



SUMMARY OF DEMAND STUDY REPORTS: FARMERS

Climate Disaster Risk Financing and Insurance

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The Pacific Insurance and Climate Adaptation Programme aims to improve the financial preparedness and resilience of Pacific Islanders towards climate change and natural hazards through the development and implementation of market-based meso- and microinsurance schemes. The programme will offer an option for the national and sub-national governments to consider subscribing to a 'macro to micro' scheme, where a government level insurance policy pays out to individuals, to support the most vulnerable segments. Fiji, Vanuatu, Tonga, Samoa, the Solomon Islands, Papua New Guinea, and other Pacific Small Island Developing States will be covered under the multi-year programme.

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1. Background

Agriculture plays an important role in the lives of many Fijians. The agricultural sector supports the livelihoods of 27 percent of Fiji's population and is the main source of work for more than 83 percent of Fiji's rural population¹. However, the agricultural sector is highly susceptible to natural hazards such as tropical cyclones, flooding, droughts, landslides, and king tide. This Demand Study Report aims to give a summary of the overview of five groups of farmers in Fiji, including sugarcane farmers, rice farmers, copra farmers, cash crop farmers, and farmers in Kadavu. The report includes the impact of natural hazards on the livelihood of farmers, current coping mechanisms, and demand for disaster risk financing instruments.



Sugarcane is the dominant cash crop, accounting for 18 percent of Fiji's exports and directly or indirectly supports nearly one-quarter of the population; it is grown by almost 13,700 farmers on small farms averaging 2.8 hectares in size, mostly on western Viti Levu and northern Vanua Levu islands². Recently after Tropical Cyclone Winston in 2016, the Government of Fiji government gave approximately FJD\$10 million to the sugarcane sector to help farmers recover and pay off loans taken from the Sugar Cane Growers Fund³.

According to the Food and Agriculture Organization (FAO)'s 2017 report "Review of the development of the rice industry in Fiji", rice is a major source of food for all ethnic groups in Fiji, with the per capita consumption volume as high as 75 kg per year ⁴. Most recently, Fiji Rice Limited reported incurring around an FJD\$ 350,000 loss in the Northern Division of Fiji due to Tropical Cyclones Yasa in 2020⁵ and Ana in 2021.

The total export volume of coconuts, coconut oil, and copra meal (dried coconut kernels, from which oil is obtained) stands at just over 2 million tons, making up 0.55 percent of national export earnings according to the International Coconut Community in Fiji⁶. Apart from

¹ https://www.export.gov/apex/article2?id=Fiji-Agricultural-Sector

² https://www.gfdrr.org/sites/default/files/publication/Post Disaster Needs Assessments CYCLONE WINSTON Fiji 2016 (Online Version).pdf ; https://doi.org/10.1002/app5.291; https://www.adb.org/publications/fiji-environment-disaster-risk-financing

³ https://www.pngreport.com/economy/news/1142559/fiji-bail-cyclone-affected-sugarcane-farmers

⁴ http://www.fao.org/3/i7106e/i7106e.pdf

⁵ https://fijisun.com.fj/2021/02/11/fiji-rice-limited-sustained-350k-loss-during-tc-yasaana/

⁶ https://coconutcommunity.org/country_profile/5

generating income and alleviating poverty, coconuts help to sustain household food needs and nutrition security in Fiji. Around 120,000 of Fiji's rural population depend on the coconut industry as their main source of food and livelihood⁷. The copra community was heavily affected by Cyclone Winston, which directly hit the main coconut growing areas of Vanua Levu, southern Taveuni, and Lau⁸. The total value of the damage of TC Winston in the crops subsector was estimated at FJD\$ 207million⁹.

Impact of Natural Hazards



- The total value of the damage of TC Winston (2016) in the crops subsector was FJD\$ 207 million
- Fijian government gave FJD\$ 10 million to the sugarcane sector

Fiji produces a variety of cash crops including coconuts, cassava, bananas, taro, and yams¹⁰, but the dominant cash crop is sugarcane¹¹. Both, the cash crop subsector (making up 57.1 percent of the agricultural GDP and 5.4 percent of total GDP) as well as the separate sugarcane sector (making up 8.3 percent of the agriculture GDP and 0.8 percent of the total GDP) have an extensive impact on Fijians' livelihoods. In 2016, tropical cyclone (TC) Winston was responsible for FJD\$ 40.6 Million in damage, with sugarcane accounting for 62 percent of the total losses and damages ¹². Vegetable farmers were also badly impacted by the TC Yasa and TC Ana in 2021, affecting between 60 percent and 80 percent of the crops ¹³.

Today on Kadavu Island in Fiji, over 80 percent of all households grow kava¹⁴. Tropical Cyclone Harold in 2020 caused widespread destruction as it passed straight over Fiji's island of Kadavu, causing pervasive damages to infrastructure and agriculture fields. The disaster affected thousands of vulnerable people, including farmers who lost all their crops, such as yaqona, dalo, cassava, plantain, breadfruits, coconuts, and assorted vegetables and livestock. Following the natural hazard, prices of agricultural products sharply increased, limiting access to affordable and nutritious food, and putting food and nutrition security of the most vulnerable population at risk ¹⁵.

⁷ https://www.fiji.gov.fj/Media-Centre/Speeches/MINISTER-REDDY-S-SPEECH-ON-NATIONAL-COCONUT-DAY 8 https://pacificfarmers.com/resource/publications-2/

⁹https://reliefweb.int/sites/reliefweb.int/files/resources/Post%20Disaster%20Needs%20Assessments%20CYCLONE%20W INSTON%20Fiji%202016%20%28Online%20Version%29.pdf

¹⁰ Government of Fiji (2016): Post-Disaster Needs Assessment,

https://www.gfdrr.org/sites/default/files/publication/Post%20Disaster%20Needs%20Assessments%20CYCLONE%20WINS TON%20Fiji%202016%20(Online%20Version).pdf,S. 26.

¹¹ UNCDF, UNU-EHS and UNDP (2020): Economic Impacts of Natural Hazards on Vulnerable Populations in Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu, S. 38. 12 Ibid, S. 39.

¹³ Fiji Sun (2021): Farmers to Benefit from New Project, https://fijisun.com.fj/2021/02/10/farmers-to-benefit-from-new-project/.

¹⁴ https://phama.com.au/wp-content/uploads/2018/06/Fiji-Kava-Value-Chain-Analysis-Report-FINAL.pdf

¹⁵ http://www.fao.org/resilience/actualites-evenements/histoire-detail/fr/c/1298451/

It is due to this high vulnerability to natural hazards that the Pacific Insurance and Climate Adaptation Programme is working to develop disaster risk financing instruments, including parametric insurance products, to help protect agricultural workers in Fiji. The study captures the effects of natural hazards on farmers, including the amount of financial losses and number of days of work lost, as well as outlining the product preferences of the different farming groups. The results of the study will inform the development of climate risk insurance and disaster risk financing products.

2. Survey Methodology and Participants



- Approximately 320 farmers were interviewed across geographies & farming groups
- Farm owners and farm laborers (men & women)
- Age Range: 20-75 years

For the sugarcane farmers demand study, 71 sugarcane farmers were interviewed. The farmers were broken down into 21 groups ranging from 1 person to 7 people. Of the participants, 66 were men and 5 were women. All of the persons interviewed were farm owners and not farmworkers. The ages of the participants ranged from 33 to 70, with the mean age being 52 and the median age of 50. The UNCDF team worked with the Sugarcane Growers Fund (SCGF) to conduct this research. All farmers interviewed are members of the SCGF. The survey was conducted in August 2020. Most of the sugarcane farmers live in the western part of Viti Levu (Nadi, Lautoka, Ba, Tavua). The interviews were done in a mix of in-office interviews (SCGF office), farm interviews, and gatherings in the community hall or at a leader's house.

As for the rice farmers, 44 persons took part in the survey of which 43 were male and 1 was female. Farmers were between 30 and 75 years old and all of them were farm owners. The UNCDF team was accompanied by dedicated staff from Fiji Rice Limited who had informed the rice communities in Vanua Levu (mainly Dreketi and Korokadi) of the team's arrival date and time. The group discussion had more of an informal approach to getting the farmers comfortable for discussion. The surveys were conducted in August 2020. The majority of the rice farms in Vanua Levu are between 5-10 acres.

Regarding the copra farmers, in this survey, there were 67 people represented in 14 groups. Among them, there were 25 women and 38 men. The ages of the persons in the group ranged between 20 to 70 years old. Eighty-three percent of the persons in the group interviewed were farm owners and 17 percent were a combination of farm owners and farm laborers. As for the Kadavu farmers, only women participated in the interviews. Overall, there were a total of 16 groups interviewed with group sizes ranging from two to six women. The total number of women interviewed was 75. The ages of the women interviewed ranged from 25 to 66 years old.

Of the persons interviewed, 96 percent were farm owners while four percent are farm laborers. Group surveys were held after a women's business fair in Kadavu. For the cash crop farmers, there was a total of 14 groups ranging in size from 2 to 6 people and consisting of 66 cash crop farmers were interviewed. Women made up 61 percent of the participants. All of the interviewees were farm owners from either the Sigatoka Valley or the surrounding region and were between 22 and 69 years old. The farmers were randomly selected to become part of this Demand Study and do not belong to any associations. These farmers were approached either on their farms or the marketplace where they sell their produce.

Variable	Sugar cane	Rice	Copra	Kadavu	Cash crops
Women interviewees	7%	2%	40%	100%	61%
Farm owners	100%	100%	83%	96%	100%
Hire full time help	35%	0%	0%	24%	9%
Hire seasonal help	52%	48%	0%	53%	39%

Key Findings

Hazards and damages					
Impacted by tropical cyclones	81%	100%	100%	100%	45%
Impacted by flooding	58%	53%	38%	20%	77%
Impacted by droughts	61%	62%	0%	0%	14%
Impacted by other types of hazards	4%	25%	0%	32%	17%
Impacted by hazards at least once a year	100%	61%	100%	100%	77%
Somewhat or extremely likely to be impacted in the next 5 years	100%	100%	100%	100%	100%

Financial Services and Financial Risk Management Practices

Have a bank account	100%	100%	92%	73%	95%
Member of FNPF	25%	55%	48%	87%	44%

Key Findings (continued)

Access to mobile phones	97%	100%	100%	100%	82%
Access to mobile money	30%	100%	92%	80%	71%
Typically rely on loans after disasters	66%	0%	0%	0%	9%
Typically rely on savings after disasters	33%	75%	44%	76%	41%
Typically rely on family/friends after disasters	1%	25%	56%	24%	50%

Product Preferences

Interested in insurance or a combination of insurance, savings, and loans to help manage climate risk	56%	100%	14%	100%	70%
Interested in more expensive insurance products that cover a variety of risks	56%	80%	100%	53%	92%
Interested in purchasing insurance through an association/ cooperative	100%	86%	100%	32%	95%
Would be able to afford insurance products that cost more than FJD\$ 100 / a year	58%	25%	87%	47%	68%

3. Hazards and Damages

The most common hazard affecting all the groups was cyclones with groups' responses ranging from 45 percent for the cash crop to 100 percent for the rice, copra, and Kadavu farmers. All groups were affected by flooding, their responses ranged from 22 percent to 77 percent. Around 60 percent of both sugarcane and rice farmers said they were affected by droughts, while copra and Kadavu farmers did not mention it at all. About a third of Kadavu farmers, and around 25 percent of rice farmers, and 17 percent of cash crops farmers said that they were also affected by other types of natural hazards such as tornadoes, landslides and king tides that cause saltwater seeping. Overall, it is important to note that groups more than 40 percent indicated that their productivity would be impacted at least twice a year by a natural hazard.



Recovery times after the impact of a natural hazard varied for the groups according to hazard, season and personal experience of the groups. Majority of group responses varied from 30 days up to 180 days on the more severe side. One group gave the response of 1,000 days, giving an indicative figure of how many days it may take from when a coconut tree is completely damaged to another tree being profitable.

Days of Work Lost After a Natural Hazard



The groups were questioned about how much of their income could be lost when a natural hazard hits (including loss of work and damages). The groups' responses on loss vary depending on the type of hazard, its intensity, the size of the farm, and the time of year when the hazard struck, with answers varying from FJD\$ 300 to FJD\$ 20,000. The graph below illustrates the losses by the farmers. In addition, 8 percent of the sugarcane farmers group stated to lose half of their harvest.



The group responses showed that all the farmers were extremely susceptible to being affected by a natural hazard within the next 5 years. The Kadavu and the Copra farmers considered cyclones as the most impactful natural hazards. The sugarcane and cash crop farmers here indicated that flooding impacts farmers located in low-lying areas.

4. Financial Services and Financial Risk Management

The vast majority of the group who were farm owners had bank accounts, but all did not know if their farm laborers had bank accounts. Regarding membership to the Fiji National Provident Fund, which is a common source of support after extreme weather events, the group responses varied from 25 percent to 87 percent as members of the Fund.



In this survey, the groups were asked what tools or instruments they typically use when managing the impacts of a natural hazard. The group responses, being the average in this instance, varied between savings (53.6 percent), loans (37.5 percent), insurance (31 percent) and receiving help from family and friends (31.2 percent). It was also noted that typically some groups use informal loans, as they do not have an income steady enough to access loans from the bank.



However, when asked what financial instrument they would prefer given an option when such hazards strike, the group responses indicated that the vast majority would prefer a combination between savings, insurance and loans followed by insurance, savings and lastly loans. The graph below illustrates this. The group responses for a combined product here varied between, 6 percent, 44 percent, 45 percent, 48 percent and 67 percent. The groups that preferred insurance varied between 7 percent to 31 percent. The group responses preferring savings varied between 18 percent and 23 percent.



Disaster Risk Financing Instrument Preferences

The majority of the group responses showed that no financial product provider or product has a good reputation or high level of trust in their community. Keeping this in mind, the group responses mentioned that the Bank of South Pacific (BSP) Bank, Bank of Baroda as accessible financial institutions. For any successful intervention by any financial product public participation, community stakeholder engagement must be thoroughly done to increase or enable any uptake of any product.

5. Product Preferences



The majority of group responses indicated that they have access to cell phones. The group responses varied on access to mobile money. Some group responses showed that the people using mobile money were using it for transactions at least once a month. The responses to mobile money usage spread from 30 percent to the greater majority being over 70 percent access to mobile money. This shows that the digital penetration in mobile money can ultimately be successfully utilized in spreading the word and function of the insurance product.

The group responses overwhelmingly showed that all the farmers stated that they would be able to afford an insurance product that costs FJD\$ 100 per year. A minority said that they could afford a product costing FJD\$ 200 per year. The cash crop farmers in their group responses pointed out that their loss and recovery were perceived and calculated per acre.

6. Conclusion

With regards to the natural hazards, the analysis indicates that tropical cyclones present the most imminent and devastating hazard to these groups. Given the group responses, a parametric wind and rain combined pilot product is most likely to succeed as the pilot programme. In a second instance, drought could be added as an add-on or separately.

Savings was qualified as the most used financial product and this can be better utilized when initiating trainings and conversations on a sustainable solution for hazard events. The positive perspective towards the usage of mobile money can be utilized to market and develop the product to achieve equity and equality. The survey showed that the

groups were willing to pay for a more expensive product that would cover more risks, but also showed that more than half admitted to being able to afford a product whose premium would cost FDJ\$100 a year. The survey showed that the groups leaned more towards purchasing policies through an association rather than by themselves. The price factor of the premiums should take into consideration the affordability stance as suggested by the group responses, this will ensure that the strong objectives of consumer empowerment and education on insurance and also financial products are rolled out

About UNCDF:

The UN Capital Development Fund makes public and private finance work for the poor in the world's 46 least developed countries (LDCs). UNCDF offers "last mile" finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's strategy 'Leaving no one behind in the digital era' is based on over a decade of experience in digital financial inclusion in Africa, Asia and the Pacific. UNCDF leverages digital finance in support of the Sustainable Development Goals (SDGs) to achieve the vision of promoting digital economies that leave no one behind. The goal of UNCDF is to empower millions of people by 2024 to use services daily that leverage innovation and technology and contribute to the SDGs. To achieve this vision UNCDF uses a market development approach and continuously seeks to address underlying market dysfunctions that exclude people living in the last mile.

About UNU-EHS:

The United Nations University – Institute for Environment and Human Security is based in Bonn, Germany and conducts research on risks and adaptation related to environmental hazards and global change. The institute's research promotes policies and programmes to reduce these risks, while taking into account the interplay between environmental and societal factors. Research areas include climate change adaptation by incorporating insurance-related approaches, environmentally induced migration and social vulnerability, ecosystem-based solutions to adaptation and disaster risk reduction, and models and tools to analyse vulnerability and risks linked to natural hazards, with a focus on urban space and rural-urban interfaces. UNU-EHS also offers the joint Master of Science degree programme "Geography of Environmental Risks and Human Security" with the University of Bonn and hosts international PhD projects and courses on global issues of environmental risks and sustainable development. http://ehs.unu.edu

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UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. The UNDP Pacific Office in Fiji serves 14 countries and territories in the Pacific, as part of the 177-country office UNDP network, and offers global perspective and local insight to help empower lives and build resilient nations. www.pacific.undp.org

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