Climate Resilient Islands

Case study: disaster preparedness, Vanuatu

Communities participating in the Climate Resilient Islands programme across Vanuatu are facing a range of disasters and challenges to their resilience. The country's ND-GAIN Resilience Ranking – measuring Vanuatu's exposure, sensitivity and ability to adapt to negative impacts of climate change – ranks Vanuatu as the 27th most vulnerable country, and the 76th most ready.

Common vulnerabilities

Vanuatu is considered extremely vulnerable to climate change. Natural hazards already cost Vanuatu an estimated 6% of annual GDP. Climate change impacts are already being felt. Rising sea levels and erosion are threatening communities and community structures like schools, churches, airports and roads. Increasing temperature and decreasing rainfall are straining freshwater resources, with land use change, population increase, urbanisation and cyclones adding to the problem.

Climate change forecasts vary significantly based on both the low- and high- emissions scenarios. Depending on the specific scenario:

- annual temperature will increase between 0.5C and 2.0C
- annual rainfall could vary between a 10% decrease and a 20% increase
- there will be many more heatwaves
- sea level will rise between 17-37cm by 2059.

CRI communities have indicated the most frequent climate-related challenges to resilience are:

- increased flooding
- sea level rise and coastal erosion
- increased drought frequency and intensity
- increased cyclone frequency and intensity, with accompanying shorter possible recovery times.

Vulnerabilities in communities include:

- limited road access to communities
- lack of evacuation centres
- housing built in vulnerable locations such as next to a river or beach
- housing that is not secure enough to withstand high winds
- lack of local labour due to migration
- destabilisation of forest and river ecosystems through logging.

The most common disaster-related risks – combining the vulnerabilities, hazard exposure and current climate change impacts – are:

- damage to housing
- damage to forest and agriculture ecosystems
- temporary loss of water and food infrastructure
- land erosion and inundation
- decreased food security.

Current capacity to respond

Due to Vanuatu's high exposure to hazards and risk of disaster, disaster management governance of disasters and climate change is fully integrated. Key governing bodies function under the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management (MoCC)

Since 2008 communities across Vanuatu have been supported to establish CDCCCs for community-based disaster risk reduction. CDCCCs coordinate local activities and support communities' participation and leadership in disaster preparedness and response. CDCCCs can also conduct vulnerability assessments, create community action plans, provide training and share information with community members, as well as assist the community during times of disaster with evacuations, data collection and early response. Members of CDCCCs are mainly volunteers from the community, which has raised challenges for sustainability and resourcing of the committees. All participating CRI communities have indicated they have a disaster committee.

Although plans are not always written down, there is some awareness of disaster procedures. One community indicated that after a warning has been issued, a committee member has to visit all households to make sure preparation for the cyclone or natural disaster is underway. They are also tasked to carry out an assessment after the natural disaster. If there is any evacuation to be done, the committee will supervise. Assessment reports are submitted to the Area Secretary.

Communities are in contact with the National Disaster Management Office, and have worked with organisations such ADRA and Live & Learn to secure water supplies and other infrastructure. Red Cross are also involved with some communities on disaster preparation.

Challenges

Infrastructure is a challenge, with insecure housing vulnerable to high winds or floods. When there is only one access road to a community, potential delivery of post-disaster relief can be hampered. Two communities described having problems with communications to local authorities after a disaster.

While communities have a disaster committee, formally documented plans are usually lacking, even if members know to varying degrees what should be done during and after a disaster. Evacuation centres are not available in all communities. Usually, church buildings are used as evacuation centres. But some communities express concern at the adequacy of specified evacuation centres, as they are sometimes damaged by disasters such as cyclones.

Food insecurity, loss of traditional knowledge and degraded ecosystems are also challenges for many communities. Several describe experiencing decreasing crop yields and sources of wild foods, potentially adding to post-disaster risk, particularly in communities whose infrastructure makes them more vulnerable to isolation after a disaster. The loss of traditional knowledge discussed by several communities is also a risk, as that knowledge can often provide understanding of natural disaster warnings and adaptation methods.

Forests and mangroves provide mitigation of disaster effects such as flooding and storm surges. While the importance of forests is recognized, there has been some loss of mangroves in some areas, and community members have noticed a subsequent increase in surges and shoreline damage/erosion.

Resilience planning

Understanding levels of disaster preparedness informs the next phase of the CRI programme – establishing community resilience plans, which involves noting assets most at risk, especially from the impacts of climate change, community capacity for making changes and strategies for increasing resilience.

Climate Resilient Islands aims to strengthen community resilience and adaptive capacity to the impacts of climate change through nature-based solutions working with rural communities in Vanuatu, Fiji, PNG, Tonga, and Tuvalu. The project is a New Zealand Ministry of Foreign Affairs and Trade initiative implemented by Live & Learn Environmental Education.

live & learn
ENVIRONMENTAL EDUCATION

NEW ZEALAND
FOREIGN AFFAIRS & TRADE
Manatū Aorere