

Thinking Global, Acting Local: Climate Change, Ecological Stress And Livelihood Choices In Fiji

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Abstract

The linkages between climate change, ecological stress, and livelihood at the local, regional, and global levels and between the two groups are complicated to assess. This intricacy is most seen when responding to the consequences of global climate change. Examining the framework in which the people of Fiji must cope with the concerns finds a gap between decision-making within globalisation from above and globalisation from below. To effectively address problems such as climate change, ecological stress, and livelihood, globalisation-from-above requires sustainable regulatory systems, and the linkages between globalisation-from-above and globalisation-from-below must be formed or strengthened. Meanwhile, the venerable people continue to work, relying on local knowledge of location, migration, climate change, collaborative networks, and cooperative partnerships. This article aims to understand better how environmental stresses affect people's livelihood possibilities in Fiji. We contend that natural stresses such as cyclones and floods harm people's livelihoods by limiting their livelihood possibilities. This article investigates the timeliness of planned relocation in Fiji in response to a climate, Traditional Knowledge, Stress, and livelihood crises. This study contends that these temporalities are felt as tough outer time, with the past, present, and future of climate change and relocation perceptible daily.

Keywords: Climate Change, Ecological Stress, livelihood, Traditional Knowledge, Community response.

I Introduction

Especially over the past two decades, western cultures have been exerting a widespread influence on the rest of the globe, which has been reinforced by the predominance of capitalism and the rise of the market. Even if the process of globalisation is proceeding at a breakneck pace, there is still a mutually constitutive relationship between the global and the local levels of existence. The local and the international are continuously competing with

or trying to (re)define one another (Besnier, 2007). The research conducted by McNamara et al., 2014 highlights the far-reaching effects globalisation has on a wide variety of communities in the Pacific. These kinds of ironies indicate the necessity of working with men and women in the community to address these problems to maintain healthy, egalitarian, and sustainable livelihoods both now and in the future.

The paper's title is adapted from the early 1970s; the environmental movement used the slogan "Think Globally, Act Locally" as a rallying cry. Since the release of the Brundtland Commission Report in 1987, environmental protection has risen to prominence as one of the world's major political problems. The effects of climate change provide a big question to national development efforts, necessitating a shift in perspective and strategy at the national level. The Special Report on 1.5°C that the Intergovernmental Panel on Climate Change prepared indicates the short time in which worldwide emissions ought to be dramatically reduced to avert additional damage to both human and natural systems. Alterations to long-term climatic patterns have even begun to disrupt the environmental changes and the reliability of essential ecosystems that Fijians have had to depend upon for centuries. These changes will likely have a substantial effect on the country's future. The impacts of climate change and the occurrence of natural disasters are contributing to an increase in the cost of development in the Pacific, elevating the level of investment uncertainty and posing additional obstacles to the fight against poverty. To the Fijian government and the people of Fiji, the problem is abundantly evident that historical experiences of catastrophic occurrences, ongoing development issues, and future climate forecasts create a tale that directly opposes the nation's interests and goals. Since the inception of the first National Climate Change Policy in 2012, Fiji has done a lot to reduce the effects of climate change. They have taken steps to build resilience and ensure that climate and disaster risks are considered when planning and carrying out development. Ban Ki-moon, who used to be the Secretary-General of the United Nations, talked about how the Paris Agreement was signed in 2015 and the announcement of the Sustainable Development Goals in 2015 as the "twin blueprints for transformative change by 2030." "Transformative strategic thrusts" and "inclusive socioeconomic development" are goals outlined in Fiji's National Development Plan. When it came to mitigating

the effects of climate change, the government of Fiji thought globally but acted locally by bringing international agenda initiatives down to the local level. One could assume that the historically powerful influence of Fiji's local authorities would be diminishing due to the rising globalisation of environmental policymaking. However, local governments have been vigorously advocating for the role of ecological protectors in their communities. Local environmental plans that emphasise and coordinate the functions of local authorities in environmental matters have been on the rise since the late 1980s. Agenda-setting theory looks at how, why, when, and which issues come to be considered by decision-makers and who is responsible for putting them on agendas. There is evidence that local environmental plans come from several different, often contradictory, pressures. Environmental interest groups and internal policy advocates are pushing local governments to take a more global approach to global ecological crises. This is different from how they used to deal with environmental problems by putting them in separate boxes. But at the same time, the Fijian government is making local governments less effective by giving them less power and limiting their budgets.

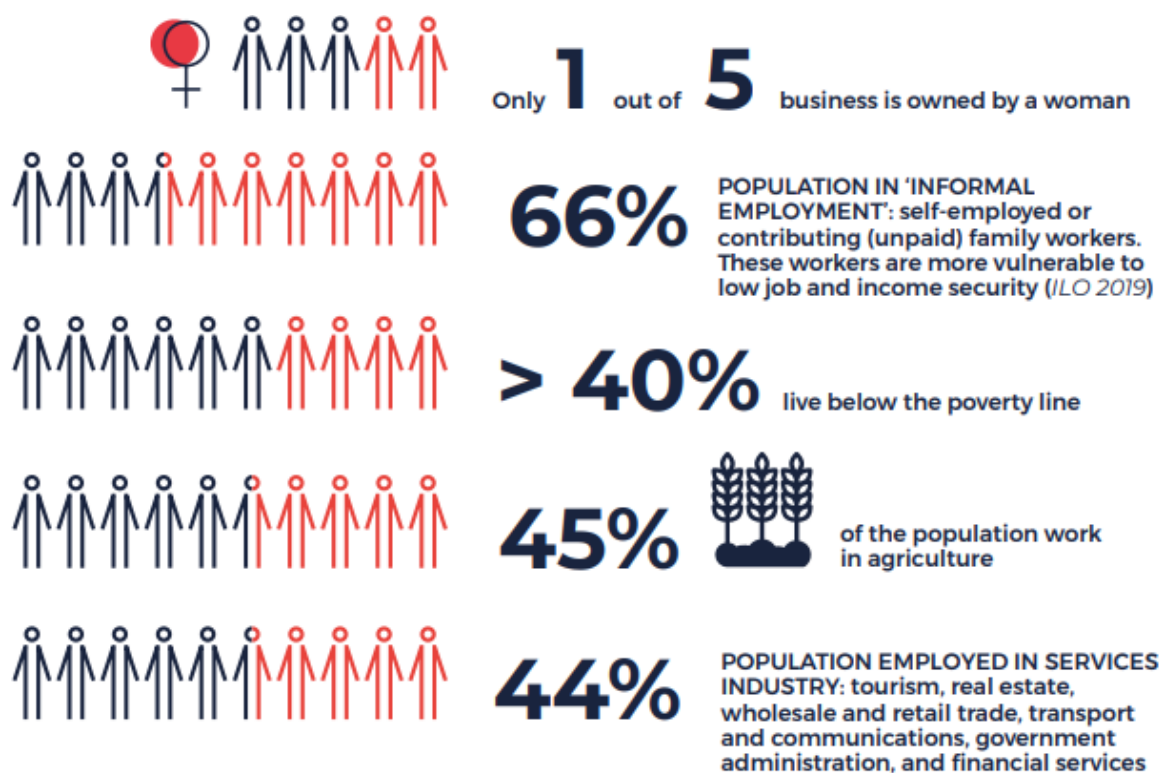
2 Fiji: Geography, Ecology and People

The climate and topography of Fiji's many islands vary greatly. There are around 300 islands dispersed in an area of water of over 1.3 million square kilometres. Many different habitats on the islands, from natural forests to freshwater lakes to marine and coastal environments. Many gains have been made toward ecologically friendly development since independence in 1970. However, certain economic and social growth activities have disrupted and even destroyed the natural environment. However, it is now widely acknowledged that we must strengthen ecosystems to withstand the rising effects of climate change and climatic unpredictability. The climate of Fiji is oceanic and tropical, with two distinct seasons: a warm, rainy season from

November to April and a cooler, drier season from May to October. Rainfall over the Fijian islands fluctuates periodically owing to topographical variables. Although over 60% of Fiji's land mass may be used for farming in some capacity, only 29% is suitable for arable use. Risks of severe soil erosion, river and stream contamination, sedimentation, pollution, and floods in low coastal and coral reef environments have all been amplified by the very nature of land exploitation practices, including agriculture, forestry, and mining. Sometimes this has resulted in the permanent loss of species. Moreover, half (56%) of Fiji's 1,594 identified plant species are entirely indigenous. The total land area protected by Fiji's 48 parks is 488 square kilometres (2.7%). The government has taken proper measures to safeguard specific locations. One hundred twenty-nine sites on land, sea, and mangroves have formally recognised conservation management issues (GOF, 2007). Figure 1 shows that the standard of living in Fiji in 2017 was 40% lower than the international poverty level. The gender gap was also on full display, with just 20% of women-owned businesses. The agriculture industry is a significant source of income for over forty per cent of the Fijian population. Over fifty per cent of rural areas rely on subsistence agriculture and fishing. Half of those living below the poverty level get some

income from agriculture. Crop production, sugarcane, livestock, fisheries, and forestry are the sector's five key subsectors. In recent years, agriculture's contribution to the nation's gross domestic product (GDP) has decreased considerably, owing to a rise in non-agricultural sector income (particularly commerce and tourism) and a fall in the nation's significant sugar output for socioeconomic reasons. Traditional agricultural and food production methods were reasonably adaptable to climate fluctuations. People, for instance, arranged their farming and fishing operations by the natural cycle, exploiting flora and wildlife on land, rivers, and mountains to avoid placing undue stress on a single kind of natural resource. People also simultaneously grew domestic and wild types, resulting in healthy cross-pollination and the production of diversified, hardy, and adaptable landraces maintained and developed through community seed banks. Nonetheless, traditional traditions and knowledge are rapidly vanishing, replaced by fragile commercial monoculture systems. These are also replacing the nutrient-diverse, fibre-rich, and complex carbohydrate-rich conventional diets of the populace with an increasing amount of sugar, fat, salt, and refined starch from imported and packaged goods (IFRC, (2021)).

Figure 1: Fiji Employment Statistics, ILO, 2017



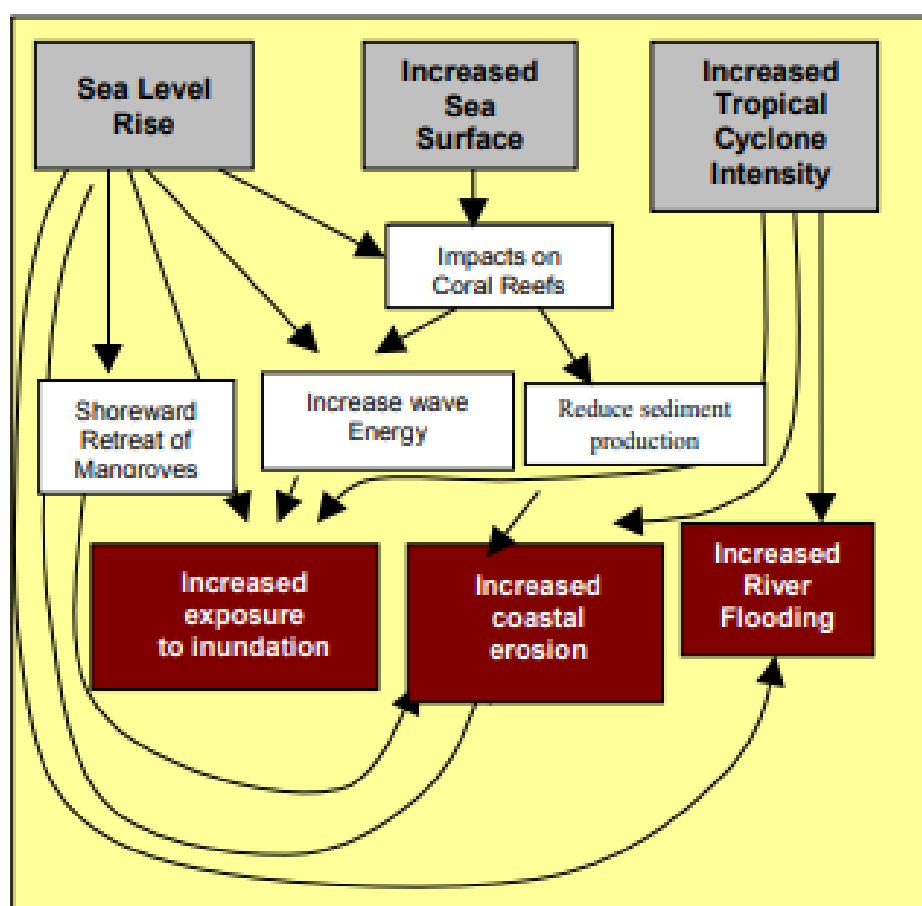
Source: IFRC, (2021) CLIMATE CHANGE IMPACTS ON HEALTH AND LIVELIHOODS: FIJI ASSESSMENT, https://www.climatecentre.org/wp-content/uploads/RCRC_IFRC-Country-assessments-FIJL.pdf

Figure 2 shows that the additional coastal erosion and flooding due to rising sea levels (23–43 cm by 2050), increased temperatures (0.9–1.30 C by 2050), and stronger storms are predicted because of climate change along the coast of Viti Levu (World Bank, 2000). Macroeconomic aggregates, such as gross domestic product per capita, are frequently used to assess the economic well-being or "quality of life" of a nation's populace. In any case, the annual growth rate provides a straightforward metric to determine the rate of its evolution over

time. But it's common knowledge that national averages can mask significant economic differences and differences in how happy people feel across demographic subgroups.

However, Fiji's indigenous Fijians have long held solid social values that prioritise wealth distribution amongst family and neighbours. The accumulation of assets by individuals, households, and businesses suffered because of such sharing. While some of these households may have had relatively high incomes, they were often compelled to cut back on spending on healthcare and education, leading to lower living standards. There is a growing divide between the pressure to please others and the need to do what is best for one's family because of modernisation and globalisation in Fijian society (Narsey, 2008).

Figure 2: Climate Change Impact on Coastal Areas



Source: World Bank, 2000, *Cities, Seas, and Storms: Managing Change in Pacific Island Economies, Adapting to Climate Change, Volume IV*.

3 Materials and Methods

This study employed secondary data from the World Bank, WHO, secondary books and publications, websites, journals, papers, and Fiji government record to perform introspective research. This study project aims to identify and characterise existing and potential Ecological Stress and Livelihood Options in the Fijian community. Evaluate and plan adaptation initiatives considering extra-institutional, resource, and governance demands and requirements at both the global and local levels—the livelihood dilemma confronting the local community and the government's adaption strategy to assist vulnerable individuals.

4 Result and Discussion

4.1 Climate Change Threats to Local Livelihood

The term "livelihoods" encompasses various methods through which people (individually, collectively, and historically) have provided for their basic survival needs. Livelihoods are the capabilities, assets, and activities necessary for producing revenue and securing a means of subsistence (Nunan, 2022; Natarajan et al., 2022; IFRC, 2010). People's ways of living are constantly in response to internal and external pressures. Rainfed agriculture, fisheries, and the tourism industry of Fiji are particularly vulnerable to climate change. There is a great deal of faith in climate change, climatic variability, and climate-related hazards amplify the effects of other stresses, aggravate poverty, increase inequality, and create new vulnerabilities, all of which have an unfavourable impact on people's livelihoods.

The primary forms of economic activity in Fiji and the country's unique susceptibilities to

climate change are briefly described here. (IPCC, 2014b). Many of the activities that provide a living are dependent on seasonality as well as other long-term climate factors. The status quo, which now allows millions of people to maintain their standard of living, is being disrupted by climate change. The IPCC AR5 (2014b) reports made it abundantly evident that owing to climate change; tropical agriculture will see a decrease in production. This will have a tremendous influence on the lives and livelihoods of people worldwide, especially those who live in tropical regions (IPCC, 2014a). For example, due to climate change, traditional crops and production methods are more resistant to climatic fluctuation than non-traditional crops, yet both are vulnerable to the effects of climate change (McGregor et al., 2008; Taylor et al., 2016). The negative effects of climate change will range from moderate to high for several food staples (Taylor et al., 2016). Cassava's growing importance as a subsistence and income crop poses serious threats to global food security because of the crop's vulnerability to tropical storms (Feresi et al., 2000). The population of the Pacific, including people who live in Fiji, has been designated as one of the most vulnerable groups in the world, according to projections made about climate change. This has led to an increase in research interest in this region. The destruction of crops caused by the entry of saltwater caused by coastal flooding disrupts the supply of essentials for the Fijian economy. It forces populations to shift to safer ground. Damages to Viti Levu, the most populated island in Fiji, amount to around \$52 million yearly, equivalent to four per cent of Fiji's gross domestic product. Because of the effects of increasing seas, deteriorating agricultural fields, and increased floods, the people of Vunidogoloa were the first to move away from their homes in 2012 (COP23).

Studies of the Pacific Island area suggest that cyclone intensity may rise by ten to twenty per cent due to global warming (Jones et al., 2002). According to scientific literature and analysis of past cyclone damage in Fiji, a 20% increase in

maximum wind speed might lead to a 44-100% increase in cyclone damage. By 2050, the predicted shift in cyclone severity might cost Viti Levu as much as US\$11 million per year, based on the average annual cyclone damage in Fiji during the 1992–1999 period, estimated at US\$14.4 million (World Bank, 2000).

The loss of land due to rising sea levels is the primary cause of the vulnerability of this area over the long run. The data analysis on tropical cyclones' occurrence led researchers to conclude that there is, in fact, a pattern of increased cyclogenesis over the months of November to April. Changes in the climate system will substantially impact Fiji, and those changes will have severe repercussions for the local economy and people's livelihoods.

4.2 Livelihood and Stress

The livelihoods of the urban population (54 per cent in 2017) rely less on natural resources and more on financial and intellectual capital. Their income levels determine the adaptability of families to climatic shocks. For higher-income groups, susceptibility to changes in rainfall patterns, for example, is lessened. Still, this is detrimental for lower income groups, whose homes and possessions may be in low-lying regions or unprotected landscapes. Those officially and informally employed in the services sector, public administration, construction, and retail in metropolitan locations will be impacted by climate effects such as heat risk and its influence on water supply and the demand for cooling settings. Damages to homes and businesses caused by urban flash floods after heavy rains and coastal flooding along the sea pose a significant threat to people's ability to make a living (IFRC, 2021). Traditional agriculture and fisheries are typically more resistant to the effects of climate change; nonetheless, the transition to monoculture farming and the loss of fertile agricultural land in coastal areas pose a danger to rural livelihoods and the country's ability to provide food for sustenance (Barnett, 2020). Fiji is more vulnerable to the effects of global climate disruptions due to its increasing

dependence on imported food. As a result of more frequent coastal flooding, greater exposure to high tides, and intense rainfall, communities in low-lying coastal regions are already experiencing loss of homes, equipment, and workplaces. This forces households to use their limited personal finances and loans to rebuild their assets. Coastal flooding is expected to worsen in the coming decades. Women's means of subsistence rely on mangrove forests and other coastal resources, such as pearl oysters, which contribute to the family's income. Because a person's way of life is based on animal husbandry, climate change also adversely affects them. This causes an increase in the amount of stress they experience (Iqbal, 2022).

4.3 Planned Relocation and Stress

It is essential to keep this in mind. However, that movement has been occurring throughout history as a direct result of alterations in the climate and the surrounding habitat (Piggott-McKellar, 2020). Because of the effects of climate change, some families and even entire communities all over the Pacific are being forced to abandon their homes and move to new places where they can maintain their livelihood. This decision is difficult and presents a significant challenge (Piggott-McKellar, 2020). Because of climate change's impacts, several settlements in Fiji have been evacuated recently, and others are planning to do likewise. The Fijian Government has pinpointed more than eighty communities as having an immediate need to migrate, and many more have been recognised as having a longer-term need for relocation. This presents a significant obstacle for the impacted areas, government agencies, civic organisations, and other actors prepared to aid in the relocating process. It would be a colossal error to see relocation due to climate change as a simple technological problem that can be handled linearly. The technical, financial, logistical, political, economic, social, cultural, psychological, and spiritual obstacles are interconnected. That being the case, it would be impossible to devise

a universal method of moving that would work for everyone. The opposite is true; strategies must be adaptable and situationally appropriate. Integrative and holistic approaches are required to solve the interconnected issues. Unfortunately, experience has shown that technological techniques typically prevail, while social, cultural, and spiritual elements are ignored (Boege & Shibata, 2020). The uprooting from traditional ways of life and the loss of ancestral lands and burial sites may contribute to feelings of stress and anxiety. Because islanders are particularly vulnerable to the effects of climate change, several concerns, including water insecurity, mental health difficulties, consequences on sexual and reproductive health rights, and the fragility of health systems, have been recognised as severe hazards.

4.4 Labour Outmigration

The temporary migration of workers from rural regions of low-income nations to urban areas of higher-income countries is a significant worldwide phenomenon that causes agricultural labour to be redirected away from farming and toward other endeavours. Loss of work may increase the opportunity cost of farm labour, which can generate incentives to alter the mix of livelihood options, farm inputs, and investments in agricultural systems that heavily rely on human work. In a similar vein, temporary international migration can result in the transfer of remittances that can be used to finance the intensification of agricultural production and commercial investments (Karki et al., 2022). Beginning in the 1980s and gaining momentum over the last two decades, there has been a concerted effort to establish a particular kind of labour market in the South Pacific. Short-term contracts hire unskilled and semi-skilled labour for agricultural businesses in Australia and New Zealand. Although the job is transitory and individuals are compelled to return to their home countries upon fulfilment of contracts, there is nothing temporary about the purpose of so-called labour mobility projects. Scott studies the situations in nations

where underdevelopment dominates and from where labourers are recruited. The ongoing internationalisation of agricultural, logging, mining, and oil and gas production has undermined the national development policies of the late colonial period. Low ranks on international health and literacy indices and pervasive unemployment and underemployment characterise communities whose majorities are replicated for the types of labour sought by local and international recruiters of labour mobility programmes. Continuous labour shortages for fruit harvesting and packaging in the region's two major economies are joined by relative population surpluses in neighbouring South Pacific nations. Permanent accumulation is coupled with temporary labour on a route with no apparent endpoint (Scott MacWilliam, 2022). The significance of labour mobility and its influence on cultures and economies in various regions of the Pacific cannot be understated despite the region's modest size. Migration benefits Pacific Island populations via remittances, the transfer of skills and information, and the formation of networks that may lead to entrepreneurship and new markets. While climate change threatens to harm livelihoods and land, labour migration may provide some families with a means to continue receiving money from outside and adapt to shifting conditions (ILO).

5 Conclusions

Evaluating the connections between climate change, ecological stress, and people's means of subsistence on the local, regional, and global levels, as well as between the two levels, is challenging due to the complexity of these relationships. This complexity becomes most apparent when considering how to react to the effects of a changing climate on a global scale. The findings of this investigation into the context in which the people of Fiji are required to find solutions to their problems reveal a disconnect between the decision-making processes of globalisation from above and globalisation from below. An examination of

agenda-setting theory reveals that a variety of frequently conflicting factors influences local environmental goals and that the decision-makers responsible for placing them on their to-do lists are not always the same people. Environmental interest groups and policy activists are pressuring local governments to adopt a more comprehensive approach to dealing with today's more pressing global environmental issues. Local governments are doing their best to combine their traditional compartmentalised approach with the pressure. For example, Fijian Communities are more vulnerable when they are geographically isolated and lack access to resources. These areas not only have limited access to public services but also frequently lack access to programs that might help fund formal or informal forms of education and training. As a result, many community-based adaptation projects look to institutional and philanthropic backing to supplement their resources. These initiatives create community-based awareness and sensitization campaigns to market novel technology and goods. International actors, such as funders, have a responsibility to incorporate Pacific experiences and viewpoints into the discussion on climate change-induced displacement. Pacific communities have been at the forefront of climate justice efforts, and their tales of perseverance and innovation are worth hearing. These anecdotes might serve as words of encouragement. Fiji's study agenda remains exciting and open, with room for exploration into both the causes of out-migration and the small impact that it has on local ecological indicators and livelihood.

6 Recommendations

1. One should encourage cooperation between local academic institutions and researchers to promote community-based methodologies and nature-based solutions for the ecosystem-level protection of natural resources.
2. Extend the reach of current social protection programs to guarantee that the poorest and most vulnerable families have

access to life-saving aid and other sources of income.

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