

Supported by:

Led by:

In partnership with:



wtw

A large background image showing a lush mangrove forest with dense green foliage and complex root systems extending into a calm blue body of water under a clear sky.

Financial Tools for Small-Scale Fishers: Community Survey — Fiji

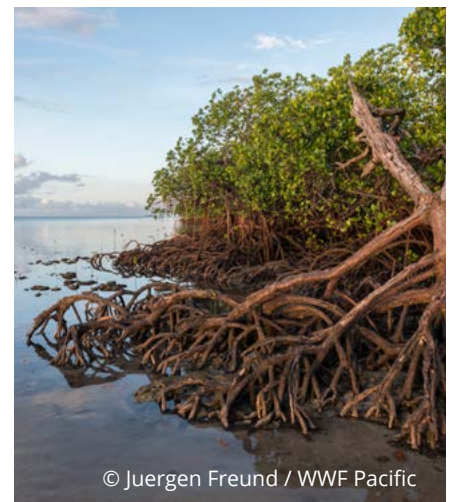
© Juergen Freund / WWF Pacific

Executive Summary

As part of a project funded by GEF, WTW together with the World Wide Fund for Nature (WWF Pacific) are developing an insurance product(s) to help increase the resilience of fishing communities in three pilot locations in Fiji and PNG to climate risk, whilst incentivising sustainable use of resources and protecting the natural assets upon which the fishers depend. In order to ensure that the product(s) are fit-for-purpose, the project team has engaged in desk and field research.

This document presents the findings of a survey conducted in September 2022 in Tavua District, Ba Province, and Nadogo District, Macuata Province, Fiji. In total, 333 households were surveyed out of a total of 638 households across both Districts (so representing 52% of households).

The communities surveyed are extremely vulnerable to the impacts of climate hazards, and climate change is already manifesting itself in the region through sea-level rise and coral bleaching, threatening the livelihoods of coastal fishing communities. The survey results confirm the communities' high level of concern about potential impacts from multiple different climate-related hazards (e.g., droughts, cyclones), and the decreases in fish availability and catch that they are already observing. With low levels of financial resilience (through savings and insurance) and low diversity of income, the consequences of any disruption to their livelihoods could be exceptionally severe.



Collectively, these survey results, alongside other data gathered through other project activities, will be used to inform the development of insurance product(s).

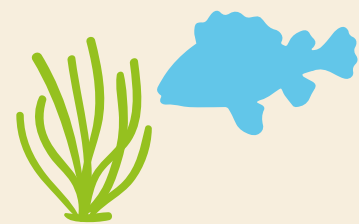
Background

With 91% of Fiji’s total population living within 10km of the coast¹, Fiji has one of the highest exposures in the world to climate hazards.² Amplified by the effects of climate change, this threatens the achievement of sustainable development goals and exacerbates existing development challenges.

Indeed, the IFRC Climate Centre estimates that up to 4% of the population may be pushed into poverty each year by 2050 due to climate-related disasters,³ and this is from a baseline where 24.1% of the population already lives below the poverty line.⁴ Coastal fishing communities are particularly vulnerable to the impacts of climate hazards, and in the context of climate change and ecosystem degradation, it is particularly urgent to take measures to increase their resilience.

With 6,700km² of coral reefs and 385km² of mangroves, Fijians have constructed their livelihoods around the ecosystem services these provide. Fishing is one of the most important sectors for Fiji, and a strong customary rights-based *qoliqoli* system governs inshore fisheries. In recent years, however, inshore fisheries in Fiji have become increasingly strained due to fishing pressure, and with the disruptive effects of climate change on fisheries, estimates of sustainable annual production from the coral reef area suggest that it will not be possible in the future for Fiji to meet forecasted fish needs for food security.⁵ This means that both community resilience and sustainable management of fisheries are ever more important, and to address the latter, a complementary system of Locally Managed Marine Areas (LMMAs) which builds on this traditional *qoliqoli* system has been created to better manage fishing grounds.

This project seeks to leverage the strength of such initiatives and community ties, and design an insurance product that will support and complement existing conservation measures and frameworks, and respond to the needs of the fishing communities in the face of growing climate risk. Through the potential insurance product, we aim to strengthen communities’ financial resilience and lower their dependence on government support, which is largely dependent on donor funding and budget reallocation and is therefore difficult to predict. At the same time, we aim to support communities in managing natural resources, which the survey indicates willingness to do.



Herbivorous fish such as parrotfish play a key role in coral reef health by grazing on algae



Fijians on average consume

44kg
of fish per year⁶

¹Neil L. Andrew and others “Coastal proximity of populations in 22 Pacific Island countries and Territories,” PLOS ONE, 14.9 (2019).

²Ranked 14th in the 2021 World Risk Index

³IFRC and RCRC Climate Centre

⁴World Bank, <https://data.worldbank.org/indicator/SI.POV.NAHC?locations=FJ>

⁵Bell, Johann D, Mecki Kronen, Aliti Vunisea, Warwick J Nash, Gregory Keeble, Andreas Demmke, and others, “Planning the Use of Fish for Food Security in the Pacific,” Marine Policy, 33 (2009), 64-76

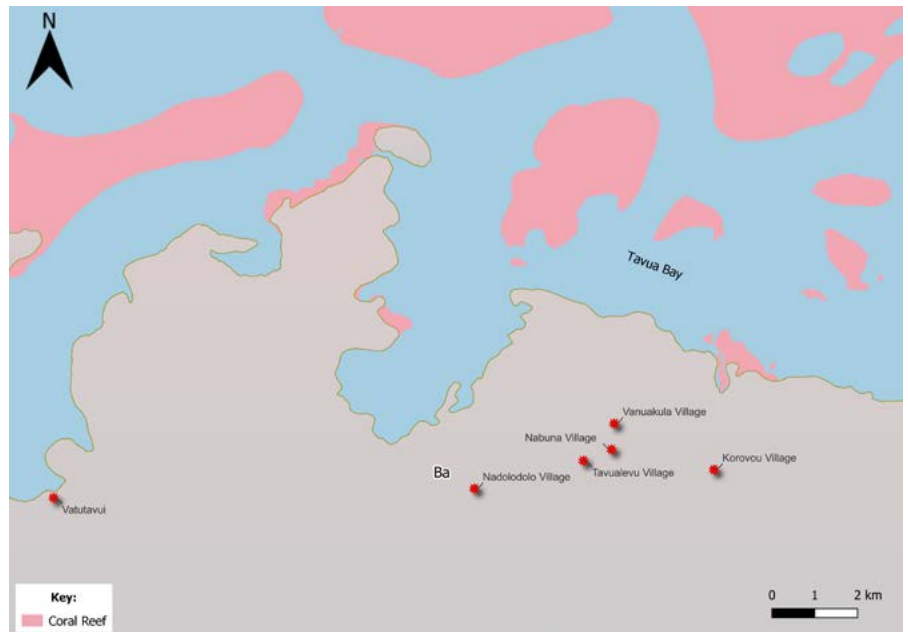
⁶ Asian Development Bank, ‘Fisheries Sector Review: Republic of the Fiji Islands’ (2005). Available at: <https://www.adb.org/sites/default/files/project-documents//34224-fij-tar.pdf>

Methodology and Participants

In September 2022, we conducted a survey in the villages of Nabuna, Vanuakula, Tavualevu, Korovou, Nadolodolo and Vatutavui in Tavua District and in the villages of Vunivutu, Sogobiau, Mouta, Kavewa and Navukebuli in Nadogo District, Macuata Province.



A team of 9 data collectors from WWF Fiji surveyed 279 households in 6 villages in Tavua over 5 days. Respondents were 39% male and 61% female. 84% of respondents were between 21-60 years old.



In Nadogo District, a team of 9 data collectors from WWF Fiji surveyed 54 households over 5 days. Respondents were 57% male and 43% female. 87% of respondents were between 21-60 years old.



Financial/Livelihood

Almost all of the respondents were living below the poverty line.

The national Basic Needs Poverty Line in Fiji is FJD 726/month for a household with 4 people. In Tavua, 90% of households surveyed had an average monthly household income of less than FJD 800 a month. In Nadogo, 98% of households surveyed had an average monthly household income of less than FJD 800 a month (with just one household earning more than this, and 83% earning less than FJD 400 a month).

Fishing is an important source of income in both districts. On average, households derived 45% and 27.6% of their income from fishing in Tavua and Nadogo Districts, respectively.

In Nadogo, it is worth noting that many of the households in Vunivutu and Mouta reported that significant portions of their income were derived from *suluka*, a leaf from the pandanus tree that is dried and wrapped to make hand-rolled cigarettes. This activity can be scaled up when income is needed: for example, villagers used income from selling *suluka* to rebuild houses in the aftermath of Cyclone Yasa (2020).



Figure 1a: Average Monthly Household Income, Tavua

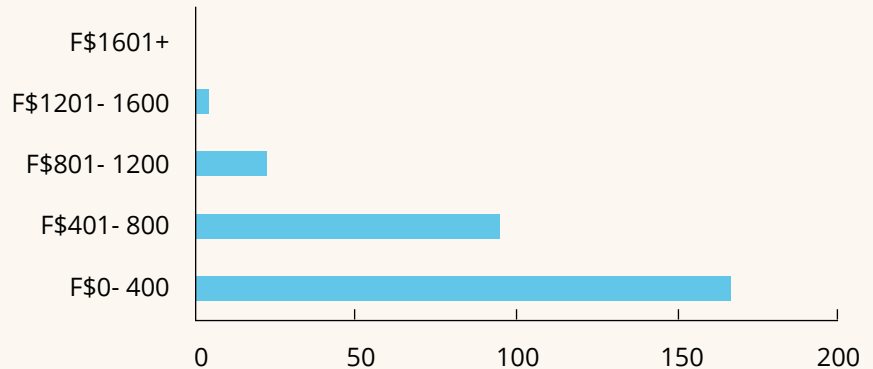
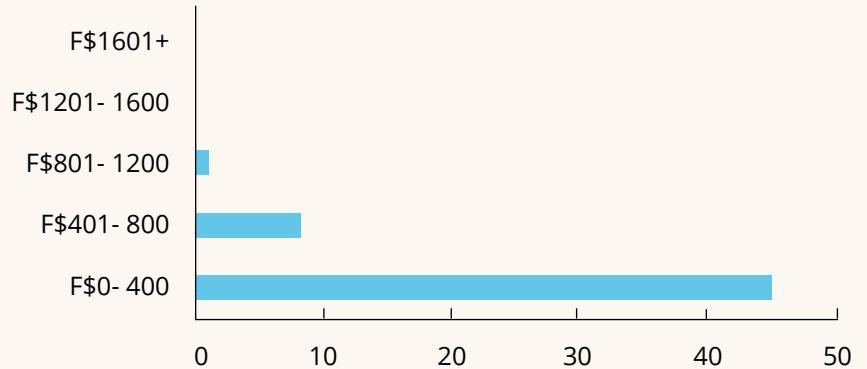


Figure 1b: Average Monthly Household Income, Nadogo



Respondents were asked what proportion of their time they spent on various occupations. In both districts, significant disparity was found between male and female members of households.

Women spent the largest proportion of their time on domestic duties, whereas most men spent none of their time on domestic duties. Men split their time fairly evenly between fishing and fish processing, and farming. In Tavua, women also spent significant amounts of time on fishing (around 15-20% of their time on average), but much less time on farming (less than 5% on average). They also engaged in three times less paid work than did men. In Nadogo, both men and women in Mouta and Vunivutu spent time on *suluka*, with men having slightly more time than women to do this.

In order to understand communities' dependence on fishing and farming for subsistence, and their need for cash for food, we asked respondents to break down the proportion of food they sourced from different categories. For Tavua, the results show that communities on average buy the largest proportion of their food, followed by fishing and then farming. For Nadogo, the results show that communities on average farm the largest proportion of their food, followed by buying and fishing fairly evenly split. In a follow up question, more than half of respondents (55%) and roughly a third (36%) reported having experienced needing to reduce their meals in Tavua and Nadogo, respectively. In both districts, this was due to food prices roughly half of the time.



Figure 2a: Food Source, Tavua

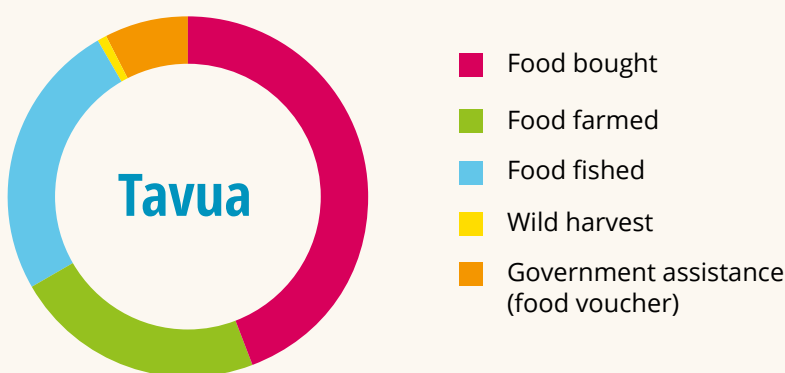
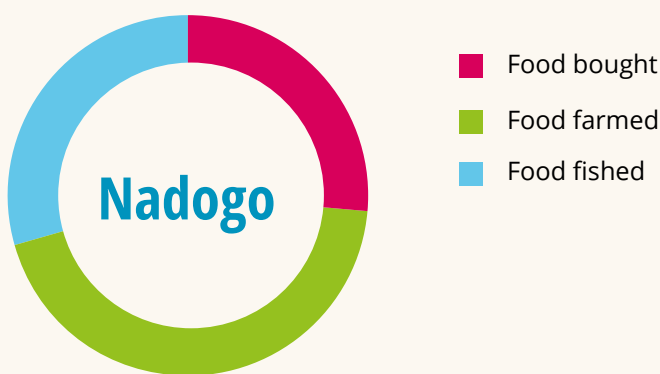


Figure 2b: Food Source, Nadogo



In Tavua, most people reported easy journeys to the market, with 60% of people making the journey on foot, and 70% taking less than an hour to reach the market.

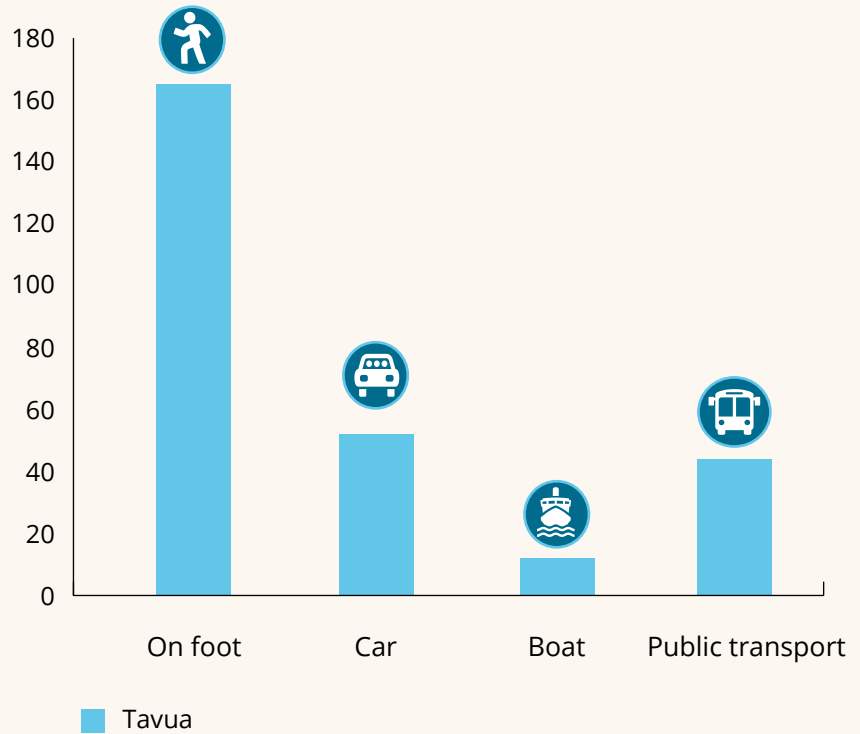
Three quarters of people reported selling less seafood/fish to the market in the aftermath of a climate event.

In Nadogo District, journeys to the market were slightly less easy than for those in Tavua District, with all but one making the journey on public transport, and only 15% taking less than an hour to reach the market. 50% of respondents took between 1-3 hours to reach the market. As in Tavua, three quarters of people reported selling less seafood/fish to the market in the aftermath of a climate event.

When asked if they belonged to a fisheries or agricultural co-operative, 94% and 82% of respondents did not in Tavua and Nadogo, respectively. However, Fiji has a strong village committee system. The fishing grounds are communally owned, with the high chief having overall decision-making power. Committees are in place to implement plans for sustainable resource management, so the role of the co-operative is in some way carried out by these committees. We understand, however, that the creation of fishing co-operatives is underway in Fiji.



Figure 3: Method of Transport to Access Markets, Tavua



In Nadogo 96% of people chose to use public transport



Climate hazards

In order to help inform the prioritisation of hazards to be considered under this project, we asked respondents to rate the importance of climate and geophysical hazards.

The same list was used for respondents in Fiji and Papua New Guinea. Respondents were able to rate hazards as Critical, Important, Somewhat Important, or Not Important. The graph shows responses that rated hazards as Critical and Important.

The responses were similar between communities surveyed in Tavua and Nadogo, with the notable difference that flood was rated as much more important in Tavua, an unsurprising result given the much higher exposure to flood in Viti Levu compared to Vanua Levu.



Figure 4a: Importance of Hazards, Tavua

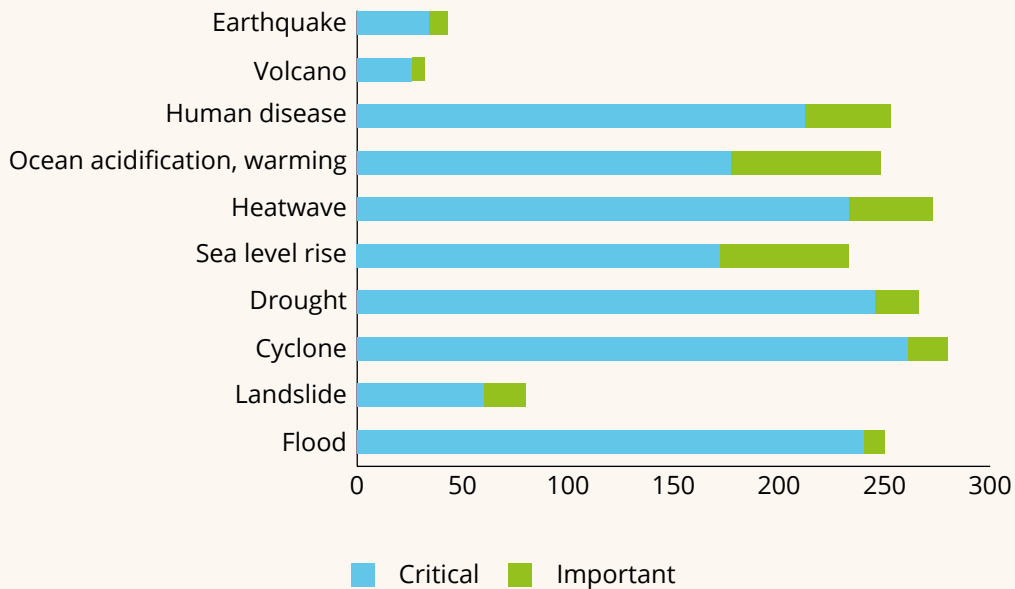
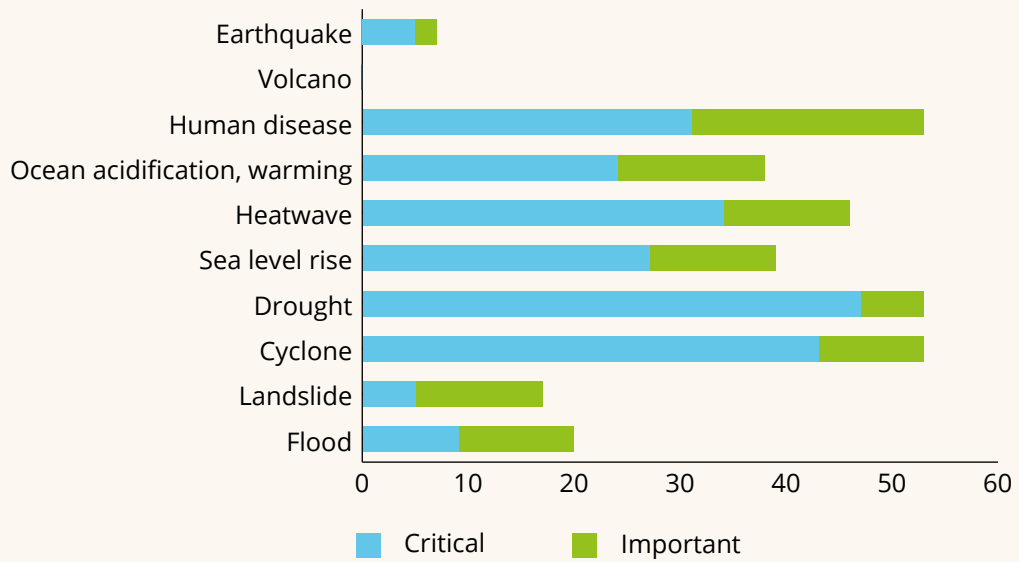




Figure 4b: Importance of Hazards, Nadogo



© Juergen Freund / WWF Pacific



The survey also asked people how they monitored the risk of possible climate events. The radio was the main tool used, but traditional signs were also important. Some of the signs respondents observed include weather-related signs such as movement of clouds and temperature changes, but also signs in plants, flowers and animals (such as birds flying in from the sea). Some respondents also expressed desire for more coordination at the village level.



©Tom Vierus / WWF Pacific

Figure 5: Monitoring of climate events



We also asked people what their biggest priority was after an event.

68% of respondents chose access to food in Tavua, and 80% in Nadogo. 100% of respondents across both districts also stated needing access to additional funds after an event.

Although a range of funding sources were used (including own savings and friends and family), 66% of respondents in Tavua selected government support as their main source of this funding, highlighting communities' lack of resilience and dependence on government assistance which may be difficult to predict. Respondents in Nadogo were more likely to depend on savings first, perhaps due to Nadogo's location off the main island of Viti Levu potentially leading to delays in receiving government assistance.



Figure 6a: Biggest Priority Post-Event, Tavua

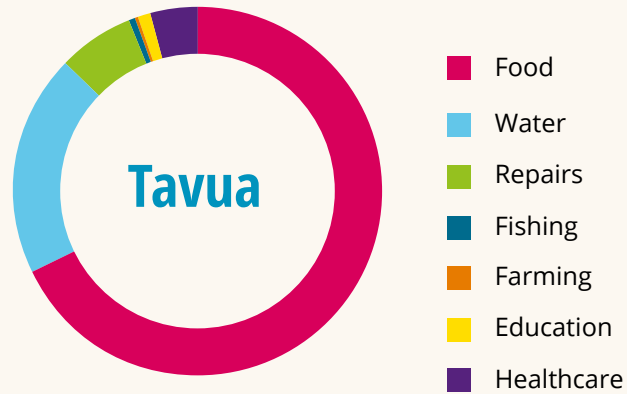
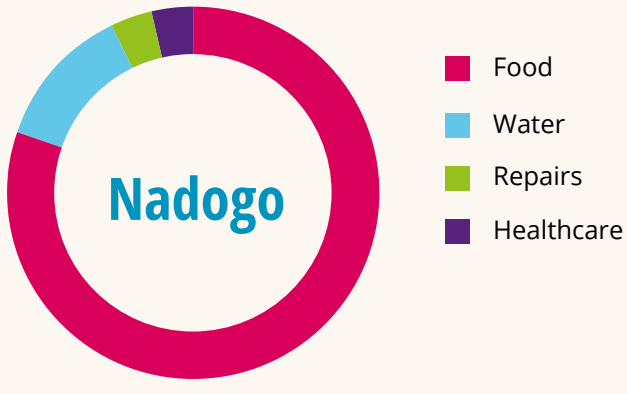


Figure 6b: Biggest Priority Post-Event, Nadogo



© Juergen Freund / WWF Pacific



Financial Inclusion

A large share of respondents did not have any savings (36% in Tavua and 39% in Nadogo), and many of those that did held these mostly in cash and not necessarily in a bank.

Only 20% of respondents in Tavua and 24% in Nadogo held savings in a bank account, and less than 10% in Tavua, and nobody in Nadogo, had a loan. These results highlight the lack of financial inclusion and therefore financial resilience of the communities surveyed.



Figure 7a: Savings, Tavua

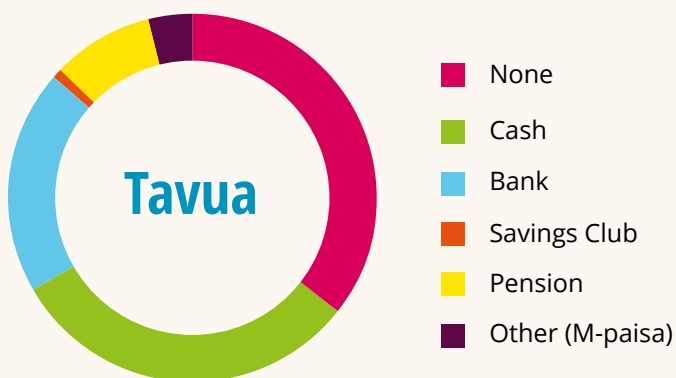
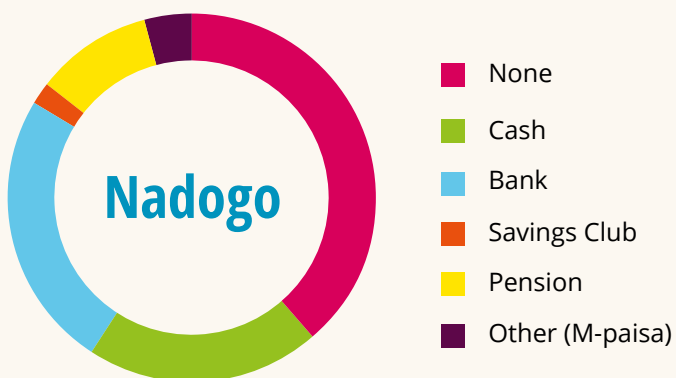


Figure 7b: Savings, Nadogo



More than 90% of the people surveyed in Tavua and 70% of those in Nadogo did not currently purchase any type of insurance.

80% of people surveyed in Tavua had either no or very little understanding of insurance, and 42% of people in Nadogo. Additionally, 40% of people surveyed in Tavua and 23% of those in Nadogo reported having no trust, or very little trust, in insurers and banks, underscoring that there is still a lot of progress to be made in increasing understanding and trust in insurance, and the financial literacy training conducted as part of the project contributes to building this.



40%
of people surveyed in Tavua and
23% of those in Nadogo
reported having no trust, or
very little trust, in insurers
and banks



Figure 8a: Extent of understanding of Insurance, Tavua

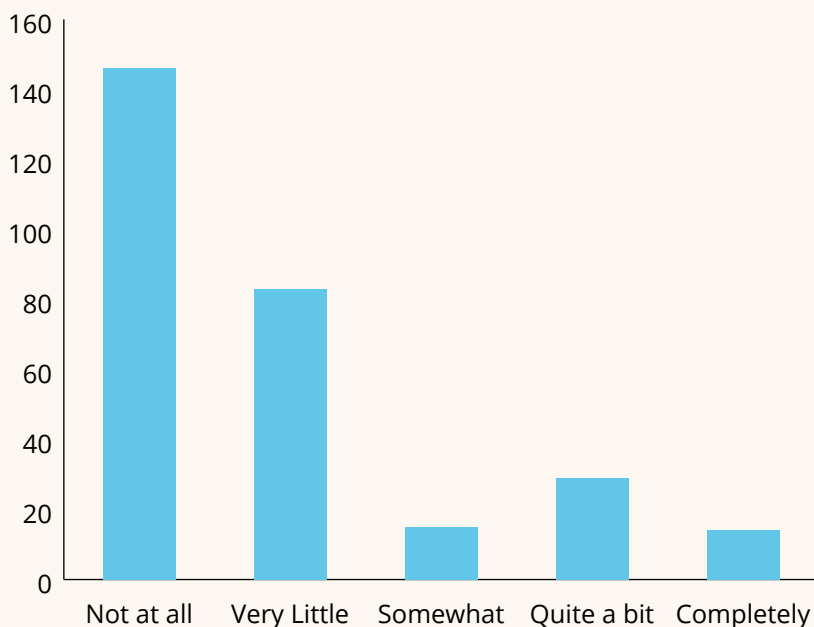


Figure 8b: Extent of understanding of Insurance, Nadogo

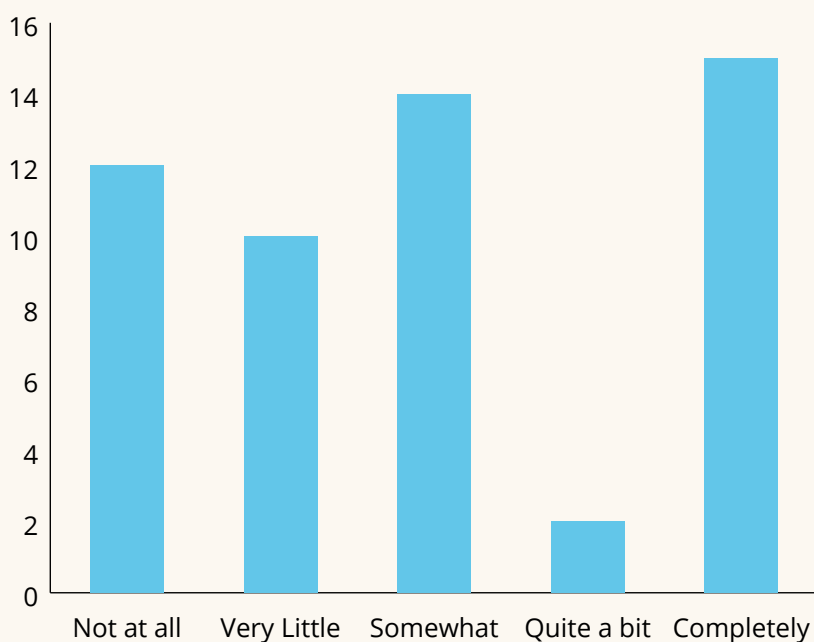




Figure 9a: Trust of Insurers and Banks, Tavua

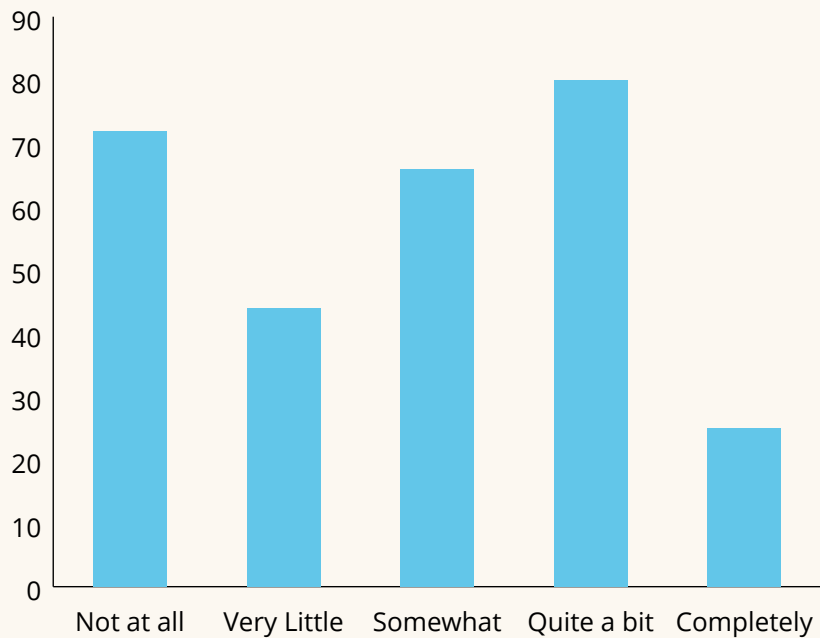
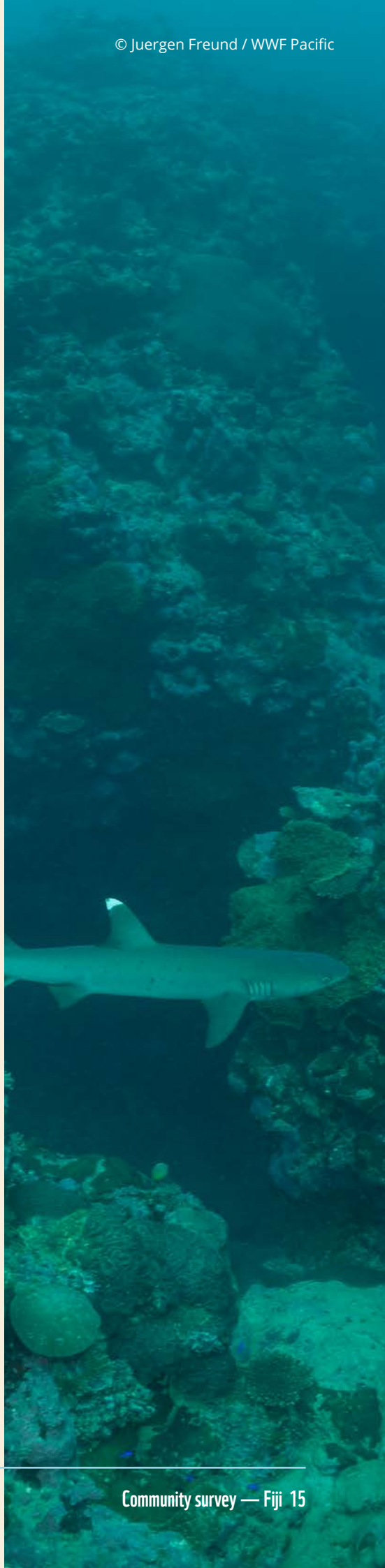
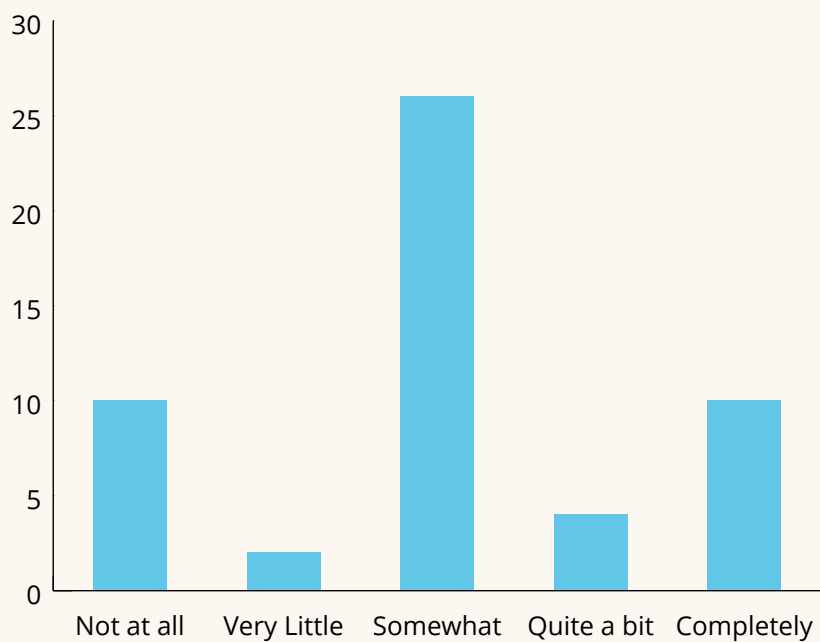


Figure 9b: Trust of Insurers and Banks, Nadogo





©Tom Vierus / WWF Pacific

Resource management/sustainability

It was also important to get a picture of resource management and governance and behaviour relating to fishing, due to the project's goal to incentivise sustainable resource use/conservation of natural assets.

We asked respondents whether there was a management plan or rules in place to govern the fishing grounds they used. Only just over half of people in Tavua and 70% of those in Nadogo said there was, indicating some lack of awareness of the plans that do exist. 35% of people in Tavua and 75% of people in Nadogo felt these rules or plans were strongly enforced. 90% of people in Tavua and all but one in Nadogo felt that more rules should be in place. These responses signal a potential difference in the levels of effectiveness with which fishing grounds near Tavua, and fishing grounds near Nadogo, are managed.

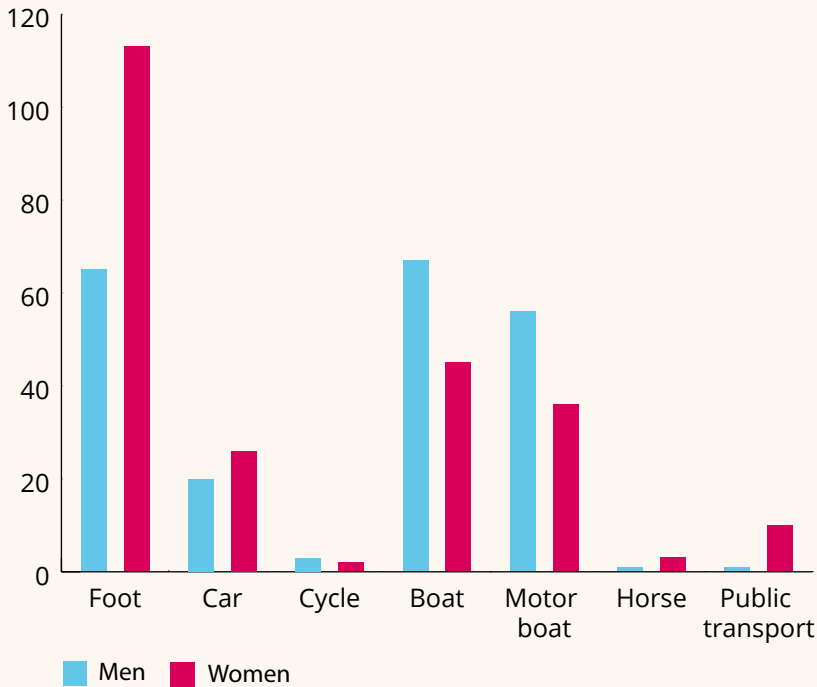
Some of the rules people reported as being in place included: littering bans; restrictions on use of dynamite in fishing; restrictions on size of fish caught to avoid catching undersized, juvenile fish; taboo areas; restrictions on burning of vegetation; restrictions on use of agro-chemicals.

60% of respondents in Tavua and 90% of those in Nadogo reported that they had observed a decrease in the availability of fish in the last five years, and around two thirds in both expected this to decline over the next five years compared to today.

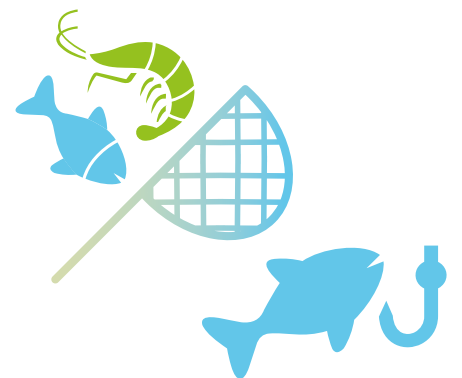
Respondents were also asked questions to understand their fishing habits. They were asked to list the most common types of fish they fish. Across the villages, the most prevalent fish caught were Mullet and Thumbprint Emperor, with many catching Red Snapper, Rabbitfish, Trevally and Spangled Emperor as well, but there was wide variety in fish mentioned. Coastal reefs and mangroves were the main fishing locations cited, with mangroves being more popular amongst women and with men spending more time fishing in a variety of locations including outer reefs and the deep sea in the case of Nadogo. Fishing at FAD sites was extremely uncommon. The predominant method of fishing used across both genders by a long way was net, followed by line. Gender differences were observed in less common methods of fishing, with women more likely to undertake gleaning, and men more likely to use a spear. Differences in access to fishing grounds were also noted, with less men reaching their fishing grounds on foot compared to women, and men being more likely to use a boat.



Figure 10a: Access to Fishing Grounds, Tavua



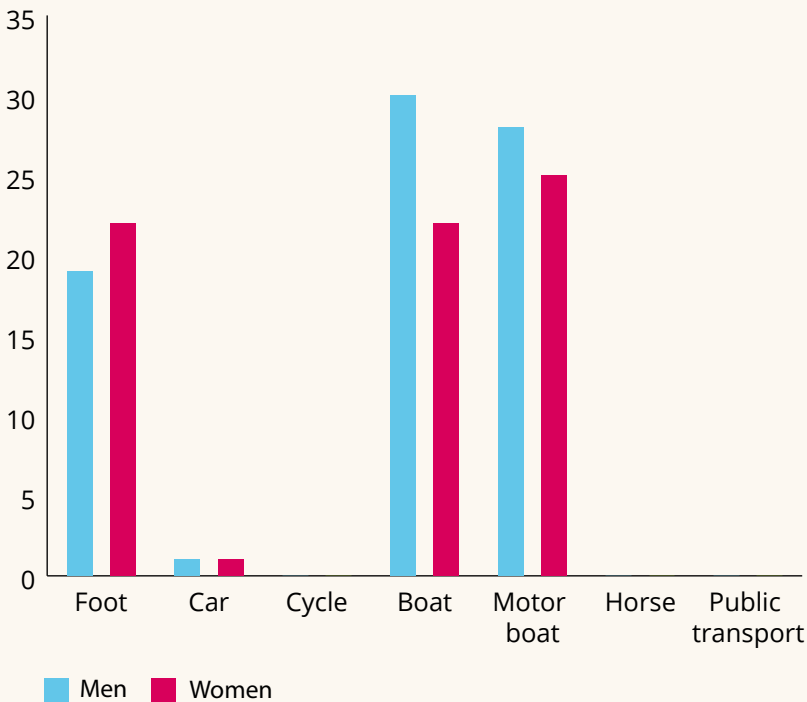
60%
of respondents in Tavua and
90% of those in Nadogo
reported that they had observed
a decrease in the availability of
fish in the last five years



The predominant method of
fishing used across both genders
by a long way was net, followed
by line.



Figure 10b: Access to Fishing Grounds, Nadogo



Conclusion and Takeaways

This survey forms a valuable component of our project, providing information on fishing communities' livelihoods and resource management practices that is vital to the project's objective of creating a financial tool to enhance community and ecosystem resilience.

The survey results show that the project's target communities are predominantly living below the poverty line (with 90% of households surveyed in Tavua and 98% of those in Nadogo earning less than FJD 800/month), meaning they are particularly vulnerable to the impacts of climate hazards. Indeed, the survey shows that most of the respondents are highly dependent on just one or two income streams (fishing and farming). Fishing and farming are also responsible for two thirds to almost three quarters, in the case of Nadogo, of their nutrition, and provide most of the income for the other portion of food that is bought. Any disruption to communities' ability to fish or farm, or reductions in yield and catch, have the potential for severe consequences for these communities.

The surveys do show evidence of some communities finding alternative sources of livelihood, with some households in Nadogo also deriving significant portions of their income from *suluka*, a leaf used to make cigarettes, and an activity that can be scaled up in times of need, but overall, livelihood options are limited.

In addition, the surveys show that the communities have little financial resilience that would allow them to weather a short period of disruption. More than a third of survey respondents did not have any savings whatsoever, and those that did often held these mainly in cash. As expected, the vast majority of respondents did not currently purchase any insurance product, as well as reporting having no or very little understanding of insurance. This underscores the importance of the financial literacy training conducted as part of this project in increasing this understanding. All respondents did note, however, that they needed access to additional funds after a climate event, with two thirds of respondents in Tavua depending mainly on government support for this. This dependence on government support leaves communities in a vulnerable position, waiting for support that may not materialise, that may be delayed, and/or that may not be sufficient. Possibly for that reason, respondents in Nadogo reported mainly reliance on savings first. As climate change amplifies climate hazards and resource scarcity, however, these challenges will only grow, increasing the risk of poverty traps.



90%
households surveyed
in Tavua and

98% of those in
Nadogo earn less than

FJD 800/month



All respondents did note, however, that they needed access to additional funds after a climate event, with two thirds of respondents in Tavua depending mainly on government support for this.

It is therefore essential to find and create solutions that will help communities be more resilient to climate hazards, as well as managing resource use in a sustainable manner, and address dependencies. The surveys show that communities have a high level of awareness of some of these challenges, and are taking steps to govern the use of fishing grounds, with a number of rules already in place (such as bans on fishing with dynamite or catching undersized fish), and almost every respondent (with one exception) indicated support for additional ones. This signals a promising environment for our project.

Contact information

Constance Wong

Constance.g.wong@wtwco.com

WWF Pacific

info@wwfpacific.org

For more information please visit:

<https://www.wtwco.com/en-GB/Insights/campaigns/financial-tools-for-small-scale-fishers-in-melanesia>

About GEF

The Global Environment Facility (GEF) is a family of funds dedicated to confronting biodiversity loss, climate change, pollution, and strains on land and ocean health. Its grants, blended financing, and policy support helps developing countries address their biggest environmental priorities and adhere to international environmental conventions. Over the past three decades, the GEF has provided more than \$22 billion and mobilized \$120 billion in co-financing for more than 5,000 national and regional projects.

About WWF

WWF is an independent conservation organization, with over 30 million followers and a global network active in nearly 100 countries. Our mission is to stop the degradation of the planet's natural environment and to build a future in which people live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption. WWF® and ©1986 Panda Symbol are owned by WWF. All rights reserved.

About WTW

At WTW (NASDAQ: WTW), we provide data-driven, insight-led solutions in the areas of people, risk and capital. Leveraging the global view and local expertise of our colleagues serving 140 countries and markets, we help you sharpen your strategy, enhance organisational resilience, motivate your workforce and maximise performance. Working shoulder to shoulder with you, we uncover opportunities for sustainable success — and provide perspective that moves you. Learn more at wtwco.com

Supported by:

Led by:

In partnership with:

