

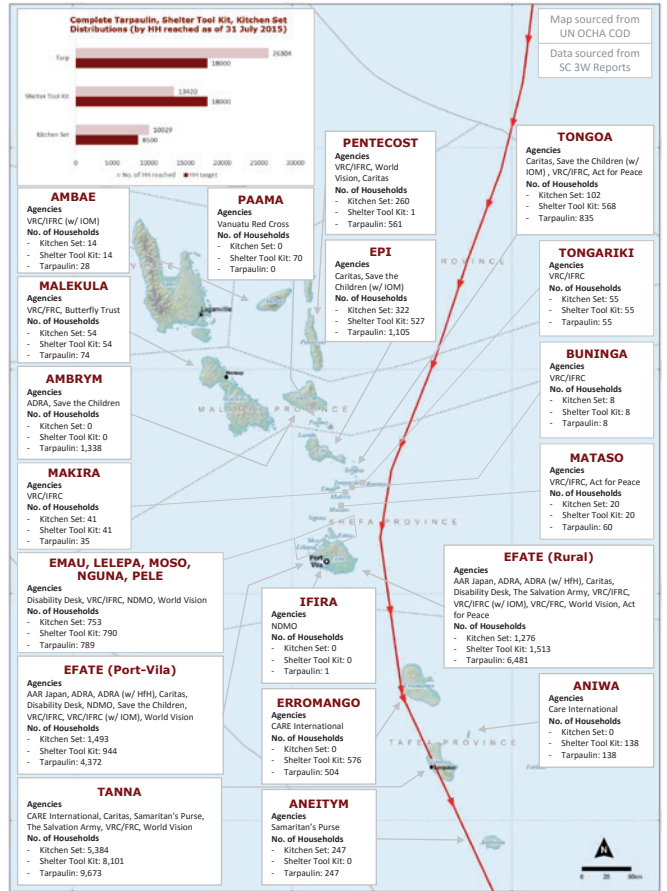
OVERVIEW

# VANUATU 2015 / TROPICAL CYCLONE PAM

<b>CRISIS</b>	<b>Tropical Cyclone Pam, Vanuatu, 13 March 2015.</b>
<b>TOTAL HOUSES DAMAGED</b>	<b>16,256</b> houses: 8,155 damaged; 8,101 destroyed.
<b>TOTAL PEOPLE AFFECTED</b>	<b>188,000</b> people.
<b>PEOPLE SUPPORTED</b>	<b>26,304</b> households.
<b>RESPONSE OUTPUTS (households)</b>	<b>26,304</b> tarpaulins. <b>13,420</b> shelter tool kits. <b>8,215</b> safe shelter awareness. <b>6,783</b> fixing kits.

**SUMMARY OF THE RESPONSE**

On 13 March 2015, Category 5 Tropical Cyclone Pam struck the archipelago of Vanuatu. The government and various national and international organizations first responded with the delivery of emergency shelter items: tarpaulins, shelter tool kits and kitchen sets. The response then moved to supporting self-recovery and strengthening resilience through safe shelter awareness and fixing kits. The Shelter Cluster, activated for the first time in Vanuatu for this response, then remained active for preparedness as part of the Vanuatu clusters platform.



Map of shelter and NFI activities implemented by location, as of 31 July 2015 (Source: Shelter Cluster Vanuatu). The tropical cyclone cause extensive damage in several provinces, including Efate Island, where the capital Port Vila is located.

13 MAR 2015



- 14 Mar 2015: Deployment of Shelter Cluster Coordinator to support the Government of Vanuatu for the shelter response.
- 22 Mar 2015: First distributions of emergency shelter materials.
- 4 May 2015: Humanitarian Action Plan target of 18,000 households reached with tarpaulins.
- 15 May 2015: Shelter & Settlement vulnerability assessment completed.
- 31 Jul 2015: End of the humanitarian phase, clusters coordination platform ended and transitioned to the Recovery Framework.
- 17 Aug 2015: Shelter Cluster response evaluation to inform the effectiveness of the shelter operational response and the recovery and preparedness strategies following Cyclone Pam.



The cyclone affected public buildings as well as private ones.

© Xavier Genot

## CONTEXT

Vanuatu is a Y-shaped archipelago in the Pacific, with more than 80 islands and a population of 262,691 people – 80% of whom live on their land from generations and follow vernacular practices. It is among the countries with highest risks of natural hazards including cyclones, earthquakes, volcanic events and climate change<sup>1</sup>. The archipelago sits along a volatile seismic strip called the “Ring of Fire”. The tropical cyclone season in Vanuatu normally runs from November to April. Throughout this period there is a high risk of strong winds and heavy rains with associated flooding, landslides and road closures.

In Vanuatu as elsewhere in the Pacific, traditional coping mechanisms help to significantly lessen disaster impacts. For example, the understanding of weather patterns and formation of clouds over the island, or the observations of sea birds, indicate impending strong winds, helping to alert local people to prepare adequately. **Such local response capacity has been reinforced through provincial disaster committees based in remote islands**, offering coordination and support at a more local level. Many Vanuatu inhabitants (*ni-vans*) are skilled at building or repairing their own dwellings and, therefore, a large percentage of the population live in self-built houses, made of natural materials that are available locally.

Recognizing its status as one of the most disaster-prone countries in the world, **Vanuatu has set up a national structure for disaster preparedness and emergency operations**. The cluster coordination mechanism was adopted by the National Disaster Management Office (NDMO) and the Vanuatu Humanitarian Team in 2011. The NDMO had contacted the lead agency of the Shelter Cluster within the Pacific Humanitarian Team three weeks prior to Cyclone Pam, to support the establishment of a Shelter Cluster, which did not exist within the existing cluster coordination platform in Vanuatu.

In some communities, NGOs have been working in partnership with NDMO to establish Provincial and Community Disaster Committees in order to facilitate the necessary training to enable them to monitor hazards (e.g. using cyclone tracking maps), mobilize or evacuate communities and conduct an initial assessment of the effects of the disaster.

## SITUATION AFTER THE CYCLONE

The cyclone caused widespread damage across five provinces, its eye passing close to Efate Island in Shefa Province, where the capital Port Vila is located, with winds around 250km/hr, and gusts peaking at 320km/hr. According to the Government of Vanuatu, 188,000 people were affected by the cyclone. Various elements, such as community disaster preparedness, traditional coping mechanisms, early warning systems and access to evacuation centres, helped to prevent a higher death toll, with only 11 fatalities reported. Nevertheless, the cyclone had a devastating impact on many government and community buildings, infrastructure, forests, agriculture, water supply systems, and particularly housing. The Post Disaster Needs Assessment, conducted in June 2015, estimated that 8,101 houses were totally destroyed and 8,155 were partially damaged. Damage to housing represented one third of total monetary damages. **On some islands, more than 90% of houses were reported as damaged or destroyed**. Thousands of people were temporarily displaced to makeshift evacuation centres such as schools, churches and community buildings.

<sup>1</sup> Vanuatu ranks first in the WorldRiskIndex 2014 for its exposure to natural disasters: <http://bit.ly/2hQXgTz>.



Assessments of vernacular architecture were conducted in indigenous communities (here, in Tanna).

Unsurprisingly, **the buildings that suffered the most damages** were those outside traditional communities – mainly in informal settlements – that **were made of mixed traditional and modern materials and incompatible construction systems**. After Cyclone Pam, many of these were being rebuilt the same way as before, thus recreating (when not exacerbating) the same hazard vulnerabilities, due to a lack of proper materials, building know-how and financial resources<sup>2</sup>.

## NATIONAL SHELTER STRATEGY AND RESPONSE

Due to the impact of the disaster (almost 70% population affected), the National Disaster Committee, following receipt of damage assessment reports, decided that relief efforts had to be applied at all times on a fair and equal basis (according to needs), and to adhere to the government’s “self-help” concept wherever possible. The use of cash to support self-recovery was not encouraged, due to cultural acceptance, weak markets in Port Vila, limited stock in country or a non-existent market on outer islands. Shelter and housing recovery had started rapidly, showing once again the resilience of *ni-vans*.

The Shelter Cluster became officially active for the first time in Vanuatu after the Prime Minister’s Office assigned the Public Works Department to lead it with the support of the international agency identified before the cyclone. The Department of Local Affairs, the National Disaster Management Office and another international agency were closely supporting the Cluster, reflecting the inter-relatedness of humanitarian shelter and long-term housing issues. At its peak, the Shelter Cluster consisted of 23 partner agencies.

In response to Pam, the main goal of the Shelter Cluster was to support self-recovery through the provision of appropriate tools, materials and technical assistance. This was achieved primarily through the distribution of tarpaulins (to 26,304 households) and tools (to 13,420 households) during the relief phase. In addition, safe shelter awareness was provided to 8,215 households, fixing kits and construction materials to 6,783 households to complement the initiatives of the affected households to repair, retrofit or rebuild their dwellings, and make them more resilient to future cyclones and other natural hazards, by mainstreaming the Build Back Safer approach<sup>3</sup>.

<sup>2</sup> For a similar situation see A.39 (Ecuador earthquake response overview).

<sup>3</sup> For more on technical specifications <http://bit.ly/2illlE2>



Households are composed of at least two dwellings, and include shared kitchens and communal gardens. Recovery had to take into consideration all these elements, not only one shelter.

### VERNACULAR ARCHITECTURE AND TRADITIONAL COPING MECHANISMS

A significant part of the resilience of Vanuatu is founded on vernacular shelter- and settlement-related knowledge, practices and coping mechanisms. These include specific construction materials, techniques and typologies that are a part of the traditional building culture, social organization and familial safety net that have been established over time. **A household in Vanuatu does not refer to one nuclear family living under one roof, but generally to an extended family, i.e. consisting of a number of family members (parents and children) and relatives such as grandparents, aunts or uncles living in a number of buildings in a communal setting.** Accordingly, the “house” is not just one building; it is composed of at least two dwellings with different purpose and design, usually centred around a communal kitchen, and it includes a garden. For example, in Tanna island the **community kitchens or meeting places are usually designed and maintained to be used as safe shelters** when cyclones strike. Men and boys hold down the wooden structure to add strength to the building, thus protecting women, children and other vulnerable community members. To promote and preserve the *ni-van* resilience, the government strongly supported the retention and promotion of this knowledge and practices.

In respect of the “do no harm” principle, humanitarian agencies did not build houses, but instead provided safe-shelter awareness and materials that explored ways in which modern construction can learn from, and be strengthened through, the lessons from the past. This also aimed to reactivate the fading knowledge for the new generations.



Cluster partner agencies conducted Build Back Safer shelter awareness sessions across communities, such as this one in Tanna.

*When a community chief in Tanna was asked about the major challenge that his community was facing with housing, he replied “the introduction of western materials”. When one agency provided safe shelter awareness to a remote community, based on agreed key messages by cluster partners and government, the elders told the youngest: “you see, we told you”.*



Shelter Cluster Vanuatu Cyclone Pam response branding. This illustrates the impressive resilience mechanism to cyclones and how it transfers to the response and coordination (Source: Shelter Cluster Vanuatu).

LESSONS LEARNED AND WAY FORWARD

An inter-agency baseline assessment was completed five weeks after Cyclone Pam and an evaluation of the shelter response five months after the emergency, at the end of the humanitarian phase.

- 68% of households reported that they had received some kind of assistance.
- 76% were able to recover shelter materials from debris.
- 85% completed substantial repairs or reconstruction works to their shelter.
- 60% had made changes to their shelter-building techniques.
- 66% took preparedness measures to ensure that their shelter was safer in the event of another crisis.

The changes to building techniques most commonly reported by the households were the general strengthening of the building (46%), addition of bracing (32%), a change in the location of the shelter (31%), and changes to the foundation (31%).

Despite the demonstration of their strong resilience and capacity to self-recover from the cyclone, communities' vulnerability to potential new hazards remains high, as the recovery has been hampered by the impact of El Niño<sup>4</sup> and the subsequent significant time needed for the re-establishment of stocks of natural building materials, as well as political instability and the recent disruption to the tourism industry (due to standard airport infrastructure).

Lessons from the response to cyclones Pam in Vanuatu and Winston in Fiji<sup>5</sup> demonstrate that **promoting Build Back Safer is critical to strengthen long-term resilience to**

<sup>4</sup> The El Niño Southern Oscillation (ESNO) cycle is a scientific term that describes the fluctuations in temperature between ocean and atmosphere in the east-central Equatorial Pacific, with El Niño being the warm phase. These deviations from normal surface temperatures can have large-scale impacts not only on ocean processes, but also on global weather and climate. Source: <http://bit.ly/1guBq5x>  
<sup>5</sup> See overview A.15, Fiji.



The Shelter Cluster had a Technical Working Group focusing on Build Back Safer awareness and developing a training framework with Vanuatu vocational training institutions.



Most of the housing in Vanuatu was built according to vernacular techniques.

**natural disasters**, and this approach should be at the core of shelter response and preparedness. It would also help to learn from and support the reactivation of traditional knowledge, that is eroding due to a combination of factors, such as migration, urbanization and the passing away of elders.

These two responses in the Pacific context also demonstrate that the means to support affected populations' self-recovery and reconstruction should differ on a contextual basis and follow the "do no harm" principle. Resilience could in fact be hampered by inappropriate response, as for the case of cash-based interventions or the introduction of new materials and technologies to Vanuatu.