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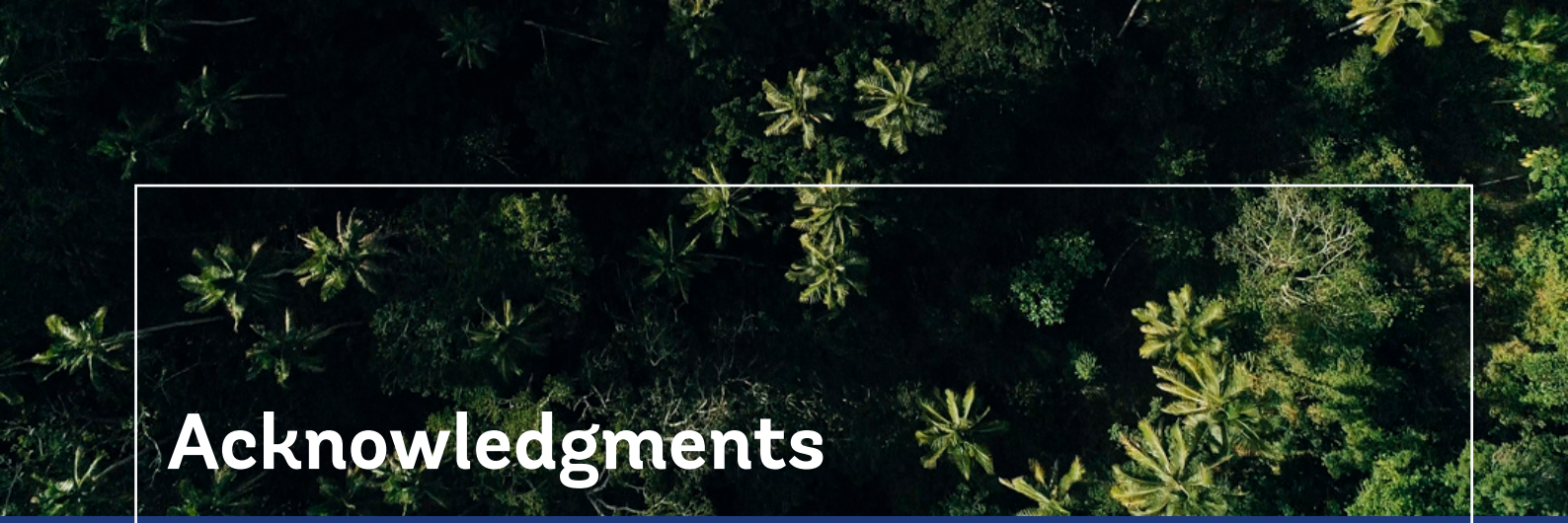
Vakavakarau Vata (Getting Prepared Together)

KEY LESSONS FOR FIJI FROM RECENT EXPERIENCES ON ADAPTIVE SOCIAL PROTECTION AND A WAY FORWARD

RAPID SOCIAL RESPONSE



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Acronyms

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Center
API	Application Programming Interface
ASP	Adaptive Social Protection
BFS	Bus Fare Scheme
BRN	Birth Registration Number
C&P	Care and Protection Allowance
COVID-19	Coronavirus Disease 2019
DA	Disability Allowance
DFAT	Department of Foreign Affairs and Trade
DLDA	Disaster Loss and Damage Assessment
DOW	Department of Women
DRF	Disaster Risk Financing
DRM	Disaster Risk Management
DSW	Department of Social Welfare
EWS	Early Warning System
FAS	Family Assistance Scheme
FMS	Fiji Meteorological Service
FNPF	Fiji National Provident Fund
FRCS	Fiji Revenue and Customs Service
FWCC	Friends World Committee for Consultation
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GPS	Global Positioning System
GRM	Grievance Redress Mechanism
HIES	Household Income and Expenditure Survey
HQ	Headquarters
ID	Identification
IDA	Initial Damage Assessment
IDMC	Internal Displacement Monitoring Center
IT	Information Technology
JFN2	Jobs for Nature 2.0
MOC	Ministry of Communications

MOF	Ministry of Finance, Strategic Planning, National Development, and Statistics
MOHMS	Ministry of Health and Medical Services
MWCPA	Ministry of Women, Children, and Poverty Alleviation
MWCSP	Ministry of Women, Children, and Social Protection
NCCP	National Climate Change Policy
NDMA	Natural Disaster Management Act
NDMC	Natural Disaster Management Council
NDMO	National Disaster Management Office
NDRRP	National Disaster Risk Reduction Policy 2018–2030
NEOC	National Emergency Operation Centre
NGO	Nongovernmental Organization
PBS	Poverty Benefit Scheme
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PIC	Pacific Island Country
PML	Probable Minimum Loss
PSP	Payment Service Provider
RP	Return Period
RPM	Rural Pregnant Mothers Food Voucher
RSR	Rapid Social Response Program
SOP	Standard Operational Procedure
SP	Social Protection
SPS	Social Pension Scheme
SR	Social Registry
TC	Tropical Cyclone
TIN	Tax Identification Number
TSLB	Tertiary Scholarship and Loans Board
UA	Unemployment Assistance
UN	United Nations
UNDRR	United Nations Office for Disaster Risk Reduction
UNICEF	United Nations Children's Fund
USSD	Unstructured Supplementary Service Data
WBG	World Bank Group
WFP	World Food Programme
WGP	Welfare Graduation Program
WHO	World Health Organization

Executive Summary

Growing climate risks pose a significant socioeconomic threat to the vulnerable communities in Fiji. As of 2019, approximately a quarter of the Fijian population were living below the national poverty line, which was defined at a consumption threshold of F$2,179.50 per adult equivalent annually. Furthermore, many individuals teeter on the edge of poverty, and even a minor setback, such as temporary job loss, can swiftly plunge them into destitution. An analysis conducted in this study indicates that a severe tropical cyclone could temporarily elevate the poverty rate from 24.1 percent to 45 percent. These affected populations can remain in poverty for an average of about five years, with most enduring this state for a duration ranging from two to six years without any form of support. Around 2,702 individuals may never manage to recover to their predisaster consumption levels and will remain poor unless they receive assistance. Their predisaster consumption level typically hovers just above the poverty line, often falling below 20 percent, underscoring the critical need for mechanisms that enhance their resilience before, during, and after disasters.

In Fiji, gender inequality presents an extreme challenge, and it is particularly amplified amid disasters and crises. With a global ranking of 107th out of 146 countries in the 2022 Global Gender Gap Report, the disparities faced by women, who often shoulder primary caregiving roles and occupy lower-paying, informal, or unpaid positions, heighten their vulnerability during disasters (World Economic Form 2022). This inequity is further exacerbated by a considerable gender pay gap and higher rates of unemployment among women. The resulting disadvantages hinder their capacity to both prepare for and rebound from shocks. Moreover, the already alarming rates of violence against women and girls escalate during and after disasters due to increased stress and trauma, as evidenced by a significant surge in reported cases during the COVID-19 pandemic and after previous cyclones. Despite their active involvement in disaster readiness, women's limited participation in decision-making processes perpetuates this vulnerability. The stark gender gaps in governance, coupled with restricted access to social security schemes, underscore the urgent need to address these inequalities.

The Government of Fiji has introduced various adaptive social protection (ASP) interventions to mitigate the negative impacts of shocks from the past disasters and crises. After Tropical Cyclone (TC) Winston in 2016, the Department of Social Welfare, with financial support from the Australian Department of Foreign Affairs and Trade, provided additional cash grants to beneficiaries registered under the three national social protection programs. The government also extended cash assistance to low-income households with damaged homes to aid in rebuilding. Following the COVID-19 pandemic, diverse social protection supports were provided to formal and informal workers as well as to existing social assistance beneficiaries. The experience of these ad hoc ASP measures underscores the need to formally establish an ASP system in preparation for future disasters in Fiji.

The Government of Fiji is committed to developing an ASP strategy with implementation roadmap aimed at facilitating more timely, efficient, and inclusive responses to future shocks. Under the leadership of the Ministry of Finance, Strategic Planning, National Development and Statistics (MOF, previously Ministry of Economy) and the Ministry of Women, Children, and Social Protection (MWCSP; previously the Ministry of Women, Children, and Poverty Alleviation [MWCPA]), the government, with support from the World Bank's Fiji Social Protection COVID-19 Response and System Development Project (P175206), initiated a comprehensive, whole-of-government effort to formulate an ASP strategy. The primary objectives are to provide clear policies for addressing covariate shocks, such as natural disasters or the COVID-19 crisis, and to enhance the resilience of the poor and vulnerable groups, including women and youth.

The World Bank, in close consultation with key government counterparts, conducted a social protection stress test to identify areas of focus for the ASP strategy development process. As an initial step toward building an ASP strategy in Fiji, the Social Protection Stress Test Tool was employed to assess the adaptability of the social protection system to shocks, including those related to climate change. The assessment covered vulnerability analysis, including a simulation of the ASP program and financing and an assessment of four building blocks of the ASP system: (i) institutional arrangements and partnerships, (ii) social protection programs and delivery system, (iii) data and information, and (iv) financing ASP. The initial draft score of the stress test was prepared by the World Bank team and finalized through a consultation process with key government officials who have also been involved in developing the ASP strategy.

Assessment of the Four Social Protection Building Blocks in Fiji

The result of the social protection stress test confirmed that the Fijian ASP system is mostly at an emerging stage, with notable gaps in disaster risk financing (DRF) and data and information. On a scale ranging from 1 (nascent) to 5 (advanced), the country scored 2.6. Whereas the "Social Protection Programs and Delivery Systems" and "Institutional Arrangements" categories are performing comparatively better, "Financing ASP" is the only category with a latent score of 1.8. "Data and Information" also requires enhancements to be flexible and adaptable to shocks. Fiji has made considerable progress in developing its social protection system and adapting it to climate and other shocks, but several areas

require further attention to ensure improved effectiveness, efficiency, and responsiveness. The details of the assessment are as follows:

- **Institutional Arrangements and Partnerships (nascent to emerging).** Although disaster risk management (DRM) policies and the existing DRM Act acknowledge the aspects of social protection and gender, they require significant enhancements. The outdated DRM Act lacks specific regulations for ASP. Contingency plans and standard operational procedures (SOPs) for implementing social protection programs during and after disasters are absent. Coordination among UN and humanitarian agencies under the cluster approach is hindered by the lack of a centralized database, impacting beneficiary tracking and program outcomes. Institutional arrangements highlight the leadership of the National Disaster Management Office in DRM activities, with the MWCSP leading the Safety and Protection Cluster. However, roles for key agencies in ASP — such as the Fiji National Provident Fund (FNPF), which had been a source of funding for postdisaster and post-COVID recovery measures by allowing extraordinary access to members' savings accounts (WBG 2021) — remain undefined within DRM regulations, emphasizing the need for clearer coordination in the cluster system.
- **Programs and Delivery Systems (emerging).** Fiji's social protection programs are relatively advanced, with postdisaster interventions undertaken after events such as TC Winston and the COVID-19 pandemic. These responses, however, have been largely ad hoc, lacking a permanent policy framework and typically benefiting only existing recipients. To broaden the reach of these programs, it is crucial to establish clear protocols to avoid redundancies, make decisions about disaster coverage, and gather data on under-served groups, including informal workers in the "missed middle."[1] A simulation has uncovered that individuals who fall into poverty after disasters often languish in poverty for more than five years without sustained assistance. Although enhancing support for existing beneficiaries mitigates new and temporary poverty, a more cost-effective approach involves extending assistance horizontally to those living just above the poverty line. A one-time cash transfer of F$2,000 to these households living below 20 percent above the poverty line and below 50 percent above the poverty line can efficiently reduce the number of affected individuals from 73,923 to 53,837 and 38,226, respectively. Additionally, the simulation underscores the importance of proactive resilience building through economic inclusion programs, such as the Welfare Graduation Program (WGP) and the Jobs for Nature 2.0 (JFN2) initiative, providing valuable tools for enhancing community resilience and alleviating the high cost of full compensation.[2] Drawing on lessons from the COVID-19 response, such as unemployment insurance programs collaborating with mobile phone and money companies, can inform future program designs for the effective delivery of ASP measures.

1 Nonpoor informal households lie between households below the poverty line at one end of the income spectrum and formal households at the other. The nonpoor informal households are not eligible for social safety nets because they are not poor enough, nor are they covered by formal sector social insurance. They are the "missed middle" of social protection. They remain largely unobservable by governments and are therefore difficult to support in case of a major shock (Guven et al. 2021).

2 These programs are supported by the World Bank's Fiji Social Protection COVID-19 Response and System Development Project: Additional Financing. See the project paper for details (WBG 2022b).

- **Data and Information (nascent).** Fiji's DRM information and systems, particularly the early warning system (EWS), are in the emerging stage, but the social registry and social protection data and information systems are still at a nascent stage of development. The EWS, managed by the Fiji Meteorological Service, primarily focuses on major disasters like tropical cyclones, heavy rain/floods, and droughts, but it lacks coverage for rapid-onset disasters such as earthquakes and tsunamis. Although EWS data have been partially utilized for geographical targeting of past ASP programs, such data do not trigger ASP programs automatically. After a disaster, the government has an information system to manage damage data, but no mechanism currently links this with predisaster data, such as social protection databases. Further, Fiji lacks a consolidated social registry, with program-specific registries managed by the MWCPA and the FNPF. These registries cover less than 30 percent of the population and thus fail to account for more than 70 percent of potentially affected beneficiaries. Information in MWCSP registries is occasionally updated, but no protocols exist for nonbeneficiary or nonmember updates. To address this gap, the unemployment assistance program introduced mobile phone self-registration during the COVID-19 pandemic, offering a potential model for future disaster responses.
- **Finance (latent).** The current DRF options in Fiji are unlikely to be adequate to cover the estimated costs of ASP interventions, which can range from approximately F$100 million to F$200 million. For instance, implementing a program that provides F$1,000 or F$2,000 to individuals living at or below 20 percent above the poverty line, which has proven effective in reducing new cases of poverty in the event of a large-scale disaster, would require an estimated F$108 million and F$216 million, respectively. In a more comprehensive program scenario, expanding support to those who are 50 percent below the poverty line could lead to costs exceeding F$300 million. It is essential to note that Fiji currently lacks a national strategy that outlines commitments to DRF. The available ex ante financial instruments in Fiji are limited and primarily consist of government reserve funds and contingent credit. However, ex post financial instruments are typically activated through reallocation from government budgets, internal and external borrowing, donor assistance, and international humanitarian aid.

Key Recommendations for Building Fiji's ASP System

Following the stress test, this paper highlights several policy recommendations. Consideration of these activities within the government's ASP strategy could greatly contribute to making Fiji's social protection system more adaptive to future shocks.

- **Strengthen institutional arrangements for DRM and ASP.**
  - **Establish a clear institutional framework for ASP interventions.** Leverage the cluster system; address agency silos; and define roles, particularly those of social protection agencies such as the FNPF.

- **Develop ASP programs by building on existing efforts.**
  - **Design a flagship ASP program.** Create a versatile national ASP program to respond to shocks effectively, with benefits tailored to objectives, including short-term cash assistance for consumption loss and larger support to prevent long-term poverty.
  - **Enhance community resilience.** Strengthen vulnerable households and communities through economic opportunities, linking programs like the WGP with green employment initiatives such as JFN2.
  - **Utilize social protection for preparedness.** Leverage social protection programs to disseminate early warning information, enhance preparedness, and improve access to financial resources.

- **Integrate gender considerations into ASP systems.**
  - **Promote gender inclusivity.** Ensure participation of women and vulnerable groups in decision making, and incorporate insights from civil society and women's rights organizations into DRM.
  - **Mitigate gender-based violence (GBV).** Implement strategies to reduce GBV risks, integrate GBV prevention into social security schemes, and provide access to essential services for survivors.

- **Enhance adaptability of social protection delivery.**
  - **Develop horizontal expansion mechanisms.** Strengthen the social protection delivery system to expand coverage, identify vulnerable populations not covered, and establish clear business processes in SOPs.
  - **Improve information communication.** Enhance information dissemination, particularly in remote areas, and involve vulnerable groups in strategy development.
  - **Facilitate digital payment options.** Promote digital payment alternatives in collaboration with a broader range of banks and nonbank financial service providers, establishing a social registry that includes payment account information for both regular and potential beneficiaries to enable timely disbursement of funds during crises, enhancing beneficiary experiences.

- **Upgrade data and information systems and integration.**
  - **Establish a comprehensive social registry.** Develop a social registry and promote data sharing to improve identification of those in need during climate shocks, ensuring inclusivity.
  - **Enhance a linkage with DRM information systems.** Improve interoperability between DRM and social protection databases and systems to enhance targeting.

- **Ensure sustainable financing mechanisms for ASP programs.**
  - **Initiate DRF discussions.** Explore the development of a DRF strategy and annual plan, encompassing various disaster scenarios, to ensure timely disbursement of ASP programs following crises.

1. Introduction

1. The Republic of Fiji is one of the small island nations belonging to the Pacific Island Countries (PICs). As of 2020, it is the second-largest economy in the Pacific and has a population of 896,444 distributed across an area of 18,274 square kilometers spread over 332 islands. Despite the size of the country, most of the population is concentrated into the two largest islands and urban centers. Seventy-five percent of the population inhabits Viti Levu — an island where the country's capital, Suva, is located — and 20 percent reside on the smaller island of Vanua Levu as of 2016. Fiji's urban population is reported to be 494,252, or 55.9 percent of the total population.

2. External shocks, such as natural disasters due to climate change, have been one of the main challenges in Fiji. Countries in the South Pacific, where Fiji is located, are among the most disaster-prone nations in the world. Devastating disasters and shocks are frequent occurrences in Fiji, which ranks as the 14th most at risk country in 2021 (Aleksandrova et al. 2021). In 2020, while the country had been struggling with the economic impacts of the pandemic, two Category 5 tropical cyclones hit Fiji. In April 2020, Tropical Cyclone (TC) Harold brought significant damages and losses, with an estimated 2,500 buildings destroyed or damaged, and in December 2020, TC Yasa hit Fiji, destroying or damaging more than 4,200 houses. Situated within the Pacific Ring of Fire,[3] where earthquakes and earthquake-induced tsunamis are likely to occur, Fiji is highly prone to natural disasters. Most of its area and population are vulnerable to cyclones, heavy rain, and flooding, which are yearly occurrences in the country. Fiji is prone not only to tropical cyclones but also to earthquakes, with a greater than 20 percent chance of a potentially destructive event taking place during the 50-year time frame due to its location within the Ring of Fire. These disasters significantly impact the lives and livelihoods of the country's citizens, especially those dependent on businesses and income-generating projects, which are easily affected or destroyed by climate-induced or naturally occurring disasters.

3 The Pacific Ring of Fire comprises a series of volcanoes and seismic hot spots, characterized by frequent earthquakes, encircling the perimeter of the Pacific Ocean.

3. Such shocks have significant adverse impacts on poor households and those threatened by the economic slowdown due to job losses, business closures, and the loss of a significant amount of capital. Before the recent shocks, the extreme poverty rate in Fiji was modest; the data in 2013 (before TC Winston in 2016) shows that just 1.4 percent of the population lived in extreme poverty or under the US$1.90 per day international poverty line. However, a proportion of the population is still below the national poverty line. As of 2019, approximately 24.1 percent of the Fijian population was estimated to be poor based on the national poverty line of consumption of F$2,179.50 per adult equivalent per year (or F$41.91/week). Although there are currently no data on the poverty statistics after the dual shocks, consequences are expected to fall heavily on the poor and informal industry workers and their families. Vulnerable groups and the Indigenous peoples who may not have been registered as poor are at the risk of falling into poverty due to shocks associated with the COVID-19 pandemic and natural disasters.

4. The Government of Fiji had implemented various social protection programs to cushion the impact of disasters and shocks. After the occurrence of the COVID-19 pandemic, the government provided a series of social protection supports, including (i) a three-phase COVID-19 unemployment assistance (UA) scheme to support Fiji National Provident Fund (FNPF) members in 2020; (ii) topping up the existing social welfare beneficiaries with support from UN and humanitarian agencies; (iii) the Stronger Together Jobs Support Scheme, a short-term employment support program; iv) a series of UA schemes in 2021 for both formal and informal workers; and (v) Jobs for Nature 2.0 (JFN2), a community-based public works on green jobs. Existing regular and COVID-19 response social protection programs are further discussed in section 4.

5. While mitigating the short-term impacts of the pandemic and tropical cyclones, the Government of Fiji is committed to promoting adaptive, gender-smart social protection. Global experiences show that an adaptive social protection (ASP) system can improve the capacity of poor and vulnerable families to prepare, cope, and adapt to shocks or other covariate factors that further marginalize the already vulnerable (Boxbox -1). Social protection is intrinsically intended to be shock responsive, supporting the population by mitigating covariate shocks. An adaptive, shock-responsive social protection system can respond flexibly and appropriately to the needs and requirements of the affected population considering the damages and location as well as factors such as age, employment status, and gender. It enables the affected population to respond effectively and according to the needs required by the situation. Adaptive and shock-responsive social protection not only helps the affected population recover from the impact but also sharpens preparedness measures to disasters and covariate shocks because it considers the risks and vulnerabilities of the population to disasters and shocks.

6. The objective of this Background Paper is to identify gaps and guide Government policy priorities to make the Fiji social protection system more adaptive through a participatory approach. This will build household resilience to possible climate shocks and make the social protection system responsive to future shocks. The output is intended to inform Fiji's first ASP strategy, which is led by MOF and MWCSP as is one of the key activities under the World Bank's Fiji Social Protection COVID-19 Response and System Development Project (P175206). For initiating the consultations, the World Bank team first employed the

Box 1

Adaptive Social Protection and Its Key Building Blocks

The objective of adaptive social protection (ASP) is to build household resilience to shocks. *Resilience* is defined as the ability for a household to prepare for, cope with, and adapt to shocks in a manner that protects their wellbeing: ensuring that they do not fall into poverty or become trapped in poverty as a result of the impacts. A more resilient household can

- prepare for a shock to minimize and mitigate its impact on well-being and prevent destitution;
- cope with a shock's immediate impacts to minimize their impact on well-being; and
- adapt in a manner that reduces exposure and vulnerability over the longer term.

ASP programs can include both ex ante and ex post resilience. Before a disaster hits, increased access to social protection and active information communication on disaster risk management can build the capacity of poor and vulnerable populations to prepare for future shocks. Once disaster hits, shock-responsive programs - such as those providing top-ups to existing beneficiaries (vertical expansion) and expanding support to nonexisting beneficiaries (horizontal expansion) - can prevent the poor and vulnerable population from taking negative coping strategies - such as selling important livelihood assets or reducing children's food consumption - which would have longer negative impacts on poverty.

Further, ASP can help people adapt to and build back better from the shock. Priority 4 of the Sendai Framework for Disaster Risk Reduction 2015–2030 emphasizes that reconstruction after a disaster offers an opportunity to build more resilient societies, a "Building back better" highlights the necessity of not re-creating the same vulnerabilities that exacerbated the impacts of the previous disaster. The same principle can be applied to poor and vulnerable households: it is critical to ensure that poor and vulnerable households can "bounce back better" to a more resilient state of lower exposure and vulnerability.

Sources: a. Hallegatte, Rentschler, and Walsh 2018; b. Manyena et al. 2011.

social protection stress test, which assesses the adaptability of the social protection system to shocks, including climate change. The detailed results of the stress test are summarized in appendix A. Based on the initial result of the stress test, the government, with support from the World Bank and the expert firm hired under the World Bank project, conducted a series of workshops in 2022 to discuss the critical agenda of ASP, such as vulnerability and risk assessment, institutional arrangement and coordination, data and information, gender, legal

framework, current social protection mechanisms, and financing schemes. This Background Paper summarizes the key outcomes from these consultations and provides key lessons and recommendations that are being used by the government to inform its ASP strategy.

7. The rest of this Background Paper is organized as follows: Section 2 describes the country's vulnerability and exposure to climate shocks. Section 3 discusses the institutional and policy framework for SP systems, followed by an analysis of its subcomponent and interlinkages with the disaster risk management (DRM) system. It also discusses the important roles of humanitarian and nongovernment organization (NGO) partners of the government to respond to shocks. Section 4 looks at various ASP programs implemented to respond to emergencies and the resilience-building component of regular SP programs, and it investigates the adaptability of the social protection delivery chain across these programs. Section 5 assesses the availability of data and information systems that could be leveraged for their ASP operations. Section 6 presents the sources of financing social protection and ASP programs in the country. Section 7, the final section, provides a summary of key findings and lessons learned in implementing SP and ASP programs and provides policy recommendations that may inform the government in designing new SP programs, including adaptive types, enhancing or recalibrating the designs of the existing programs to improve and strengthen their adaptiveness and responsiveness to disasters and climate change.

2. Vulnerability and Risk Exposure

Climate and Disaster Risks

8. In 2020, Fiji ranked as the 14th most at-risk country in terms of the devastating effects of disasters (Behlert et al. 2020). Between 1970 and early 2021, almost 3.8 million people were directly affected by disaster events in the country, including an estimated 502 fatalities *(Table 1)*. Cyclones, floods, and severe storms impacted 75 percent of those affected by disasters and caused almost all casualties. Although only six major droughts were recorded during this period, these six events impacted 22 percent of all those who were affected by any disaster from 1970 to 2021. Earthquakes and tsunamis have had relatively little impact in this short time frame, but these hazards are significant when they occur. For example, following the magnitude 6.8 Suva earthquake, which occurred just off the southeast shore of Viti Levu in September 1953, a tsunami was generated that killed eight people and damaged infrastructure. Landslide occurrences and impacts are difficult to quantify but are known to be frequent and recurrent throughout Fiji. Landslides pose a substantial threat to lives, livelihoods, and transportation networks and are often triggered by rainfall events. In 2012, heavy rainfall and flooding caused combined economic damage estimated at FJ$81.1 in areas within and along the Ba River and Penang River catchment (ADPC and UNDRR 2019). Landslide risk is also prevalent in steep slopes due to unstable soil conditions, oftentimes resulting in damage to property, agricultural crops, and even death caused by fallen trees, structures, and rocks.

Table 1. Direct Impact of Major Disasters, 1972 to early 2021

Disaster	Number of events	Number of people affected	Number of people killed
Tropical cyclone	73	2,363,336	377
Flood	44	563,310	103
Drought	6	840,860	0
Severe local storm	2	8,370	17
Earthquake	10	0	5
Tsunami	2	0	0
Total	**137**	**3,773,876**	**502**

Sources: *Government of Fiji, World Bank, and GFDRR 2017 (Climate Vulnerability Assessment for data between 1972 and 2016); EM-DAT for data between 2017 and early 2021 (as of March 2021)*

9. Future natural hazards are expected to become more frequent and intense in Fiji (Government of Fiji, World Bank, and GFDRR 2017). According to Fiji's National Climate Change Policy (NCCP), between 1961 and 2010 the average annual maximum and minimum air temperature increased by 1.1°C and 0.6°C, respectively (Government of Fiji 2012). During the same period, Fiji also recorded a 6.0 millimeter (mm) increase in its sea level per year, larger than the global average of 2.8–3.6 mm per year. This increase in the rise of sea level significantly impacts people's lives and safety because their dependence on agriculture, farming, and fishing cause them to live near bodies of water or low-lying farmland, which renders them physically vulnerable to the effects of tropical cyclones and flooding. Indeed, the significance of natural disasters has been increasing in the recent years *(Table 2)*. In 2012, residents of the village of Vunidogoloa, which faced rising sea levels, became the first community in the country to relocate due to climate change. The projections indicate that, by 2030, the annual average air and sea surface temperature will rise by up to 0.4°C–1.0°C.[4] It is projected that rainfall patterns will change over this century, with more extreme rainfall days expected, more extremely hot days, and fewer — but more intense — tropical cyclones. Sea level is also expected to rise, which will increase the impact of storm surges and coastal flooding. There is a 56 percent probability that over the next 20 years about 35,000 people will be displaced as a result of storm surges in the archipelago (IDMC 2019).

10. Coastal areas are especially prone to these disasters (PCRAFI 2015). *Figure 1* shows the models developed for the Pacific Catastrophe Risk Assessment and Financing Initiative based on historical data, simulating more than 400,000 tropical cyclones and about 7.6 million earthquakes.

11. Natural disasters have caused substantial economic impacts on Fiji's economy. Between 1980 and 2016, annual economic damages caused by disasters have been estimated at F$35 million (US$16.3 million) — equivalent to 0.5 percent of annual gross domestic product (GDP) (Government of Fiji 2016). TC Winston, a Category 5 cyclone in 2016, which reached average

4 The projection is based on the Pacific Climate Change Science Program report (PCCSP 2011). The current outlook is more dire than the one the analysis was based on.

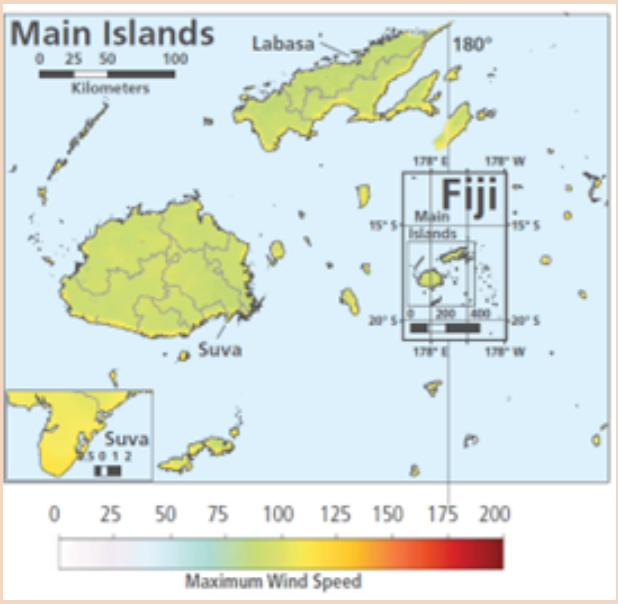
Table 2. Historical Displacement Events in Fiji, 2014-2019

Year	Event name	Hazard type	Displacements
2014	Tropical depression	Storm	800
2016	TC Zena Tropical depression TC Winston	Storm Storm Storm	12,000 2,072 62,000
2017	Magnitude 6.9 earthquake TC Ella Flooding in Viti Levu	Earthquake Storm Flood	30 155 189
2018	TC Keni TC Josie	Flood Storm	10,000 2,313
2019	TC Pola TC Mona Landslide in Navosa TC Sarai Flooding in Central Division Storm in Viti Levu (Veriaise) Landslide in Cakaudrove	Storm Storm Landslide Storm Storm Storm Landslide	15 2,327 80 2,490 57 20 10

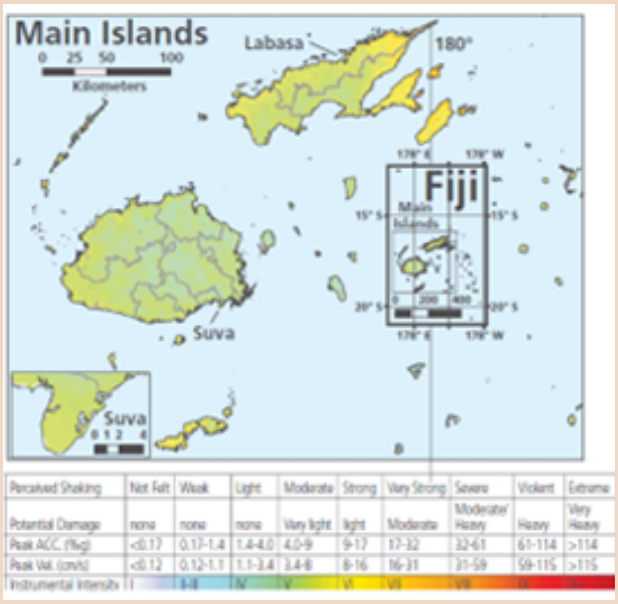
Sources: *Internal Displacement Monitoring Centre (IDMC) 2019*
Note: TC = tropical cyclone

Figure 1. Tropical Cyclone and Earthquake Hazards Risk Analysis in Fiji

Tropical cyclone: Maximum one-minute sustained wind speed (in miles per hour) with a 40 percent chance to be exceeded at least once in the next 50 years.



Earthquake: Peak horizontal acceleration of the ground that has about a 40 percent chance to be exceeded at least once in the next 50 years.



Source: *PCRAFI 2015*

wind speeds of 233 km per hour, destroyed assets worth F$2 billion (nearly US$1 billion), or 20 percent of Fiji's GDP. On average, tropical cyclones and floods cause asset losses of more than F$500 million every year (representing more than 5 percent of Fiji's GDP), with much larger losses after rare events, such as losses from the 100-year cyclones estimated at around 11 percent of Fiji's GDP (Government of Fiji, World Bank, and GFDRR 2017). Further, more frequent and severe fluvial and pluvial floods are estimated to cost an annual average loss of F$250 million (2.6 percent of GDP) and F$154 million (1.6 percent of GDP), respectively. In consideration of climate scenarios, which include a significant increase in rainfall, asset losses could grow even further by 2050: fluvial flood losses by 37 percent and pluvial flood losses by 45 percent. Additionally, natural disasters result in high economic losses by damaging capital assets and infrastructure, depleting human capital caused by the loss of life and loss of skilled workers, and disrupting economic activities, livelihoods, well-being.

12. In addition to climate shocks, the COVID-19 pandemic shows the country's high vulnerability to a health crisis. Despite having experienced comparatively few cases of the initial outbreak of COVID-19 in 2020, Fiji faced strong headwinds from the crisis as it spread in the country. A combination of fewer remittances, fewer international tourists, and mobility restriction measures to limit the spread of the virus significantly disrupted labor force participation and production. Further in 2021, during the second wave of the COVID-19 pandemic, the government implemented stricter lockdowns in major cities, including Suva, Nausori, and Lami. As of January 12, 2023, there had been a total of 883 deaths due to COVID-19 in Fiji, with 68,889 total cases, of which 66,850 recovered (Hassan 2023). The challenges that the population faced due to the pandemic in 2020 worsened in 2021 as the country's economy continued and business operation trends remained on a downward trend. Before the COVID-19 pandemic, the country's 2004 Food and Nutrition Committee report had indicated that more than 40 percent of Fiji's children were malnourished. As experienced, malnutrition among children increased during shocks and disasters and because families adjusted their food intake based on available resources. For Fijian children, there are two types of malnutrition: overnutrition and undernutrition. Malnutrition is much more prevalent than it should be in a land filled with nutritious fruits, vegetable crops, and an ocean full of fish (Raman et al., 2021).

Poverty and Vulnerability in Fiji

13. In 2019, around a quarter of the population (24.1 percent) lived below the national "cost of basic needs" poverty line (World Bank 2021). The younger population is more likely to be poor. Self-employed, family/community workers, and subsistence farmers are more likely to be poor than employer and wage/salary earners. In particular, adults working in the agriculture sector have a much higher poverty rate than those outside the agriculture sector, with nonsubsistence agriculture workers having a higher rate of poverty than subsistence farmers. Households with heads who did not complete secondary school are more likely to be poor, and poorer children start to drop out of the education system between ages 14 and 18. Without intervention measures to support secondary schooling, this situation will promote a vicious cycle of poverty among poor households.

14. Poverty is higher in rural areas and diverse among geographic regions, which face different types of natural disasters *(Table 3)*. The poverty rate in rural areas is 36.5 percent, which is 22.5 percentage points higher than in urban areas (14.0 percent). The Household Income and Expenditure Survey (HIES) 2019–20 report cited that poverty is higher in the outer islands, which are threatened by natural disasters and climate-related events (Fiji Bureau of Statistics 2021). These small and outer islands are geographically vulnerable and rendered isolated whenever disasters strike. During shocks and disasters, provision of assistance to these islands is challenging due to their geographic location and often results in delays or the inability to receive the needed support. Although the poverty rate is lower on the main island of Viti Levu (i.e., Central and Western Divisions), the number of poor remains high due to the concentration of population.

Table 3. Population and Poverty Distribution at the Division Level, 2019

Division	Central	Western	Northern	Eastern
Poverty rate (%)	18.8	26.2	29.0	39.2

Source: WBG 2022b

15. The COVID-19 pandemic is likely to have increased poverty in Fiji. Though the virus itself was largely contained, the resulting economic shock to tourism, which is linked to nearly one-fifth of households, increased unemployment. The Government of Fiji estimated that 115,000 Fijians became unemployed or suffered reduced work hours as a direct result of COVID-19. Another channel of impact was a reduction of remittances from abroad, which would affect one-third of Fijian households at all points of the welfare distribution. The compounded welfare losses are likely to affect a large share of the population and leave many at risk of falling into poverty. In addition, the pandemic exacerbated risk factors for violence against women and girls and resulted in a significant increase in reported violence, which can have high human capital impacts at the individual, family, and community levels. At the individual level, violence results in loss of productivity, negative health impacts (both physical and mental), and negative coping strategies, such as increased alcoholism (Gennari, Hidalgo, and McCleary-Sills et al. 2014; WHO 2021). In addition, violence against women and girls has intergenerational impacts leading to poor early childhood development outcomes and perpetration or victimization in adulthood (WHO 2019).

Impacts of Climate Change and Disasters on Poverty and Vulnerability

16. The loss of livelihoods poses a critical challenge in Fiji, particularly affecting vulnerable and impoverished sectors, especially during tropical cyclones, floods, and droughts. Fiji's economy primarily relies on agriculture, with sugarcane, copra, tropical fruits, and vegetables as its main crops. Fishing also plays a significant role in the country's economy. However, farmers and fisherfolk are highly susceptible to natural and climate-induced disasters. This vulnerability extends beyond the physical damage to their farms and fishing equipment because it often results in the accumulation of predisaster debts. Flooding, especially in

river delta areas and urban communities, remains a recurring hazard during cyclones and heavy rainfall, affecting these livelihoods. The threat of flooding and landslides continues to loom large given their dependence on occupations highly susceptible to such damage. Droughts, though slower to manifest, have a devastating impact on families, particularly women and children.

17. To better understand the relationship between vulnerability and disasters, this study employs an unbreakable model *(Box 2)*. It aims to address the following these key questions:

- How do poor households fare after a disaster? What is the extent of the disaster's impact on them?
- For households not initially poor before a disaster, do they remain above the poverty line or fall below it? If they do fall below, can they recover, and how long does recovery take?

The subsequent section offers a summary of the primary findings from this research.

Box 2

The Unbreakable Model

The unbreakable model assesses the impact of a disaster on household consumption. It operates by simulating the physical effects of a disaster on a household's assets, known as capital stock, which subsequently diminishes household consumption through two primary mechanisms: a decrease in income and a reduction in consumption necessary to restore damaged assets.

The model commences by evaluating the loss of assets, from which the corresponding income loss is calculated based on the productivity of the affected assets. This income loss directly correlates to a proportional decrease in consumption and additional adjustments made by the household to reconstruct its assets until consumption levels return to their predisaster status. The accompanying flow chart illustrates the sequential steps undertaken within the model. For more in-depth information, please consult *Appendix A*.

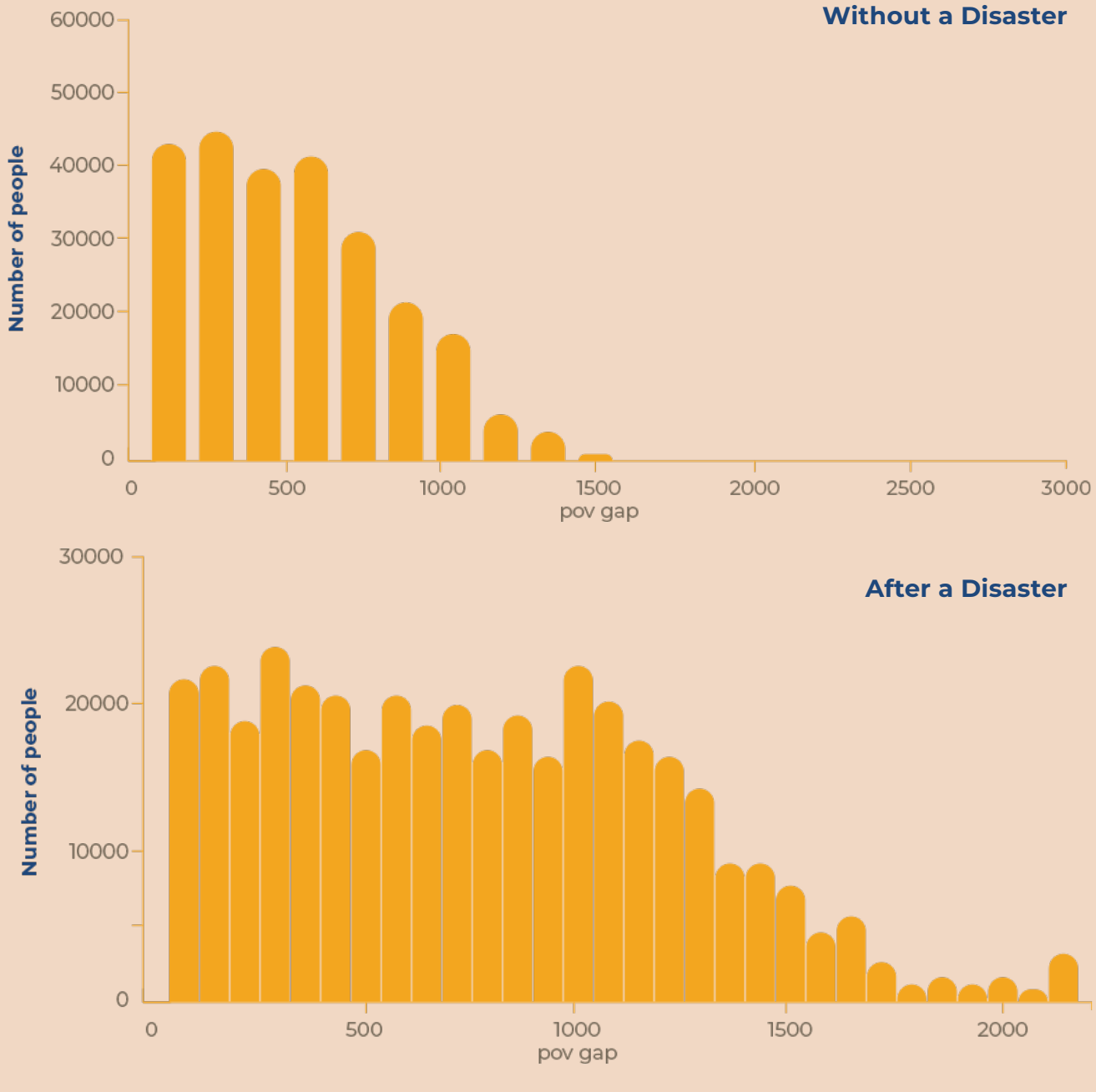
Figure B2.1. The Flow of Estimating Consumption Loss in the Unbreakable Model

Table 4. Poverty Gap Increases due to Disasters

Category	Description	Mean poverty gap (F$)
Predisaster	N/A	549
RP-5	Includes both predisaster poor and new poor	594
RP-50		680
RP-5	Includes predisaster poor only to examine how deep they go into poverty due to a shock	743
RP-50		845

Source: World Bank using HIES 2019–20 data

Figure 2. Distribution of Poverty Gap before and after a Disaster (RP-50)



18. The study assesses the impact of two types of natural hazards: those expected to affect Fiji every Return Period of 5 years (RP-5) and every 50 years (RP-50). Less frequent yet more severe disasters may have a more significant impact on poverty than frequent, smaller events. The simulation reveals that in RP-5 and RP-50 scenarios, the poverty gap could increase to F$594 and F$743, respectively, up from F$549 before the disaster *(Table 4)*. When considering only those who were already poor before a disaster, their poverty gap can increase to F$845 in the case of an RP-50 disaster. *Figure 2* visually illustrates this, depicting the distribution of populations shifting from lower poverty gap levels before a disaster to higher levels after an RP-50 disaster. It is evident that individuals already living in poverty before a disaster experience more significant impacts on their consumption levels afterward.

19. Climate change and disasters have the potential to exacerbate poverty in Fiji. Simulation results indicate that in 1 out of every 5 years (RP-5) and in 1 out of every 50 years (RP-50), a tropical cyclone could increase the impoverished population by 32,476 and 73,923 individuals, respectively *(Table 5)*. The RP-50 scenario results in more significant consumption losses for individuals.

Table 5. Number of People Pushed into Poverty after a Disaster

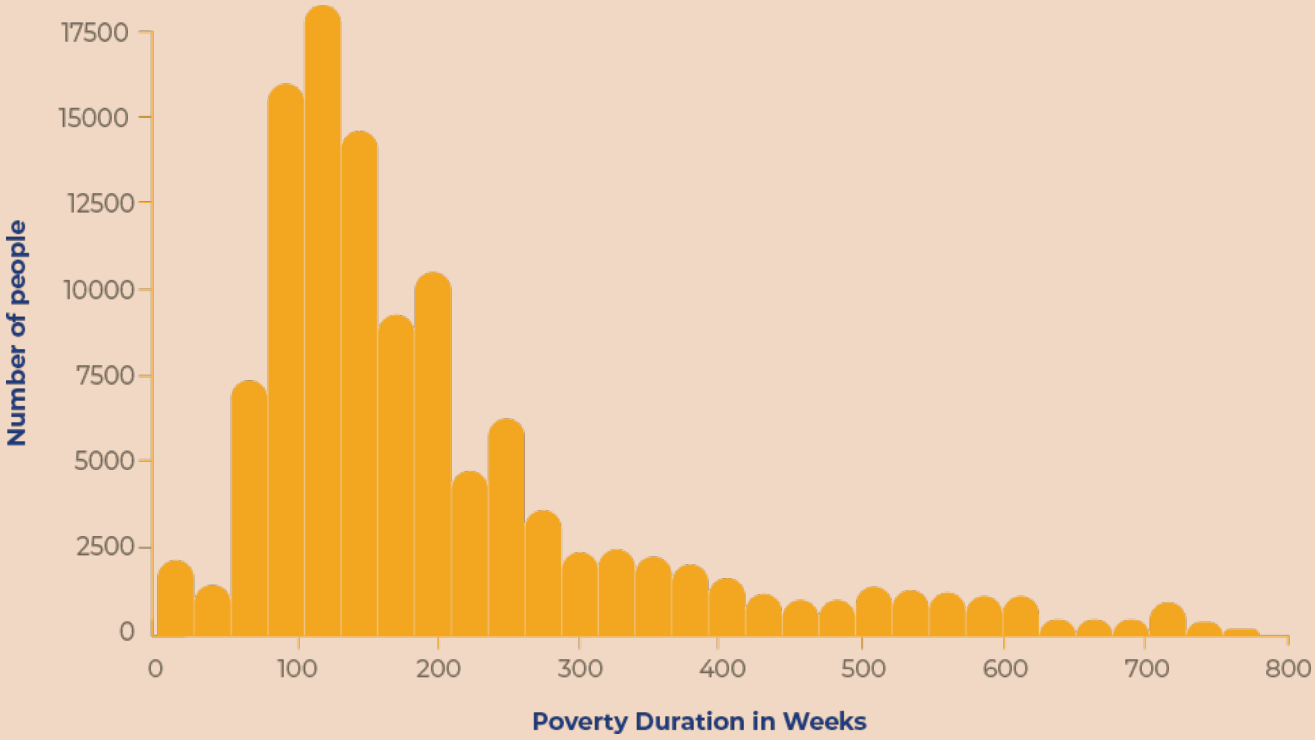
Disaster return period	Number of people pushed below the poverty line	Poverty rates after disaster (% of total population)
RP-5	32,476	34.16%
RP-50	73,923	38.96%

Source: *World Bank using HIES 2019–20 data*

20. Some newly impoverished individuals may struggle to recover to their predisaster welfare levels without external support. On average, people pushed below the poverty line due to an RP-50 disaster take approximately 275 weeks, or 5 years, to regain their original consumption levels, assuming no external support such as cash transfers or social protection. The spread of duration is mostly 2–6 years *(Figure 3)*. These 70,054 individuals are categorized as "temporary poor." Furthermore, approximately 3,869 individuals fall into a state of irreversible poverty, unable to recover (i.e., "new poor"). Analyzing their predisaster consumption patterns, most had consumption levels below 20 percent above the poverty line. This suggests that both groups, primarily pushed into poverty by disasters, were living at near-poverty levels, just below 20 percent above the national poverty line, forming a vulnerable demographic potentially excluded from benefits intended only for those officially categorized under the poverty line.

21. Examining their participation in existing social protection programs, the table reveals that more than 64 percent of the new poor are not enrolled in any existing program *(Table 6)*. A similar situation applies to temporary poor individuals. This highlights a significant policy gap that, if addressed, can provide access to social protection for this near-poor population, a majority of whom fall below 20 percent above the poverty line based on consumption levels.

Figure 3. Average Number of Weeks Spent below Poverty Line



Source: World Bank using HIES 2019–20 data

Table 6. Coverage of Social Protection Program for Temporary and New Poor Households

Number of SP programs enrolled	Temporary poor people	New poor people	Poor people (regardless of shocks)	Other population (nonpoor)
0	44,621 (63.7%)	2,491 (64.4%)	158,211 (60.2%)	412,020 (68.5%)
1	14,327 (20.5%)	808(20.9%)	61,011 (23.2%)	118,432 (19.7%)
2	8,992 (12.8%)	475(12.3%)	36,914 (14.1%)	61,871 (10.3%)
3	1,824 (2.6%)	95(2.5%)	6,454 (2.5%)	8,077 (1.3%)
4	179 (0.3%)	0 (0%)	134 (0.1%)	820 (0.1%)
5	111 (0.2%)	0 (0%)	0 (0%)	186 (0.03%)

Source: World Bank using HIES 2019–20 data
Note: SP = social protection

Gender

22. Gender inequality is a significant challenge in Fiji and may worsen during disasters and crises. Fiji ranks 107th out of 146 countries in the 2022 Global Gender Gap Report (World Economic Forum 2022). Women often serve as primary caregivers for children, the sick, the elderly, and persons with disabilities, exposing them to higher risks during disasters. Fiji experiences a considerable gender pay gap, with women often concentrated in lower-paying, informal, or unpaid work (ADB 2022). Additionally, Fijian women face higher unemployment rates than men (11.7 percent compared to 5.1 percent), which hampers their ability to prepare for and recover from shocks (Fiji Bureau of Statistics 2021). These gender inequalities in Fiji disadvantage women and girls, especially during disasters and crises, making it more difficult for them to respond to and recover from future shocks.

23. Disasters can exacerbate violence against women and girls in Fiji. The country already grapples with high rates of violence against women, with 64 percent having experienced physical and/or sexual violence by a husband or intimate partner (FWCC 2013). Research shows that violence against women and girls tends to increase during and after disasters due to heightened stress and trauma (UN Women 2014). During the COVID-19 pandemic, there was a significant surge in reported violence In Fiji, with a 606 percent increase in calls to the National Domestic Violence Helpline between February and April 2020 (UN Women 2020). Similar increases in violence against women and girls have been observed after disasters, such as the two tropical cyclones that hit Fiji in 2012 (UN Women 2014). These incidents also affect children, leading to school dropouts and unequal access to humanitarian aid. Preparedness for survivors of increased gender-based violence (GBV) during and after crises is crucial because the risk of such violence can persist long after the disaster has occurred.

24. Women are actively engaged in disaster preparedness but are rarely consulted in planning and policy making. Although efforts have been made to raise awareness of gender issues in disaster management, a UN study in 2012 found limited consultation with women in key policy-making processes. Gender gaps persist in decision making, with women holding only 10.9 percent of seats in the national parliament in December 2022, down from 19.6 percent in 2020 (Ligaiula 2022). Including women in governance and disaster planning is crucial because they have a better understanding of their specific needs and barriers. This also applies to people with disabilities, who are highly vulnerable to natural disasters but are often underrepresented in disaster planning and decision making.

25. Existing gender inequalities in Fiji limit women's access to social security schemes. Gender gaps in the labor force are significant, with only 45.5 percent of women participating compared to 82.6 percent of men (Fiji Bureau of Statistics 2021). Consequently, women make up only 41 percent of compulsory active members in Fiji's social insurance programs managed by the FNPF (FNPF 2022).[5] The services industry, which was severely affected by COVID-19 lockdowns, has a disproportionate number of women (71.9 percent) in informal employment. Additionally, women are overrepresented among the most vulnerable services

5 Among voluntary members, women represent 55 percent of the cohort. Across all FNPF participants, women compose 43 percent, yet their share of wealth among these participants stands at 35 percent.

and sales occupations, accounting for 68 percent of all services and sales workers in informal employment (Fiji Bureau of Statistics 2018). Women are most commonly engaged in the service industry (57 percent compared to 47.2 percent of men),[6] particularly in manufacturing, wholesale and retail trades, education, health and social work, arts, accommodation, and food services, most of which were severely affected by the COVID-19 pandemic. Women employed in the informal sector — with low wages, underemployment, low job/income security, and no access to contributory social insurance — have been disproportionately affected (Lakshmi Ratan et al. 2021).

6 Data in this section are from the Gender Data Portal (database), World Bank, Washington, DC (accessed July 28, 2021), https://genderdata.worldbank.org/countries/fiji.

3. Institutional Arrangement and Partnerships

Sections 3 through 6 of this paper summarize the key findings derived from implementing Part 2 of the social protection Stress Test Tool. Part 2 of the stress test specifically evaluates the efficacy of a country's social protection system in adapting to and fortifying resilience against various challenges. It covers the following four social protection building blocks (Bodewig et al. 2021).

Block	Framework
Institutional Arrangements and Partnerships	Government leadership plays a pivotal role in coordinating various stakeholders by clearly defining roles and responsibilities. This clarity can significantly reduce response time and prevent unnecessary delays. Governments ought to take the lead in the ASP agenda by embedding resilience-oriented objectives in policies and strategies, encompassing social protection, DRM, and climate change adaptation. Establishing standards and procedures to facilitate the integration of NGOs and humanitarian actors is equally essential.
Programs and Delivery Systems	Traditional safety net approaches require reevaluation to ensure responsiveness to shocks. This may involve rethinking beneficiary selection criteria and making necessary adjustments to program benefit packages and delivery mechanisms.
Data and Information	Access to information regarding household vulnerability to shocks and their coping mechanisms is pivotal in designing effective ASP programs. ASP design should incorporate analyses of disaster risks while integrating assessments of household poverty and vulnerability. The evolution of more dynamic social registries becomes imperative for swift deployment during shock events.
Finance	The integration of risk financing strategies stands as a crucial element in proactive response planning. This strategy ensures the availability of funding in the event of a shock, thereby minimizing response delays and averting reliance on detrimental coping mechanisms.

The stress test score for Institutional Arrangement and Partnerships is determined by the average of scores from two subcomponents: "Government Leadership" and "Institutional Arrangement".

Government Leadership Score: Nascent

Although both the DRM Act and policies make references to social safety nets and gender considerations, there are notable shortcomings. The DRM Act is outdated, and no specific regulations are in place for ASP. Furthermore, there is a lack of clear fiscal commitment to ASP programs within DRM policies.

Contingency plans and standard operational procedures (SOPs) for implementing social protection programs during and after disasters are notably absent. In practice, UN and humanitarian agencies coordinate with the government using the cluster approach, often leveraging government programs to provide cash assistance during past disasters. However, it is common to observe multiple programs by both government and nongovernment agencies being delivered to affected families without a centralized database to track beneficiaries and program outcomes.

Institutional Arrangements Score: Emerging

Within institutional arrangements, the National Disaster Management Office (NDMO) takes the lead in managing all DRM activities, and the Ministry of Women, Children, and Social Protection (MWCSP) serves as the Safety and Protection Cluster lead. However, the role of the FNPF and other relevant agencies in the context of ASP is not clearly defined within DRM regulations. Although there is a cluster system in place for institutional arrangements, the FNPF's involvement is notably absent from these arrangements.

Fiji's Social Protection Policy Framework

26. Fiji's Constitution of 2013 contains a Bill of Rights that enshrines rights pertaining to social protection (Elkins, Ginsburg, and Melton 2023). It includes the right to social security, the right to health, the rights of persons with disabilities, and the right to education. Fiji's social protection system is divided into two schemes — noncontributory (i.e., social assistance) and contributory (i.e., social insurance) — that are governed independently without a linkage. In practice, a lack of linkage may create duplication of common processes such as beneficiary targeting, identification/selection, and registration. It may even duplicate assistance to some while depriving others who are not covered by any social assistance interventions.

27. The Social Assistance Policy adopted in 2021 is the key regulation of Fijian social assistance systems. The concept of social assistance was introduced to the country with the 2001 Social Justice Act. The act regulated and introduced several safety nets programs in Fiji. Although the act expired after 10 years, most social assistance programs continue to be implemented to date, with some changes in the program design and scope. To formalize existing programs as well as set a vision of the Fijian social assistance system, the Ministry of Women, Children, and Poverty Alleviation (MWCPA) developed the Social Assistance Policy in 2021.

28. The policy sets up five key strategic areas. These will be the foundation to build an adaptive and gender-responsive social protection system.

- Adopt appropriate, gender-responsive, and affordable social assistance programs.
- Achieve cost-effective selection processes to attain policy objectives and, ultimately, stronger impacts on the poor and vulnerable.
- Develop an integrated social protection information system and a social registry to target social assistance programs to the poor and vulnerable, particularly in the event of external shocks (economic or climate-related disaster), enabling ASP responses.
- Build administrative and human capacity for the optimal functioning of this policy.
- Monitor and evaluate social assistance programs, including gender-disaggregated data and feedback loops to inform policy changes.

29. The Department of Social Welfare (DSW) — a division under the MWCSP (previously the MWCPA) is the lead agency for Fiji's social assistance programs. The DSW ensures that all government assistance is well targeted and administered in a transparent and accountable manner. It also promotes graduation with a concept of "welfare to workfare", through the Welfare Graduation Program (WGP). The Poverty Monitoring Unit monitors and evaluates these programs.

30. Social insurance is defined in the Fiji National Provident Fund Act 2011 (Government of Fiji 2011). The FNPF commenced operations as a pension fund in 1966, based on the FNPF Act (Cap. 219). The Act went through various amendments over 40 years and was repealed on November 25, 2011. Following the FNPF Act 2011, the institution went through institutional reforms such as membership on the board to be selected wholly based on skills and expertise and the board to report to the Ministry of Finance (MOF), specifically to the Reserve Bank of Fiji. The FNPF Act 2011 has also been amended several times and has subsidiary regulations, such as FNPF (Housing Finance Assistance) Regulations 2013, FNPF Regulations 2014, and FNPF (Amendment) Regulations 2015. The FNPF covers employed persons who reside in Fiji. However, self-employed persons, household workers, students, some foreign workers employed in Fiji, and certain informal sector workers can also be covered if they voluntarily participate in the FNPF.

31. Currently, there is no established policy framework for ASP in Fiji. In response to past shocks, the government introduced ad hoc social protection measures. For instance, after TC Winston and the COVID-19 pandemic, the DSW provided top-up cash for social welfare beneficiaries. The FNPF allowed its members to withdraw funds from their general accounts.

During the COVID-19 pandemic, similar measures were taken. These ad hoc schemes are not based on existing policies, and the role of key agencies such as the FNPF in shock response is undefined within the current cluster system.

32. Recognizing the need to strengthen the connection between social protection and DRM, the government is committed to developing an ASP strategy and implementation plans. This strategy will guide the integration and harmonization of existing social protection programs and new interventions in response to COVID-19, ensuring they are inclusive, gender responsive, and adaptive to future disasters and crises. The MOF and MWCSP lead this initiative with close collaboration from concerned agencies such as the FNPF and NDMO. The government emphasizes the importance of enhancing governance, institutional arrangements, coordination, collaboration, financing, and the proper implementation of ASP programs.

Social Protection in Fiji's DRM Policy Framework

33. Fiji's legislative framework for DRM has been in place since the mid-1990s. The Natural Disaster Management Act (NDMA) of 1998 defines the roles of various government agencies in disaster management, including the establishment of the National Disaster Management Council (NDMC), NDMO, and National Emergency Operation Centre (NEOC) (NDMO 1998). The NDMA provides the legal foundation for Fiji's National Disaster Management Plan of 1995, outlining disaster preparedness and emergency operation procedures. This plan emphasizes the importance of a relief supply strategy that prioritizes vulnerable groups, such as children under five, pregnant women, and the elderly. These legislative acts and plans are currently undergoing revisions.

34. The National Disaster Risk Reduction Policy 2018–2030 (NDRRP) ensures the integration of DRM and social protection (Government of Fiji 2018). The NDRRP aligns well with global frameworks like the Sendai Framework for Disaster Risk Reduction 2015–2030 and the Sustainable Development Goals. It incorporates lessons learned from the response to TC Winston and emphasizes the need for security and protection mechanisms to safeguard human life and personal assets. The policy advocates for special measures to support disaster victims, including economic aid, industrial activities, and empowerment opportunities for recovery. It also promotes human rights and gender-based approaches, recognizing that specific vulnerable groups face higher risks due to preexisting disadvantages. Although the NDRRP presents an opportunity for gender-responsive DRM, it requires guidance and mechanisms for effective implementation (ADB 2022).

35. The NDMO is responsible for implementing NDMC policies, covering both ex ante preparedness and mitigation programs as well as ex post response and recovery activities. Coordination between stakeholders in social protection and DRM in Fiji spans various sectors and stakeholders. During disasters, the NDMO establishes the NEOC and leads coordination among government agencies and humanitarian organizations

under the disaster management cluster approach.[7] At the division and district levels, the commissioner and district officer oversee emergency operations, including initial damage assessments (IDAs). An IDA plays a crucial role in determining the need for immediate food relief distributions and in shaping agriculture and housing relief plans (Mansur, Doyle, and Ivaschenko 2017).

36. The MWCSP leads the Safety and Protection Cluster under the disaster management cluster approach. This cluster's mandate is to protect disaster-affected families and children from violence, abuse, and exploitation. It comprises three subclusters: (i) Child Protection, addressing violence, abuse, exploitation, and neglect among affected girls and boys; (ii) GBV, preventing and responding to GBV related to emergency situations; and (iii) Older Persons, addressing the vulnerabilities of older individuals in emergency settings (NDMO n.d.).

Gender Policy in Relation to Social Protection and DRM

37. The Government of Fiji has taken significant steps to improve its institutional and policy framework for social protection with a focus on gender equality (ADB 2022). The National Gender Policy 2014 aims to improve the quality of life at all levels of society by promoting gender equity and revising social protection measures and policies that affect older persons. The MWCSP's Department of Women (DOW) plays a pivotal role in mainstreaming gender in the public service through the National Gender Policy. The DOW champions the rights of women and girls by implementing the National Women's Plan of Action, which encompasses a range of objectives, including increasing women's employment opportunities, enhancing women's participation in decision-making processes, eradicating violence against women, improving women's access to essential services, and addressing women's concerns within new legislation. Additionally, the DOW actively advocates against all forms of violence and raises awareness about the services available to domestic violence survivors. In 2020, the MWCSP also began consultations to develop the National Action Plan to Prevent Violence against Women and Girls (2021–2026), a five-year plan intended to promote a shared understanding and whole-of-population, evidence-based, measurable, and inclusive approach to preventing violence against all women and girls (Government of Fiji 2020).

38. Recent gender policies related to climate change and DRM demonstrate gender responsiveness. In 2017, the NCCP 2018–2030 was adopted and included the Gender Action Plan from the 23rd session of the Conference of the Parties, which aims to increase the participation and representation of women and girls in climate action. Furthermore, the Climate Change Act 2021, the NCCP 2018–2030, and the NDRRP are examples of gender-responsive laws that reflect the government's commitment to gender equality in climate

7 Aligned with the global and regional clusters, Fiji introduced eight national clusters: Education (lead: Ministry of Education; coleads: United Nations Children's Fund [UNICEF], Save the Children), Public Works and Utilities (lead: Ministry of Works, Transport, and Public Utilities; colead: NDMO), Health and Nutrition (Lead: Ministry of Health [MOH]; colead: World Health Organization), WASH (lead: MOH [Environmental Health]); colead: UNICEF), Shelter (lead: Ministry of Local Government, Urban Development, Housing, and Environment; colead: International Federation of Red Cross and Red Crescent Societies), Logistics (lead: MOF [Fiji Procurement Office]); colead: NDMO), Food Security and Livelihood (lead: Ministry of Agriculture, Fisheries, and Forests; colead: NDMO), Safety and Protection (lead: MWCSP; colead: NDMO).

change action and DRM *(Box 3)*. The Climate Change Act 2021, which is the Government of Fiji's key approach to climate change, identifies several gaps in previous policies and aims to change them, such as requiring inclusive and gender-responsive consultations through participatory processes when relocating at-risk communities (ADB 2022).

Box 3

Addressing Gender-Based Violence after Natural Disasters

Fiji's National Disaster Risk Reduction Policy 2018–2030 underscores several critical social challenges. It emphasizes the need to address discrimination and injustice, recognizing these as significant contributors to poverty. To mitigate these challenges, it stresses that equal benefits must be ensured for women and men. Moreover, the policy aims to tackle the heightened vulnerability of women and girls to disaster risks, striving to overcome existing inequalities. It places a strong emphasis on safeguarding the safety, dignity, and protection of various vulnerable groups, including women, children, the elderly, and members of the LGBTQ+ community, within evacuation centers.

The policy acknowledges a spectrum of challenges exacerbated by disasters, encompassing information disruption, isolation, prejudice, discrimination, unemployment, and poverty. It also emphasizes the need to address indirect consequences, such as disrupted access to fundamental health care services like maternal, newborn, and child health; sexual and reproductive health; post-traumatic stress disorder assistance; food security; nutrition; housing; and education. Furthermore, it recognizes the unique needs of individuals with life-threatening and chronic diseases in the face of disasters, highlighting the necessity of tailored support to address their specific vulnerabilities.

Source: Government of Fiji 2018

4. Social Protection Programs and Delivery System

The stress test score for Programs and Delivery System in Fiji's social protection landscape is measured based on the average of scores from three subcomponents: "Programs", "Delivery System", and "Payment System."

Programs Score: Emerging

Fiji stands out in the PICs with its relatively advanced social protection programs. It has undertaken ASP interventions after disasters such as TC Winston and the COVID-19 pandemic. These efforts have included leveraging existing social assistance and insurance schemes. However, it is essential to note that these programs have been implemented without a permanent policy foundation; instead, they have been ad hoc in nature and often limited to existing social protection beneficiaries. Expanding support to under-served populations will require concerted efforts, including decisions on which agency will extend coverage during disasters and the collection of data on this missing population. Clear protocols are also lacking to prevent program overlaps, and no mechanism is in place to ensure inclusiveness for nonexisting beneficiaries, such as those in the "missing middle" or informal workers.

This section examines the effects of emergency cash transfer programs on alleviating the poverty gap and the emergence of new poverty in response to shocks. Many individuals who fall below the poverty line after a disaster remain impoverished for over five years without continued support. Although top-ups to existing beneficiaries, as provided during TC Winston, reduce the number of new and temporary poor, additional support to nonbeneficiaries can further reduce their prevalence. In fact, horizontally expanding support to poor and near-poor populations proves to be more cost-effective than vertical expansion alone. A one-time cash transfer of F$2,000 to households at or below 50 percent above the poverty line could reduce new and temporary poverty from 73,923 to 38,226, making it a more cost-efficient option.

The simulation exercise on postdisaster cash transfers emphasizes the need to proactively boost household and community resilience to mitigate the substantial cost of full compensation. Economic inclusion programs, such as the Welfare Graduation Program (WGP), offer a valuable means to enhance resilience. Originally active from 2009 to 2015 and set for revival in 2023 to 2024 with closer alignment to the ASP agenda, the WGP focuses on increasing incomes, particularly for women and vulnerable groups, and facilitating self-employment and wage employment to graduate beneficiaries from social assistance programs. Additionally, the Jobs for

Nature 2.0 (JFN2) initiative supports green cash-for-work opportunities to restore ecosystems and create jobs for vulnerable communities. JFN2 finances various public works, including environmental protection, biodiversity enhancement, and programs promoting female participation, with a maximum budget of F$20,000 for worker wages, administrative tasks, transportation, and childcare. Project proposals undergo rigorous evaluation, encompassing environmental and social risk assessments, suitability, target groups, gender sensitivity, and alignment with JFN2 objectives.

Delivery System Score: Emerging

The delivery system for social protection programs in Fiji has made progress but remains at an emerging stage. The government has used various channels to inform people about emergency social protection programs, particularly following the COVID-19 pandemic. However, these efforts have been ad hoc, lacking a comprehensive communication framework or strategy.

Although existing social assistance beneficiaries can be automatically enrolled in top-up programs, there are no mechanisms for horizontal expansion of social assistance coverage. For the UA program, which provided F$360, self-enrollment through online or phone channels was available, but alternative access options were limited.

Importantly, Fiji does not have a national identification (ID) system, though a significant portion of the population possesses birth registration numbers (BRNs), tax identification numbers (TINs), and voter IDs, which are often used to validate beneficiaries of social protection programs. However, these IDs may not cover the poorest two quintiles of the population, hindering horizontal expansion efforts. Each government agency operates different grievance redress mechanisms (GRMs), often with varying modalities, such as in person, Facebook, or phone call submissions. Nevertheless, tracking and managing grievance redressal processes remain challenging.

Payment System Score: Emerging

The payment system for social protection programs in Fiji is also at an emerging stage. Payments to existing beneficiaries are relatively straightforward, but delivering payments to nonexisting beneficiaries could pose challenges. For example, whereas some DSW beneficiaries receive digital payments, others receive vouchers.

Payments for UA beneficiaries and the FNPF recipients have transitioned to fully digital processes. UA successfully facilitated the opening of accounts for new beneficiaries through collaboration with telecom companies. However, further efforts may be necessary to explore partnerships with other payment service providers (PSPs), such as banks, and their operational capabilities during and after disasters.

Regular Social Protection Programs

Social Assistance

39. The DSW manages six major social assistance programs, ensuring protection at the different stages of the life cycle *(Table 7).* The Family Assistance Scheme (FAS: previously the Poverty Benefit Scheme [PBS]) is predominantly for households with members of working age; the Care and Protection Allowance (C&P) targets children; the Social Pension Scheme (SPS) and Bus Fare Scheme (BFS) for the elderly; the Disability Allowance (DA) and BFS for persons with disabilities; and the Rural Pregnant Mothers Food Voucher (RPMFV) is aimed at pregnant women and infants. *Box 4* summarizes key data, including coverage, targeting, and adequacy.

Table 7. Major Social Assistance Programs in Fiji

Program	Description	Number of beneficiaries (2023)
Family Assistance Scheme	Financial assistance to poor households: F$35 per adult and F$17 per child under 17 years old, up to four household members, plus an additional US$50 monthly food voucher.	22,622 households
Care and Protection Allowance	Allowance to vulnerable children of poor single parents (max. F$127/month). The benefit amount is determined according to a child's level of education (preschool, F$29; primary school, F$35; secondary school F$46) and presence of disability (F$69). Vulnerable households include single parents, deserted spouses, death of the breadwinner, prisoner's dependent, foster parents/guardians, and children in foster or institutional care.	9,060 households
Social Pension Scheme	Monthly allowance (F$100) for elderly persons who have no source of income and were never beneficiaries of the Fiji National Provident Fund, pension, or any other government assistance.	47,461 beneficiaries
Disability Allowance	Monthly allowance of F$90 for persons with a disability up to two members in the household.	10,147 beneficiaries
Bus Fare Scheme	The scheme offers a bus fare concession of 50 percent for the elderly and 100 percent% for disabled persons.	52,179 of elderly and 1,176 persons with disabilities
Rural Pregnant Mothers Food Voucher	The program incentivizes early access to reproductive health care by providing 10 food vouchers (9 months of prenatal and 1 first month of postnatal) or the equivalent cash transfer of F$50 per month.	3,279 recipients

***Source:** Department of Social Welfare*

Box 4

Overview of Fiji's regular social protection programs

Coverage

The FAS is the main social assistance program, covering around 12% of households. The C&P has a much lower coverage of 4% of households. The SPS has the highest coverage among individual benefits, benefiting 5% of Fijians. The RPMFV and DA each cover less than 1% of individuals. Most programs have a balanced gender coverage, except for the DA, which has more male beneficiaries (56%), and the RPMFV, which has more female beneficiaries (64%). The FAS and RPMFV have the highest share of rural beneficiaries, with 66% and 59%, respectively. The majority (94%) of beneficiaries receive only one social assistance program, while 5% benefit from two programs, and 0.3% receive three programs. Overall, there is little overlap between programs in Fiji's social assistance system.

Targeting

While Fiji's social assistance programs aim to support low-income households, there is an opportunity to further enhance their targeting effectiveness. In the FAS, around half (49%) of beneficiaries belong to the top 60% of the consumption distribution. The SPS, intended for individuals without access to other pensions, has a significant portion (57%) of beneficiaries from the upper three quintiles. The C&P and RPMFV programs have a higher share of beneficiaries in the bottom 40%, at 62% and 66%, respectively. The DA has a lower representation of beneficiaries in the bottom 40%, as income is not a primary eligibility criterion for this program.

Adequacy

The benefit adequacy of Fiji's social assistance programs is relatively high, aligning with global averages and surpassing the East Asia and Pacific region's average. The FAS has the highest adequacy, representing 18% of overall consumption for beneficiary households and 25-29% for those in the bottom 40% and quintile. The SPS has an adequacy of 19% for all beneficiary households and 24/27% for those in the bottom 40%/bottom quintile. Conversely, programs like the C&P, DA, and RPMFV have lower adequacy.

Source: *Kerschbaumer, 2021*

Social Insurance

40. The FNPF manages social insurance providing several benefits to its members *(Table 8).* The members receive two types of individual accounts: (i) a preserved account — where 70 percent of the contribution will be allocated — is primarily for retirement (first-time homebuyers may withdraw a portion of the balance before retirement); and (ii) a general account — where 30 percent of the contribution will be allocated — may be accessed before retirement for education, medical, unemployment, housing, and other approved expenses. For formal workers, 8 percent of total wages by the individual and 10 percent by the employer (in case of employees) can be contributed to the fund. They can contribute an additional 12 percent of total wages, and the maximum contribution by the individual and employer is 30 percent of total wages. In addition to formal workers, self-employed persons, household workers, students, some foreign workers employed in Fiji, and certain informal sector workers can also join voluntarily. A self-employed person needs to contribute at least F$84. In addition, F$35 is deducted annually from the member's FNPF account for the special death benefit.

Table 8. Major Benefits under FNPF in Fiji

Benefit type	Condition	Benefit amount
Old age benefit	Age 55; age 50 if unemployed for the last three years with an account balance of up to F$2,000; at any age if emigrating permanently.	The balance of total employee and employer contributions plus accrued interest minus drawdown payments. Up to 30 percent of the account balance may be withdrawn before retirement to finance housing costs.
Disability benefit	Must have a permanent incapacity for work in covered employment. Medical certification is required.	The balance of total employee and employer contributions plus accrued interest minus drawdown payments (from both the preserved and general accounts).
Survivor benefit	Paid to a widow(er) or other survivors named by the fund member when the fund member dies.	The balance of total employee and employer contributions plus accrued interest (from both the preserved and general accounts).
Special death benefit	Paid when a fund member dies.	F$8,500 is credited to the deceased's balance, including F$2,000 that can be withdrawn for the deceased's funeral expenses.

Source: *SSA*

Ad Hoc Social Protection Programs in Response to Past Disasters and Shocks

TC Winston 2016

41. The DSW provided cash top-up payments for all people registered under the three national social protection programs. These payments were intended to help people meet immediate expenses following TC Winston and were provided to all existing beneficiaries, irrespective of whether they resided in the affected areas or not. This decision was driven by several factors (Mansur, Doyle, and Ivaschenko 2017):

- The urgency of the situation (the need to respond)
- Operational constraints (database not of sufficient quality to distinguish between affected and nonaffected areas)
- The fact that current beneficiaries are considered to be disadvantaged anyway (even if they happen to be in nonaffected areas)
- The belief that interhousehold sharing of resources would take place (e.g., households in nonaffected areas would share the transfers with their extended kinship networks in affected areas)

Under the three programs (i.e., PBS, SPS, and C&P), a total of 120,232 people received the transfers one month after the cyclone hit the country (table 9). In addition, the beneficiaries under the PBS, SPS, and C&P programs residing in the 12 priority areas[8] received the Food Voucher Program for two months, which was jointly implemented by the government and World Food Programme (WFP).

Table 9. Top-Up to Social Assistance Beneficiaries after TC Winston

Program	Number of beneficiaries	Ordinary benefit (monthly)	Post-disaster benefit
Poverty Benefit Scheme	22,802 households	F$30 per person (for up to four household members) + F$50 food voucher	F$200 x 3 months (paid as F$600 lump sum)
Social Pension Scheme	17,782 people	F$50 + F$50 food voucher	F$100 x 3 months (paid as F$300 lump sum)
Care and Protection Allowance	3,313 households	F$110 (maximum – actual amount depends on number and school grade of children) + F$50 food voucher	F$100 x 3 months (paid as F$300 lump sum)

***Source:** Mansur, Doyle, and Winston 2017*

8 Vanuabalavu, Koro, Lomaiviti Group (including Nairai, Batiki, Ovalau, Moturiki, Wakaya, and Mokagai), Taveuni-Qamea, Savusavu (Rabi), Bua-Nabouwalu, Tavua, Tailevu-Ra, Rakiraki, Ba, Lautoka, and Yasawa.

42. The FNPF allowed its members to withdraw from their general account in the first two months following TC Winston. The scheme started nine days after TC Winston hit the country. Active members were allowed to withdraw up to F$1,000 (US$465), plus an additional F$5,000 (US$2,325) if they could present proof (property title) of having a house in the cyclone-affected area.

43. The government has also introduced the Help for Homes initiative, which has been designed to assist families in rebuilding homes that were damaged or destroyed. The program is targeted toward households with an annual income of F$50,000 (US$24,000) who have experienced housing damage. The three categories of benefits being provided are F$1,500 (US$717) for houses with partial roofing damage; F$3,000 (US$1,434) for houses with severe roofing damage; and F$7,000 (US$3,345) for almost/completely demolished households. Those living in informal settlements in affected areas are also eligible to receive F$1,500 (US$750). *Table 10* summarizes the list of support provided after TC Winston.

Table 10. Social Protection Responses after TC Winston

Program	Number of beneficiaries (household)	Duration	Budget (F$ million)
Social welfare top-up payments	43,897	3 months (March - May 2016)	19.9
Food Voucher Program	44,169	2 months (May – June 2016)	4.6
Housing Program	30,369	June 2016 onward	70.0
Fiji National Provident Fund (FNPF)	170,000	2 months (March – April 2016)	250.2
Total			**344.7**

Source: *Mansur, Doyle, and Winston 2017*

COVID-19 Pandemic

44. Responding to the COVID-19 pandemic as well as TC Harold, the DSW, with financial support from the Australian Department of Foreign Affairs and Trade (DFAT) and WFP, provided top-ups to the existing beneficiaries. The first top-up with financial support from DFAT was in August and September 2020, followed by the one from WFP support focusing on those affected by TC Harold in November 2020. Beneficiaries registered in DA received two payments: one in August and one in September (both in the amount of F$50, in addition to the existing monthly cash entitlement of F$90). Households that are beneficiaries of the PBS and C&P received two payments of F$100 each: one in August and one in September (in addition to the existing monthly food voucher and cash entitlement). The one-time top-up financed by WFP was a one-time F$100 (US$49) unconditional cash transfer to DA, PBS, and C&P beneficiaries who were affected by TC Harold (WFP 2021).

45. In 2020, the FNPF launched a three-phase COVID-19 UA scheme to support the members and reduced the mandatory contribution rate. The legislative underpinning for the changes to contribution rates was provided by the FNPF COVID-19 response amendment act, reducing employer and employee contribution rates to 5 percent (from 10 percent and 8 percent, respectively). The UA scheme allowed members who had lost their jobs because of the pandemic and those otherwise adversely affected by the pandemic to access their general account savings in the fund. The government provided top-ups to those eligible members whose general account balance was insufficient.

46. The government also implemented another COVID-19 UA scheme, the Stronger Together Jobs Support Scheme, to incentivize employers to create employment for out-of-work Fijians. The subsidy of F$2.68 minimum wage per hour rate was paid directly to partner employers that qualified for the subsidy. If a person was hired at a rate of F$3.30 per hour, the government would provide the F$2.68 per hour minimum wage rate. The employers that were covered (private sector, public enterprises, registered NGOs, and municipal councils) would have to provide the difference, paying for the FNPF contributions and any other allowances under the employment regulations. The following individuals were prioritized for the Stronger Together Jobs Support Scheme:

- Fijians without FNPF membership who were working in the informal sector
- Fijians with FNPF membership whose contributions ceased before September 30, 2019 (those unemployed before COVID-19)

47. For the informal workers, the MOF provided three rounds of cash transfers in 2021. The first round of F$90 cash assistance and two rounds of F$50 cash assistance were delivered to informal workers affected by the lockdown in Lautoka, Suva, and Nasinuin. A total of F$32 million has been paid out to over 250,000 Fijians. This income support to the informal sector was conducted digitally; people were required to apply for the program using a phone and were paid through M-PaiSA and MyCash mobile wallets (Government of Fiji 2022).

48. In mid-2021, the government introduced F$360 in UA covering both formal and informal workers *(Table 11)*. Cash transfers amounting to F$120 (US$57.42) per beneficiary/month were directly paid by the government to the unemployed for six months from August 2021 to January 2022. The assistance targeted 300,000 across Fiji, from the formal sector without sufficient FNPF general account balances (minimum of F$D755), and in the informal sector in Viti Levu, who were unemployed but were already vaccinated before the target date of release of the round of assistance. The first payment of F$360 was made in August 2021 to cater for the three months ending in October 2021. The assistance was only provided to eligible Fijians who had received their first dose of vaccination before the first week of August 2021. The second payment of F$360 was paid out in November to cater for the three months ending in January 2022 and was paid only to eligible Fijians who were fully vaccinated before October 31, 2021.

Table 11. Number of Beneficiaries for F$360 UA

Gender	First UA payment			Second UA payment			Combined UA payments (unique individuals)		
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Female	74,582 (43.6%)	73,472 (59.3%)	148,054 (50.2%)	56,981 (47.0%)	71,475 (59.4%)	128,456 (53.2%)	82,507 (43.7%)	89,370 (58.8%)	171,426 (50.3%)
Male	96,371 (56.4%)	50,499 (40.7%)	146,870 (49.8%)	64,130 (53.0%)	48,761 (40.6%)	112,891 (46.8%)	106,123 (56.3%)	62,671 (41.2%)	169,245 (49.7%)
Total	**170,953**	**123,971**	**294,924**	**121,111**	**120,236**	**241,347**	**188,630**	**152,041**	**340,671**

Source: *MOF, Fiji*
Note: UA = unemployment assistance

Simulating the Impact of Postdisaster Cash Transfers

49. Following the experiences in implementing ad hoc cash transfer programs in response to shocks, this section explores the impact of similar interventions on reducing the poverty gap and new poverty. It considers two disaster scenarios: disasters expected to affect Fiji every 5 years (RC5) and every 50 years (RC50) – (See section 2, "Impacts of Climate Change and Disasters on Poverty and Vulnerability," and appendix B for the summary table). *Table 12* compares the study's scenarios.

50. Emergency cash transfers can help mitigate the temporary consumption loss. As discussed in section 2, the average increase in the poverty gap is approximately F$250, and the consumption loss for temporary and new households is around F$650. Therefore, providing a cash grant of around F$300 (in addition to regular social assistance support) or approximately F$700 per individual could temporarily compensate for the consumption loss experienced by these households.

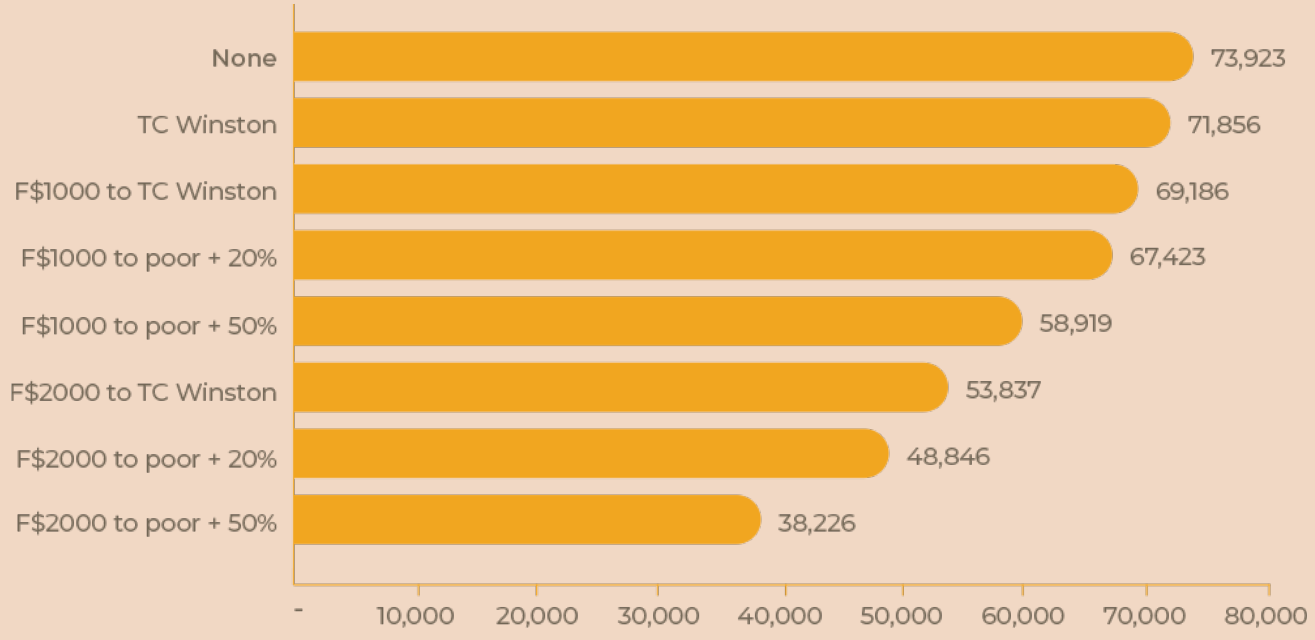
51. However, it is important to note that the benefit amount and duration of support provided in the past may not be sufficient to fully compensate for the losses experienced by vulnerable households in the medium term. *Figure 4* illustrates that most people who fall below the poverty line after a disaster remain in poverty for more than five years. Although the support provided during TC Winston could reduce the total number of new and temporary poor from 73,923 to 71,856, providing additional support (a top-up) to these existing beneficiaries could further reduce the number of new and temporary poor. For example, a top-up of F$2,000 to this population could reduce the new and temporary poor to 67,423. Expanding support to near-poor households (those within 20 percent and 50 percent of the poverty line) could also help reduce new poverty. A one-time cash transfer

of F$2,000 to households with incomes at or below 50 percent above the poverty line could reduce the number of new and temporary poor to 38,226, which is almost half of the scenario without any support.

Table 12. Considered Cash Transfer Scenarios

Policy	Description
No policy	No support provided.
TC Winston	Only beneficiaries of the following social protection programs are provided postdisaster benefit top-ups in one-time payments: • Poverty Benefit Scheme (F$600) • Social Pension Scheme (F$100) • Care and Protection Allowance (F$300)
TC Winston (+ one-time cash top-up)	Top-ups of F$1,000; and F$2,000 as one-time payments to TC Winston beneficiaries.
Cash transfers to population below poverty line + within 20 percent of poverty line	Cash transfers of F$1,000; and F$2,000 as one-time payments to households falling below poverty line and those with consumption levels within 20 percent above poverty line.
Cash transfers to population below poverty line + within 50 percent of poverty line	Cash transfers of; F$1,000; and F$2,000 as one-time payments to households falling below poverty line and those with consumption levels within 50 percent above poverty line.

Figure 4. Number of People Falling below the Poverty Line with Different Policy Scenarios (RP50)

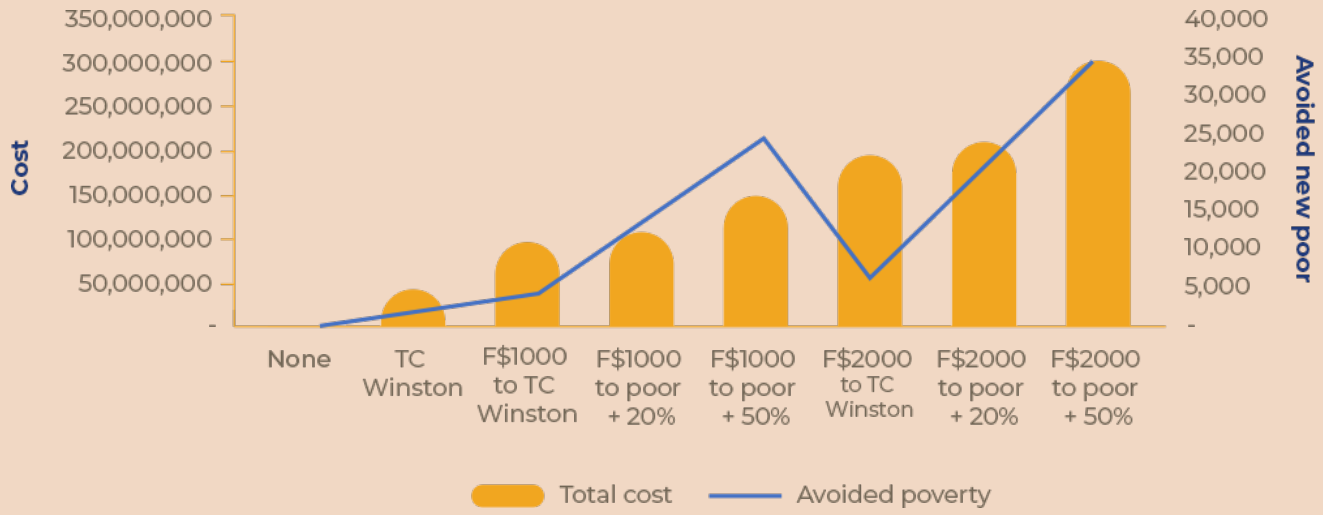


Source: *World Bank using HIES 2019–20 data*

52. Expanding support horizontally to include both poor and near-poor populations proves to be more cost-effective than solely focusing on vertical expansion. Specifically, providing a cash top-up of F$2,000 to those living below the poverty line and 20 percent above it as well as a program for TC Winston support plus a top-up of F$2,000 each requires a similar budget allocation, approximately F$200 million. However, their impact on reducing new cases of poverty varies significantly. The former approach could potentially prevent around 6,500 new individuals from falling into poverty, whereas the latter would result in the prevention of over 20,000 new cases.

53. *Figure 5* illustrates these scenarios, ranking them based on the estimated cost and overlaying the number of new and temporary poverty incidents avoided. Notably, providing F$1000 to those below the poverty line and at or below 50 percent above it is less costly than providing F$2000 to those below the poverty line and at or below 50 percent above, but the former can reduce more new and temporary poverty. In the tested scenario, providing a cash top-up of F$2,000 to those below the poverty line and at or below 20 percent above it costs the most but it has the potential to reduce new and temporary poverty for 35,697 individuals. This analysis underscores that the TC Winston top-up program, despite its higher cost, is less effective at reducing new poverty incidents when compared to the horizontal expansion scenario.

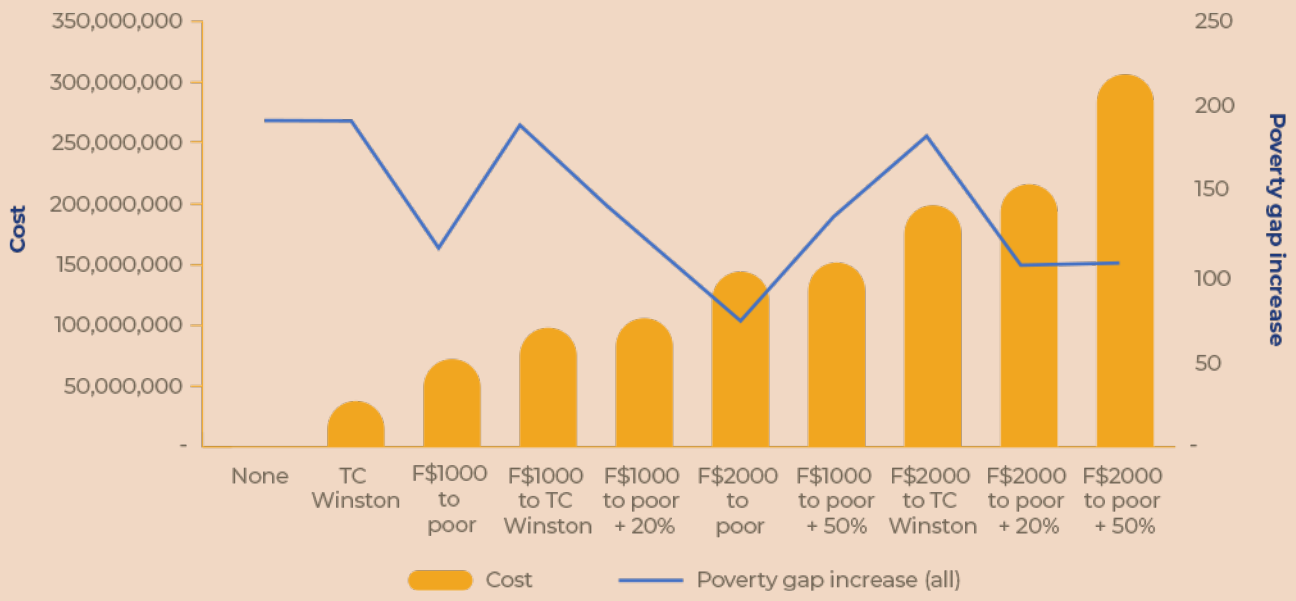
Figure 5. Comparing Policies by the Trade-Offs between Cost (F$) and Poverty Incidences Avoided (RP-50)



54. When assessing the poverty gap, it becomes evident that providing targeted support to the poor can yield a more significant impact than vertical expansion for existing social protection beneficiaries *(Figure 6)*. As previously discussed in section 2, in the absence of any assistance, the poverty gap among the existing poor can increase from F$549 to F$743

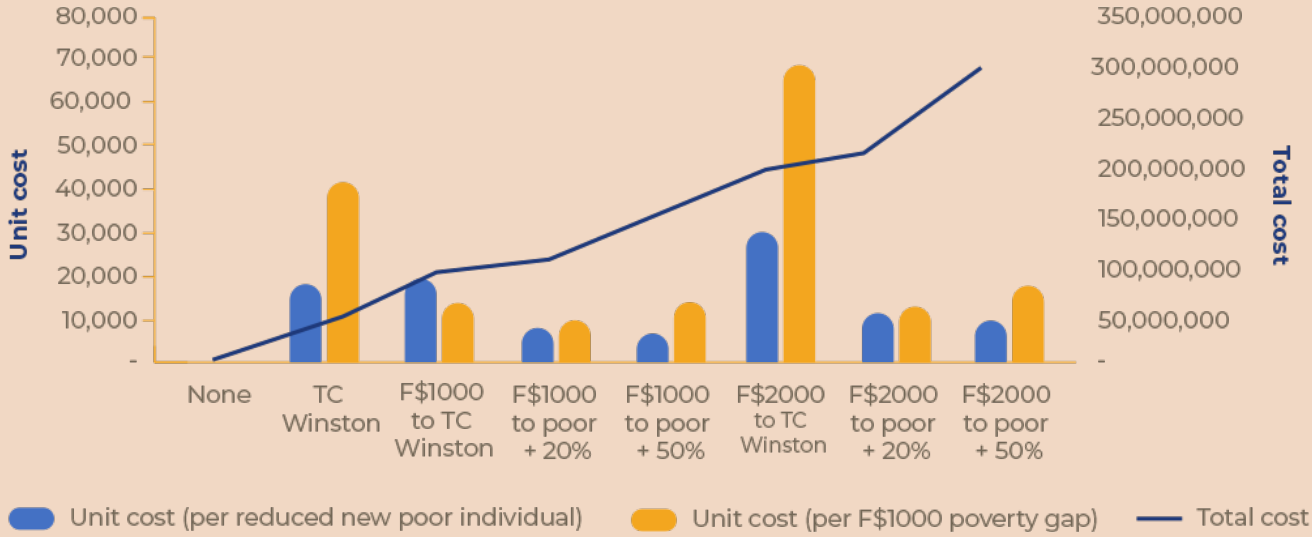
in case of a RP-50 disaster. By offering targeted support of F$1,000 and F$2,000 to the poor, this increase can be reduced to F$666 and F$625, respectively. In contrast, the impact of such reductions remains relatively modest when applied to top-up programs for existing social protection beneficiaries. For instance, introducing a new poverty gap by providing F$2,000 to existing beneficiaries on top of TC Winston support results in a figure of F$733. This difference can be attributed to the limited coverage of chronically poor individuals within the existing social protection programs. Therefore, enhancing the precision of targeting these programs Is of utmost importance.

Figure 6. Impact on Reducing Poverty Gap Increase in Each Policy Scenario (RC50)



55. Offering F$1,000 to individuals living in poverty and those at or below 20 percent above the poverty line proves to be cost-effective when considering two key aspects: reducing the occurrence of new poverty and closing the poverty gap. *Figure 7* assesses cost-effectiveness by ranking various policies based on their unit cost, calculated as the policy cost divided by the number of new and temporary poor individuals avoided (unit cost for new poverty) and the reduction in the poverty gap (unit cost for closing the poverty gap). Increasing the coverage from 20 percent above the poverty line to 50 percent will increase the efficiency in terms of unit cost for reducing new poor; however, it increases the unit cost for reducing the poverty gap. Similarly, increasing the grant amount to F2000 will slightly increase the unit cost for both indicators. A clear trend emerges that providing cash transfers of F$1,000 to those in poverty and near poverty is significantly more cost-effective than the support offered during TC Winston or by providing top-ups to existing social protection groups.

Figure 7. Cost (F$) per New and Temporary Poverty Avoided by the Policy Scenarios (RC50)



Household and Community Resilience Building

56. The simulation exercise of the postdisaster cash transfer highlights the importance of building household and community resilience ex ante. The cost to fully compensate loss is large. Thus, building resilience ex ante to reduce potential loss of households is an important policy measure. Economic inclusion programs are defined as a bundle of coordinated, multidimensional interventions that support poor individuals, households, and communities to increase their incomes and assets toward the long-term goal of economic self-sufficiency. They are well placed to contribute to building resilience by supporting the poorest (mostly women); focusing on increasing incomes and assets; and providing bundled, multidimensional interventions that address several barriers for undertaking income-generating activities (Andrews et al. 2021).

57. The DSW's WGP supports beneficiary households to become self-dependent and can be tailored to build the resilience of poor households ex ante. The WGP was implemented by the DSW, in collaboration with the National Employment Center and National Centre for Small and Micro Enterprise Development, from 2009 to 2015 but was suspended when the government decided to reallocate its budget after TC Winston. In 2022, the DSW decided to revive the program with a better linkage to the ASP agenda. In the past program, the government aimed to increase income and graduate beneficiaries from social assistance programs by promoting self-employment and facilitating access to wage employment. The program employed a self-targeting mechanism among social assistance beneficiaries. The WGP includes two main initiatives: (i) the Welfare-to-Work Strategy and (ii) the Welfare-to-Work Hiring Initiative. The first initiative intends to move people into work, with a special focus on women who are single parents, deserted spouses, and those with the death of the breadwinner in the family. The

second initiative aims to provide individuals with coaching, mentoring, business skills training, and financial literacy so they can start income-generating activities.

58. The JFN2 initiative provides a green cash-for-work opportunity to vulnerable communities. This program has two-pronged objectives: ecosystem restoration outcomes while creating job opportunities for the Fijian people. The JFN2 funds small-scale community group public works activities aimed at reinforcing environmental protection and restoration works, such as wetlands protection, coastal and riverbank protection, and biodiversity enhancement. Other public works, such as childcare centers, nursing homes, or educational programs that promote female participation, can also be considered for financing. Community groups receive a maximum budget of F$20,000, which is used exclusively for worker wages, including worker wages supporting administrative tasks, transportation, and care provision for children of workers. The selection of project proposals goes through verification and evaluation processes that include environmental and social risk screening and an evaluation against four main criteria: (i) applicant's suitability (alignment with JFN2 objectives, experience, coverage, women's participation), (ii) target groups (participation of social welfare beneficiaries and youth), (iii) environmental and social risk screening results, and (iv) gender sensitiveness (women's participation in the works and arrangements to facilitate their engagement).

Delivery System

Communication and Outreach

59. For the COVID-19 responses, various communication channels were used to disseminate the information *(Table 13)*. For instance, electronic and digital media, paper media, and interpersonal communication were used to increase the reach of communication. Nonetheless, the communication to some remote communities with limited internet access was a major challenge. For regular programs, most of the DSW beneficiaries hear about the DSW program through word of mouth and from other service providers, according to the study conducted by the United Nations Children's Fund (UNICEF) and the MWCPA in 2015 (Kidd et al. 2015).

Table 13. Communication Mechanisms Used after the COVID-19 Pandemic

Communication medium	Type
Electronic and digital media	• Government and Fiji National Provident Fund (FNPF) websites • Government and FNPF Facebook page; FNPF mobile application • Television, radio, and webinars • Email distribution; text messages using mobile phones
Print media	• Newspapers, posters, flyers, billboards, and press releases
Interpersonal communication	• Community outreach: workplace information sessions • FNPF and Department of Social Welfare offices • Annual FNPF Members Meeting (November 2020)
Other	• Toll-free information and complaints line

Registration and Enrollment

60. The DSW's enrollment mechanisms may not be adaptive to disaster response, but the process for existing beneficiaries has been automatic and efficient. During the past crisis, all existing DSW beneficiaries in the target areas were automatically enrolled in the emergency top-ups and received additional payment on top of the regular payment. For nonexisting beneficiaries, there are no mechanisms to expand the DSW programs from the financial and logistical perspectives. Regular enrollment is conducted manually and on demand: people apply at the DSW office using a form and then DSW staff check eligibility through a home visit and decide eligibility to the program. This manual process could be a bottleneck, especially when there is a vast demand for application at one time (e.g., after a crisis).

61. Applications to withdraw from FNPF general accounts during COVID-19 were managed mainly through electronic forms. Employers could use the Employer Portal for Reduced Pay Assistance to upload the form, which was submitted by the employee. Alternatively, employees could use the myFNPF app for UA to complete the form by themselves. Manual application is also considered in exceptional cases, but turnaround time for manual application would be longer than electronic applications, which is usually within five days.

62. The F$360 UA program introduced an innovative registration platform and payment mechanisms in collaboration with telecoms *(Box 5)*. The MOF signed cash transfer agreements with telecom companies (Vodafone and Digicel) that accept program applications through Unstructured Supplementary Service Data (USSD) for applicants in Viti Levu for both formal and informal sectors.[9] The agreement includes the general obligations of each party, SOPs, personal data protection, anti-corruption,[10] auditing, and fees (among others). Before the UA program, the same agreements were used for three rounds of cash assistance to informal workers.

Data Validation: Identity and Eligibility

63. As of 2021, Fiji does not have a national ID system; instead, three major ID documents are often used. They are (i) the BRN, which is on every birth certificate for those who are born in Fiji; (ii) the citizen certification number for those who are not born in Fiji; and (iii) the permit number for non-Fijians. Although the coverage for BRNs has seen an increase, with nearly 90 percent registration by 2016 for those born between 2010 and 2016, this figure diminishes significantly within vulnerable communities. Although approximately 87 percent of children under five years old, on average, have their births registered, this drops to as low as 59 percent among the most marginalized groups (Pasali and Hu 2023). In 2019, the coverage for TINs and voter IDs were 79 percent and 72 percent, respectively (PDEP 2021). The government announced that the national ID system introduced in 2019 would be completed by 2021. However, it has not been completed as of now.

9 The FNPF recipients outside of Viti Levu submit their applications through the myFNPF app and receive payments to their individual mobile wallets the same as those in Viti Levu.

10 A supplemental letter is being sought from the PSPs to meet the requirements of the World Bank's Anti-Corruption Guidelines.

Box 5

Digital Registration and Payment Mechanisms for Unemployment Assistance

Fij"s high mobile penetration rate provided the basis for introducing the digital registration and payment. In Fiji, the number of mobile connections in January 2021 was equivalent to 138.6 percent of the total population.[a] (Some people have more than one mobile connection, and thus it can exceed 100 percent of the total population.) The unique subscriber penetration rate in 2019 was 84 percent, the highest in the Pacific Island Countries.[b] Because this penetration rate includes the whole population — and the unemployment assistance (UA) program targets the unemployed workforce who are likely to have used their mobile phones for their work — the government could consider leveraging digital modalities with mobile phones for UA service delivery in collaboration with the private telecom sector.

Specifically, the MOF, along with telecom companies, introduced digital service delivery in the following processes:

- **Registration through Unstructured Supplementary Service Data (USSD).** Applicants can start the registration process for the program by dialing *161# for both Vodafone and Digicel users. Then they enter the required information, such as name, date of birth, tax identification number and birth registration number, vaccination reference number, and home address. The USSD channel is more accessible than a website or smartphone app because it allows feature phone users (for example, nonsmartphone or internet users) to register through their mobile phones.
- **Location verification using global positioning system (GPS) data.** The telecom companies will automatically record the GPS where the applicants submitted their applications. The MOF could then use this information to exclude applications made from outside Viti Levu (where the program is not active).
- **Opening mobile money accounts.** Once the MOF approves the list of beneficiaries, the telecom companies can check whether the beneficiaries have an existing mobile wallet. For nonaccount holders, they will open mobile money accounts (M-pAiSA and MyCash) using SIM registration information without requiring any additional Know Your Customer (KYC) verification.
- **Payment delivery to mobile money accounts.** The transfer is made in bulk from the government M-pAiSA and MyCash accounts to each individual account. The beneficiaries have flexibility in deciding how to access the grants, including transfers to other accounts, withdrawal at agents, or using it in shops that accept M-pAiSA and MyCash payments.

Sources: *a. Kemp 2021; b. GSMA 2019*

64. For the F$360 UA, these IDs were used to validate the identity of applicants, and eligibility was cross-checked manually with existing program registries *(Figure 8)*. Multiple government agencies have been involved in the program for data validation of the F$360 UA application: the Fiji Revenue and Customs Service verifies the identity of applicants using the TIN and BRN; the MWCSP, Tertiary Scholarship and Loans Board, and FNPF identify the recipients of their respective programs (that is, social assistance, student allowance, and pension) for deduplication; and the Ministry of Health and Medical Services(MOHMS), using the Digital Fiji platform maintained by the Ministry of Communications, verifies the COVID-19 vaccination status of the applicants.

The GRM

65. The GRM is still limited for DSW programs. Currently, most grievances are limited to the appeal of the rejected applications to the programs. Program beneficiaries can submit their grievances only in person, mainly through welfare officers at the DSW regional office. The submitted grievances are managed manually between DSW regional offices and the headquarters (HQ) in Suva. The appeal will be assessed by a grievance committee at the HQ, and the final result (i.e., appeal accepted or rejected) will be informed by the welfare officer at the regional office. The ministry laid out plans to establish a call center in 2022 to better monitor and receive complaints.

66. The FNPF has a well-established complaints and feedback system. The mechanism is widely publicized through the FNPF website and Facebook page.[11] Reference to the mechanism is also linked to the MOF government website and Facebook page.[12] Project beneficiaries and the general public can file grievances relating to project activities via the following mediums:

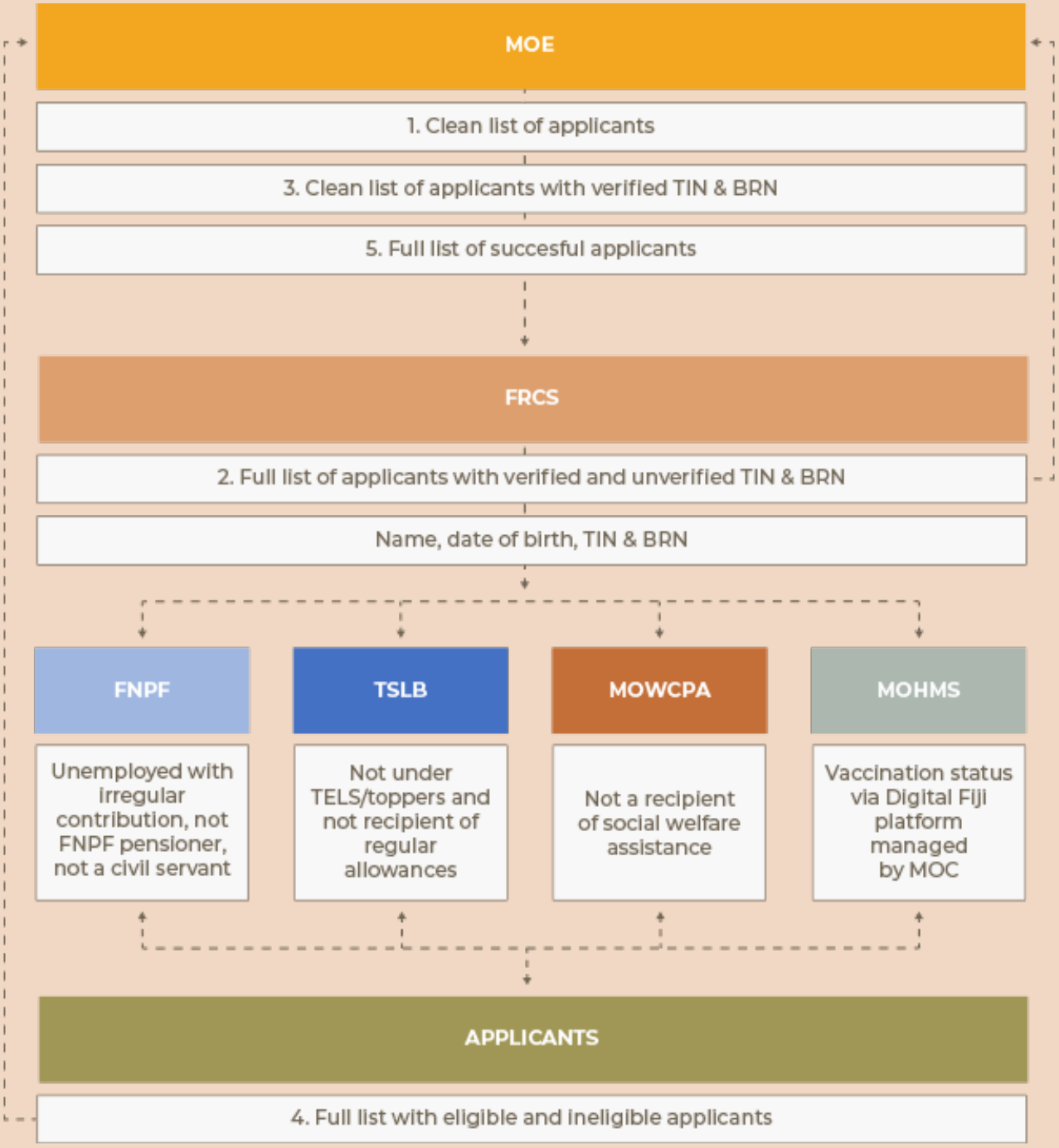
- Letter, facsimile, or through secured email
- In-person (at service counters or directly with the complaints management officer)
- Through the fund's toll-free complaints line (11 22 77)
- Through the contact form available on the fund's website
- Through any of the fund's official social media channels.

67. Submitted complaints are treated with the utmost confidentiality, and any information provided is used strictly to resolve grievances. The FNPF retains professional counselors within the human resources unit to support the staff and the general public. Complaints received about GBV, sexual assault, or harassment are referred to these trained professionals. Typical grievances are resolved in less than five working days, but complaints that require changes to the system or further investigation may take longer. If complaints

11 See the FNPF website (https://myfnpf.com.fj/index.php/home) and Facebook page (https://www.facebook.com/Fiji-National-Provident-Fund-106148259555839).

12 See the government website (https://www.finance.gov.fj/) and government Facebook page (https://www.facebook.com/MinistryOfFinance/).

Figure 8. Institutional Arrangement for Beneficiary Information Verification Process of the F$360 UA



Source: *MOF, Fiji, 2022.*
Note: BRN = birth registration number; FNPF = Fiji National Provident Fund; FRCS = Fiji Revenue and Customs Service; MOC = Ministry of Communications; MOE = currently MOF ; MOHMS; MOWCPA = currently MWCSP; TELS = Tertiary Scholarship and Loans Service; TIN = tax identification number; TSLB = Tertiary Scholarship and Loans Board.

are not resolved, applicants may escalate their complaints through the fund's Review of Decisions Scheme provided that they meet the scheme's guidelines. If complaints are not eligible or the applicants are not happy with the decision of the Review of Decisions Scheme Committee, they have the option of raising concerns with the Reserve Bank of Fiji. Once all possible redress has been proposed and the complainants are still not satisfied, they should be advised of their right to legal recourse.

68. The F$360 UA introduced the GRM, but the complaint resolution process is not well tracked. All Fijians, including both beneficiaries and nonbeneficiaries, can call on seven mobile phone numbers that were managed by the staff members at the Fiscal Policy, Research, and Analysis Division of the MOF to submit their grievances. The phone numbers of these hotlines are available on the Government of Fiji's Facebook page as well as the various media platforms. During the peak period, the mobile phones will be operational overnight. For genuine cases (e.g., applicants are eligible, but rejected), the staff members note the phone numbers and the issue and relay the message to the person in charge of the data and liaise with the partner agencies for verification. From there onward, the person in charge will send the details to the agencies for reverification and, upon receiving the confirmation from these agencies, will approve or reject the application.

Payment System

69. The DSW's social assistance programs have two forms of payment: electronic cash transfers and food vouchers. The majority of the beneficiaries receive the grants electronically through the account at BSP Financial Group Limited(BSP). Payments are made on the first day of every month, and beneficiaries can access payments through ATMs, point of sales (POS), and over the counter at bank branches. There is no account fee, and beneficiaries can withdraw for free four times a month. Each month, after payments, the banks send reconciliation reports to DSW HQ. Voucher options have two types: e-vouchers and paper vouchers. Beneficiaries with e-vouchers can receive payments every month and use them at the supermarket managed by Morris Hedstrom. The value of the e-voucher will be valid for two months. The paper vouchers are printed quarterly and are distributed through welfare officers at the district office. The vouchers can be used in four partner supermarkets. With both voucher types, the supermarket will send the voucher (paper or e-voucher) to the DSW for reimbursement.

70. The Help for Homes program also used e-vouchers. The grants were provided in the form of preloaded electronic cards with approved amounts only usable in eligible prequalified hardware stores.

71. FNPF withdrawal is made through electronic form only. During the application, people submit either their bank account or M-PAiSA account information. Based on the application date, the payments were made every two weeks (e.g., if the application is received between August 10 and August 21, then they can receive payments on August 25).

72. For the F$360 UA, funds were deposited directly into a beneficiary's mobile wallet. The MOF shared the final beneficiary list, consisting of the names and phone numbers, to telecom companies and transferred money to the telecom trust accounts for the benefit of the beneficiaries. The telecom companies manage the distribution of the cash assistance to the beneficiaries through their respective digital mobile wallet platforms. They make digital payment transfers to the beneficiary's mobile wallet at one time, either through M-pAiSA or MyCash. For applicants without a mobile wallet, new low-risk accounts are created. It allows F$10,000 or less balance without much service limitation. Unlike in a bank account, KYC is not required for a mobile wallet because it is verified when activating/registering SIM. Also, village chief certificates and so forth are accepted as proof of identity. Once payment is made to an individual mobile wallet, telecom companies submit payment reports to the MOF. Beneficiaries receive a text message and can withdraw at the branches or make payments digitally using QR codes.

5. Data and Information

The stress test score for Data and Information in Fiji's social protection system is calculated based on the average scores of two subcomponents: "Early Warning System" and "Social Registry."

Early Warning System Score: Emerging

Fiji's early warning system (EWS) is managed by the Fiji Meteorological Service (FMS) and primarily focuses on major disasters like tropical cyclones, heavy rain/floods, and droughts. However, it lacks coverage for rapid-onset disasters such as earthquakes and tsunamis. The EWS has faced challenges related to response time, often resulting in delays. For example, flood warnings depend on data from rainfall measurements and river flow modeling, and the EWS occasionally contradicts global warnings. Although the information from the EWS has been partially utilized for geographical targeting of past ASP programs, it does not trigger ASP programs automatically.

The government, with support from the World Bank, conducted the Climate Vulnerability Assessment using available hazard data. However, the government's capacity to update this analysis remains limited. Following a disaster, the government has an information system to collect and manage damage data, but there is currently no mechanism in place to link postdisaster information with predisaster data, such as social protection databases.

Social Registry Score: Nascent

Fiji lacks a consolidated social registry. The DSW manages several program-specific registries, and the FNPF manages the registry for its members. The DSW registry was useful for ASP implementation in the past. For instance, UN agencies have relied on the DS''s registry to provide support after such events as TC Winston and the COVID-19 pandemic. However, these registries cover only a fraction of the population, accounting for less than 30 percent. Consequently, over 70 percent of potentially disaster-affected beneficiaries' information is not included in the existing registries.

Further, information about beneficiaries in the DSW registries is occasionally updated, but there are no established mechanisms or protocols to update information for nonbeneficiaries or nonmembers. In response to the COVID-19 pandemic, the UA program introduced self-registration through mobile phones to expand coverage to nonexisting beneficiaries. A similar approach could be explored in future disaster responses. Although Fiji lacks a general data protection law, the Constitution of the Republic of Fiji (2013) includes a right to privacy, encompassing the confidentiality of personal information. Nevertheless, there are currently no established protocols for data sharing.

The EWS and Postdisaster Data Collection

73. The FMS, under the Ministry of Disaster Management and Meteorological Services, manages a multihazard EWS *(Figure 9)*. The FMS serves as a World Meteorological Organization Regional Specialized Meteorological Centre for tropical cyclone warnings and advisories for the Southwest Pacific. The FMS, along with the Mineral Resource Department, manages the multihazard EWS covering tropical cyclones, landslides, heavy rain, floods, and droughts, but it does not include some rapid-onset disasters such as earthquakes and tsunamis. The EWS relies on data from the rainfall measurement and modeling of the riverine flow, which often takes time to activate a warning. The EWS seems to be weak because it sometimes contradicts global warnings.

74. The EWS is not fully used to inform ASP program implementations. Through continuous monitoring of various potential hazards, the EWS will help identify the potential risks the country would face before a disaster hit, thus allowing the agencies to prepare for the event and act early (e.g., calculating the number of potentially affected populations). EWS information was used to identify the geographic areas to prioritize past ASP programs (i.e., top-ups), but it was a linkage, and there is no linkage with social protection information systems and registries.

75. Beyond EWS, Fiji has been developing a disaster risk information system with four subsystems (Government of Fiji 2018). The subsystems include (i) the information collection system, (ii) information analysis system, (iii) information dissemination system, and (iv) information management system. These subsystems include multiple functions, which will be developed and managed mainly by the NDMO with other concerned agencies. Yet, there is currently no mention of the use of the system for ASP interventions. One of the key tools related to identifying eligible beneficiaries for ASP programs will be the Disaster Loss and Damage Assessment (DLDA), which will be conducted by the national government (led by the NDMO) in case of a natural disaster. The rapid assessment will be conducted within 48 hours after a disaster, followed by a detailed assessment within two weeks. However, there is no mechanism to link the DLDA and predisaster information, such as social protection beneficiary databases, without a common unique ID or data sharing agreements.

Social Registry and Social Protection Information System

76. Fiji has no central administrative database or registry for the poor, vulnerable sectors and those residing in areas considered at high risk for climate-induced or natural disaster events. The implementing ministries for social assistance and social insurance maintain their registries and databases of beneficiaries and use the same for their usual, day-to-day operations and referencing for top-ups if needed to extend additional benefits to their regularly listed recipients. The total coverage of these different social protection registries will be less than 30 percent; thus, over 70 percent of the population is excluded from the existing registries. Further, there is no common unique identifier or a mechanism to link different databases, preventing the agencies from deduplicating overlapping individuals.

Figure 9. Fiji's Early Warning System

Tropical cyclone early warning	• Early warning information phase – information on TC development or movement beyond 48 hours threat period • Alert phase – (24 -48 hours lead time) – alert on possible TC threat within next 24-48 hours • Warning phase – warning on any impending threats in 24 hours
Heavy rain/flood early warning	• Heavy rain alerts and warnings • Continuous river level monitoring and flood alerts when the river levels reach alert levels • Flood warnings when river levels exceed warning levela
Drought early warning	• Continuous monitoring of Fiji's climate • Status of rainfall deficiencies and meteorological drought every month • Regular update on El Nino Southern oscillation events • Predication of potential impact on Fiji's rainfall and temperature
Early warning communication	• Global telecommunication system; Aeronautical (Fixed) telecommunication network (AFTN); ComSoft; Facsimile/E-mail/ internet; radio and TV networks; SMS; Social media
Early warning infrastructure	• Weather surveillance RADAR • Network of manual and telemetered automatic meteorological and hydrological observing stations • Wind profiler • Lightening detectors • VSAT-satellite communication • Customized software/hardware for data management and visualization • Scanners with data management system for data resource

Source: *Fiji Meteorological Service*
Note: TC = tropical cyclone; VSAT = very small aperture terminal

77. The DSW manages several different beneficiary registries, and it is moving toward developing a social registry and a consolidated beneficiary registry. A business process review, conducted in November 2019, identified various issues related to information management inefficiencies, such as lack of data integration, resulting in multiple registries/ information systems managed at the local office without consolidations at the central level (Singh et al. 2019). The same review states that there is a heavy dependency on manual processes affecting staff efficiency and time management on top of the lack of human resources. The Office of the Auditor General conducted a performance audit in 2019 on the DSW social welfare schemes and identified issues related to verification of information, cross-validation of data, and delayed processing time. Further, there is no defined protocol to update beneficiary information; thus, the records may be outdated. To address these issues, the DSW is in the process of developing a social registry and a consolidated beneficiary registry by integrating data from different registries and information systems within the DSW. Current systems of the DSW include the following:

- **E-GOV application.** Developed in 2008 by a Singaporean information technology (IT) firm contracted by the Fiji ITC Services. The ITC is the government agency in charge of providing IT solutions and systems to government agencies. E-GOV is a web-based application that the DSW currently uses for **the C&P**. The system **can no longer be supported** for further enhancements because the government does not own this system's source code.
- **E-services.** Development started in 2012 by an Indian IT firm contracted by the ITC. It is a similar web-based system developed to replace E-GOV with an integrated and centralized system for social assistance programs. The DSW has made progress on the use of e-services, data migration into the system. The DSW has also provided user-level training to its staff in central and local offices. However, at present, the DSW is facing uncertainty around the continuation of e-services because of the transition of IT government systems management from the ITC to Digital Fiji. The IT firm has also discontinued system support and maintenance.
- **Microsoft Access database for the FAS.** A client-server system designed and developed to manage the PBS. It maintains a database of the households as well as their socioeconomic indicators using a poverty ranking (proxy means testing). The DSW is currently using this system for the PBS. The DSW is maintaining numerous pieces of databases that are installed in several different laptops across the district offices.
- **Microsoft Excel for Social Pension Scheme and Disability Allowance.** The DSW district officers maintain the records of these two programs in Excel. The beneficiary payment lists are generated and formatted manually before being sent to the DSW HQ.

78. Existing DSW registries were used by external agencies to channel humanitarian assistance. The top-up payment after TC Winston was financed by DFAT using the DSW's existing beneficiary registries. The same mechanism was employed after the COVID-19 pandemic in 2020, where the top-ups were financed by DFAT and WFP.

79. The F$360 UA database has the potential to increase the coverage of a social registry. As discussed in the delivery system section, the F$360 UA introduced a digital application process using a USSD channel. It could successfully receive applications from 350,421 individuals for the first round and from 391,549 individuals for the second round. After data validation and deduplication, it could identify a total of 340,671 unique individuals. As these individuals are deduplicated from existing beneficiary registries, including those of the DSW and FNPF, a consolidation of these databases could help build a social registry with a wide coverage of the population.

6. Financing ASP

Finance Score: Latent

The implementation of effective ASP measures after a disaster hinges on timely and adequate budget allocation. For instance, after TC Winston, Fiji disbursed F$344.7 million for postdisaster support, encompassing allocations such as F$20 million for social assistance top-ups, F$4.6 million for ration distribution, F$70 million for housing initiatives, and F$250 million in withdrawals for FNPF beneficiaries. In addressing the challenges posed by COVID-19, the government allocated an estimated F$600 million for additional social protection measures in 2021–22, covering unemployment support, social welfare, employment schemes, electricity and water subsidies, educational support, and scholarships. Effective shock-responsive ASP may require budgets of around F$100–F$200 million, contingent on the chosen program design. For example, providing F$1,000 or F$2,000 to those living below the poverty line and at or below 20 percent above the poverty line, which is found effective in reducing new cases of poverty in case of the RP-50 disaster, would require approximately F$108 million and$ 216 million, respectively.

Fiji currently lacks a national strategy that outlines commitments to disaster risk financing (DRF), as confirmed in the United Nations and InsuResilience Global Partnership report of 2020. The options for ex ante financial instruments in Fiji are limited and primarily consist of government reserve funds and contingent credit. On the other hand, ex post financial instruments are typically mobilized by reallocating government budgets, internal and external borrowing, donor assistance, and international humanitarian aid.

Financing of Regular Social Protection Programs

80. Around 1.2 percent of GDP was allocated for regular social assistance programs in 2019–20. This has increased from about 0.4 percent in 2016–17 and is now similar to the average social assistance spending[13] in the Asia-Pacific region (approximately 1 percent of GDP) and for developing countries (1.5 percent of GDP) (World Bank, forthcoming).

81. The FNPF maintains a strong financial performance. Its 2019 annual report (FNPF 2019) presents an overview of the past 10 years, showing a strong financial performance: (i) total assets grew from $3.3 billion in 2009 to $7.4 billion in 2019; (ii) profits improved from −$181.2 million in 2009 (due to the impairment of investment in Natadola and Momi) to $568.4 million in 2019; (iii) interest credited to members totaled $113.6 million in 2009, increasing to $353 million in 2019; and (iv) contributions collected in 2009 totaled $288.5 million, and contributions collected in 2019 totaled $652 million, the highest ever collected by the fund. In 2019 the FNPF was on a much stronger financial footing with the separation of business between the member fund and retirement income fund. These changes were introduced during the reform through the complete overhaul of the FNPF Act in 2011.

Estimated ASP Program Cost

82. Implementing effective ASP measures after a disaster necessitates the timely allocation of a sufficient budget. In the case of support after TC Winston, a total of F$344.7 million was disbursed to assist affected populations. This allocation comprised approximately F$20 million for top-ups to social assistance schemes, F$4.6 million for ration distribution, F$70 million for a housing program, and F$250 million as allowed withdrawals for FNPF beneficiaries.

83. Regarding COVID-19 responses, the overall budget for additional social protection measures in the 2021–22 period was estimated to be around F$600 million. This budget allocated F$200 million for unemployment support due to COVID-19, covering both formal and informal sectors and providing F$120 per month to each unemployed individual for six months (August 2021–January 2022). It earmarked F$145.5 million for social welfare support and F$9 million for employment support schemes, including Stronger Together and Jobs for Nature (JFN). Electricity and water subsidies totaled F$11 million. The budget also allocated F$76.5 million for primary and secondary education support, as well as other subsidies, and F$158.1 million for loans and scholarships for tertiary students.

13 This refers to the total social assistance program expenditure, including spending on benefits and on administrative costs, and is expressed as a percentage of GDP. The indicator captures both the recurrent and capital program budget and is based on administrative program records. The indicator is calculated for program categories (unconditional cash transfer, conditional cash transfer, social pension, etc.) by summing up program-level expenditures for the respective category. For further details, see ASPIRE (database), World Bank, Washington, DC (accessed July 4, 2021), https://www.worldbank.org/en/data/datatopics/aspire/documentation.

84. Effective shock-responsive ASP measures for a large disaster (RP-50) may require a budget ranging between F$100 million and F$200 million, depending on the program design chosen by the government. As discussed in section 4 under "Simulating the Impact of Postdisaster Cash Transfers" the most cost-effective approach to reduce the incidence of new poor is to provide a total of F$1,000 or F$2,000 per household to affected poor and near-poor individuals (those within 20 percent below the national poverty line). This would necessitate a budget of approximately F$108 million and F$216 million, respectively. Increasing the coverage to include individuals 50 percent below the national poverty line could further decrease the occurrence of new and temporary poverty, requiring a budget of around F$307 million. Additionally, it is important to consider the implementation budget and support for resilience building alongside these cash transfer programs.

DRF for ASP Programs

85. The existing and past DRF measures are insufficient to finance the estimated budget requirements for ASP programs in Fiji. Currently, Fiji lacks a comprehensive DRF strategy or policy, and there is no dedicated mechanism for financing ASP programs. Historically, most of the financing for ASP programs has been secured after disasters, but the country possesses limited ex ante DRF mechanisms.

Ex Ante DRF Mechanisms for ASP

86. The funding available through ex ante DRF options is minimal when compared to the total public disaster-related expenditure of F$4.4 billion annually. Consequently, the government often resorts to ex post DRF options, resulting in delayed responses. The lack of dedicated financing for disaster response has negative impacts on public financing, economic growth, debt levels, and household welfare, including the sale of productive assets, reduced access to public services, increased debt burdens, and decreased consumption and investment.

- **Natural Disaster Relief and Rehabilitation Fund (Prime Minister's Fund).** An annual contingency budget fund of F$1 million is allocated to the Natural Disaster Relief and Rehabilitation Fund, also known as the Prime Minister's Fund. This fund is designed for immediate humanitarian response, relief, or rehabilitation efforts during national disasters.
- **Contingency Fund for Disaster Risk.** Another dedicated fund, the Contingency Fund for Disaster Risk has grown from F$5 million in fiscal 2017 to F$7 million in the supplementary budget, with F$5 million appropriated in the budget for fiscal 2018.
- **Sovereign parametric cover policy.** Fiji has not yet adopted the sovereign parametric cover policy offered by the Pacific Catastrophe Risk Insurance Company. This policy aims to enhance the financial resilience of PICs against disasters by providing immediate funds after tropical cyclones, earthquakes, and tsunamis through parametric insurance.

- **Contingent credit.** Fiji has not utilized contingent credit, an effective instrument for rapid financing in response to disasters, which complements and supplements funds available from national disaster funds. The minimal up-front cost of this mechanism often leads the government to rely on concessional financing from development partners.

Postdisaster Budgeting and External Support

87. In the aftermath of major disasters, the Government of Fiji has typically reallocated the budget. These reallocations are primarily financed by suspending capital works programs for which contracts are not yet operational and by utilizing loan receipts. For instance, after TC Winston in 2016, the government reallocated F$70 million for the Help for Homes program administered by the MWCSP. The government also funded relief programs for beneficiaries, such as members of the Sugar Cane Growers Council. Capital works programs that can be halted often have their appropriations redirected to rehabilitation programs as permitted by section 24 of the Financial Management Act 2004.

88. Past implementations of ASP programs have also relied on financial support from bilateral and multilateral agencies. After TC Winston, Fiji's government launched a flash appeal in March 2016, requesting US$38.7 million to initiate a three-month emergency response. To ensure lifesaving activities, F$8,022,382 was requested via the Central Emergency Response Fund's rapid response window. In return, Fiji received aid in-kind and cash pledges totaling approximately F$107 million. These pledges came from various organizations, including the European Union, the Food and Agriculture Organization of the United Nations, the International Labour Organization, WFP, and UNICEF.

89. Borrowing has also been employed as a financing instrument, enabling the Minister of Finance to access funds authorized by resolution in the House of Representatives. This mechanism was extensively used after TC Winston, particularly to secure concessional loans from the Asian Development Bank and the World Bank.

90. Donations, facilitated through mechanisms like the 200 percent tax deduction, are another source of humanitarian funding. Following major disasters, the government typically launches flash fund appeals and offers tax incentives to encourage donations from the business community and the general population. This approach resulted in a F$10 million donation from the Fiji business community after TC Winston.

7. Conclusions and Recommendations

Conclusions

91. The study has found that Fiji's ASP system is operating at nascent to emerging levels for most metrics under the stress testing exercise *(Table 14)*. "Programs and Delivery System" and "Institutional Arrangements" showcase relatively stronger performance. However, "Financing" is the only category with a latent score of 1.8, indicating room for improvement. "Data and Information" would also need some enhancement to be flexible and adaptable to shocks. Although the country has made considerable advancements in developing its social protection system and its adaptability to climate and other shocks, there remain several areas that require improved for effectiveness, efficiency, and responsiveness.

92. Although not captured in the scores, the assessment also confirmed ongoing government initiatives to address some challenges. The Government of Fiji, with support from the World Bank under the Fiji Social Protection COVID-19 Response and System Development Project (WBG, 2021), initiated the process to develop an ASP strategy and implementation plan. The MOF and MWCSP colead this process with a close collaboration with other government agencies. It will be critical to address identified gaps in the process of developing the strategy and its implementation mechanisms and institutional arrangements.

Table 14. Summary of Fiji's Social Protection Stress Test Result

Building block	Subcomponent	Scoring				
		1 Latent	2 Nascent	3 Emerging	4 Established	5 Advanced
Programs and Delivery System	Programs			3.0		
	Delivery System			3.4		
	Payment System			3.0		
Data and Information	Early Warning Systems		2.8			
	Social Registry		2.0			
Finance		1.8				
Institutional Arrangements	Government Leadership		2.7			
	Institutional Arrangements			3.5		
Average score		2.6				

Policy Recommendations

Based on the comprehensive assessment findings, the following key recommendations are proposed.

Develop ASP Programs by Building on Existing Efforts

93. Design a flagship shock-responsive social protection initiative as an integral component of the ASP strategy. The relatively higher program score in the stress test reflects previous ad hoc ASP interventions following TC Winston and the COVID-19 pandemic. Drawing from these experiences and the existing framework of regular social protection mechanisms, it is advisable for the government to conceive a national flagship ASP program. This program should possess the flexibility to expand both horizontally and vertically in times of emergencies, thereby maximizing its outreach. The specific benefit amount and duration of such program(s) should be contingent upon the intended objectives. For addressing temporary consumption losses among impoverished and vulnerable households, a one-time cash assistance of approximately F$500 per household is deemed sufficient. However, to comprehensively compensate for losses, encompassing asset depreciation, and to forestall the risk of prolonged poverty, a more substantial support mechanism ranging from F$1,000 to F$2,000 may be warranted.

94. Strengthen the resilience of vulnerable households and communities to enhance their disaster preparedness, building upon existing initiatives like the WGP and JFN2. It is crucial to expand economic opportunities through public works or livelihood programs, with a special focus on vulnerable demographic groups such as women and individuals with disabilities. This approach will empower them to develop resilience in the face of disasters. To achieve this, existing economic inclusion programs like the WGP should be fortified by forging connections with (green) employment initiatives like JFN2. These opportunities, which offer predictable incomes, will enable vulnerable workers to prepare for, cope with, and adapt to shocks while safeguarding their overall well-being. Simultaneously, JFN2 can contribute to bolstering community resilience, encompassing both physical infrastructure and the cultivation of social capital. The latter should be built upon existing community mechanisms.

95. Furthermore, social protection programs can play a pivotal role in disseminating early warning information, promoting preparedness actions before disasters, and furnishing guidance on preparedness and adaptation. An illustrative example is the conditional cash transfer program in the Philippines, which necessitates beneficiaries to attend monthly family development sessions incorporating disaster preparedness training and information on recognizing and addressing post-traumatic stress disorder (Erman et al. 2021). Additionally, enhancing access to financial resources, particularly through digital payment systems, and augmenting income, savings, and assets can empower households to better withstand shocks and enhance their capacity to mitigate the repercussions of such events.

Integrate Measures to Mitigate the Gendered Impacts of Disasters into ASP Systems

96. Integrate gender considerations into all social protection systems and programs, emphasizing the importance of enhancing the participation of women and other vulnerable groups across decision-making processes at the local, community, and national levels. This inclusivity is vital to ensure their equal representation in decision making and to effectively manage risks. Engagement should encompass insights from civil society and women's rights organizations. Given that women often shoulder the role of primary caregivers for children, the elderly, and individuals with disabilities, they possess invaluable insights into the specific needs and challenges faced by these groups, which must be fully integrated into DRM efforts. Furthermore, it is essential to account for how gender dynamics within households can impact the consequences of disasters when formulating policies and implementation guidelines. Collecting gender-disaggregated data is a fundamental step to gain a nuanced understanding of the gender-specific ramifications of various shocks, thereby informing gender-responsive feedback and actions.

97. Implement targeted strategies aimed at reducing and mitigating the heightened risks of GBV, which tend to escalate during and after shocks. A growing body of evidence from low- and middle-income countries underscores the significant potential of cash transfers to diminish violence against women and children, even when GBV prevention is not the primary program objective (Botea et al. 2021). Moreover, research indicates that cash transfers are most effective in reducing the risk of intimate partner violence when accompanied by

complementary measures, often referred to as "cash plus" interventions, such as nutrition programs and whole-of-village livelihood initiatives. Consequently, it is imperative to proactively address any GBV risks that social security schemes may inadvertently trigger and leverage social protection programs and services to curtail and alleviate these risks. Disaster-related policies and implementation guidelines should explicitly acknowledge the correlation between GBV and disasters to ensure the allocation of essential funds and resources for bolstering capacity in preventing and reducing GBV incidents. This comprehensive approach includes facilitating access to women-only shelters or camps, providing psychosocial support, and addressing women's specific health needs, such as menstrual hygiene kits and pre- and postnatal care. Implementation guidelines should distinctly outline the response protocol for reporting GBV incidents, establish clear referral pathways, and delineate the roles and responsibilities of service providers in emergency and disaster settings.

Enhance the Adaptability of Social Protection Delivery Systems and Payment Mechanisms to Effectively Respond to Shocks

98. Design a robust social protection delivery mechanism for horizontal expansion. As the program seeks to extend its coverage to nonexisting beneficiaries during and after disasters, it is crucial to fortify the social protection delivery system to facilitate the horizontal expansion of social assistance coverage. This necessitates the development of mechanisms for identifying and targeting vulnerable populations not currently included in existing social protection programs. Integration of the social registry with the DRM system, as discussed below, will play a pivotal role in achieving this. Additionally, outlining clear business processes and institutional arrangements for horizontal expansion should be preestablished and outlined in a comprehensive SOP document.

99. Enhance information communication, particularly in remote communities where access to information remains a significant challenge. Certain areas continue to grapple with limited or no communication networks and connectivity, which hinders residents from accessing vital information, applying for assistance, and securing its benefits. Given Fiji's geographical layout as an archipelagic island nation with numerous outlying islands and remote territories, there are regions that remain under-served in terms of information dissemination. Although a national communication strategy is in place, its effectiveness in reaching these marginalized populations needs substantial improvement. It is crucial to involve representatives from vulnerable groups, including women, the elderly, and people with disabilities, in the development of this strategy and the subsequent action plans. This inclusive approach ensures that communication efforts are tailored to the specific needs and challenges faced by these communities, thus enhancing their access to crucial information and support.

100. Facilitate digital payment options with greater flexibility to enhance the beneficiary experience. Fiji's regular social protection program employs a mix of digital (electronic) and manual (cash/voucher) payment methods, depending on the availability of cash-out points like ATMs. However, when providing top-ups to existing beneficiaries, manual payments can lead to delays. Even digital payments are susceptible to interruptions in the financial system

during shocks, especially when relying on a single PSP. To address these challenges and ensure accessibility to financial services, particularly during emergencies, it is essential to promote digital payment alternatives in collaboration with a broader range of banks and nonbank financial service providers. Establishing a social registry that includes payment account information for both regular and potential beneficiaries will enable timely disbursement of funds to beneficiaries in times of crises, improving their ability to cope with shocks effectively.

Enhance Data and Information Systems and Reinforce Their Integration between the DRM and Social Protection Sectors

101. Develop a comprehensive social registry to identify and support the vulnerable populations during emergencies (bBox 64). The findings from the stress test emphasize the need to enhance social registry and social protection information systems for effective use in ASP programs. Currently, various information systems and databases lack interconnections, hindering government agencies from accurately identifying those in need during climate shocks. Furthermore, there is no automated mechanism to track who is receiving what type of assistance and from where. Although the MWCSP is in the process of establishing a social registry and a consolidated beneficiary registry, it is crucial to establish data sharing arrangements among implementing ministries to expand these registries and ensure broader coverage. In the medium term, enhancing the accessibility and efficiency of application and information updating processes, such as online and digital methods, will help maintain an up-to-date social registry.

102. Special attention should be paid to addressing underlying constraints that may disproportionately affect women, and implementing appropriate countermeasures to minimize exclusion or unintended adverse effects. Moreover, for survivors of GBV, the establishment of such a registry, coupled with national identification cards, becomes especially critical, enabling them to access essential services like shelters, livelihood support, and health care. Prioritizing assistance for these survivors, particularly those newly seeking help, is essential because they may experience increased violence in the aftermath of an emergency.

103. Enhance the DRM information system and EWS to ensure better interoperability with social protection databases and information systems. As the social registry continues to evolve, integrating it with the DRM information system can offer an additional layer of support for identifying and prioritizing individuals in need during shocks. Presently, the NDMO collects information on affected populations after disasters, but there is no mechanism in place to link damage data with predisaster information, such as social protection beneficiary data. To improve the targeting of ASP beneficiaries, collaboration between the NDMO and social protection agencies is essential. These agencies should work together to establish common data formats (e.g., unique identifiers) and mechanisms for data sharing and analysis (e.g., integrating disaster-related parameters with socioeconomic data from social protection databases). This consolidated data can also be shared with humanitarian and development partners, enabling them to prioritize specific areas and households more effectively.

Box 6

Designing a Social Registry and Interoperable Systems in Fiji

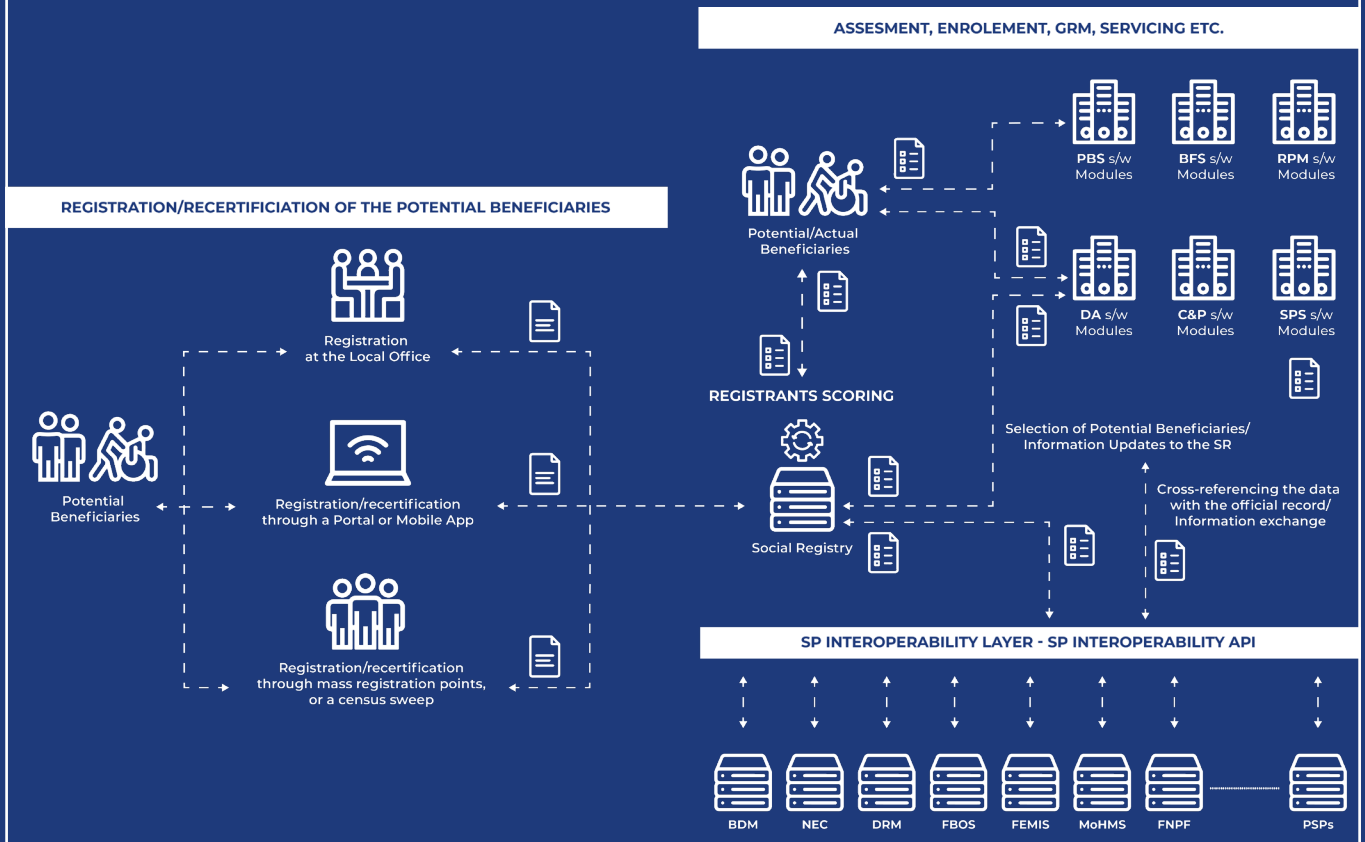
Globally, there is growing support for universal social protection. This advocates for a world where anyone who needs social protection can "access" it at any time. There is similarly a recognition that social protection systems need to be *adaptive*. This involves combining social protection, disaster risk management, and climate change adaptation to reduce negative impacts of global challenges and change, such as natural hazards, poverty, food insecurity, and climate change.

While the terms *universal and prioritization* (or targeting) initially may appear contradictory, for the country to move one step closer to universal (and adaptive) social protection within limited fiscal space, it is critical to provide the right social protection support to the right people (i.e., those with greater needs) at the right time, especially for social assistance. This will allow for a responsible and effective shift from eliminating poverty to keeping people out of poverty. Some citizens can hedge different risks through their private financing, but others do not have such means, necessitating the use of public funds.

Many countries operate **social registries** to target social protection support that meets the needs of various population groups over time (including in response to shocks). Social registries are information systems that support outreach, intake, registration, and determination of potential eligibility for one or more social programs. They have both a social policy role, as inclusion systems, and an operational role, as information systems. Governments collect, manage, and share information on the socioeconomic status of the entire population (not just the poor) through social registries to serve multiple social protection programs. Social registries enable a more customized social protection support to a broad population (e.g., social assistance to the poor, subsidized health and social insurance, and emergency assistance to the "missing middle" in addition to the poor).

For social registries to effectively support social protection targeting, the information needs to have wide coverage (both population and indicators/attributes) and be accurate and up to date. **Data interoperability** among various databases will help enhance the quality of the social registry in terms of both coverage and accuracy. Various data including those directly obtained from beneficiaries (e.g., through registration at a local office, an online portal, etc.) and through other information systems (e.g., through the social protection interoperability layer) could build and enhance the quality of the social registry. The developed social registry will help assess and enroll potential beneficiaries to the different programs *(Figure B4.1)*.

Figure B4.1. Conceptual Framework of the Social Registry and Social Protection SP Interoperability in Fiji



Source: *Karacsony et al. 2022.*

Note: API = application programming interface; BDM =Births, Deaths & Marriages Registry ; BFS = Bus Fare Scheme; C&P = Care and Protection Allowance; DA = Disability Allowance; DRM = disaster risk management; FBOS = Fiji Bureau of Statistics; FEMIS = Fiji Education Management Information System ; FNPF = Fiji National Provident Fund; GRM = grievance redress mechanism; MOHMS = Ministry of Health & Medical Services; NEC = National Employment Center; PBS = Poverty Benefit Scheme; PSP = payment service provider; RPM = Rural Pregnant Mothers Food Voucher; SP = social protection; SPS = Social Pension Scheme; SR = social registry; s/w = software

Establish Sustainable Financing Mechanisms for ASP Programs

104. Initiate discussions to establish a reliable DRF system that can support the implementation of ASP programs in Fiji. The assessment highlighted a significant gap in the form of a robust DRF mechanism, which could hinder the timely disbursement of ASP programs following a crisis. It is imperative for the government to explore the development of a comprehensive DRF strategy, accompanied by an annual plan encompassing both ex ante measures (e.g., reserve funds and risk transfers) and ex post mechanisms (e.g., budget allocation). This strategy should exhibit flexibility to address a spectrum of disasters, ranging from infrequent but severe events to smaller-scale incidents. The plan should delineate how the government intends to finance its contingent liability arising from disasters, taking into account expected funding requirements based on historical hazard data. Leveraging lessons from other countries' experiences, such as the Philippines *(outlined in box 75)*, can be instrumental in shaping Fiji's DRF strategy.

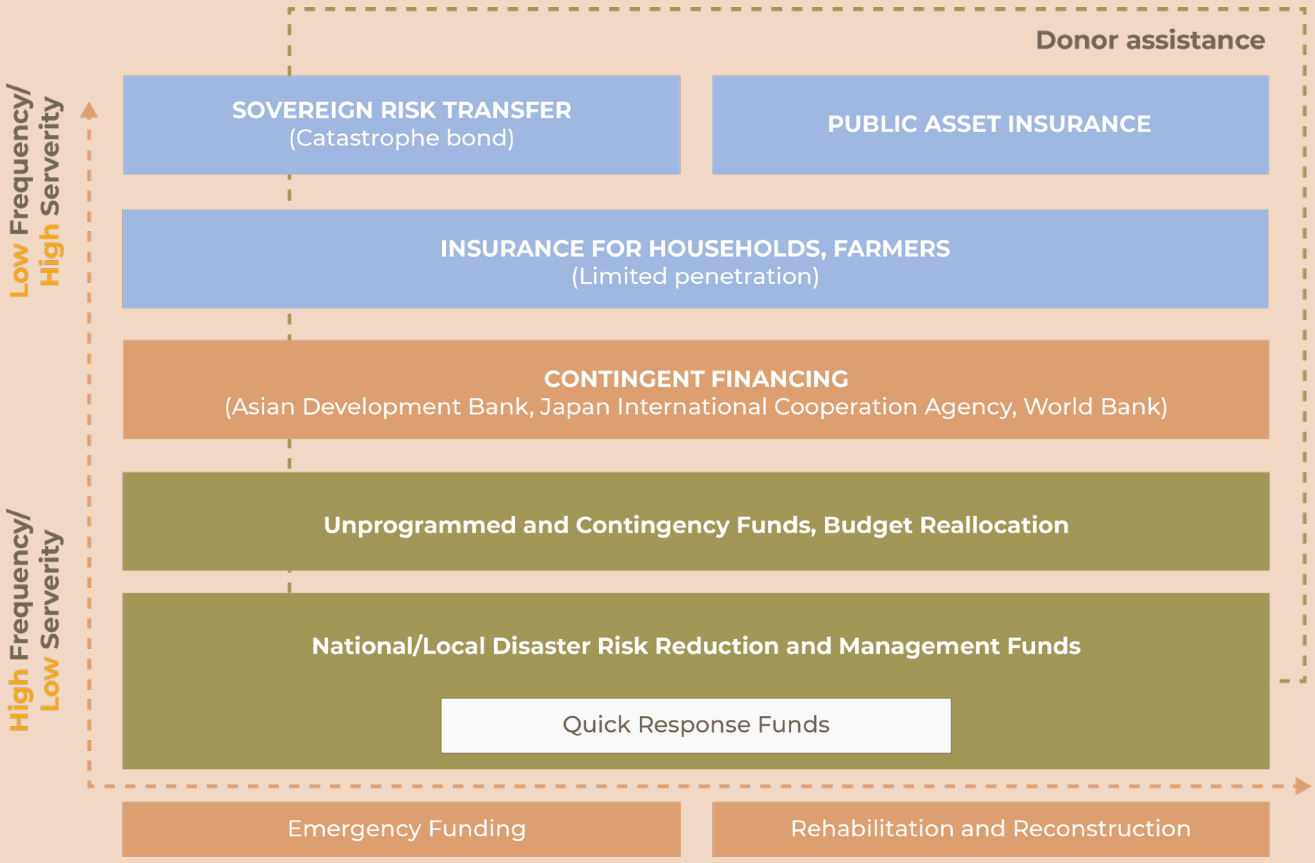
Box 7

The National Disaster Risk Financing and Insurance Strategy in the Philippines

The Philippines' National Disaster Risk Financing and Insurance Strategy was developed in 2015 by the Department of Finance with technical assistance from the World Bank. The strategy aims to maintain the sound fiscal health of the national government, develop sustainable financing mechanisms for local government units, and reduce the impact on the poorest and most vulnerable and prevent them from falling into a cycle of poverty while also shielding the near poor from slipping back into poverty.

The strategy introduced the risk layering approach (figure B5.1). For frequent but less severe disasters, the government allocates resources to the National and Local Disaster Risk Reduction and Management Funds every year, of which a part is allocated as Quick Response Funds. It has also leveraged contingent lending from international partners such as the World Bank, the Japan International Cooperation Agency, and the Asian Development Bank. For low frequency but high severity shocks, the government placed the national parametric insurance program pilot with over ₱3 billion in premiums from the budget, protecting national government agencies and local government units against typhoon and earthquake risk. In December 2019, the Philippines issued the first sovereign catastrophe bond in Asia. The government is currently further enhancing the linkage between these disaster risk financing options with adaptive social protection programs for timely disbursement in case of an emergency.

Figure B5.1. The Philippines Disaster Risk Financing and Insurance Strategy



Source: *Qian et al. 2020*

Strengthen Institutional Arrangements for DRM and ASP

105. Establish a well-defined institutional framework for ASP interventions by maximizing the utilization of the cluster system. While the institutional arrangement section underscores the prominent leadership roles of the NDMO and the cluster system in coordinating government agencies and external stakeholders, it also highlights the prevailing issue of agencies often operating in isolation, potentially leading to redundant efforts. Additionally, the role of social protection in disaster response tends to be confined to the provision of food and nonfood items, with limited emphasis on cash-based interventions. Consequently, the responsibilities of certain social protection agencies, such as the FNPF, which could potentially enable its members to access funds from general accounts during shocks, remain ambiguously defined within the DRM policy framework. Therefore, it is imperative to enhance coordination not only among government agencies but also with humanitarian and development actors because this collaborative approach will be pivotal.

Appendix A.
Applying the Unbreakable Model in Fiji

The basic concept underlying the unbreakable model is to estimate the loss in household consumption when affected by a disaster. It models the physical impact of a disaster on a household via damage to household assets (capital stock), which consequently leads to decreased consumption via a decrease in income and a reduction in consumption to rebuild assets. Starting from asset loss, the household's income loss is estimated, which is dependent on the productivity of the assets that are lost/damaged due to a disaster. The loss in income is translated to a proportional loss in consumption and some additional reduction that the household makes to reconstruct/rebuild its assets until the consumption levels are back to predisaster levels. *Figure A.1* traces the steps taken in the model.

Figure A.1. The Flow of Estimating Consumption Loss in the Unbreakable Model

There are several limitations of this model: firstly, it assumes a closed national economy, which means household recovery via international remittances is not included. It models loss in consumption primarily via loss in assets and does not include nonasset losses such as employment loss.

There are two main inputs to the unbreakable model: HIES survey data for household-level information and exceedance curves for data on the intensity of disaster and resulting asset losses.

- **HIES 2019–20 data for Fiji (Fiji Bureau of Statistics, 2021).** This dataset provides household-level information such as income and expenditure; demographic information such as age/employment status/gender of the head of the household and the number of people living in the household; and information on physical characteristics, such as the building materials, year of construction, and current condition.
- **Exceedance curves.** This dataset is generated by AIR Worldwide. It shows the probability of extreme events like rainfall or floods of different durations and magnitudes. Specifically, it provides information on probable minimum asset loss (PML) for several types of natural disasters (earthquakes, tsunamis, tropical cyclones, floods, etc.). For each region, it provides the total value of assets (L) lost due to the disaster and the frequency of the disaster via the return period (RP). The data can be generated for different administrative boundaries, such as district level, provincial level, and overall national level. For this study, the exceedance curves used were provided at a national level, which means there was no disaggregation at a regional level.

Exceedance data is constructed by sorting the data from historical records or simulated data in descending order of intensity and plotting the cumulative probability of exceedance against the event duration. Exceedance refers to a situation where a value surpasses or goes beyond a specific threshold or limit.

Table A.1. Probable Minimum Asset Loss and Loss Fraction

Return period	Exceedance probability	PML	Exposed value of assets	Loss fraction (%)
50	exceed_2	7,25E+08	2,22E+10	3,269579
20	exceed_5	5,31E+08	2,22E+10	2,393486
10	exceed_10	4,32E+08	2,22E+10	1,946586
5	exceed_20	3,2E+08	2,22E+10	1,442315
2,5	exceed_40	2,15E+08	2,22E+10	0,971194
2	exceed_50	1,81E+08	2,22E+10	0,814893

Note: *PML = probable minimum asset loss*

Using the unbreakable model in combination with the demographic information provided by HIES, it is possible to explore the influence of a household's socioeconomic characteristics on consumption loss. It is also possible to test the impact and cost of cash transfers and top-up programs postdisaster on recovery of households belonging to vulnerable groups.

Assumptions

It is assumed for model purposes that Fiji is a closed national economy: this implies that 100 percent of household income is derived from assets located within the country or via social transfers originating from sources within the country. Therefore, this excludes inward remittances from international sources from being considered part of household income or via social transfers. Therefore, household income is assumed to come from only two sources: income generated by a household's capital stock or via social transfers (such as cash transfers by the government, pension, domestic remittances, alimony, etc.)

Asset loss experienced by a household is a function of the physical characteristics of the household (roof material and wall material), poverty status (poorer households are more likely to be impacted), and value of household assets. Therefore, asset loss is not dependent on spatial characteristics of a disaster, such as wind paths taken by a tropical cyclone in different regions, regional flood probabilities, distance from the epicenter of an earthquake, and so on. More specifically, the asset loss at a national/regional level (provided by exceedance curves) is disaggregated to household-level asset losses through physical characteristics of the household and not by the local magnitude of the disaster. For details, see the "Calculating Asset Loss" subsection in this appendix.

Physical condition of households is assumed to be a direct proxy for the vulnerability of all assets that generate income for the household. This includes the following:

- Private assets: owned by the household
- Public assets: public infrastructure used to generate income, such as roads, factories, and electricity
- Assets of other households: factories and other infrastructure owned by private individuals.

In the event of a disaster, households are modeled to act rationally to minimize well-being loss (such as via negative coping mechanisms). This implies that recovering households optimize the fraction of total household income that is dedicated normally to maintaining assets. So, in the case of poor households or those close to poverty line, the percentage of income set aside to maintain their household assets is a smaller fraction comparatively to economically advantaged households. Because poorer households cannot set aside a bigger fraction of their income to rebuild their assets, they experience longer recovery periods.

Calculating Asset Loss

Data from the exceedance curves are used to distribute the overall regional losses to household-level loss.

After a disaster, households fit into one of the two states: *affected* or *not affected* during the disaster. The likelihood of the household being affected is estimated via $f_{a,h}$ (the household's probability of being affected), which is a function of the household's physical vulnerability (v_h) and effective capital stock (κ_h^{eff}) of the household, poverty bias, and so forth. The calculations for the household's probability of being affected are detailed below.

For each household h that is affected, the asset loss experienced is conceptualized as losing a share determined by the physical vulnerability of the household (v_h) and of its effective capital stock (κ_h^{ef}). Total asset loss (L) is consequently calculated by summing losses experienced by all affected households.

Household' s asset loss = household' s probability of being affected ($f_{a,h}$) × capital stock (κ_h^{eff}) × asset vulnerability (v_h)

- **Capital stock of the household (κ_h^{eff}):**

$$\kappa_h^{eff} = (\text{per capita income}) / \pi$$

Where, π is the *average productivity of capital* for Fiji that is obtained from Penn World Tables v10.

- **Household's probability of being affected ($f_{a,h}$):**

$$(f_{a,h}) = f_{a,0} \times \text{poverty bias}_h$$

Where, $\{f_{a,0}\}$ is an overall value calculated for all households as follows:

$$f_{a,0} = PML / (\sum_{h=1}^{N} (\kappa_h^{eff} \times v_h \times \text{poverty bias} \times pcwgt_h)$$

Poverty bias is a variable that conceptualizes the findings that poor people are disproportionately exposed and are more likely to be affected by the disaster than nonpoor people. The t per capita weight of the representative household in the survey is denoted by *pcwgt*. PML is calculated from the exceedance curves data:

$$PML = \sum_{h=1}^{N} (k_h^{eff} \times pcwgt_h) \times \text{expected loss fraction}$$

- **A household is affected if**

$$f_{a,h} \geq random(0,1)$$

- **Vulnerability of the household's assets (v_h):**

o Is a function of the household's physical characteristics: material of the roof and condition of the wall (good/average/poor)

o Value of v_h is between 0 and 1 and is assigned as outlined in *Table A.2.*

Table A.2. Vulnerability Assignment to Households Based on Physical Characteristics of the House

Building material	Wall condition	Vulnerability
Tin/corrugated iron/concrete/brick/cement	Good	0.08
	Average	0.14
	Poor	0.20
Wood/others	Good	0.32
	Average	0.40
	Poor	0.48
Makeshift or improvised materials/traditional bure materials	Good	0.56
	Average	0.70
	Poor	0.84

Note: *These vulnerability values are assigned based roughly off on the vulnerability values used by the study for the Philippines*

Income Loss

Income loss (Δi_h) per month per household, due to loss in assets, is calculated as follows:

$$\Delta i_h = \Pi_k \cdot \Delta \kappa_h^{eff} - \delta_{sp}^{tax} \cdot \Pi_k \cdot \Delta \kappa_h^{eff} + \Delta i_h^{sp}$$

- **First term**

o Π_κ refers to the productivity of capital in Fiji (a national value from Penn World Table v10.1 is used for this purpose).

◇ The income loss because of damage to effective capital stock that is used by the household to generate its income, κ_h^{eff}, is calculated by multiplying the value of effective stock with its productivity (in generating income).

- **Second term**
  - This is used to deduct the taxable part of the total income at the tax rate of δ_{sp}^{tax}.

- **Third term**
  - This is income that comes via social transfers.
  - Social transfers comprise sources such as cash transfers from the government and NGOs, domestic remittances (no international), and alimony. Data are procured from HIES 2020-21.

The assumption, therefore, is that any income that does not come from social transfers is generated via the household's effective capital stock.

Consumption Loss

Total consumption loss (Δc_h; per month, per adult equivalent) is calculated as follows:

Total consumption loss (Δc_h) = income loss (Δi_h) + reconstruction cost (Δc_h^{recco}) - savings - postdisaster support

The postdisaster support is provided by cash-top-ups or other programs (discussed in the following sections).

It is in determining the reconstruction rate that the household's rational behavior is factored in. The household is assumed to act rationally to maximize its well-being by rationing reconstruction costs without slipping below subsistence levels (it is assumed to be one-third of the national poverty line). The household's cost of recovery is modeled such that they rebuild assets *exponentially* over a number of years (t_h) after the disaster.

t_h = *number of years taken by the household to recover 95% of initial asset loss*

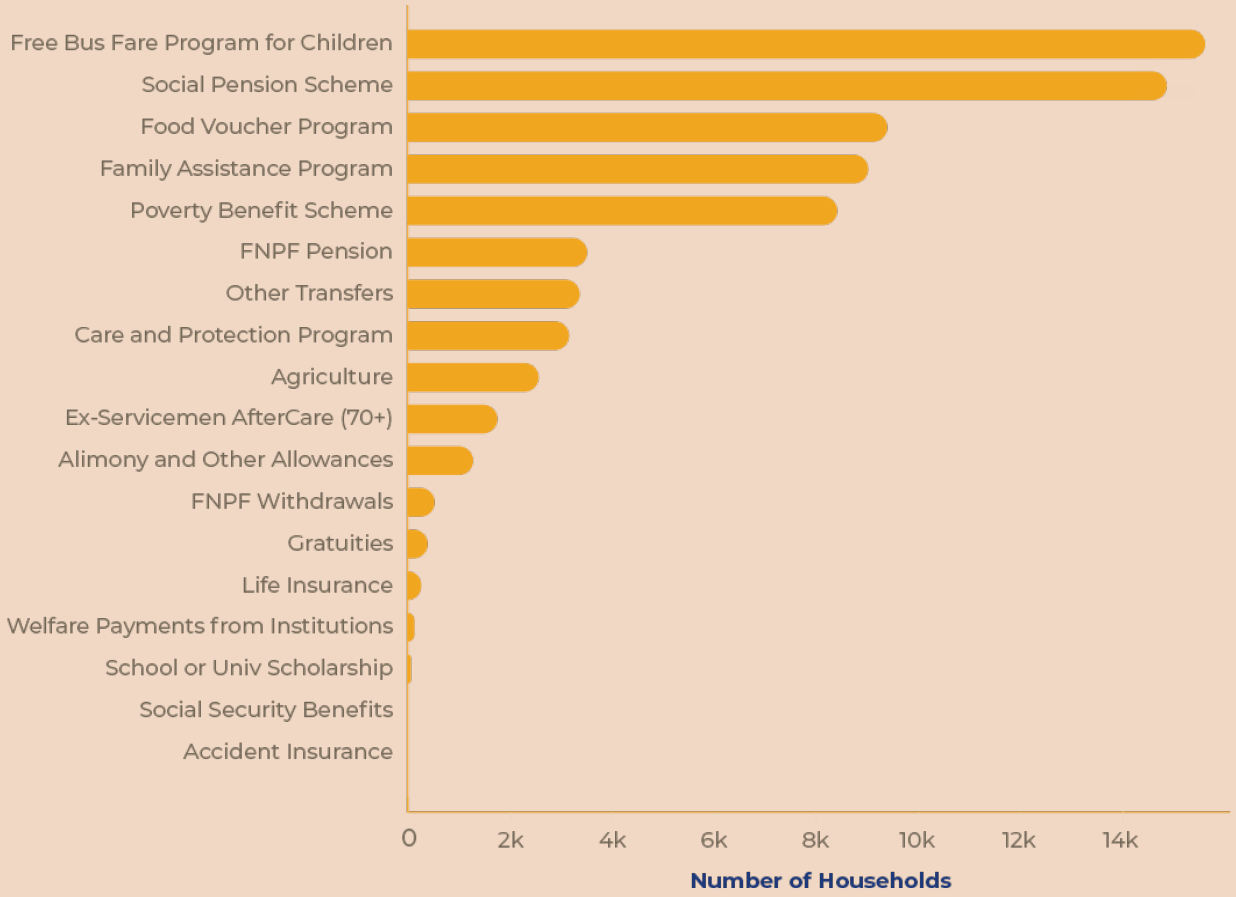
The rate at which the household rebuilds assets while maximizing well-being is denoted by λ_h. The remaining reconstruction cost at any time t for a household is calculated by multiplying the reconstruction rate with the asset loss at time *t*:

$$\Delta c_h^{recco}(t) = \lambda_h \cdot \Delta \kappa_h(t)$$

The *exponential* rebuilding of assets at reconstruction rate λ_h is captured via "asset loss at time *t*" after a disaster. It is calculated as follows:

$$\Delta \kappa_h(t) = \Delta \kappa_h^{eff} \cdot e^{-\lambda_h \cdot t}$$

Figure A.2. List of Social Protection Programs Covered by HIES Data



Appendix B.
Simulating the Postdisaster Cash Transfers

Policy Scenario	Return Period	Total Consumption Loss (F$)	Total Policy Cost (F$)	New/ temporary poor	Poverty Gap
None	5	157,794,355	-	32,476	594
TC Winston	5	154,344,647	38,665,943	31,527	593
TC Winston +F$100	5	156,915,618	9,897,536	32,259	594
TC Winston +F$1000	5	150,180,945	98,975,364	30,347	593
TC Winston +F$2000	5	146,041,550	197,950,728	29,576	592
F$100 to poor	5	156,163,176	3,201,074	32,476	589
F$1000 to poor	5	144,484,072	32,010,739	32,476	553
F$2000 to poor	5	137,333,713	64,021,478	32,476	531
F$100 to poor and 20% above	5	154,952,287	4,772,481	31,845	593
F$1000 to poor and 20% above	5	134,271,200	47,724,809	26,356	581
F$2000 to poor and 20% above	5	121,813,116	95,449,617	23,626	569
F$100 to poor and 50% above	5	153,517,847	6,764,257	31,276	593
F$1000 to poor and 50% above	5	122,149,552	67,642,567	21,549	585
F$2000 to poor and 50% above	5	102,885,667	135,285,133	16,820	577

Policy Scenario	Return Period	Total Consumption Loss (F$)	Total Policy Cost (F$)	New/ temporary poor	Poverty Gap
None	50	357,306,609	-	73,923	743
TC Winston	50	349,535,593	38,665,943	71,856	740
TC Winston +F$100	50	355,319,013	9,897,536	73,438	742
TC Winston +F$1000	50	340,148,704	98,975,364	69,186	738
TC Winston +F$2000	50	330,757,252	197,950,728	67,423	733
F$100 to poor	50	353,641,185	7,255,063	73,923	734
F$1000 to poor	50	327,235,244	72,550,628	73,923	666
F$2000 to poor	50	311,108,316	145,101,256	73,923	625
F$100 to poor and 20% above	50	350,861,408	10,825,225	72,459	734
F$1000 to poor and 20% above	50	304,119,161	108,252,250	59,919	694
F$2000 to poor and 20% above	50	275,902,235	216,504,500	53,837	654
F$100 to poor and 50% above	50	347,588,468	15,363,395	71,210	733
F$1000 to poor and 50% above	50	276,227,287	153,633,955	48,846	695
F$2000 to poor and 50% above	50	232,459,024	307,267,909	38,226	655

Appendix C.
ASP Stress Test for Fiji

The Social Protection Stress Test Tool is a new tool developed by the World Bank aims to (i) outline a risk profile of a country and connect it more deliberately to its social protection system, (ii) assess how existing national capacities could be scaled up before and after a shock, and (iii) identify gaps and guide investment priorities to build capacity for crisis management, among other things.

Part 1 of the stress test examines the main sources of risk that are likely to require social protection scale-up and provides an estimate of the number of people in need of support in the aftermath of different types and intensities of shocks, the degree to which they are covered by existing programs, and the extent to which the social protection system needs to increase support to existing beneficiaries (vertical expansion) or new beneficiaries (horizontal expansion). Section 2 of this report covers this assessment.

Part 2 of the stress test assesses the social protection system's readiness to build resilience, and respond to, shocks through a detailed assessment of four social protection building blocks: **Programs and Delivery Systems, Data and Information, Finance, and Institutional Arrangements and Partnerships.** Part 2 assigns a score from 1 to 5 for each building block subcomponent and produces an overall average score to identify strengths and priority areas for attention. The results of these assessments informed the discussions in sections 3–6 of this report. The detailed score for each building block is summarized below.

Caveats on Scoring from Stress Test Part 2

- The scores are not intended to be used as a benchmark for each country but rather to identify areas of focus for country practitioners.
- Because the scores are qualitative, the final scores are based on a broad consultation process and supporting documentation and evidence.
- The scores are based on existing regulations, policies, programs, and institutions. The description acknowledges that plans and reforms are underway, but unless they are operationalized or enacted, they will not impact the score.

Institutional Arrangement and Partnerships (3.0)

Government Leadership (2.7)

	Question	Score	Rational for scoring
1	Is there any government policy or strategy that recognizes the role of (adaptive) social protection in DRM?	• No (adaptive) social protection or DRM strategy/policy = 1 • Strategies/policies exist but are outdated OR social protection and DRM do not link to each other, and ASP is not mentioned = 2 • **Up-to-date strategies/policies exists with some recognition of the role of ASP in DRM (or vice versa) = 3** • Relevant social protection and DRM strategies exist with strong complementarity and links to some legislation and fiscal commitments = 4 • Clear and reinforcing commitment to ASP in social protection and DRM strategies supported by appropriate legislation and fiscal commitments = 5	DRM Act and policies mention social safety net and gender, and social protection policy highlights the ASP. However, the DRM Act is outdated and there is no social protection act in place. Also, there is no clear fiscal commitment on ASP programs in DRM policies.
2	Is there a contingency plan[a] or response plan (whether drafted by the government or not, it is recognized as such in times of crisis) with links to risk assessment that determines the actions to be taken in case of shocks?	• No = 1 • There is a plan, but it was never activated during a shock/not consistently activated OR there is a plan, but it is outdated and does not incorporate risk assessments = 2 • There is an up-to-date plan that is/would be activated but does not have a fully actionable implementation road map for an effective response and is not periodically reviewed or tested = 3 • There is an up-to-date, comprehensive, and relevant plan for some shock(s), which includes risk assessment and scenario building, that has been tested and is actionable and implementation ready = 4 • There is a plan for each/all shocks (including an action plan for unanticipated shocks) and clear guidelines as to when it is/would be activated and up-to-date and is tested/implemented regularly and refined = 5	There is no contingency plan or SOP for implementing social protection programs during and after a disaster.

	Question	Score	Rational for scoring
3	How effectively does the government lead the response plan and implementation? The leadership of the government is independent of whether a contingency plan exists. This question seeks to understand what the actual role of the government is in the planning and implementation of response to a shock. Effectiveness is based on whether the government is able to meet its targets. It refers to the process of planning after a shock hit. Which agency or partner takes the lead in planning and implementing the response?	• There are no government-led ASP activities — all is led by humanitarian partners without coordination with social protection or DRM = 1 • Government (social protection and/or DRM) and nongovernmental agencies run parallel ASP initiatives without coordination = 2 • Government (social protection and/or DRM) and nongovernmental agencies run parallel ASP initiatives with ad hoc postdisaster coordination = 3 • **Government social protection and DRM have functioning institutionalized linkages and coordination (sharing data and information and coordinate on response based on respective roles) but no coordination with nongovernmental agencies = 4** • Government social protection and DRM have functioning institutionalized linkages and coordination (sharing data and information and coordinate on response based on respective roles) and a coordination mechanism with nongovernmental agencies is functional = 5	The UN/humanitarian agencies coordinate with the government under the cluster approach and could piggyback on government programs to provide cash assistance in past disasters. However, it is also often seen that multiple programs by the government and nongovernmental agencies are provided to affected families without a centralized database on who is receiving what.

Institutional Arrangements (3.5)

	Question	Score	Rational for scoring
1	Is there a public agency that is formally tasked with leading the shock response efforts (for the shocks identified in part 1)? *(Whether centrally or decentralized depending on where decision making occurs)*	• No agency tasked = 1 • No formal responsibility designated, but many agencies respond using their own systems and processes = 2 • **Several agencies tasked with response of some shock(s) (overlapping mandates) with limited level of coordination = 3** • Clear responsibility and roles for some shock(s) assigned to agency(ies) though not for all shocks = 4 • One agency tasked with shock response (or multiple agencies with designated roles and responsibilities) and covers all the shocks = 5	The NDMO leads and manages all DRM activities, whereas MWCSP is assigned as the Safety and Protection Cluster lead. However, the role of the FNPF (and other ASP-relevant agencies) are not mentioned in the DRM regulations.

	Question	Score	Rational for scoring
2	Is there a coordination mechanism or institutionalized linkage between DRM (or an institutionalized system responsible for shock response) and social protection agencies (for the shocks identified in part 1)?	• No linkages: social protection actors (or agencies) do not have an active role and/or do not have a coordination mechanism with DRM actors = 1 • Ad hoc linkages (not institutionalized) OR coordination institutionalized but, in reality, social protection counterparts still struggle to coordinate with DRM counterparts = 2 • Mostly functioning institutionalized linkages and coordination between social protection and DRM for the same shock(s) only (social protection and DRM counterparts share data and information and coordinate on response based on respective roles for some shocks only) = 3 • **Mostly functioning institutionalized linkages and coordination between social protection and DRM actors for most shocks = 4** • Strong linkages and institutionalized coordination mechanisms between social protection and DRM for all shocks = 5	A cluster system is in place for institutional arrangement, but the FNPF is not included.

Programs and Delivery Systems (3.2)

Programs (3.0)

	Question	Score	Rational for scoring
1	What is the coverage of social protection programs in the country? (Is there a huge gender gap in coverage?)	• 0–15 percent = 1 • **15–30 percent = 2** • 30–50 percent = 3 • 50–70 percent = 4 • Over 70 percent = 5	The coverage of regular social assistance programs is 20.5 percent, and social insurance covers 6.5 percent as of 2015. This means that more than 70 percent of the population is not usually covered. Expanding the support to these populations will require some efforts (e.g., deciding which agency will expand the coverage during a disaster; collecting data on the missing population). The F$360 UA could expand coverage dramatically, and its experience could inform future ASP.
2	What kind of noncontributory cash/ in-kind transfer programs does the government operate?	• None, or donor/NGO-run programs only = 1 • Government-run programs exist, but in limited geographic areas = 2 • Government-run programs exist nationally but are limited to specific categories (e.g., disability, old age pension) = 3 • **Government-run programs are operated nationwide but are fragmented or overlapping = 4** • A coordinated government-run program(s) is present nationally without fragmentation or overlaps[b] = 5	Social assistance and social insurance programs are nationally operated. They are designed not to overlap; thus, the possibility of overlaps would be minimum.
3	What kind of livelihoods/ employment protection programs exist?	• None, or donor/NGO-run programs only = 1 • Selected programs exist (some of them run by the government) but are limited in scope and/or to certain geographic areas = 2 • Programs exist nationally but are limited in scope (e.g., skills training only) = 3 • **Various programs (delivering, e.g., skills plus cash, credit, and/ or counseling) are operated nationwide but are fragmented or overlapping = 4** • An integrated government-run livelihoods program (or in complete coordination with NGOs) is operating nationally = 5	The Fijian government has implemented a variety of livelihood and employment protection programs. For instance, the WGP aims to help the poor and vulnerable in employment and livelihoods, but it is limited in scope and has been suspended.

	Question	Score	Rational for scoring
4	Does the amount of benefit provided during shocks change as per circumstances to ensure that there is no drastic change in household welfare?	• Amount of benefit is far from allowing households to maintain preshock consumption levels = 1 • **Amount of benefit covers a small part of the consumption impact and decision on amount is based on resources available rather than standard protocol = 2** • Amount of benefit covers significant portion of the consumption impact, though coverage is still a priority (can sometimes cover a lot, sometimes a little) = 3 • Amount of benefit compensates significantly (though not fully) for consumption impact, with some parameters for transfer amount outlined in protocol and minimal acceptable value = 4 • Amount of benefit compensates for potential consumption impact with formal guidelines/standards in place = 5	Postdisaster programs have been implemented several times (such as top-ups to PBS beneficiaries, the FNPF, and UA), but the amount is based on the available budget without a clear standard.

Delivery System (3.4)

	Question	Score	Rational for scoring
1	Are there communication mechanisms in place that can be leveraged in times of a shock to inform target beneficiaries about the program?	• No = 1 • Yes, but instruments are used in an ad hoc manner and are not tailored to the target population (e.g., using pamphlets or using pamphlets in one language and not others when target population is illiterate) = 2 • Yes, with more effective strategies in some areas but is not implemented well in other areas = 3 • **Yes, a comprehensive strategy is implemented (or is available) in both urban and rural areas, which are served by the program but do not have capacity to expand to areas not currently covered = 4** • Yes, a comprehensive strategy that uses multiple sources (e.g., a mix of cell phone, television/radio, newspaper and other print media, and local community leaders) is available that can be scaled up as needed = 5	The government used various sources to inform people about emergency social protection programs-especially after the pandemic. However, it lacks a capacity for communication in some areas due to network coverage limitations.

	Question	Score	Rational for scoring
2	How are beneficiaries enrolled in the program in times of shock?	• No enrollment mechanisms specified in case of horizontal expansion, or existing beneficiaries must register again for vertical expansion = 1 • In person near their place of residence at a specific time (no permanent structure available for registration) = 2 • **Self-enrollment in person (kiosk, one-stop shop) or online/phone without provision for alternative access = 3** • Self-enrollment by phone or internet as well as in person = 4 • Automatic enrollment OR multiple mechanisms used that ensure everyone among target population[c] can be enrolled = 5	Existing social assistance beneficiaries can be automatically enrolled in the top-ups, yet there were no mechanisms to expand horizontally for social assistance. The F$360 UA introduced self-enrollment with phone, but this was ad hoc.
3	What percentage of the poorest *two* quintiles of population has a government authorized/ recognized ID (national ID, birth certificate, voter ID, TIN, etc.)?[d]	Total coverage, not the difference between the affected population and ID prevalence: • 0–20 percent = 1 • 20–40 percent = 2 • 40–60 percent = 3 • **60–80 percent = 4** • Over 80 percent = 5	No national ID at the national level, but 79 percent and 72 percent of Fijians have TINs and voter IDs, respectively; these could be lower for poorest two quintiles.
4	Can beneficiaries or target population register complaints? Is there a GRM in place to resolve the complaints?	• No/yes, but not functional = 1 • Yes, but only through community committees/in person and is limited to beneficiaries only = 2 • **Yes, there are multiple ways to register complaints, which can also be used by nonbeneficiaries. However, complaint resolution process is not tracked = 3** • Yes, there are multiple ways to register complaints with triggers for response that tracks complaint resolution process = 4 • Yes, there are multiple ways to register complaints with triggers for response and tracking of complaint resolution process. After complaint resolution, follow up with beneficiaries to get feedback = 5	There are multiple ways to submit grievances. However, each ministry has its own system — often with different modalities (e.g., in person, Facebook, phone call). Tracking of the grievance redressal remains challenging.

	Question	Score	Rational for scoring
5	Does the shock response expansion have specific programs/design features to ensure inclusion of women?	• No specific efforts are made to ensure inclusion of women = 1 • Some efforts are made to improve access or outreach, but these are not effective or contextually appropriate = 2 • **Some efforts are made to improve access or outreach, including context-specific adjustments or measures to address upstream constraints (e.g., provision of IDs or SIM cards to women to have better access) = 3** • Shock response plan includes a social mobilization component on top of tweaks in design features that try to influence behavior or change restrictive norms to improve women's access to systems = 4 • The existing system already accounts for the major constraints faced by women and includes strategies to mitigate their constraints and improve access = 5	Women have been a part of the program design and planning in Fiji. Women are first responders especially in looking after/tracing the elderly, children, and persons with disabilities.

Payment System (3.0)

	Question	Score	Rational for scoring
1	Currently, how are benefits or cash transferred to the beneficiaries? *Digital transfers or e-payment refer to prepaid cards, magstripe debit cards, smart cards, mobile money, and accounts in financial institutions. Digital component does not have to be end to end but can refer to sending the payment digitally to a bank account. Digital payments here include mobile payments, credit or debit cards, online bank account, etc.*	• Payments/transfers are cash based or in-kind undertaken in person by Mincro Finance Institutions or others, and there is no setup for digital transfers = 1 • Payments/transfers are cash based or in-kind undertaken in person by MFIs or others, but a small-scale/pilot or discussion on digital transfers is ongoing = 2 • **Some payments are digital or paid to bank accounts = 3** • Most payments are digital or paid to bank accounts, but the use of funds is restricted to cash withdrawals from designated places = 4 • All payments are digital with the ability to spend directly from the account (e.g., by debit card at merchant point-of-sale machine) = 5	Some DSW beneficiaries receive payments digitally, but others receive vouchers. Payments to UA beneficiaries and FNPF recipients were fully digital.

	Question	Score	Rational for scoring
2	How quickly can the payment system scale? *(Thinking of all the processes required to get a payment to beneficiary, from the launch of an intervention/operation how long would it take for beneficiary to receive payment assuming that within a few days – quickly – is the goal)*	• Payments would require significant time because system is not in place or appropriate for response = 1 • Payments would experience some delay relative to shock because some systems are in place but are not most appropriate for some shock(s) identified in part 1 = 2 • **Payments would experience moderate delays because new accounts would need to be set up with moderate delays for identification and approval = 3** • Payments can be made with little delay for some shock(s) identified in part 1 = 4 • Payments can be made rapidly for all shocks identified in part 1 (consider for different shocks different payment systems may be necessary, so ability to be able to adapt payment method as necessary – it for purpose – is essential) = 5	Payments to existing beneficiaries are straightforward, but it would take some time to deliver payments to nonexisting beneficiaries.
3	What is the capacity of the payment system to handle a horizontal expansion of the main program?	• Expansion of payments/benefits cannot be done at scale of need and is limited to already targeted areas/ localities = 1 • Expansion of payments/benefits but systems can be done at limited scale of need =2 • **Some ability to moderately expand payments/benefits relative to need = 3** • Significant ability to expand payments/benefits relative to need = 4 • Strong ability to expand transfers/ benefits to cover most of the need or country if needed = 5	The F$360 UA could successfully open accounts for new beneficiaries in collaboration with telecom companies. However, it may exclude people with a mobile phones/network. Further works may be needed to explore collaboration with other PSPs (e.g., banks) and their operations during and after a disaster.

Data and Information (2.3)

Early Warning Systems (2.8)

	Question	Score	Rational for scoring
1	Is/are there a functional EWS for the shock(s) the country is exposed to (shocks that are identified in part 1)? *An EWS is functional if it can monitor and alert on the occurrence of a natural hazard or shock.*	• No = 1 • Yes, but not fully functional or pilot form = 2 • **Yes, for some shock(s) and functional, but some others exist but are very weak/not fully functional = 3** • Yes, for most or all shocks and mostly functional = 4 • Yes, for all regular/known/recurrent shocks and with high functionality/multihazard EWS = 5	The FMS manages the EWS for major disasters, including tropical cyclones, heavy rain/floods, and droughts. However, some limitations remain. It is often slow; for instance, floods warning need data from the rainfall measurement and modeling of the riverine flow. Also, the EWS sometimes contradict global warnings.
2	Is the national EWS capable of warning (monitoring and alerting) of one or more shocks? *Capable refers to the ability to collect high-quality, accurate data in real time. High-quality data should have scientific basis.*	• Inadequate monitoring and warning capability of any hazard (for natural shock)/ or other shocks (health, food insecurity, etc.) = 1 • Some but limited monitoring and/or warning capability of hazards/or other shocks = 2 • **Some adequate monitoring and/or warning capability for hazards/or shocks most relevant to the country, though some issues with accuracy still, and limited ability to monitor other less relevant more infrequent shocks = 3** • Significant monitoring capability for hazards or other shocks most relevant to the country but no other hazards/shocks = 4 • High level of monitoring and warning capability across hazards and/or shocks = 5	Same as above.
3	Has the government undertaken vulnerability and risk assessment(s) to assess the impact of shock(s) based on EWS data?	• No detailed vulnerability or risk assessments by government exist = 1 • Outdated or poor-quality assessment(s) of risk/vulnerability exist = 2 • **Some assessment to determine impact of different shocks on different populations exists but relies heavily on external support or is not wholly adequate = 3** • Government has the capacity to (and does) undertake risk/vulnerability assessment for some shocks regularly based on hazard or shock exposure and data and provides granular data on people in need = 4 • Government has the capacity to (and does) undertake a credible risk/vulnerability assessment regularly that can provide granular data on estimated people in need in advance or very quickly in response to multiple shocks = 5	The government (with World Bank support) developed the Climate Vulnerability Assessment. However, the internal capacity to update and enhance a similar study is limited.

	Question	Score	Rational for scoring
4	Is there an agreed trigger to initiate shock response or to scale up social protection systems in shock response?	• Shock response does not rely on EWS data for response = 1 • **There is an ad hoc linkage between shock response and EWS, where EWS data is used only sometimes = 2** • Some attempts to identify and document EWS indicators, which can be used to plan disaster response, but actual timing and scale of response follow resources = 3 • EWS indicators are well defined and documented with preagreed trigger thresholds to initiate a shock response. However, this is only limited to pilot programs or little coverage = 4 • Defined/automatic EWS triggers that lead to relevant agencies initiating the shock response, which includes guidelines on amount and coverage for some shock(s) = 5	Social protection scale-ups (e.g., top-ups to existing beneficiaries) were conducted following hazard (EWS), but these are ad hoc.
5	Does the government have a clear protocol and tools to collect data on disaster-affected population to identify potential beneficiaries of ASP programs? *This is an additional stress test question for Fiji.*	• Initial data on affected areas collected only after two weeks = 1 • Initial data collected manually by authorities = 2 • **Disaster data collected within 48 hours followed by detailed information within two weeks = 3** • Data on disaster collected digitally by disaster agencies within 48 hours and integrated into national database within two weeks = 4 • Disaster data collected using digital tools, integrated into national database within 48 hours, ensuring that unique IDs are linked to postdisaster data with existing registries = 5	The NDMC shared the data with relevant disaster agencies. Sharing of postdisaster data protocol is still to be developed.

Social Registry and Social Protection Information System (2.0)

	Question	Score	Rational for scoring
	What kind of registry or database is used to target beneficiaries for a shock response? *This question is not scored and allows the team to frame the discussion with the right terminology.*	• A program social registry • **Several program registries/databases** • A national registry • **A voter ID database** • Humanitarian partner databases • Civil registry • **Social security database** • **Telecom companies or client lists** • Pension and social security databases • Dedicated Management Information System(MIS) • None of the above/ad hoc registration	The DSW manages several program registries, and the FNPF manages the registry for its members. These two datasets are used independently to identify beneficiaries. TIN and voter ID database works as a digital ID verification system. Currently, there is no social registry that can be used to target nonexisting beneficiaries in Fiji.
1	What is the difference in terms of urban coverage in the registry/databases[e] versus the likely affected urban population based on simulation?	Calculate the difference between the simulated number of affected urban population and those in the registry: • **Over 70 percent = 1** • 50–70 percent = 2 • 30 –50 percent = 3 • 15–30 percent = 4 • More households in the registry/database, or 0–15 percent fewer in the database than urban affected population percentage = 5	Both the DSW registries and FNPF member database cover beneficiaries and member information only — which is less than 30 percent of the population. Thus, information for over 70 percent of possibly disaster-affected beneficiaries is not covered in the existing registries.
2	What is the difference in terms of rural coverage in the registry versus the likely affected rural population based on the simulation?	Get the difference between simulated number of affected rural population and those in the registry: • **Over 70 percent = 1** • 50–70 percent = 2 • 30–50 percent = 3 • 15–30 percent = 4 • More households in the registry/database, or 0–15 percent fewer in the database than urban affected population percentage = 5	Same as urban.
3	Share of records older than three years in the registry or database used? *It can also be an approximation.*	• **Over 70 percent (or information not available) = 1** • 50–70 percent = 2 • 30 –50 percent = 3 • 15–30 percent = 4 • 0–15 percent = 5	There is no data available.
4	Based on approximation, are disaster-prone areas covered by the registry or relevant databases?	• None = 1 • Few disaster-prone areas covered = 2 • Some of the disaster-prone areas covered = 3 • Most of the disaster-prone areas covered = 4 • **All the disaster-prone areas covered = 5**	The registries cover nationwide.

	Question	Score	Rational for scoring
5	Is there a protocol for updating the registry or relevant database (full update, not day-to-day updates)?	• No = 1 • Yes, a protocol exists but has never been followed = 2 • Yes, a protocol exists and has been mostly followed with some shortcomings (whether delays, or some deviation from the protocol or short of the full needed update) OR a protocol does not exist, but some updates have happened regardless = 3 • Yes, a protocol exists and has been followed and helped update the database completely, but the updates are irregular and at least five years apart = 4 • Update is regular and/or automatic = 5	Information about beneficiaries is occasionally updated for the DSW, but there are no mechanisms or protocols to update nonbeneficiary/member information.
6	Does the data in the registry or in the databases used allow targeting, identifying, locating, and contacting the beneficiary and transferring the benefit (i.e., having the address/phone/account information of the beneficiary) during shock response? *For seamless use of social registry during a disaster response, it must have adequate information that would allow targeting people based on changing needs (for example, targeting for poverty while also being able to contact and locate them).*	• Data collected in the registry/database is not sufficient to target in a shock response = 1 • **Data collected in the registry/database is somewhat sufficient to target during a shock = 2** • Data collected in the registry/database is mostly sufficient to target for a/some shock(s) = 3 • Data collected in the registry/database is mostly sufficient to target for all shocks = 4 • Data collected in the registry/database is fully sufficient to target for all shocks = 5	Existing database does not have nonbeneficiary information, and thus it alone is not sufficient to target ASP beneficiaries. As such, Fiji collected information ex post through mobile phones for the F$360 UA.
7	Do humanitarian partners use the government's registry or other relevant government databases for their response?	• No, humanitarian partners use their own proprietary beneficiary lists, with little coordination of lists = 1 • **Some use it but not consistently, relying on their own lists with some coordination but remains insufficient = 2** • All have access but do not use it consistently, relying on their own lists partially with some coordination, but overlaps remain = 3 • They have access but use their own proprietary lists. However, mechanisms in place to avoid overlap in targeted beneficiaries (i.e., different programs are not covering the same beneficiaries) = 4 • All have access and use it consistently or humanitarian partners are not involved in response = 5	External donors have relied on the DSW's registry to provide support after TC Winston and COVID-19.

	Question	Score	Rational for scoring
8	Are there other adequate (up-to-date, relevant data, geographic coverage) databases (telecom, humanitarian) available that can significantly expand reach? *(Beyond the data the government mainly uses, such as in the social registry)*	• No other databases available = 1 • Databases available but not interoperable = 2 • **Databases available and could be made interoperable but no data sharing preagreements = 3** • Databases available and have data sharing preagreements = 4 • Databases available, which are interoperable and allow seamless expansion, or the government does not need to rely on other databases because its own database/registry has full coverage = 5	Beyond the DSW's database, various registries could be leveraged for beneficiary prioritization as demonstrated in UA. However, there is no preagreed data sharing protocol.
9	Are there any data privacy regulations with specified courses of action in case of privacy breach?	• No data privacy/security regulations exist = 1 • **Data privacy regulations exist but are not implemented = 2** • Data privacy regulations exist with strict data sharing protocols with the private sector. However other government agencies can access and use this data = 3 • Data privacy regulations exist with strict data sharing protocols where the beneficiary is made aware of all the entities that could access their data = 4 • Data privacy regulations exist where beneficiary data is not shared with anyone. Other entities can only access aggregated or anonymized data = 5	While there is no general data protection law in Fiji, the Constitution of the Republic of Fiji (2013) provides for a right to privacy, which includes a right to the confidentiality of personal information. But there is no protocol for data sharing.

Finance (1.8)

	Question	Score	Rational for scoring
1	Does the government have a national strategy, policy, or legislation setting out commitments to DRF?	• **No DRF strategy or policy document(s) exist = 1** • DRF policy document(s) are under development, or if they exist are outdated and not linked to any ASP interventions = 2 • Some DRF policies or strategies exist but are not backed by legislation or financial instruments = 3 • DRF policy exists for at least one shock and some legislative/financial commitments in place = 4 • Clear DRF strategy exists for wide range of shocks with supporting legal/financial instruments in place that mention ASP interventions = 5	The United Nations and InsuResilience Global Partnership report in 2020 confirms that there is no DRF strategy in Fiji. There are limited ex ante financial instruments (government reserve funds and contingent credit) available in Fiji, and ex post financial instruments deployed are usually reallocated from government budgets, acquired through external and internal borrowing, or from donor assistance and international humanitarian aid (InsuResilience).
2	Does the government have the ability to analyze and model the potential cost implications of the shocks over time?	• No systems exist = 1 • No, but the government is actively building capacity in this area = 2 • **Yes, an analysis has been performed based on historical data for a/some shock(s), including ASP scale-up plans = 3** • Yes, an analysis has been performed based on historical data as per ASP scale-up plans for some shocks and is owned by the government = 4 • Yes, an analysis has been performed based on historical data as per ASP scale-up plans for all shocks and is owned by the government = 5	The Climate Vulnerability Assessment (supported by the World Bank) in 2018 includes some analysis. But it is not frequently updated, and capacity building in the government may be needed.
3	Is financing in place to ensure a timely ASP response to disasters?	• **No specific financing instruments are earmarked, and response is fully dependent upon budget reallocation and external aid = 1** • Some disaster funding is earmarked but is fully dependent upon budget reallocation and external aid and is not specifically for ASP response. Some coordination with development partners and ministries to access finance = 2 • Some financing instruments are earmarked for ASP response to some shocks, but the amount is limited to smaller events/more regular scale-ups. Where additional finance is required, this experiences delays = 3 • Some contingency financing and/or market-based instruments in place for some proportion of potential ASP costs. Larger and infrequent shocks are not fully covered = 4 • Instruments are earmarked to quickly cover the cost of ASP scale-up from all shocks. Minimal delays to response = 5	Fiji has several financing options for DRM, but most are ex post financing mechanisms (e.g., budget relocation), and these are not earmarked for ASP interventions.

	Question	Score	Rational for scoring
4	Are there systems/ mechanisms that can be utilized for ASP interventions?	• No clear system/mechanism is in place to scale up ASP assistance in place = 1 • Systems/mechanisms exist for final distribution of assistance in line with the social protection system — no upstream timelines or protocols exist. Systems to disburse and reconcile expenditure = 2 • Systems/mechanisms exist for the release of resources, but no clear timescales are established, and challenges in implementation remain. Systems to disburse and reconcile expenditure adequate = 3 • Systems/mechanisms and timescales for the release of resources exist, but challenges in implementation remain. Good systems to disburse and reconcile expenditure down to the beneficiary level = 4 • The processes and timescales exist for the release of all resources for ASP and good systems to disburse and reconcile expenditure down to the beneficiary level = 5	Existing social protection system has been leveraged to distribute assistance in the past crises. But there is no mechanism (e.g., trigger, protocol, decision-making process) to finance ASP programs.

Note: Inputs by the work groups during the March 21, 2022, workshop in Fiji are highlighted in pink.
a. Contingency plan will include human resource as well as technical, financial, and institutional capacity. This may require reviewing the adequacy periodically and adjusting the available resources/ contingency plans accordingly.
b. Overlap in beneficiaries that can lead to "double dipping".
c. *Target population* refers to the intended beneficiaries of a particular benefit (i.e., those who you want to be able to reach when you scale up a benefits/relief program).
d. This data is available in the Findex database. Other sources, such as government records, can also be used if available.
e. Given there is a huge variation across countries in how they identify and reach target population, here *registry/database* can refer to social registry, beneficiary registry, any other database that has significant coverage (e.g., tax records, voter registration systems, etc.), any database that is currently being used for a specific program, or any database that can potentially be used for the purpose.

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