates a poverty-disaster trap which limits the ability for individuals and communities to build resilience.

Disasters also affect governments in important ways. The financial cost of disasters is putting considerable pressure on government budgets. Damage to vital infrastructure, like information and communications technology (ICT), water, and energy utility systems, social infrastructure, like schools and hospitals, core public infrastructure, like roads and transportation networks, and private infrastructure, like property, increases financial stress and significantly disrupts the ability of service providers to continue operations.

Furthermore, damages to economic infrastructure, including agriculture and industry, can drastically reduce public revenue streams and livelihoods. Disasters can also lead to higher debt burdens, as countries need to finance more disaster preparedness or recovery, or weaken financial system stability, especially in scenarios where widespread loss and damages could force a run on financial institutions.

From a security perspective, the inability of governments to prepare for, respond to, and recover from disasters can also have wider impacts on political stability and state-society relationships. In general, the economic burden of disasters and loss of revenue can lead to situations where governments must make trade-offs between social investment and disaster preparedness and recovery.

If these trade-offs affect those already disadvantaged, in real or perceived terms, the feeling of being forgotten can be fuel grievances. Furthermore, in disaster responses, instances of perceived corruption or exclusion can deepen resentment for the government. If this occurs in a politically unstable situation where trust in the government is low or if certain population groups already feel marginalised or excluded, risks of instability will rise.

PATHWAY 3 Key Insights and Challenges

- Pacific Island states are some of the most vulnerable in the world to climate-induced disasters, including extreme weather events, and the region often ranks highest for the number of people affected by disasters per capita. From 1950 – 2011, 9.2 million people were directly affected by climate-induced disasters.

- The economic losses and costs associated with disaster risks are high. Annual economic losses due to climate-induced disasters in Pacific Small Island Developing States (SIDS) are estimated to be USD $1.075 billion or 5 percent of the combined gross domestic product (GDP) of Pacific SIDS. Losses are especially high for Palau, Tonga, and Vanuatu with average annual losses (AAL) valued at 11.98 percent, 19.20 percent and 20.67 percent of national GDP, respectively.

- Debt burdens are increasing across the Pacific, made worse by the confluence of the COVID-19 pandemic, declining GDP and the high cost of disasters. Average debt-to-GDP ratio for Pacific Island states rose from 32.9 percent in 2019, one year before the pandemic, to 42.2 percent in 2021. Fiji, Vanuatu and Palau all have debt-to-GDP ratios greater than 70 percent. High levels of debt with reduced capital to service them makes spending on pressing issues, like equitable development, more difficult and exposes countries to external financial shocks.

- Rural and urban areas are both at risk though for different reasons. Following a disaster, it may be more difficult to deliver critical provisions to communities in remote areas, which only exacerbating their vulnerability. Urban communities are concentrated along coasts, which puts thousands of people at risk with those in informal settlements being the most vulnerable.

- Urban poor communities are often under-resourced and under-protected from disaster scenarios. Many inhabit weaker structures built in hazard-prone areas with limited or inadequate water and electricity provision and poor sanitation facilities. In Vanuatu, 92 percent of respondents that participated in

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a displacement survey stated having only one of these three services available even before a disaster.

- Disaster displacement is a major challenge for poor population groups who are often subject to repeat displacement. In a survey conducted in Port Vila, 77.2 percent of survey respondents stated they had been displaced more than once, and 20.5 percent had been displaced three times or more. In Fiji, in Ba Town, 94 percent of displaced survey respondents stated having been displaced more than three times.

- Women and girls are most susceptible to bodily harm and gender-based violence during, and after, disasters. During the 2014 flooding in the Solomon Islands, 96 percent of the deaths were women. Following the Gizo Tsunami, incidents of rape were reported in evacuation centres. In Fiji, women living in relief centres reported being raped.

- Persons with disabilities and children are significantly impacted by disaster events, and are themselves more vulnerable to insecurity in the immediate aftermath of disasters than other groups. For example, children may be separated from their parents and persons with disabilities may be without their usual aids or services in post disaster periods. During Cyclone Pam, a higher degree of cyclone-related injuries was associated to people with disabilities, 5.8 percent of people with disabilities sustained injuries versus 2.4 percent of people without disabilities.

- Women are underrepresented in disaster risk management and planning, as well as security provision, at all levels of society. Just 3 of 18 Forum Member countries have women in top jobs managing national disaster response and women often have limited visibility in disaster committees.

- If governments are unable to prepare for, respond to, and recover from disasters effectively and fairly, political stability and state-society relationships will be affected. In some countries, accusations of corruption or favouritism in relief distribution are affecting public opinion and increasing feelings of abandonment, even if distribution is handled by non-governmental entities.

- Working closely with relief partners, such as church groups, non-governmental organisations (NGOs) and regional organisations, helps mitigate some of the challenges governments could face in delivering equitable relief and recovery. Monitoring is needed to ensure equitable distribution otherwise governments risk being implicated in possible mal-practices.

PATHWAY 4: Climate change affects mobility trends and can exacerbate risks[13]

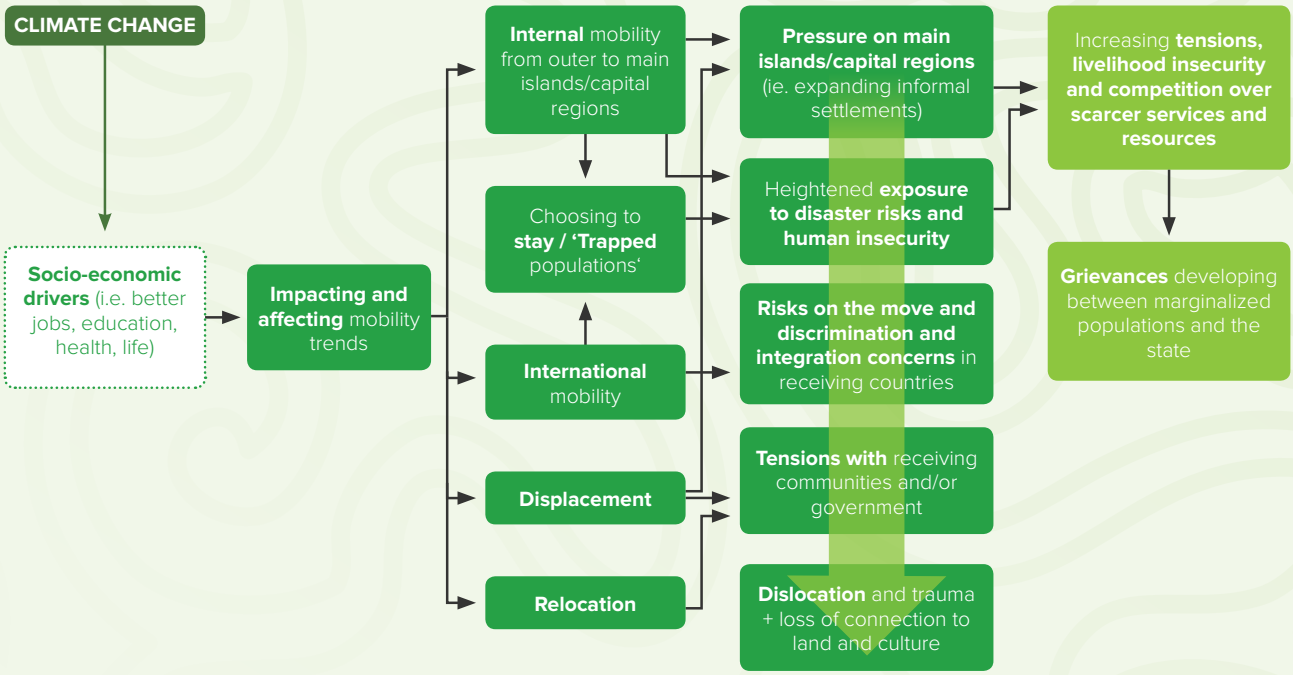

FIGURE 4: Illustration of pathway "Climate change affects mobility trends and can exacerbate risks"

Mobility is a long occurring phenomenon in the Pacific Islands. Socioeconomic factors have typically influenced why people move, including access to education, employment, and better health services. Up to this point, climate impacts have not been the leading factor for migration, but as climate change increasingly impacts livelihood, food, water, health and land security, it will likely become a more prominent factor in decision making and increase mobility rates among those who can afford to move. Conversely, climate change impacts will also increase the number of people who seek to move, but are unable given their insufficient resources. Therefore, climate change will increase the already existing mobility trends[14].

Internal migration is the primary mode of mobility. This has largely comprised of rural-to-urban migration for better livelihood opportunities and access to education, health, and other public services. Rapid urbanisation and the resulting population density, combined with often inadequate land management in urban areas, is overextending already scarce land, water and food resources.

As a result, tensions between individuals, communities, and governments are rising. Informal settlers, in particular, face increased exposure to climate risks since they are often forced to live in under-developed and climate exposed areas. In many countries, governments are attempting to incentivise urban-to-rural mobility through development practices in rural areas. However, rural communities continue to suffer from a variety of issues, including population loss and brain drain.

International mobility is a less worn path for most PICT and will often be motivated by historical or familial ties to other countries. International migration can also provide relief to overcrowded cities and improve the resilience of those who remain by generating personal financial benefits and remittances from those that migrate over the short-term (e.g., labour schemes or education visas) or long-term (residences in other countries).

[13] This section identifies the main climate security risks in the Pacific region coming from mobility issues, but it is not meant to provide an exhaustive analysis. A dedicated regional framework on mobility is currently being developed (as per Feb '23), under the The Pacific Climate Change Migration and Human Security Programme (PCCMHS), delivered through a partnership between the International Organisation for Migration (IOM), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), International Labour Organization (ILO), and Office of the High Commissioner of Human Rights (UNOHCHR), as well as the Platform on Disaster Displacement (PDD) and Pacific Islands Forum Secretariat (PIFS). For more information : https://environmentalmigration.iom.int/pccmhs-enhancing-protection-and-empowerment-migrants-and-communities-affected-climate-change-and-disasters-pacific-region

[14] See Figure 4

If used well, remittances can support adaptation necessary to counteract climate impacts in home countries at the household level. However, the cost of migration is high, which limits the number of people who can move. As a result, this can widen disparities back home while reinforcing the vulnerability of poorer communities.

Migrants may also face challenges integrating into receiving countries due to racism and discrimination or to an inability to find work or access services. Feelings of loneliness and isolation can also result in significant mental health issues among other challenges.

Internal disaster displacement is a widespread phenomenon in the region. Tensions in receiving communities, especially when displacement is longer-term, can lead to social problems, but also put displaced communities at risk of material insecurity.

Relocation pressure also increases as land stress builds and weather-induced disasters intensify, effectively reducing habitability. Relocation can be prone to conflict and so it is essential to manage it with effective planning and consultation to ensure sustainability. Proximity to customary lands or familiarity with communities and resources can help mitigate issues. However, without appropriate management, tensions can build between stakeholder communities and even between relocated communities and governments.

Voluntary or forced migration comes with significant challenges and risks. Cultural and spiritual attachments to 'place' are often considered an integral component of the self. By being removed from the physical, socio-cultural, spiritual, and ancestral connections to land, Pacific Islanders' identity, wellbeing, community/social networks, and sense of place can be severely impacted.

More broadly, dislocation can also contribute to the erosion of culture and traditions. Both in home and migrant communities. In home communities, dislocation reduces opportunities for knowledge transfer, while in migrant communities, traditional practices and materials may be harder to access. These factors are already having consequences for the preservation of language and cultural knowledge.

Moreover, not all people are able to, or desire to, migrate. Those who cannot move may come from lower-income communities and vulnerable groups, while others may actively choose not to migrate for a multitude of reasons, including, but not limited to, their connection to land, sea, and community and for religious convictions.

If managed appropriately and effectively, migration could be a potential climate change adaptation measure. However, if unplanned and poorly governed, the added pressure of climate change risks could make the short- and/or long-term movement of people a conflict risk multiplier.

PATHWAY 4 Key Insights and Challenges

- Climate change can exacerbate drivers of mobility, such as livelihood, food, and water insecurity. More than 70 percent of households in Kiribati feel that international migration will be a likely adaptation response if agricultural production becomes more difficult or if sea levels rise, which contribute to flooding or worsening saltwater intrusion into food and water systems and affect sanitation systems.

- Most migration is internal to urban areas, which further strains land and water resources, public services, and employment opportunities. On average, 23 percent of the region is urbanised although differences across PICs are stark. Nauru and RMI have 100 percent and 78 percent urbanisation, respectively, while just 13.5 percent of PNG's population live in urban areas. In some parts of the Pacific, urban density exceeds major world cities. Ebeye in RMI has a population density of 40,000 persons/km2 surpassing the urban density of Hong Kong at persons/km2 and Betio in Kiribati has a population density of 15,000 persons/km2 , which is 2.5 times the density of Tokyo, Japan.

- Internal migration to urban areas will result in informal settlement expansion, which already accounts for a large proportion of urban dwellers. Up to 50 percent of the urban population comprises squatter and informal settlements in Melanesia and Micronesia. These settlements are likely to be hot spots for tension and conflict in the future.

- In these urban areas, and in the context of increasing environmental, social, political, and cultural pressures and competition, tensions and issues arise between groups at three main levels: between migrant communities, between migrant and local communities, and between migrants and governments. However, across all levels, the reduction in traditional norms and systems,

including conflict resolution mechanisms, due to the competing systems governing these spaces increases the potential for tensions to escalate into insecurity and conflict.

- Though the majority of migration is internal, many Pacific Islanders permanently or temporarily migrate internationally for a diverse set of reasons, including impacts resulting from climate change. Climate change related migration is expected to grow in the future. A recent UN study on pre-COVID-19 international migration stated that there is an estimated 751,000 Pacific Islanders living outside their country of birth. Of those who have migrated, 310,000 are living in the Pacific Islands region.

- International migration can provide significant benefits. Remittances are an important source of income for many countries and communities. Studies have also shown that those who receive remittances have increased resilience against many climate impacts, like accessing better building materials or purchasing more secure land.

- It is hard to plan for community relocation and it requires extensive consultative processes with all affected community groups to limit potential security risks. Important factors can influence the degree to which a relocation is conflict-prone, including proximity to customary land or whether the community instigated the movement or were forced to move. Those who were involuntarily displaced from customary lands, such as the Manam community in PNG, face the most acute challenges.

- People who move also face a number of challenges and risks. Displacement can come with consequences for mental health given how integral home is to identity. Changes to dietary preferences will also reduce well-being. There are high incidences of NCDs present in migrating populations. Disabled family members are disadvantaged as receiving countries do not allow for reunification of families of people living with disabilities. The financial cost of returning to one's home country is high, as is the social stigma of failing to integrate in countries of destination, meaning the capacities to return to one's home country is limited.

PATHWAY 5: Climate Change urges securing maritime boundaries and sovereignty and could undermine regional stability

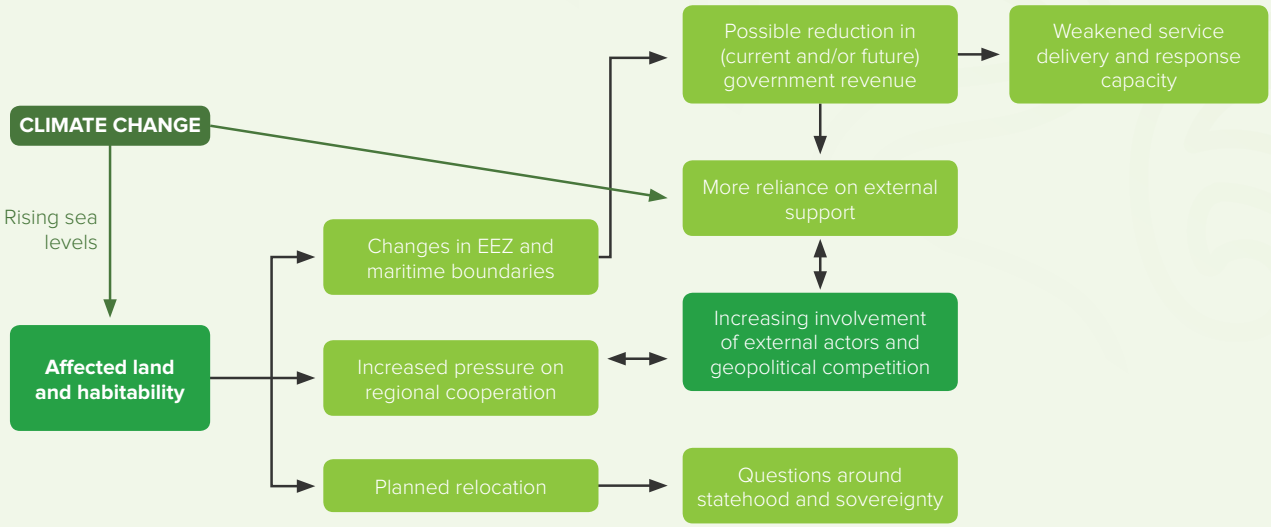

FIGURE 5: Illustration of pathway "Climate change urges securing maritime boundaries and sovereignty, and could undermine regional stability"

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Sea-level rise and more intense extreme weather events threaten the habitability of islands and atolls, especially of low-lying atoll in PICT, and could have implications for the territorial integrity of all Pacific States. In addition, if the habitability of large parts or the whole of PICT is impacted, alternatives for long-term adaptation will have to be considered. Some of these alternatives, such as large-scale community relocation, may pose new and unanswered questions around sovereignty and identity[15].

Sea-level rise threatens to inundate land on islands and atolls across the Pacific. For low-lying atoll states, this threat is even more severe given their limited overall landmass and lower elevation. The threat to land is posed by a confluence of climate impacts, including sea-level rise, coastal erosion, and storms, which interact and reinforce one another. This land loss has already occurred in various island areas in the Solomon Islands and Nauru and in low-lying atoll states, like Kiribati.

Under current interpretations of international law up to this point, maritime zones have been demarcated based on the low coastal water line, but it has been suggested these baselines may shift as result of land loss induced by sea-level rise. However, to address this risk, PICT have proactively taken assertive and novel steps to clarify their position on the issue through calls of actions and declarations.

[15] See Figure 5

Notable steps and actions were taken in 2019, but most notably during the PIF leaders meeting in 2021, when PIF leaders issued the 'Declaration on Preserving Maritime Zones in the Face of Climate Change-Related Sea-Level Rise' (2021 Declaration). The 2021 Declaration received a high level of acceptance and positive responses. It supports the interpretation that once a Forum Member's maritime zones are delineated in accordance with the 1982 United Nations Convention on the Law of the Sea (UNCLOS) that Member's maritime zones could not be challenged or reduced as a result of sea-level rise and other climate impacts.

Collectively, PICT have begun to fix the geographic location of baselines according current to coordinates and submit them without contest and in accordance with standard protocol to UNCLOS and the UN Division for Ocean Affairs and the Law of the Sea.

These efforts have been ongoing for the past two decades, but continue today. Securing maritime boundaries and zones remains a compelling and urgent priority for all Pacific countries, which means even stronger regional and global cooperation is necessary on these matters.

Though permanent inundation remains an acute threat, particularly for atoll states, land is likely to be uninhabitable well before permanent inundation would occur. According to some RPCs, reoccurring

and severe inundation caused by the confluence of climate risks will affect livelihoods, food, and water security to such a degree that some land will be uninhabitable by as early as 2050.

That reality means some PICT, and low-lying atoll states in particular, must grapple with the possibility of considering alternative adaptation strategies, including community relocation as a last-resort adaptation measure. Community relocation is a challenging process with significant implications for the security and well-being of Pacific Islanders those who migrate and also for those in communities who receive migrants, given the centrality of land to livelihood, culture, custom, identity and spirituality. Extensive consultative and inclusive processes and buy-in is required from all national and international stakeholders to ensure sustainability and the well-being of all those affected.

Should relocation processes be undertaken, this will raise complicated questions on statehood and identity and this needs to be addressed by PICT and the wider international community. Statehood relies on conventional international law, which outlines specific definitional criteria, including populations being governed on terrestrial land under a sovereign government's control.

However, The Blue Pacific, is proactively dealing with this issue and recognises the need for the region to unpack these issues further[16]. It also continues to be actively engaged in the work of the International Law Commission, which is currently studying the topic of sea-level rise in relation to international law in its current work programme.

In addition, national responses are being developed. For example, Tuvalu has proposed a "digital citizenship", which might effectively act as a "citizenship registry" beyond a time Tuvalu has habitable territory should the impacts of climate change continue to intensify.

Additional risks may also emerge from the growing geopolitical contest in the Pacific, which is important to consider given the reliance many PICT have on international partners. Indeed, as the effects of climate change intensify, PICT will need more external resources to respond. As geopolitical competition increases, major powers could politicise funding and put PICT in the position of having to balance geopolitical alliances with development finance opportunities. As external actors become more assertive to advance their interests, Pacific efforts to advance climate security through resilience building and adaptation could be compromised. Geopolitical competition and compounding pressures on PICT will make cooperation more challenging.

PATHWAY 5 Key Insights and Challenges

- Land loss from permanent inundation remains an acute risk for some PICT. For example, in the Solomon Islands, Hetaheta and Sogomou Islands lost 62 percent and 55 percent of their islands, respectively, due to sea level induced coastal erosion. Some of the Solomon Islands and islands in Micronesia, like Kale & Rapita Islands, have already disappeared completely. This trend is set to continue. In New Caledonia, studies suggest that up to 30 percent of islands will have between 1 percent – 25 percent of their land submerged if sea level rises by one metre.

- A more immediate concern is the threat of persistent and consistent temporary flooding. This will impact livelihoods and food and water systems, as well as health and safety, and, ultimately, make land uninhabitable. In some countries, such as Tuvalu and other low-lying atolls, this could be a reality in the next 30 years. This phenomenon occurs due to reinforcing and compounding climate risks, including sea-level rise, coastal erosion, king tides, and storm surges. That risk is even higher for low-lying atolls and raised atolls, such as Tokelau, Cook Islands, parts of the FSM, Tuvalu, Kiribati, RMI. Though the region is home to some of the world's smallest countries by landmass, collectively totalling only 550,000km^2, the region's territorial claim covers an area approximately 30,569,000km^2. This is equivalent to the size of Africa.

- As of today, most countries have submitted their boundaries where there were no contesters or need to negotiate and many have reached negotiated settlements with Pacific Island neighbours where boundaries were disputed or unclear.

- Land reclamation is increasingly becoming an option for PICT to combat land loss, especially in low lying atoll states, and

[16] At the time of writing, a regional conference is being organised for 2023 on this specific matter.

alleviate pressure in urban areas. These activities usually imply high investments. Furthermore, land reclamation interventions present their own risks, including environmental risks.

- International relocation has very limited precedent with most having been undertaken during colonial times. Generally, these have had mixed success, with the i-Kiribati Banaban community settled in Rabi, Fiji experiencing continued grievances while Tuvaluans living in Kioa, Fiji feel more settled. The complexity of these processes requires deep thinking and strong inclusive processes and procedures in place, among others, to reduce potential for conflicts in the future.

- Questions around sovereignty following relocation are real and present. There are both historical and contemporary examples showcasing some of the likely trade-offs associated with undertaking such a process. However, under current international law interpretations, initiatives to clarify the issue of statehood and sovereignty as result of climate impacts are ongoing and will likely increase in the near future.

- The region is experiencing increasing interest by larger powers within, and beyond, the region, who are all pledging to focus attention in the area due to its strategic importance. This interest has been experienced in Britain's "Pacific Uplift", Indonesia's "Pacific Elevation", New Zealand's "Pacific Reset", Australia "Pacific Step-up", China's "Belt and Road Initiative" and as "an essential part" of the US's "free and open Indo-Pacific region."

- Collective action is key to address the security implications of climate change, but considering the region's high level of reliance on Official Development Assistance (ODA), Pacific countries can be exposed to external actors' own interests. Per capita ODA is higher in the Pacific than in any other region. When representing ODA as a proportion of national income, 10 Pacific region countries can be found among the 25 countries in the world that have the highest proportion.

- However, PICs have showed strong agency in addressing this circumstance and even utilise these strategic power games to achieve regional goals. Collectively, PICs routinely demand for climate-related security risks to be considered and addressed at the highest levels and they can turn the increased strategic interest into bargaining power.

2.3 Conclusion

The five pathways outlined and discussed in Section 2 showcase some of the security challenges Forum Members face from the impacts of climate change. The threats to livelihoods, social cohesion, governance, health, budgets, culture, and identity, among others, pose significant risks for individual, community, national, and regional stability.

In some cases, these risks are already manifesting into increased social pressure and disputes resulting in the erosion of social norms that guide community life, and, ultimately, pose key questions around a future that seems deeply uncertain for Pacific countries and communities.

If left unexplored and unaddressed, these interactions could cause further social discord, leading to political instability, or even violent conflict, particularly in those states that have a history of conflict and persistent underlying tensions. Understanding and addressing those risks is an essential step to face challenges that are new and complex in nature.

Responding to climate security risks requires thinking outside the box, bringing new players onto the scene, and even reconsidering how traditional responses to security threats have been managed. Concerned stakeholders at different levels, including community leaders, national governments, regional bodies and institutions, and global partners, among others, need to acknowledge the need for this alternative approach and act today in a conflict prevention capacity. Underlying this approach is the necessity to be aware that what the future holds depends on the choices made in the present.

The first step is to build a strong evidence base on which to craft policies, plans, strategies and approaches. Using the pathways explained in Section 2 as a starting point, the Assessment Guide intends to suggest tools and methodologies to do just that.

By utilizing the information from Section 3 - Suggested Practices and Section 4 - Guide for Conducting Climate Security Assessments, users are encouraged to identify their own climate security pathways or tailor the regional pathways presented in Section 2.

SECTION 3

Suggested Practices

The following suggested practices and approaches are intended to support the achievement of Action I (iii) of the Boe Declaration Action Plan and advance a better understanding and contextualisation of the impact that climate change will have on the regional security landscape through its interaction with human security and conflict. These practices are also meant to support relevant stakeholders to better embed climate security considerations in decision-making bodies and into the subsequent assessments, plans, policies and approaches.

The suggested practices are based on regional and global best practices in the field of climate security assessments and they aim to provide ideas and options to guide further actions by relevant stakeholders in the future. They are not meant to be prescriptive or comprehensive, but rather outline the forms of action regional actors, Forum Members, and international partners could be taken to ensure plans, policies, and interventions are more informed by climate security considerations.

PRACTICE 1: Improve climate security knowledge, capacities, communication and programming

In order to address the security implications of climate change, it is important to have a better understanding of the security implications of climate change that is disaggregated across countries, sectors and themes. While there are many risk mitigation activities are already underway, critical knowledge gaps and incomplete data throughout the region on various issues related to climate security still remain.

Better information needs to be accompanied with comprehensive, measured, and cautious communication. It is important to underline the urgency of the risks Pacific Islanders face without reinforcing fatalist and harmful narratives. Communication needs to acknowledge the resilience and agency of Pacific communities.

Reaching a broader set of stakeholders, the society at large, and youth populations especially, requires new approaches to knowledge dissemination, including the use of multimedia given the expanding digital audience.

In order to achieve this form of communication, specific capacities and technical expertise must be developed at local, national, and regional levels. This development is necessary to undertake climate security analyses and to design and implement integrated programming to address the multidimensional and multidisciplinary nature of climate-related security risks and bring together human security, environmental, political, and gender-specific aspects.

Establish a system and process to collect relevant data to advance the analysis of issues touched on in this Assessment Guide.

This can include:

- Complementing the risk analysis with additional resources.
- Reviewing priority actions and exchanges on lessons learned.
- Conducting region-wide scenario building and foresight exercises to further understand risks and to stress-test response measures.

Conduct thorough and comprehensive climate security assessments on different levels.

This can include:

- More country-wide assessments to inform strategy and planning processes on the national level. These analyses can also be used as a starting point for building capacities on the national level and to mainstream climate security action across governments.
- Conducting sectoral and thematic climate security assessments to identify, and to develop, sectoral and thematic-specific responses. These can focus on topics such as energy, tourism, extractives, and foreign aid.

Build specific climate security capacities at the national and regional levels.

This can include:

- Building capacities to undertake climate security assessments and to inform, develop, and implement programming. One key part of this could be a regional training program that pools resources and supports Forum Member countries to ensure regional learning and the exchange of experiences. This is especially important for translating analysis from those assessments into action.
- Working with CROP agencies and other regional institutions to identify gaps and establish capacity building as a prioritisation.

Develop and expand comprehensive communication strategies which can reach a multitude and range of relevant stakeholders.

This can include:

- Incorporating Indigenous knowledge and experiences with new multimedia materials that can be viewed across multiple formats.
- Focusing on capturing national or regional examples of resilience in addressing climate security risks. To do so, consider working with local community organisations, NGOs, and associations, especially church groups, to showcase community-level activities and ensure a wide reach. Where possible and resource feasible, ensure these are captured in shareable content and support its distribution.

PRACTICE 2: Mainstream climate security across policies, frameworks and planning

The multi-sectoral nature of climate-related security risks affecting food, water, livelihood, health, and energy security means different actors are needed to address the risk pathways outlined in Section 2. Therefore, coordination and integrated approaches that operate across sectoral silos are key to addressing climate-related security risks. If coordination is lacking, duplication and misalignment of resource allocation can hinder efficient and effective responses.

In order to avoid duplication and increase efficiency and efficacy in addressing climate-related security risks, climate security should be mainstreamed across policies, frameworks and initiatives where it can add value and contribute to holistic responses to climate insecurity.

Support better coordination for climate security action at the national level, bringing together diverse range of stakeholders with relevant competencies (including climate change, disaster risk management, public finance, security sector, and the climate change community of practice).

This can include:

- Establishing a coordination mechanism for climate security action on the national level. Given climate security is a cross-cutting issue and does not normally have an institutional home, a cross-sectoral coordination structure can be an effective tool to coordinate and motivate action across government.
- Embedding climate security in an already established coordination structure.

Ensure that climate security is mainstreamed across and integrated into key national policies and plans.

This can include:

- Mainstreaming climate security in development plans and strategies, climate-related policies, such as Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), and security-related policies such as national security strategies.
- Establishing a process to assess new policies in their climate security considerations to help identify concrete entry points and to ensure that they contribute to, and do not undermine, resilience against climate-related security risks.

Integrate climate security into current frameworks and the development of key regional frameworks in the future.

This can include:

- Mainstreaming climate security concerns into frameworks such as the FRDP. One approach would be to incorporate pillars based on climate security considerations.
- Ensuring the uptake of climate security considerations in the implementation of the 2050 strategy.
- Solidifying this Assessment Guide as a tool to assist governments in conducting their own climate security assessments across the breadth of the Boe Declaration's strategic areas.
- Mainstreaming climate security in the upcoming Pacific Regional Framework on Climate Mobility.
- Clearly assessing and referencing the linkages between different frameworks, including this Assessment Guide, to ensure alignment on goals and targets.

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Strengthen institutional homes and landing points for climate security on the regional level.

This can include:

- Helping to support climate security integration throughout the region, or within USP, to lead research prioritisation and information dissemination by normalising discussions on climate security within existing regional bodies, such as the PIFS or their programs of work and by establishing focal points within CROP agencies, such as the SPREP, SPC, and FFA.
- Promoting knowledge exchange including exchange through the Pacific Fusion Center.
- Formalising the recently established Pacific Climate Security Network to further enhance knowledge production and dissemination through a dedicated community of practice.

PRACTICE 3: Avoid maladaptation and mitigation through climate-, conflict- and culturally sensitive approaches

Mitigation and adaptation activities are important to mitigate and address the worst effects of climate change. However, if done incorrectly, well-intentioned mitigation and adaptation measures can have negative consequences that are both seen and unseen. To avoid this, responses need to be sensitive to their context and be especially focused on gender, conflict prevention, peacebuilding while also being climate-sensitive in order to not worsen conditions for marginalized groups.

Context specific approaches that consider and harness cultural, historical, political, social, and environmental benefits should be prioritized. Integrated approaches should always be explored and applied. Given the increased perception by citizens of unfair aid distribution, tracking the utilization of funds should also be reinforced to minimize grievances among citizens.

Ensure that considerations accounting for gender, conflict, and climate sensitivity are integrated and addressed in policy and in interventions design and implementation.

This should include:

- Understanding the links between climate change and security in a specific context through dedicated analysis.
- Using local, national, and regional experts on gender and gender-based violence, conflict prevention, peacebuilding, and climate analyses that draw on the respective communities of practice.
- Applying existing tools and methodologies developed regionally and globally on gender, conflict prevention, peacebuilding, and climate.
- Ensuring inclusion of all relevant stakeholders, including those with disabilities, youths, marginalised groups, and private sector actors in different stages of policy and program design and implementation.
- Relying on collected best practices and lessons learned from relevant agencies, including CROP agencies, development partners, UN agencies, international financial institutions, and regional organisations.

Develop integrated, cross-sectoral programs and initiatives that link livelihoods, climate change adaptation, conflict prevention, and peacebuilding aspects in culturally sensitive way aiming to address underlying causes of marginalisation and inequality as core objectives.

Identify effective models of working with customary/community systems in relation to relocation, displacement and adaptation efforts.

This can include:

- Focusing on ensuring maximum inclusiveness and transparency.
- Conducting continuous and comprehensive communication.
- Engaging and empowering of the vulnerable and marginalised groups to more effectively participate in decision-making processes.

SECTION 4

Guide for Conducting Climate Security Assessments

The following section presents the guide Forum Members and regional actors can utilize to identify and better understand climate-related security risks to inform relevant policies, priorities, and interventions. The section comprises of two main parts:

1. Description of the analytical approach that informs and underpins this guide. This includes conceptual foundations, main elements of analysis, methods and tools, and how to identify responses;

2. Guiding questions users can adapt and/or adopt and that can be a starting point when conducting their own climate security assessments.

4.1 Description of Analytical Approach

4.1.1 Conceptual Foundations

This Assessment Guide is based on the concept of human security. Human security is people-centred lens that includes economic, food, health, environmental, personal, community, and political security[17]. The Assessment Guide relies on the definition of security as illustrated in the Boe Declaration and Action Plan.

The Assessment Guide also considers the Organisation for Economic Cooperation and Development's (OECD) definition of instability and fragility as "the combination of exposure to risk and insufficient coping capacity of the state, system, and/or communities to manage, absorb, and mitigate those risks". Political and social instability, (organised) crime, urban violence, terrorism, and violent conflict are different ways in which insecurity manifests.

In the context of the Pacific and low-lying atoll nations, security also takes on an existential dimension given the threat posed to land, governance and identity by rising sea levels. It also considers the global security landscape and, in particular, insecurity stemming from geopolitical tensions and the impact of climate change on maritime borders, fish stocks, and other applicable concerns.

Climate-related risks, including climate-related security risks, are driven by a range of climatic hazards including both slow onset changes, such as rising temperatures, sea-level rise, ocean acidification, saltwater intrusion, coastal erosion, and changes in precipitation patterns, and fast onset events, such as increased intensity of extreme weather events like storms and floods.

These hazards are also referred to as climatic stressors or shocks. The impact of these climate stressors on communities, economic sectors, or geographic areas, including on that of security and peace, is dependent on:

1. its exposure to these hazards and;

2. its vulnerability to adverse impacts of climate change, which can be described as the degree to which geophysical, biological, and socio-economic systems are susceptible to, and require additional capacity to manage, these impacts[18].

[17] For all dimensions and a definition of human security see UNDP (2006) and Adger et al 2014.

[18] This is based on the definition of the IPCC (2018) and the conceptual approach put forward by the UN Climate Security Mechanism (2020).

Climate-related security risks are driven by one or more climatic stressors that have direct and/or indirect impacts on human security and challenge the peace and stability of states and societies. They are systemic risks that emerge through complex interactions between climate change and different social, economic, environmental, demographic, and political factors. These interactions are clustered around a number of impact pathways that articulate and map out those interactions.

The Assessment Guide is meant to provide guidance on how to navigate this complexity and unpack these interactions and pathways to inform suitable response.

4.1.2 Elements of the Assessment Approach

In order to identify specific climate-related security risks in a certain geographic area, it is key to understand:

i. **Climatic changes and their direct impacts *(Climate Change Lens)*:** For example, temperature rise and its impacts on agriculture or flooding and its impact on infrastructure.

ii. **The peace and security context *(Peace and Security Lens)*:** This includes the history and state of economic, social, and political (in)stability, past and ongoing security risks and conflict dynamics, the drivers and causes of insecurity, and the main actors that have an impact on security and stability.

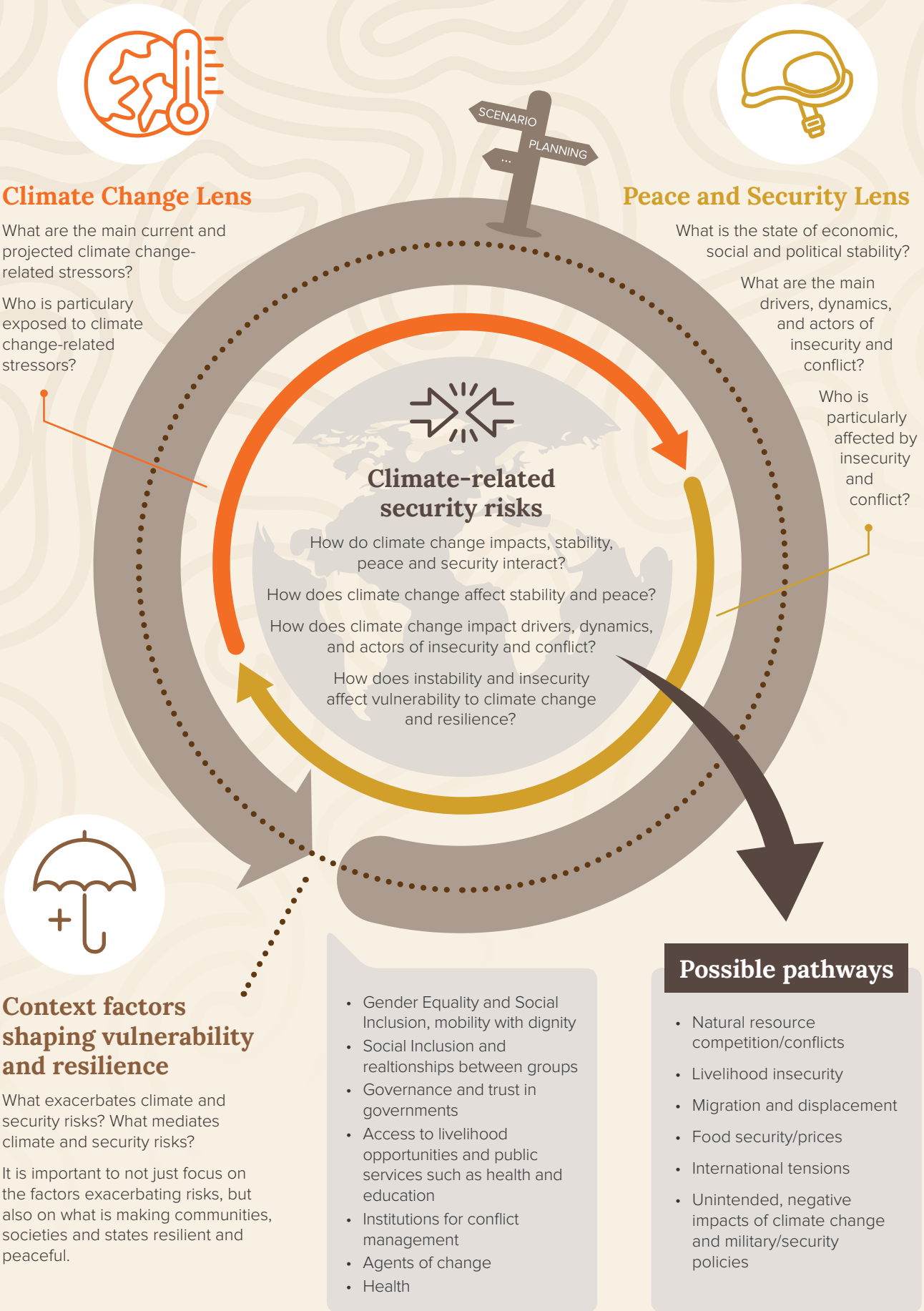
iii. **The interactions between climate change, security and peace *(Climate-related security risks and possible pathways)*:**

- Link certain climatic impacts with specific security risks and conflicts. For example, linking how more pressure on natural resources, such as land and water, can increase competition and tensions over access and availability of these resources.
- Show how security risks and conflicts affect resilience and climate change. For example, showing how insecurity can contribute to increased environmental degradation, which, in turn, can undermine the resilience of local communities.

iv. **Important context factors shaping vulnerability and resilience to climate and security risks *(Context factors shaping vulnerability and resilience)*:** This includes gender equality and social inclusion as cross-cutting topics. These context factors normally play a decisive role in all pathways and should be at the centre of the analysis.

It is important to consider that parts of these elements might already have been studied through existing analysis. For example, climate impact assessments analysis might already provide necessary information for the climate lens. Peace, conflict and security assessments might already provide a good overview of the existing dynamics of insecurity. Vulnerability and resilience, gender, and/or governance assessments might provide users with in-depth information on the context factors shaping vulnerability and resilience. If users already have existing analysis, this Assessment Guide can complement the analyses and help to identify areas where additional information and data are needed.

The figure below illustrates the different elements of the analytical guide:



Graphic illustration of the climate security analytical framework used to identify the pathways (Ruttinger et al. 2021)

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The order in which the elements are presented here does not imply an order in which the assessments must take place. The analysis can begin at any point in the Assessment Guide and the different parts of the assessment may overlap. The overlaps are not meant to require users to duplicate certain steps, but rather theses overlaps are meant underline the links between the different elements of the assessment. It is important to cover all the elements of the analytical guide and assess the interactions between them. The cross-cutting elements and context factors, such as gender, social inclusion, spirituality and governance, will play a role across the different elements.

The pathways discussed in Section 2 of the Assessment Guide are based on the regional trend analysis. The pathways are:

- Pathway 1 – Challenges to the blue economy and livelihoods;
- Pathway 2 – Land, food, water, and health security;
- Pathway 3 – Exposure to natural disasters and implications for governments and communities;
- Pathway 4 – Implications of, and for, mobility;
- Pathway 5 – Threats to habitability and regional stability.

These pathways are intended to act as starting and entry points for analysis. They are hypotheses that should be carefully assessed in every context and should be further tested and explored for local relevancy and specificities. The pathways are not meant to limit the analysis of the Assessment Guide to these pathways exclusively. Depending on the scope and scale of the targeted context, the pathways may change all together. However, these pathways do provide a good starting point from which to start an assessment.

Importantly, the approach seeks to identify not only the peace and security risks, but also dimensions of resilience across different groups and communities.

4.1.3 Methods and Tools

Four central methodological elements guide the approach:

1. Developing a tailored set of questions to guide the assessment;
2. Incorporating qualitative and quantitative elements;
3. Conducting field research and considering visual approaches to map interlinkages; and
4. Harnessing the breadth of work already done to avoid duplication and ensure a holistic understanding.

Users should devise a set of questions for each assessment element and pathway described above. A set of general guiding questions are presented in Section 4 that can be used to develop context-specific questions. As the Assessment Guide is meant to be a guide, flexibility in its utilization is an important aspect to keep in mind. With further research and analysis, and as more is learned, guiding questions may be included, removed or adapted.

In order to answer these questions, it is most effective to collect a combination of quantitative and qualitative data and to pursue approaches motivated by both forms of research. When exploring the knock-on effects of climate impacts, qualitative data is often not exhaustive enough and quantitative models alone are not able to capture the complex feedback loops and interactions that link climate impacts and security.

The complexity of these knock-on effects, like how increased extreme weather events or sea-level rise can impact livelihoods, the economy, social cohesion, conflict, political instability, trust in governments, and gender-based violence, means that an analysis of any available quantitative data should be combined with qualitative approaches.

If possible, assessments of peace and security, contextual factors, and pathways should include field research from, and interviews with, a broad range of stakeholders. This should be in addition to a thorough and locally-grounded literature review.
All field research needs to be conducted using conflict-sensitive research methods[19]. The general approach preferred is one of storytelling, which allows respondents to share their truths and experiences without limitations.

A gender-sensitive and intersectional research approach ensures that findings are disaggregated by gender and age and it will also identify groups to better understand the heterogeneity of risks and dimensions of resilience across contexts and actor groups. A special focus should be put on capturing the voices and perspectives of marginalised groups that are harder to reach, including those of women and youth. This will require additional resources and time to identify such groups and individuals and to create spaces and formats in which they feel comfortable sharing their perspectives.

Lack of data is a major concern for climate assessments in the Pacific region. There is a lack reliable projections related to climate change for critical impacts, including drought, wind, and tropical storms. There are also limitations to the resolution of climate projections from global climate models because the grid cell size is too coarse compared to the small size of PICT, limiting the ability of the models to simulate specific regional or local characteristics.

Further limitations include logistical impediments to data collection, such as facilitating assessments in remote locations, poor internet connectivity, time zone constraints impeding coordination, and limited stakeholder capacities. Nevertheless, projections are improving and there are some good data sources available[20].

Visual approaches to map interactions between different drivers of instability and conflict can also be part of the qualitative analysis. One approach is to map the links between climate change and insecurity along certain pathways. For example, see the below mapping of the blue economy and livelihoods pathway.

[19] For more information see https://postconflict.unep.ch/Climate_Change_and_Security/CFRA_Guidance_Note.pdf

[20] For example, see World Bank Climate Change Knowledge Portal and Risk Country Profiles (https://climateknowledgeportal.worldbank.org/ and https://climateknowledgeportal.worldbank.org/country-profiles), UNFFFC National Communications (National Communication submissions from Non-Annex I Parties | UNFCCC) or IPCC WG2 Chapter 15 (https://www.ipcc.ch/working-group/wg2)

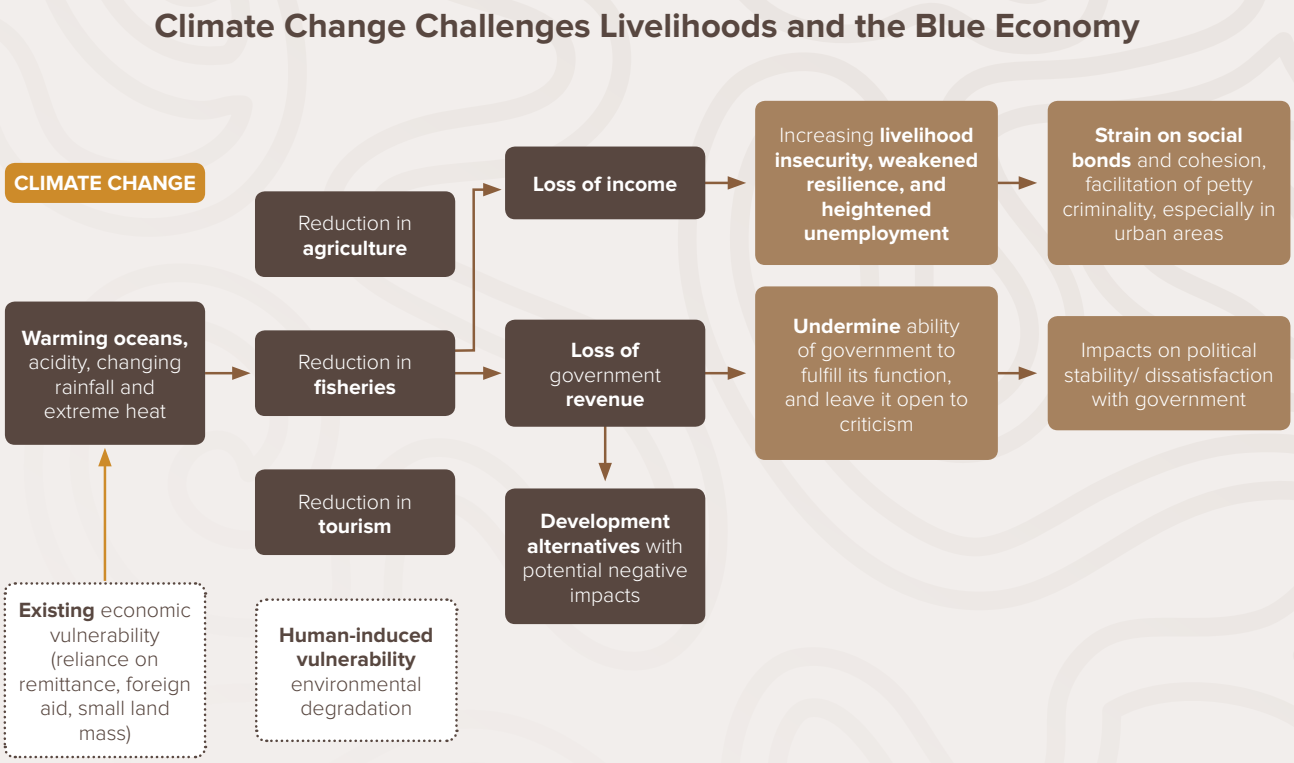

FIGURE 6: Illustration of pathway "Climate change challenges livelihoods and the blue economy"

Lastly, given that the region has been at the forefront of addressing climate change and that climate risks in the region are among the highest in the world, a significant number of vulnerability assessments, frameworks, methodologies and policies exist.

This includes assessments of specific sectors, like food and energy, on different actors, like women and youth, and at different levels, such as community, regional, or national levels. National and regional actors can, and are encouraged to, rely on this work when developing climate security assessments.

The different analytical lenses of this Assessment Guide, including climate, security, context, and resilience/vulnerability, means that users can embed research already completely and focus new research on elements that may be missing.

For example, users may already have an assessment on the degree of sea-level rise in an urban zone and who is likely to be affected. However, the research may lack context, vulnerability, and resilience factors that overlap with those risks that could contribute to social issues or instability. Similarly, social inclusion or gender analysis may map who faces structural vulnerabilities and why, but the mapping could miss viewing those same dynamics through a conflict or climate lens.

Also, a conflict analysis around resource management may have already been undertaken, but lacks complementary climate data on how that risk might evolve into the future. All these examples are meant to showcase the adaptability of this approach, which allows users to deploy analyses that may have been missed former analyses and assessments.

By adding different perspectives and layers of analysis as needed to already existing work, users can enhance and adapt a wide range of assessments with less upfront capacity costs. Doing so will advance understanding around climate insecurity quicker and more efficiently, which will only be to the benefit of those these assessments seek to support.

The Assessment Guide is therefore not intended to duplicate work that has already been done, but rather provide a guide to bring these various elements together in order to showcase how they interact and overlap to address insecurity.

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4.1.4 Identification of Responses

The final aspect of the Assessment Guide methodology focuses on identifying context-specific response measures and actions to address the identified climate-related security risks. Responses should build resilience against both climate and security risks and include a special focus on 'no regret options' in the face of uncertainty and shifting probabilities of climate-related hazards and future socio-political developments.

Evidence from existing projects and programs shows that there are considerable mutual benefits when integrating climate considerations with approaches from gender and social inclusion, peacebuilding, in particular with focus on conflict management, and social cohesion and trust building, or when integrating these approaches with climate action[21].

There is not a universal set of activities that can simultaneously provide climate change adaptation, peacebuilding, and development benefits. Interventions and strategies that are most appropriate to tackle the climate-related security risks are context specific. However, evidence from existing programming and research points to some general entry points for integrated peacebuilding and climate resilience measures:

- Target vulnerable communities and make sure no one is left behind.
- Improve knowledge, capacities, and communication.
- Better incorporate climate security and its operationalisation across policies and planning.
- Avoid maladaptation and mal-mitigation through climate- and conflict-sensitive approaches.
- Promote and work with local knowledge and approaches to build and shore up resilience.
- Target insecurity pathways determined to be most insecure, for example land, food, and water.

[21] See https://climate-security-expert-network.org/sites/climate-security-expert-network.org/files/documents/linking_adaptation_and_peacebuilding_lessons_learned_and_the_way_forward_0.pdf

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In addition to these elements, there are also some cross-cutting elements that are important to consider when designing and implementing climate security risk assessments in order to address climate-related security risks:

- Carefully identify relevant stakeholders for consultation, being mindful of power relations and gender considerations.
- Ensure vulnerable groups and marginalised voices are prioritised in assessments and that these groups and voices complement a well-rounded cohort of stakeholders.
- Ensure your assessments takes human and institutional capacities into account so as not to overwhelm institutions or individuals.
- Ensure extensive consultation with community groups before undertaking especially sensitive assessments.
- Consider that interlocutors and actors may put themselves at risk by sharing information that is politically sensitive for the sake of aiding the analysis of the climate security assessment. Ensure confidentiality where relevant and take measures to conduct information sharing in secure environments.

4.2 Guiding Questions for Research

The guiding questions below are based on, and informed by, the climate security risk assessments on Tuvalu, RMI, Kiribati, and the region and include consultations with experts. They are based on the methodology of the Weathering Risk Initiative[22] and incorporate insights from the Shoring up Stability[23] methodology, UN Climate Security Mechanism's Toolbox, the assessments carried out by the Climate Security Expert Network[24], United Nations Environmental Program's (UNEP) climate and security project and their Joint Program on Women, Natural Resources and Peace[25].

Please note that overlapping questions indicate links and interactions between the different parts of the Assessment Guide and are not intended to duplicate certain parts of the analysis. The order of the questions does not imply an order for the analysis. This is particularly true for the cross-cutting questions that play a role across all elements.

The general approach preferred is one of storytelling, allowing respondents to share their truths and experiences without limitations. The following questions are meant as a repository to guide conversations and literature review, as well as shape coding and analysis.

[22] http://www.weatheringrisk.org/

[23] https://shoring-up-stability.org/

[24] https://climate-security-expert-network.org

[25] https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/environment-security/women-natural-resources-and

Climate Change Lens: What are the most important climate impacts (on human security)?

- What sudden-onset changes, such as storms and floods, are affecting the population/community/country?
- What are the slower, longer-term effects of climate change (e.g. slow onset changes such as temperature increase, ocean acidification, land degradation or sea-level rise)?
- What are predicted future climate impacts?
- Are there specific regions, groups, communities, economic assets, infrastructural assets, or cultural assets that are particularly exposed to climatic pressures and shocks? For example:
  - Rural vs. urban spaces
  - Key economic sectors, such as agriculture, fisheries, and/or tourism
  - Biodiversity and ecosystem services
  - Different genders or groups, including age, ethnicity, and/or religion
  - Social Infrastructure, such as education, health, and government administration buildings
  - Critical infrastructure, such as energy plants/systems, water systems, transportation, digital and communication, climate-related mitigation/adaptation systems (flood defences, etc).
  - Cultural heritage or religious sites

Peace and Security Lens: What are the most important security risks?

- What are current and past dynamics of insecurity? This may include:
  - Instances of violent conflict and political instability, such as protests
  - Challenges surrounding crime
  - Scale and extent of violence against women
- What is the state of social cohesion and relationships?
  - Increasing social problems?
  - Tensions within families and/or between different groups?
- What are the main drivers and root causes of instability and insecurity? For example:
  - Land tenure and management
  - Resource constraints
  - Unfair aid and relief distribution
  - Lack of livelihoods and/or opportunities
  - Intercommunal grievances
- Who are the main actors of instability and conflict?
- How are different groups, including gender, age, ethnicity, and religion, affected by insecurity, violence and conflict?

Climate-related security risks and possible pathways: How do climate stressors and security risks interact to undermine human security?

▶ *Challenges to the blue economy and livelihoods*

- How do climate change and environmental degradation impact key economic sectors, especially sectors related to the 'blue economy'? In particular:
  - Fisheries
  - Agriculture
  - Tourism
  - Industry
  - Mining
  - Forestry

- Which groups, including geography, gender, age, ethnicity, and religion, are experiencing livelihood insecurity and how?
- How are different livelihood practices contributing to environmental degradation and/or conflict (e.g. harvesting coral reefs or blast fishing)?
- What are vulnerable groups doing to adapt to livelihood insecurity? What opportunities and challenges are linked to these alternative livelihood strategies?
- How do livelihood pressures affect social relations within, and between, families and communities?
  - Are social norms of cooperation and social cohesion affected?
  - Is crime increasing?
- What alternative sources of income are being considered by the government to compensate for economic losses? What kind of opportunities, but also environmental and social risks, are linked to these alternative sources of income?
- How are declining public revenues affecting the government's ability to deliver essential services?
  - Are disaster risk management capacities affected?
  - Is equitable development affected?
  - Are state and society relations affected?
- How does climate change impact a country's energy supply? What are the related consequences for society

Challenges to land, food and water

- How does climate change affect the availability of, and access to, natural resources, including arable land, fresh water, and ocean resources?
- How does the availability of, and access to, natural resources vary between different societal groups based on geography, gender, age, ethnicity, and religion?
- Are there already tensions and conflicts over access and availability of natural resources? If yes, what are the main dynamics and who are the actors involved?
- How have disputes over access, use, and/or control of natural resources, like arable land, fresh water, and ocean resources, contributed to triggering or perpetuating social tensions, conflicts and/or violence?
- If disputes around natural resources arise, how are they managed? Are they often resolved? If so, how? Who participates in these processes? Is dispute resolution inclusive?
- What are the main challenges in land/water management? How do customary and modern systems overlap? What are the opportunities and challenges around this overlap?
- How does climate change affect food production and water supply and how does this affect social relations?
- How important are food imports? What are the economic, social, and political consequences of reliance food imports, including health, price spikes, and/or food shortages?
- What health consequences stem from climate change (e.g. waterborne diseases, heat related mortality, disease related to changing eating habits)? Who is affected most and why?

Exposure to natural disasters and implications for governments and communities

- How are different economic sectors and infrastructure affected by extreme weather events?
  - For governments, how does that affect government revenue? How does that affect government response capacity?
  - For individuals, what are implications to livelihoods? Does it overlap with other challenges, such as food and water insecurity? What, if any, social pressures and challenges are born from this insecurity?

- How are different societal groups, including geography, gender, age, ethnicity, and religion, affected by extreme weather events? Are the needs of different groups considered in disaster risk responses of the government and international partners?
- How effective is the governments disaster response capacity?
  - What, if any, constraints exist around human capacity? Technical capacity? Financial capacity?
  - How does the public receive this response and planning? Is it considered fair? What sort of criticisms exist? What is praised?
- To what degree are marginalised groups involved in disaster risk management and planning? Do certain population groups or regions feel excluded from disaster response and/or preparedness strategies?
- What are the main security challenges during and immediately after disasters?
  - Who is most insecure? Is it localised in any specific space?
  - Are crime, abuse and gender-based violence increasing during or after disasters?
  - What processes or policies has the government implemented to respond to increases in insecurity?
- Are there incidences of maladaptation or unintended effects from adaptation?
- Do climate change mitigation/adaptation/livelihood projects account for insecurity and/or conflict dynamics? Are they implemented in a conflict-sensitive way? Do they take human rights risks into account? Do they have environmental and social safeguards?
- If displacement occurs, where do people go? Why do they select those locations? What are the benefits and associated costs? Are there any particular security concerns associated with the process? Are any particular groups especially susceptible to displacement? If so, why? What sort of formal and informal protections exist for displaced persons?
- Does government have any plans or processes in place to manage displacement before it occurs? After? What challenges do they face in supporting displaced persons, especially around land access?

Implication of, and for, mobility

- How are the impacts of climate change affecting the movement of people? What sorts of opportunities or challenges exist? Specifically, what are the impacts on:
  - Internal migration and, in particular, migration from rural communities to urbanised areas (circular, seasonal, and permanent)
  - International migration
  - Displacement
  - Planned relocations
  - Those who cannot, or chose not, to move
- Is climate change intensifying internal migration, in particular migration to urban areas?
  - If so, how does this increased mobility affect living conditions in urban and rural areas?
  - How is migration affecting competition over land, services, and livelihood opportunities?
  - How are the relationships between migrants and their own families or with other groups? Are there tensions or social problems?
- Do people have opportunities for international migration? Who? What opportunities and challenges are migrant communities facing in host countries? This can include:
  - Livelihoods
  - Public service access
  - Social inclusion
  - Personal and cultural identity

- Are remittances sent by migrants?
  - What role do remittances play for home families and communities?
  - For those families who do not receive remittances directly, do they benefit from remittances at the community level?
  - How do remittances influence social relations in home communities?
- How does migration impact human capital and productivity and resilience in areas of origin? What about in receiving communities?
- What are the costs and social impacts of displacement?
- Is planned relocation considered?
  - How effective is the process?
  - Have there been positive or negative experiences?
- Are any groups unable, or chose not, to migrate? If so, why?
  - What are the consequences?
  - Have strategies been put in place that capture otherwise trapped populations? If so, which ones? Are they effective?
- How is migration perceived among communities? What are perceived negative and positive connotations associated with migration?
- What are the impacts of migration on identify, cultural norms, and/or mental health?

▶ *Threats to countries habitability challenging regional and international cooperation*

- How will climate change impact the region's political economy? In particular impacts on:
  - Fish migration patterns
  - EEZs
  - Government efforts to find alternative income streams, such as through expanded mining
  - Regional cooperation
- Do changing geophysical features, like rising sea levels, affect governance?
- What would be the best options for dealing with land insecurity resulting from climate impacts?
- What role do external actors play and how is climate change impacting geopolitical tensions in the region? Are countries or communities affected by increased geopolitical pressure? If so, how?
- What fault lines, if any, threaten to undermine regional cooperation or cohesion? How are regional actors bolstering cooperation and cohesion against joint risks?

Context factors shaping vulnerability and resilience: What are other important factors and trends that are affecting vulnerability and resilience to climate and security risks?

- What are existing community adaptation and resilience approaches that could be used to address challenges posed by climate change and the resulting insecurity?
- What traditional knowledge approaches are particularly useful to address challenges related to, for example, climate change, health, economy, and social cohesion could, or should, be upscaled?
- Broadly, which groups are marginalised and excluded (e.g. economically, socially and politically)? Why?
- How are different genders affected by insecurity and climate change? Why?
- How are differently abled people affected by insecurity and climate change? Why?
- How are people of different ages affected by insecurity and climate change? Why?

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- What access do different genders/groups have to:
  - productive assets (financial, technological, etc.)?
  - education?
  - health services?
  - political processes/decision making?
  - justice and the legal system?
- What is the state of relationships between different groups, communities and actors?
- What is the state of social capital and cohesion?
- What attempts, if any, have been made to prevent or resolve disputes? What mechanisms have been used? Who has been involved and who has been excluded?
- Which role do different actors and genders play in conflict prevention, peacebuilding, and climate change adaptation?
- What are points of cooperation exist between different conflicting actors?
- How is the government able to fulfil its main functions in:
  - providing public safety and security?
  - providing basic services?
  - making legitimate political decisions?
- How is the legitimacy of the government perceived by different actors and groups? What is the state of trust in the government?
- How is the government responding to challenges and crisis? What is the impact of their response?
- Is there sufficient capacity at the local, national, and/or regional levels to cope with the impacts of climate change and insecurity? For example:
  - Do local or national governments possess the capacity and legitimacy to act decisively?
  - Do national climate change adaptation policies and plans include climate-related security risks?
  - Are decision-making mechanisms inclusive? How strong is civil society?

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