

# RESILIENT INFRASTRUCTURE ENHANCES WATER SECURITY IN TUVU

## OVERVIEW

The Tuvu settlement, situated on the coast between Ba town and Lautoka, has for many years faced severe water security challenges. The settlement of 11 families has relied on shallow, hand-dug wells, which are often contaminated during tropical cyclones and floods, and dry up during periods of drought.



Tuvu settlement residents inspect water infrastructure, Ba, Fiji (Photo by MRMDDM)

In response to these ongoing water challenges, a Water Infrastructure Project Proposal was developed by the residents of Tuvu and submitted to the Commissioner Western's office. The proposal, to build a new borehole and install a water tank, was funded by the Ministry of Rural, Maritime Development and Disaster Management (MRMDDM) and construction of the project finished in April 2021.

In the design phase of this project, MRMDDM held consultations with the community to gain a better understanding of potential climate change, disaster, gender and social inclusion risks to and from the project. This ensured the community both understood the potential risks associated with the project, in addition to designing and costing management measures from the onset.

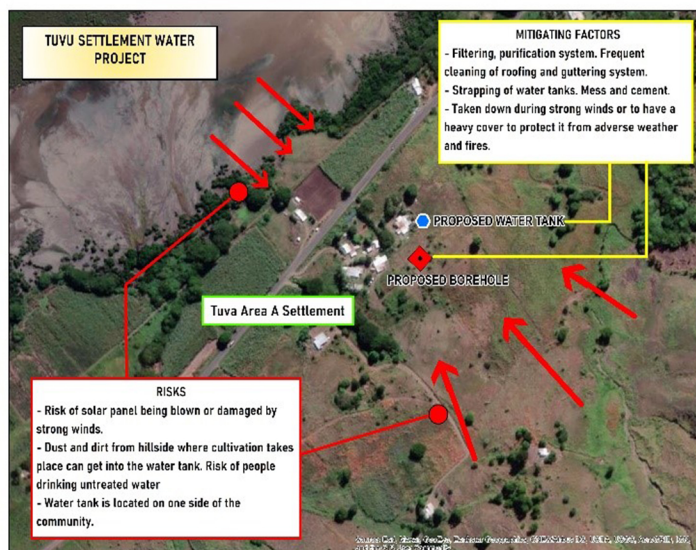
The new infrastructure is providing the community with high quality and reliable drinking water, has improved sanitation, and is providing water for agriculture and homestead gardens run by many women.

"We are elated to have a new tank installed at our home for our daily use and I am now able to get water from the tank on my own without needing to go to the well" Mr. Alvin, Secretary of the Tuvu Water Community.

The government team anticipate that integration of risk management measures into the project right from early design will reduce longer-term costs to sustain the project.

## APPROACH

A participatory approach to the planning, design and development of the project was utilised by the MRMDDM in an effort to ensure the project was genuinely meeting community needs, and to promote ownership by community members.



GIS risk map for Tuvu Water Project, Ba, Fiji (Photo by MRMDDM)

MRMDDM, in partnership with UNDP through the Governance for Resilient Development in the Pacific Project (Gov4Res) also promoted a risk informed approach for all phases of the project:

- **Leadership** – Commissioner Western Division and senior officials championed the need for risk informed development and led the implementation at the community level
- **Enhanced capacity** – training was provided to the Western Senior Economic Planning Officer to risk inform projects, which was further cascaded to the Provincial Administrator and Assistant District Officer of Ba.
- **Integration of risk measures** – risk measures were integrated within the implementation workplan of the contractors by the officers that were trained.
- **Gender and social inclusion** – consultation with women's groups and persons with disabilities on their needs
- **Financing of risk management measures** – FJ \$25,155 was allocated for the project and an additional FJ \$3,697 percent was funded by UNDP for the risk management measures.

## ACTIVITIES

1. **Design Phase** – risk screening was undertaken as part of the preliminary design. Senior officials from Commissioner Western’s office engaged community members in this process.



Women presenting their community risk map to other residents, Ba, Fiji (Photo by MRMDDM)

The major risks identified to the project included damage to water infrastructure due to strong winds and cyclone. To manage risks against cyclones, the community used fittings to secure water tanks and were also trained to remove solar panels. The other major risk identified was the contamination of the water by dust from the hillside, and individuals tampering with the infrastructure. To manage this risk, the community fenced the water infrastructure site and installed solar lights. The community is currently fundraising to acquire a purification system.

2. **Implementation Phase** – in this phase, particular attention was given on the location both water-source and the water-tank. The community using their traditional knowledge provided potential locations for the borehole project, which was verified by the Ministry of Mineral Resources. The location of the final site also considered risks posed from hazards.

3. **Project oversight** – throughout the implementation and following the completion of the project, inspections were conducted by the District Officer and Senior Economic Planning Officer to assess the risk integration. The officers only issued a completion certificate for payments once the risks identified within the scope of works were implemented.

## RESULTS AND LESSONS LEARNED

In the first few months of operation, communities have noticed a marked increase in their access to safe drinking water and ability to undertake subsistence gardening, which has supported families during the pandemic. After a period of heavy rain, the water infrastructure did not sustain any damage and the water was not contaminated, which, in the past was a recurring issue. Additionally, the consistency of the supply of water has contributed to improved sanitation.

“With improved quality of water, we expect less health issues such as stomach virus, which was a common problem when drinking water from the wells” said Pritisha, 21 year old female resident of Tuvu.

Each phase of the project cycle presented an opportunity to address risks to and from a project before they occur. For example, in times of disaster, water supply systems are often damaged, and people tend to depend on the government to provide fresh water. By investing in managing these risks upfront, the future cost of repairing water infrastructures can be forgone.



Fenced water tank area located at project site, Ba, Fiji (Photo by MRMDDM)

## GOING FORWARD

Risk screening is now being integrated into a revised version of the MRMDDM project proposal application form for use to design all of the Ministry’s projects. In parallel, the Ministry is advocating for similar approaches to be adopted by all the sectors.