Solomon Islands' climate fragility trap: Practical pathways for policy action

Numair Liaqat and Siddhartha Basu

- The Solomon Islands are highly vulnerable to climate-induced shocks, including cyclones, tsunamis, flooding, and coral reef degradation, threatening livelihoods and food security. The country's reliance on fisheries, agriculture, and forestry, limited disaster preparedness, and weak coping capacities exacerbate this fragility.
- The Solomon Islands face structural economic challenges, including overdependence on resource extraction, low financial inclusion, and a volatile GDP growth rate. Social challenges include land disputes due to internal migration, low education completion rates, and limited capacity for managing a rapidly growing population.
- Key barriers to the government's ability to address the impact of climate change include a lack of geographic information systems for disaster risk assessment, inadequate data collection, limited government budgets, and insufficient capacity for implementing adaptation measures or leveraging new technologies.
- Climate-induced internal migration, resource scarcity, and food insecurity increase tensions among ethnic groups, threatening social cohesion and potentially destabilising the country, especially given its history of ethnic violence.
- Addressing these economic and social challenges requires innovative, community-led approaches and targeted investments.

POLICY BRIEF SLB-25053

APRIL 2025

This project was funded by the IGC

theigc.org

DIRECTED BY

FUNDED BY

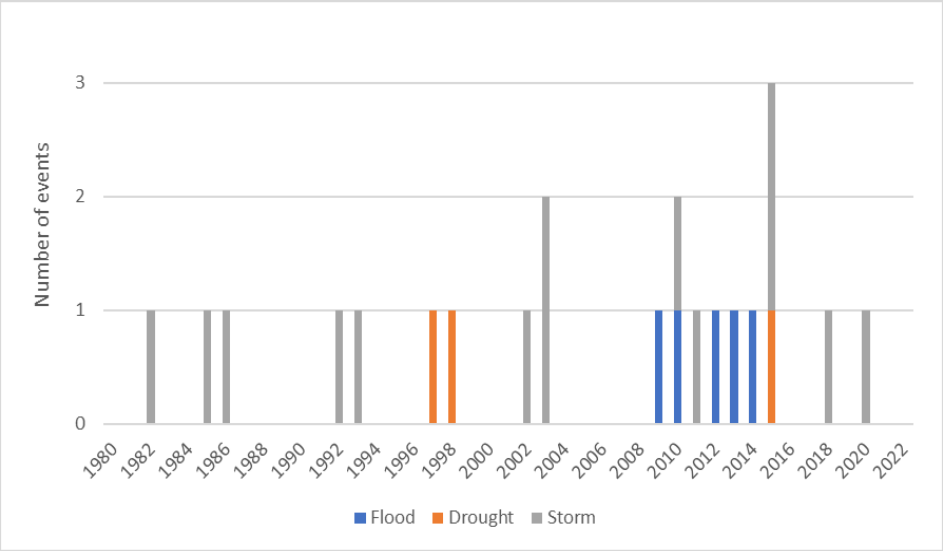
Solomon Islands are highly susceptible to climate-induced shocks

As a Pacific Island nation, the Solomon Islands is extremely climate-vulnerable – particularly in its exposure to natural disasters and threats to its biodiversity and habitat (States of Fragility, 2002). Indeed, the country ranks 160th out of 182 countries for climate vulnerability in the University of Notre Dame's ND-GAIN Country Index.

- The country experiences, on average, one or two cyclones a year and is prone to inland and coastal flooding.
- The Solomon Islands is home to eight volcanoes—two of which have erupted in the past two decades and two more in the past two centuries—and has a more than 20% chance of a potentially damaging earthquake and a 40% chance of a potentially damaging tsunami in the next 50 years (States of Fragility, 2002).
- The Solomon Islands can also experience landslides, typically as a secondary phenomenon following prolonged rain, flooding, earthquakes, or volcanic eruptions (Centre for Excellence in Disaster Management & Humanitarian Assistance, 2023). There is a significant risk of floods driven by extreme rainfall, with notable events in 2008 and 2010 involving loss of life and damage to infrastructure and livelihoods (Ministry of Environment, Climate Change, Disaster Management, and Meteorology, 2017).
- Between 1962 and 2012, average temperatures rose 0.14 – 0.17 degrees Celsius per decade (Carbon Brief, 2018).

Figure 1 depicts the frequency of natural disasters in the Solomon Islands between 1980-2022. It is possible – though significantly uncertain – that climate change will exacerbate the frequency and/or intensity of some of these events. The substantial threat posed by climate change to the country's rich marine ecosystems is less uncertain – home to 30% of the world's coral reefs, 75% of all known coral species, and 40% of all coral reef fish species (World Bank, 2021). The world's coral reefs are expected to decline by over 99% in the coming century, even in the optimistic scenario that global warming is limited to 2°C relative to 1850-1900. The impacts will likely be far-reaching in countries like the Solomon Islands, where certain communities heavily depend on coral reef ecosystems for food and livelihoods (Intergovernmental Panel on Climate Change [IPCC], 2022). Terrestrial ecosystems are also threatened, with climate change likely to compound existing human pressures, such as logging, on the country's forest ecosystems (World Bank, 2021).

FIGURE 1: Frequency of natural disasters in the Solomon Islands, 1980-2022



Source: IMF Climate Change Dashboard[1]

As a remote economy based on agriculture, forestry, and fisheries, the Solomon Islands' food security and livelihoods are significantly threatened by climate change and associated increases or intensification of extreme events. By some estimates, the agricultural sector accounts for 34% of the GDP and supports 85% of the country's rural economy (Western Sydney University, 2018). Forestry contributes a sixth to the government revenue but is done in an unsustainable manner while also contributing significantly to income inequality (Gibson, 2018). According to the INFORM Global Risk Index, the country's capacity for coping with disaster risk is relatively weak, ranking 161st out of 191 countries (a score of 6.5 out of 10). The most significant weakness is a lack of physical connectivity (scoring 7.8 out of 10)(INFORM Risk Index, n.d.). In terms of the country's ability to invest in critical adaptation measures, the Solomon Islands ranks 160th out of 182 countries according to the University of Notre Dame's ND-GAIN Country Index, with the conduciveness of the business environment a more significant barrier in this regard than governance considerations (University of Notre Dame, 2022).

The climate-fragility nexus

As a remote, resource-rich, and fragile economy, the Solomon Islands faces significant and persistent economic challenges that ripple the social and political fabric of the country. Notably, the country is richly endowed with forests, minerals, and fisheries, predominantly exploited by foreign companies benefitting from state concessions and accounting for over 80% of the national export basket as of 2020 (see Figure 2). This pattern has fed into longstanding grievances of the country's diverse population, comprising over 70 language groups across 147 inhabited islands, particularly concerning its relationship with

[1] https://climatedata.imf.org/pages/country-data

a highly centralised state characterised by widespread clientelism. These grievances have, at times, erupted into violence – most recently in 2021, in the form of civil unrest, and most markedly in 1998-2003, when the country experienced a small-scale civil war between its Guale and Malaita ethnic groups (Ride, 2023; Solomon Islands Government, 2020). Resource dependence has also left the country highly vulnerable to external demand shocks, raising concerns that resource depletion – of timber in particular – is rapidly eroding the country's established growth and foreign exchange sources. As a small open economy unable to produce much of what it consumes, the country's dollar revenues are needed to finance a considerable and growing level of imports. Combined with the decline in logging exports, this has given rise to a widening current account deficit, reaching 13.3% of GDP as of 2022 (McNaught, n.d.; World Bank, 2023c).

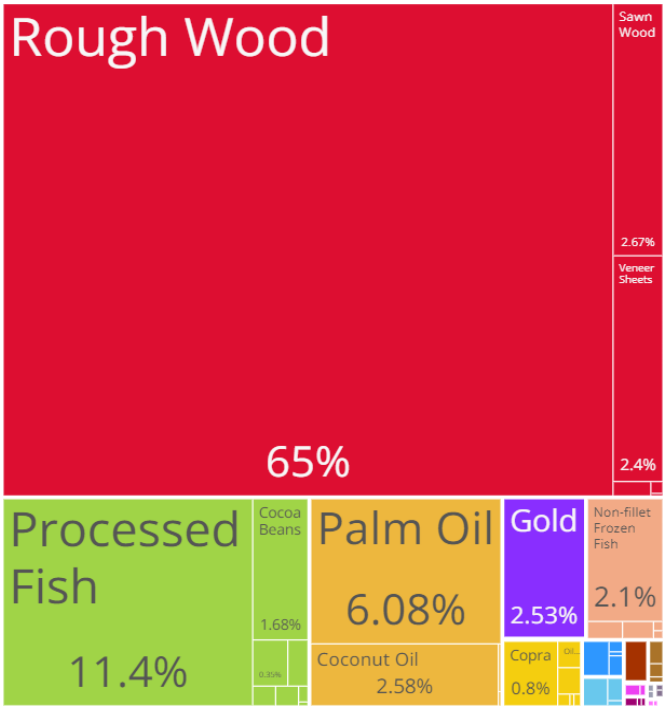
Many coping mechanisms that would enable households in the Solomon Islands to withstand shocks to the economy are lacking. Particularly stark in this regard is the low level of financial inclusion, with only 26% of adults with a bank account, 40.1% of adults with a mobile banking account, and 1.27 ATMs per 10,000 adults (Central Bank of Solomon Islands, 2021). Access to financial services, such as savings and insurance, enables households to smooth consumption over time and in the face of adverse shocks, including climate-related ones. The country's coping capacities are similarly lacking with regard to managing its booming young population. In particular, the country faces the challenge of keeping up with a rapidly growing population – averaging 2.4% per year – when GDP growth is subject to significant volatility around a trend of 2.1%, on average, over the medium term.

Solomon Islands' barriers to adaptation

As identified by the Solomon Islands Ministry of Environment, Climate Change, Disaster Management and Meteorology, the following are the key barriers to adaptation: a lack of geographic information systems for vulnerability and disaster risk assessments as well as adaptation planning; limited data collection and tight government budgets; and a lack of awareness and capacity for implementing abatement options, conducting research and monitoring, and facilitating development and technology transfer necessary for adaptation (States of Fragility, 2002).

This suggests an urgent need to unlock new economic growth and employment sources for the country and ensure that the growing population is sufficiently educated to generate adequate lifetime earnings and productivity. As it stands, 30% of students do not complete their primary education, and an overwhelming 93% fail to complete their secondary education (McNaught, n.d.).

FIGURE 2: Total exports from the Solomon Islands in 2020 – USD 438 million



Source: Observatory of Economic Complexity

Climate change acts as a stress multiplier in Solomon Islands

As in other fragile, though not presently conflict-affected contexts, climate change and its secondary effects could easily upset the delicate social and political balance that prevents outright violence between ethnic groups. Climate-induced internal displacement is an especially disturbing prospect in this regard, given that the country experienced a small-scale civil war in 1998-2003 sparked by internal migration, particularly to Honiara. With recent reports of rising illegal squatting in and around Honiara, there are already concerns that we may see an unravelling of the fragile peace that has been held since 2003 (IPCC, 2022). This existing pressure point will likely come under significant additional stress as climate change fuels further internal migration. Indeed, we are already seeing migration from low-lying atolls, such as the Malaita Outer Islands, to urban areas due to climate-induced economic hardships (notably, decreased viability of established livelihoods). As some 80% of land in the Solomon Islands is tribally owned, any significant migration of Solomon Islanders outside of their native lands calls for neutral government mediation of negotiations between the affected ethnic groups and allocation of land rights based on the resulting settlements (Agnishwaran et al., 2024), representing another potential flashpoint for the country.

> **In particular, any perceptions of bias or mistrust in the government's role in the mediation process of land ownership could easily provoke anti-government riots similar to what was seen in 2021.**

Threats to food security due to climate change are yet another concern, as 47% of households in the country depend on fishing or harvesting invertebrates – both activities highly sensitive to climate change – for food and income (Agnishwaran et al., 2024). Any rise in food poverty can intensify competition between ethnic groups and potentially compound existing tensions between native and non-native groups (borne out of internal migration), further heightening the risk of deterioration into violence. For instance, Martin-Shields and Stojetz (2018) discuss how food insecurity can catalyse conflict, particularly in regions with existing ethnic tensions. They note that competition over scarce food resources can intensify group rivalries and contribute to the outbreak of violence.

Food scarcity may also exacerbate grievances among existing population segments that distrust the government's management of natural resources and policymaking more broadly. The United States Institute of Peace (USIP) also highlights how the extractive industry, which heavily relies on the nation's natural resources, poses significant challenges. They emphasise the need for careful management to ensure sustainability and minimise adverse effects on the environment and local communities (USIP, 2023).

Addressing these economic and social challenges requires innovative, community-led approaches and targeted investments, as outlined in the practical pathways section.

Practical pathways for Solomon Islands to escape its climate fragility trap

Below are recommended solutions tailored to the Solomon Islands, incorporating successful examples from other nations and explaining how they can be tailored to the country's unique context.

1. **Strengthening governance and community engagement**

    a. **Community-led resource management**

    The Solomon Islands can establish community-based natural resource management (CBNRM) programs that involve local tribes in managing marine and forest resources sustainably. A similar approach has been successful in **Papua New Guinea (PNG)**, where community groups co-manage fisheries and forests with government support, preserving biodiversity while improving local livelihoods (WorldFish, 2020). To implement this, tribal leaders and local committees must be trained in sustainable practices, and their traditional knowledge must be integrated with modern techniques. Offering incentives, such as grants

or shared revenues from tourism, can also promote participation (WorldFish, 2020).

b. Decentralised climate governance

Decentralising climate governance, modelled after **Indonesia's regional climate councils**, can help address region-specific vulnerabilities (United Nations Development Programme, 2019). Each council focuses on implementing localised climate action plans supported by national-level oversight. These could be implemented by creating provincial climate councils in the Solomon Islands that align with tribal leadership and focus on climate risk reduction, early warning systems, and adaptation projects.

2. **Mitigating internal migration and land disputes**

a. Mediating land disputes with neutral councils

As internal migration increases due to rising sea levels and economic hardship, land disputes between ethnic groups can intensify. **South Africa's land mediation courts** provide a replicable model for resolving disputes fairly (South African Institute of Race Relations, 2021).

Similarly, the Solomon Islands can establish independent mediation councils staffed with legal experts, tribal representatives, and government officials to resolve land disputes transparently. These councils could be funded through partnerships with international organisations such as the United Nations High Commissioner for Refugees (UNHCR).

b. Urban resilience projects

To manage urban migration, the Solomon Islands can invest in climate-resilient housing and infrastructure, similar to **Bangladesh’s flood-resilient housing programs**, which support displaced populations in safe urban settlements (World Bank, 2021).

To implement this, the government must partner with Non-Governmental Organisations (NGOs) and development banks to design low-cost, flood-resistant housing projects in urban areas like Honiara. These projects can be combined with livelihood training for migrants.

3. **Securing food systems against climate risks**

a. Climate-resilient fisheries and aquaculture

Fisheries are vital to the Solomon Islands' economy and food security but are highly climate-sensitive. Lessons from **Norway’s sustainable**

fisheries programme—focused on monitoring, quotas, and habitat protection—can be applied (Food and Agriculture Organization of the United Nations, 2022). The Solomon Islands can introduce climate-smart aquaculture, such as cultivating resilient fish species, provide technical support through international collaborations, and regulate fishing practices through community-enforced quotas. Collaborations with organisations like the Green Climate Fund (GCF) and the Asian Development Bank (ADB) could provide the needed financing.

b. Agroforestry for coastal communities

Agroforestry practices combining crops with mangrove reforestation can reduce coastal erosion and support livelihoods. **Sri Lanka's mangrove farming initiatives** are a successful model (International Union for Conservation of Nature, 2020). To follow this model, the Solomon Islands Government can train farmers in agroforestry and provide seedlings for mangrove restoration. Carbon offset funding mechanisms could finance these efforts.

4. **Improving disaster preparedness and risk reduction**

a. Early warning and evacuation systems

The Solomon Islands can develop early warning systems for cyclones and tsunamis, modelled after **the Philippines' multi-hazard early warning systems**, which effectively integrate community outreach and technology (United Nations Office for the Coordination of Humanitarian Affairs, 2021). The Solomon Islands Government can equip villages with solar-powered weather monitoring stations and train local leaders to coordinate evacuations and use mobile networks to disseminate real-time warnings.

b. Community-based disaster preparedness

The country can adopt **Nepal’s community-led disaster management approach**, which empowers local communities to prepare for and respond to natural disasters (International Federation of Red Cross and Red Crescent Societies, 2019). The government must establish local disaster committees with small emergency funds and train members in first aid, search-and-rescue, and emergency logistics management.

5. **Promoting renewable energy and economic diversification**

a. Solar mini-grids for isolated communities

The Solomon Islands can deploy solar mini-grids, inspired by **Tanzania's off-grid solar projects**, to reduce reliance on imported fuels and increase energy access (International Renewable Energy

Agency, 2021). They can partner with international energy organisations to install mini-grids in remote villages, providing affordable electricity for households and small businesses. Additionally, offering microloans can help encourage adoption.

b. Ecotourism as a revenue stream

Ecotourism could be promoted based on the Solomon Islands' unique biodiversity, drawing from **Costa Rica's successful ecotourism model**. Sustainable tourism can generate income while preserving natural ecosystems (United Nations Environment Programme, 2020). To implement this, the Solomon Islands could develop eco-lodges, train local guides, create marine sanctuaries to attract tourists, and partner with global travel companies for marketing.

Implementation considerations

It is important to consider the following factors when planning and implementing these practical pathways:

- **Community ownership**: Ensure all initiatives actively involve local communities and respect tribal governance structures. Each tribe or ethnic group should have representation in the planning and implementation stages, allowing for consultative meetings, focus groups, and community forums. These spaces can provide a platform for all members, including women, youth, marginalised groups, and elderly citizens, to express their concerns and contribute their perspectives on how projects will affect their daily lives and environment. Traditional decision-making processes, such as consensus-building, community meetings, and rituals or ceremonies, should be incorporated to ensure that initiatives are rooted in local customs and are, therefore, more likely to be accepted and sustained. In addition, this prevents the dominance of any one group over others and ensures that no one is left out of the conversation.
- **Capacity building**: Provide technical training and resources to government officials and community leaders to sustain these programs.

Conclusion

The Solomon Islands face a precarious climate fragility trap driven by environmental vulnerabilities, resource pressures, and social tensions. Implementing practical pathways—such as community-led governance, climate-resilient food systems, disaster preparedness, and renewable energy—can build resilience while addressing immediate and long-term challenges. Drawing on successful examples from similar contexts, these tailored solutions can

ensure sustainable development and stability for the Solomon Islands in the face of growing climate risks.

References

Agnishwaran, R., Hariharan, M., Quintoil, M. N., Varun, A., Bhanu, V. R., & Ajay, J. (2024). Impact of climate change on fisheries and food security: A comprehensive review. *Chronicle of Aquatic Science, 10*, 199–211. https://doi.org/10.61851/coas.v1i10.18

Carbon Brief. (2018, September 26). *Mapped: How every part of the world has warmed – and could continue to warm*. https://www.carbonbrief.org/mapped-how-every-part-of-the-world-has-warmed-and-could-continue-to-warm

Centre for Excellence in Disaster Management & Humanitarian Assistance. (2023). *Solomon Islands: Disaster management reference handbook*. https://reliefweb.int/attachments/a1d59176-434d-43d9-9f7e-eed24cefed90/CFE-DM-DMRH-Solomon-Islands2023.pdf

Central Bank of Solomon Islands. (2021). *Annual report 2021*. https://www.cbsi.com.sb/publications/annual-report/

Food and Agriculture Organization of the United Nations. (2022). *Sustainable fisheries management in Norway*. https://www.fao.org/fishery/en/facp/nor

Gibson, J. (2018). Forest loss and economic inequality in the Solomon Islands: Using small-area estimation to link environmental change to welfare outcomes. *Ecological Economics, 148*, 66–76. https://doi.org/10.1016/j.ecolecon.2018.02.012

INFORM Risk Index. (n.d.). *Solomon Islands INFORM risk profile*. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk

International Federation of Red Cross and Red Crescent Societies. (2019). *Community-led disaster preparedness in Nepal*. https://www.ifrc.org/article/bringing-disaster-risk-management-people-nepal

International Monetary Fund. (n.d.). *Climate Data Dashboard: Solomon Islands*. https://climatedata.imf.org/pages/country-data

International Renewable Energy Agency. (2021). *Solar mini-grids in Tanzania*. https://www.irena.org/publications/2021/Jun/Solar-mini-grids-in-Tanzania

International Union for Conservation of Nature. (2020). *Mangrove restoration in Sri Lanka*. https://www.iucn.org/news/forests/201701/mangrove-restoration-offering-two-one-solutions-climate-change

IPCC, 2022. Inter-Governmental Panel on Climate Change report 2022, SR-15, Chapter 3, https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Chapter_3_LR.pdf

Martin-Shields, C., & Stojetz, W. (2018). Food security and conflict: Empirical challenges and future opportunities for research and policy making. *World Development, 107*, 169–183. https://www.researchgate.net/publication/326951751_Food_security_and_conflict_Empirical_challenges_and_future_opportunities_for_research_and_policy_making_on_food_security_and_conflict

McNaught, A. (n.d.) *Solomon Islands economic outlook*. Asian Development Bank. https://www.adb.org/where-we-work/solomon-islands/economy

Ministry of Environment, Climate Change, Disaster Management, and Meteorology. (2017). *Second national communication of the Solomon Islands to the UNFCCC*. https://unfccc.int/sites/default/files/resource/SI%20SNC%20FINAL_1-1.pdf

Ride, A. (2023). *From tension to resilience: Rebuilding Solomon Islands after civil conflict*. Lowy Institute. https://www.lowyinstitute.org/publications/from-tension-resilience-rebuilding-solomon-islands-after-civil-conflict

Solomon Islands Government. (2020). *National development strategy 2016–2035*. https://www.mof.gov.sb/

South African Institute of Race Relations. (2021). *Land mediation courts in South Africa*. https://irr.org.za/ewc-faqs

United Nations Development Programme. (2019). *Indonesia's local climate governance framework*. https://www.undp.org/indonesia/blog/indonesian-local-governments-participation-achieve-national-climate-target

United Nations Environment Programme. (2020). *Ecotourism in Costa Rica*. https://www.unep.org/news-and-stories/story/costa-rica-living-eden-designing-template-cleaner-carbon-free-world

United Nations Office for the Coordination of Humanitarian Affairs. (2021). *Pacific: Humanitarian needs and priorities – COVID-19 pandemic, revised July 2021*. https://reliefweb.int/report/world/pacific-humanitarian-needs-and-priorities-covid-19-pandemic-revised-july-2021

United States Institute of Peace. (2023, November). *Unsustainable exploitation of the Solomon Islands' natural resources*. https://www.usip.org/publications/2023/11/unsustainable-exploitation-solomon-islands-natural-resources

University of Notre Dame. (2022). *ND-GAIN Country Index*. https://gain.nd.edu/

Western Sydney University. (2018). *Food security in Solomon Islands: A survey of Honiara Central Market* (Preliminary report, April 2018). https://www.westernsydney.edu.au/__data/assets/pdf_file/0010/1465453/Food_Security_in_Solomon_Islands.pdf

World Bank. (2021). *Flood-resilient housing in Bangladesh*. https://www.worldbank.org/en/news/feature/2021/06/17/flood-resilient-housing-in-bangladesh

World Bank. (2023a,b,c). *World development indicators for Solomon Islands*. https://data.worldbank.org/country/solomon-islands

WorldFish. (2020). *Community-based fisheries management in Papua New Guinea*. https://digitalarchive.worldfishcenter.org/bitstreams/4d36a55b-742c-40a2-8c16-c50f309ad307/download