

A triple disaster event series in Vanuatu: Cascading and compounding impacts of climate change

*Supplementary content for the Case Study submitted by the Government of Vanuatu*¹

Vanuatu declared a six-month state of emergency on 5 March after Tropical Cyclones Judy and Kevin—both category 4 intensity—made landfall in short and devastating succession on 1 and 3 March, causing severe infrastructure destruction across the islands of Vanuatu. 80% of the population (251,000 people) were affected by the two cyclones, leaving many without food, power, shelter, and telecommunications in the days following. On 3 March, an earthquake of 6.6 magnitude was detected off the island of Espiritu Santo, followed by an aftershock with a magnitude of 5.4, both striking as cyclone Kevin raged.

The destructive hurricane and gale force winds and severe rainfall of both cyclone Judy and Kevin severely damaged vital infrastructure and local ecosystems, uprooting trees and destroying roofs and walls of homes and buildings, with many structures collapsing entirely. These back-to-back systems ravaged most parts of central and southern provinces, compounding the impact, with Tropical Cyclone Judy causing instability and Tropical Cyclone Kevin picking up already weakened vegetation, debris and infrastructure.

In the hardest-hit provinces of Shefa and Tafea, 90% of homes were damaged, impacting more than 123,000 people (almost 25,000 households). Water, power and telecommunication services were subject to widespread destruction, low lying areas experienced minor to severe flooding and coastal areas experienced additional damage from strong ocean surges. Household food gardens and agricultural crops were also severely damaged, threatening immediate food and economic security (with 80% of the population depending entirely on subsistence agriculture) and disrupting longer term agricultural planning and economic livelihoods.²

Almost eight weeks on, many households in Vanuatu still remain without power, clean water or telecommunications. Communities are now facing increased risk of water-borne diseases, gastroenteritis and ringworm, due to a lack of safe drinking water, fresh food and adequate sanitation. Education services remain disrupted and health services remain under strain.

As the climate changes, the riskscape is transforming. These disaster risks compound and cascade to amplify the adverse impacts experienced by the small island communities in the Pacific, including diminishing social and economic resilience. Vanuatu's exposure to twin cyclones and an earthquake in just 48 hours demonstrate that seismic and climate risks are converging and intensifying. Sitting in the Pacific "Ring of Fire," Vanuatu experiences frequent volcanic and seismic activity (geophysical, non-climate related events), and along

¹ This context note has been developed by the Australian Government, in partnership with the Government of Vanuatu, as a supplementary annex to the 'Loss and Damage Case Study' submitted by the Government of Vanuatu for Presentation at Workshop 1 (29-30 April, in Bonn Germany).

² The cyclones' impact on subsistence farming will affect people's ability to generate income, especially for women who are more highly dependent on subsistence farming for livelihoods. FAO is gearing up to conduct a damage and loss assessment for the agriculture sector in liaison with the Government of Vanuatu.

with the other Pacific small island developing States, faces existential threats due to climate change, including sea level rise, ocean acidification, and the increased frequency and severity of climate related natural disasters (including tropical cyclones). The 2021 ESCAP report states that as warming continues, Pacific Island Countries, like Vanuatu will be exposed to higher risk of tropical cyclones, both in terms of event intensification, as well as cascading multi-hazard scenarios such as that experienced in March 2023.

Tropical Cyclones Judy and Kevin had a cascading and compounding impact upon areas already suffering the adverse impacts of climate change, including both slow onset and extreme weather events. Many of the low lying settlements in Port Villa, which were in the process of rebuilding after being washed out in the major La Niña flooding of May 2022, suffered a secondary wash out event during the March cyclones. Some of the areas hit were still recovering from the impacts of Cyclone Pam (a category 5 cyclone which had devastating economic and non-economic impact in 2015), and many other areas were already facing the damaging impacts of rising sea levels and ocean acidification.

Vanuatu's multi-year recovery from Tropical Cyclones Judy and Kevin will be further impacted by the higher risk of additional sudden onset, extreme weather events, in addition to the ongoing impacts of slow onset events. It is now expected that the Pacific region will soon be in the grips of another El Niño weather pattern, which is expected to lead to below normal rainfall, and higher prospect of drought for Pacific Island countries like Vanuatu. If an El Niño does develop as predicted, drier weather could delay the country's recovery efforts and cause food shortages, negatively impact cultivation of any replanting programs, including home garden and local subsistence activities.

Proposal for Case Study (for the 27 May Submission Date as per P3 Transitional Committee Workplan) on emergency response, recovery and other actions to address loss and damage in the wake of the Tropical Cyclones Judy and Kevin in Vanuatu.

- Ahead of the 27 May submission deadline, the Australian Government will work with the Government of Vanuatu to prepare a case study on actions to address loss and damage in the wake of Tropical Cyclones Judy and Kevin in Vanuatu, providing a reflection on the initial disaster response and recovery efforts and the longer term recovery and rehabilitation needs of communities, and how these are covered by existing mechanisms, and where there are the most significant gaps in support, which could be addressed by new funding arrangements.
- This case study will explore how cluster responses can be effectively utilized to address immediate disaster response, in the wake of a sudden onset, extreme weather events. It will outline the humanitarian and disaster response and recovery efforts which supported initial action to address losses and damages from the impacts of Tropical Cyclone Kevin and Judy and reflect on how coherence, coordination and synergies among existing mechanisms can be enhanced, and the most effective ways in which gaps could be addressed.