

ASSESSING FIJI'S CLIMATE VULNERABILITY

A blueprint for building resilience

AT A GLANCE

Country Fiji

Risks Climate change exacerbating natural disasters

Area of Engagement Deepening engagements in resilience to climate change

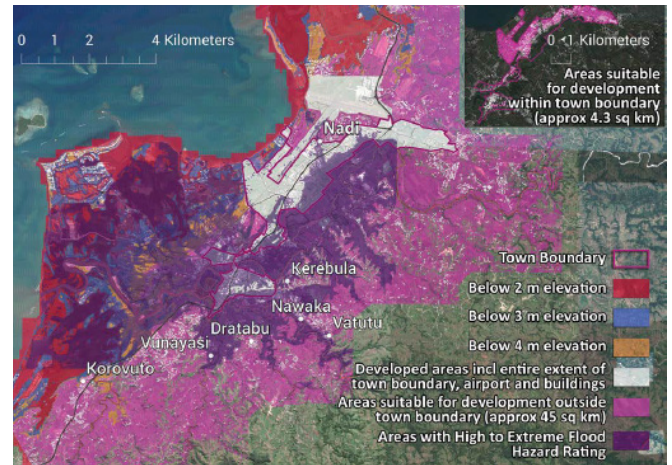
The government of Fiji has pioneered an innovative approach to assessing and quantifying the impacts of climate change which will help the Pacific Island country chart a resilient development path.

NATURAL HAZARDS EXACERBATED BY CLIMATE CHANGE

A small island developing state with ambitious development goals, Fiji is highly susceptible to natural disasters, particularly cyclones, floods, earthquakes, tsunami and drought. In 2016, Cyclone Winston caused damages amounting nearly US\$1 billion or 20 percent of Fiji's GDP. Losses from natural disasters are expected to increase in coming decades, driven in part by socioeconomic trends such as increasing urbanization and rapid development along coastlines. About 20 percent of Fiji's urban population live in unplanned settlements that are particularly vulnerable to natural hazards.

In addition to socioeconomic trends, the impacts of climate change are also likely to heighten Fiji's vulnerability to natural hazards. These include increasingly destructive storms due to more severe weather patterns, increased coastal flooding due to storm surges, and higher rates of disease as a result of rising temperatures. 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.

Map of Nadi, Fiji identifying areas with high elevation suitable for potential further development



AN INNOVATIVE APPROACH TO ASSESSING CLIMATE IMPACTS

Fiji's exposure to natural hazards and climate change threatens to undermine the objectives of the country's Development Plan, which aims to provide universal access to basic services for Fijians and more than double the country's real GDP per capita by 2036. To better quantify and understand the challenge that natural disasters and climate change pose to Fiji's development prospects, the government of Fiji pioneered a Climate Vulnerability Assessment (CVA). Supported by the World Bank and the GFDRR-managed ACP-EU Natural Disaster Risk Reduction Program (ACP-EU NDRR), the CVA provided significant new analysis of Fiji's vulnerability to climate change, with projections outlining potential impacts for Fiji over the medium to long-term.

Drawing on expertise from across a variety of areas — economic modelling, social protection, health, and infrastructure — the CVA also assessed the impact of climate change on Fiji's economy, livelihoods and poverty levels, health and food security, as well as potential impacts of sea level

rise on coastal areas and low lying islands. While not the first assessment of climate change impacts in Fiji, the CVA broke new ground by using innovative methodologies and analyses which were developed by a team of Fijian government, World Bank and GFDRR staff. These methodologies and analyses, which could be used by CVAs of other small island developing states, include:

- ▶ Using an analytical model for socioeconomic resilience, the Fiji CVA was able to quantify the poverty impacts of a catastrophic natural disaster induced by climate change.
- ▶ Using the Fiji Roads Authority's asset database coupled with modeling tools developed by the assessment team, the CVA also performed a criticality analysis of the road network which identified transport assets that would most likely result in high economic losses following a natural disaster.
- ▶ The CVA also proposed an adaptation and resilience investment plan, which included cost estimates and a comprehensive list of interventions, that can help Fiji respond to the intensified climate and disaster risk.

The Fiji CVA was launched in November 2017 alongside a storytelling project, 'Our Home, Our People,' designed to help decision-makers and members of the public understand what climate change means for Fiji. The project includes a 360-degree virtual reality film which takes viewers to Fiji to see the impacts of climate change through the lives of four Fijians.

LESSONS LEARNED

Innovative analyses can provide a more holistic view of climate and disaster risk.

Going beyond analyzing the impact of natural disasters on physical assets, the CVA leveraged an in-house, analytical model for socioeconomic resilience to quantify the impact on poverty. Moving forward, the government of Fiji will now be able to make risk management and investment decisions that are informed by poverty impacts and not just based on aggregate costs.

Clear and concise messaging can help communicate findings to decision-makers effectively.

In the past, climate vulnerability assessments have often struggled for relevance because they lacked clear and concise messaging targeted at decision-makers. Accordingly, the Fiji CVA distilled the entire report into four key messages: 1) climate change is amplifying Fiji's disaster risk, 2) the Fijian government has made progress to reduce disaster risk, 3) interventions in five areas can reduce vulnerability, and 4) implementing these interventions can be facilitated by improved decision-making, well-managed public finances, and international support.

125

priority interventions for boosting resilience identified and costed

IMPACTS OF CLIMATE CHANGE QUANTIFIED

According to the CVA, by 2050, Fiji's annual losses due to extreme weather events could reach 6.5 percent of GDP because of the impacts of climate change, with more than 32,000 people pushed into poverty every year.

INVESTMENT PLAN FOR ADAPTATION AND RESILIENCE

The CVA's adaptation and resilience investment plan identified and costed 125 measures across five priority areas that can help Fiji address its climate and disaster vulnerabilities. These areas include: building inclusive and resilient towns and cities; improving infrastructure services; climate smart agriculture and fisheries; conserving ecosystems and building socioeconomic resilience. According to the CVA, an estimated US\$4.5 billion over 10 years is required to finance these interventions.

INFORMING FIJI'S CLIMATE EXPENDITURES

The Fijian government has begun to use the CVA as a resource for planning its climate-related expenditures and crafting more ambitious nationally determined contributions (NDCs) which spell out actions countries intend to take to combat climate change.

"The CVA will inform Fiji's development planning and investment decisions for years to come, and provides a specific blueprint that quantifies the resources necessary to climate-proof Fiji, giving us a full account of the threat that climate change poses to our national development."

"-- Hon. Aiyaz Sayed-Khaiyum, Fiji Attorney-General and Minister responsible for climate change