Shelter Cluster Vanuatu
ShelterCluster.org
Coordinating Humanitarian Shelter

Technical guidelines for shelter preparedness and response to natural hazards in Vanuatu

Version 3.1 – July 2019 DRAFT

COVER: CARE INTERNATIONAL SAFE SHELTER AWARENESS ON TANNA & ON MAEWO. SCV SAFE SHELTER AWARENESS POSTER & IEC / POST EMERGENCY MONITORING ON MAEWO.

This document is drafted in three parts to show (A) the recommendations for responses of the Shelter Cluster to natural hazards in Vanuatu, (B) recommended shelter and non-food items (NFI) technical specifications and (C) case studies and key references. These are based upon recent emergency shelter responses to Tropical Cyclone Pam in 2015, TC Donna in 2017, TC Hola in 2017, and the population displacement caused by the continuous eruption of Manaro Voui Volcano in 2017 and 2018.

In Vanuatu, the Shelter Cluster is led by the Government of the Vanuatu Public Works Department and co-led by the International Federation of Red Cross and Red Crescent Societies (IFRC).

This is a living document. For any comments, information or new input, please contact Harold Allanson hallanson@vanuatu.gov.vu & Robert Dodds coord1.vanuatu@sheltercluster.org. Refer to the Shelter Cluster website https://www.sheltercluster.org/pacific/vanuatu for latest updates and further contact details of coordination team members.

Version	*Date*	*Main updates*
1.1	*September 2015*	- *First Technical Guidelines for the Shelter Cluster Vanuatu,* - *Informed by TC PAM response* - *Gather inputs from relevant resources to inform preparedness and further responses*
2.1	*December 2018*	- *Updated standards, resources and links* - *Include new resources developed by the Shelter Cluster in Vanuatu*
3.1	*July 2019*	- *Updated content from TC Hola and Ambae Volcano response review* - *Include coordination mechanism figures in Section 1* - *Updated chapter on guidance for tarpaulin distribution and durability of tarp. Include option table for decision making process regarding tarpaulins et tents distribution, as case study about Ambae Volcano response 2017* - *Include tables for kits distributed during Ambae Volcano 2018 response* - *Include table for safe shelter awareness initiatives developed during the Ambae Volcano 2018 response* - *Include a new chapter on online training resources* - *Updated content on the section on Cash Based Intervention*

Recommendations for further iterations		
1	*Section 2.4 Cash Based Interventions (CBIs)*	- *To include learning for Unconditional Cash Transfer and Cash for Work interventions from response to Ambae evacuees 2018 response, when material available.*
2	*Section 3.5 Kits*	- *To include details on resettlement kits response to Ambae evacuees 2018 response*
3	*Section 2.3.1 Shelter Focal*	- *To include description of roles and responsibilities for CDCCC's Shelter Focal Point, based on lessons learned from responses to*

	Point for Community Disaster Climate Change Committee (CDCCC)	*TC PAM in Tanna and response to Ambae evacuees crisis on Maewo* - *To include link to resources on training curricula for CDCCC's Shelter Focal Point*
5	*Section 2.13, List of suppliers in Vanuatu*	- *Update the list that is dated from 2015* - *Use this process to look at engaging more private sector in Shelter Cluster reach*

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FIGURE 1 VANUATU GENERAL LOGISTICS PLANNING MAP (SOURCE: LOGISTIC CLUSTER)

1. INTRODUCTION: VANUATU, A COUNTRY WITH HIGH RESILIENCE BUT AT RISK OF MULTI NATURAL HAZARDS.

Vanuatu is among countries with highest risks of natural hazards including cyclones, earthquakes, volcanic events and climate change. The archipelago sits along a volatile seismic strip called the 'Ring of Fire' in the Pacific. Volcanic eruptions, earthquakes and tsunamis are common. Vanuatu is prone to significant year-round seismic and volcanic activity, with over 2,000 seismic events reported annually. Most events are small scale, although larger tremors and quakes of over 5 on the Richter scale occur on a regular basis. 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, The Ministry for Climate Change was established in April 2013 as part of efforts to streamline Vanuatu's climate change response. It houses the Vanuatu Meteorological and Geo-Hazards Department (VMGD) and the National Disaster Management Office (NDMO) in a newly constructed government-funded complex. The Ministry for Climate Change and the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) are mandated with coordinating all government and non-government initiatives addressing climate change and disaster risk reduction in the country.

The decision regarding the provision of relief items will be made by the National Disaster Committee, following receipt of damage assessment reports. Relief efforts will at all times be applied on a fair and equal basis (according to needs), and will adhere to the Governments "Self Help" concept wherever possible.

Ni-Vanuatu inhabitants (Ni-vans) are, generally, self-sufficient and resilient people, with communities relying on traditional coping mechanisms[1]. Many of ni-vans could be skilled at building or repairing their own dwellings. Dwellings in rural communities range from traditional structures to an increasing number of modern and hybrid (modern/traditional) structures. In urban and peri-urban environments, there is a much greater reliance upon modern building materials and systems.

Assistance to community housing should encourage the self-help concept and promote adoption of effective preparedness measure by communities. As a result of their self-sufficiency and resilience, Ni-Vans, after a disaster, wherever possible, start the self-recovery process immediately. Community, urban or rural, can quickly reconstruct shelter with whatever building materials are available. Therefore, shelter response strategies should encourage and support people in their own coping mechanisms, with the appropriate provision of Non-Food and Shelter Items, tools, technical assistance and safe shelter awareness, targeting the most vulnerable.

Further as a result of their self-sufficiency and resilience, Ni-vans want to be (and should be) included as much as possible in any decision-making and process of shelter and housing recovery. This applies at the national and provincial government levels as well as at the community chief level.

1.1 NATIONAL COORDINATION SYSTEM

Coordination of humanitarian response during the time of an emergency or disaster is led by the Government of Vanuatu and takes place at national and provincial levels. The NDMO has the responsibility for the overall coordination of responses to emergency and disaster with all line government agencies and clusters.

[1] http://www.hindawi.com/journals/jeph/2013/264503/

During the response phase and upon the declaration of a State of Emergency, government resources are made available to the NDMO to coordinate response relief efforts and address the needs of the affected people. Each Ministry is responsible for ensuring that resources are made available for the response, including personnel.

The Vanuatu Government made a decision post TC Pam to have a standing National cluster system to enable humanitarian agencies and government to development and implement disaster preparedness activities during peace time. Clusters have clear responsibilities for sectoral coordination. Clusters provide a point of contact for external actors and are accountable for adequate and appropriate humanitarian assistance. Clusters promote partnerships between national and local authorities, international and local humanitarian actors, the private sector and civil society to ensure good sectoral coordination. Cluster surge support is likely to be requested for response and recovery work in medium- and large-scale events.

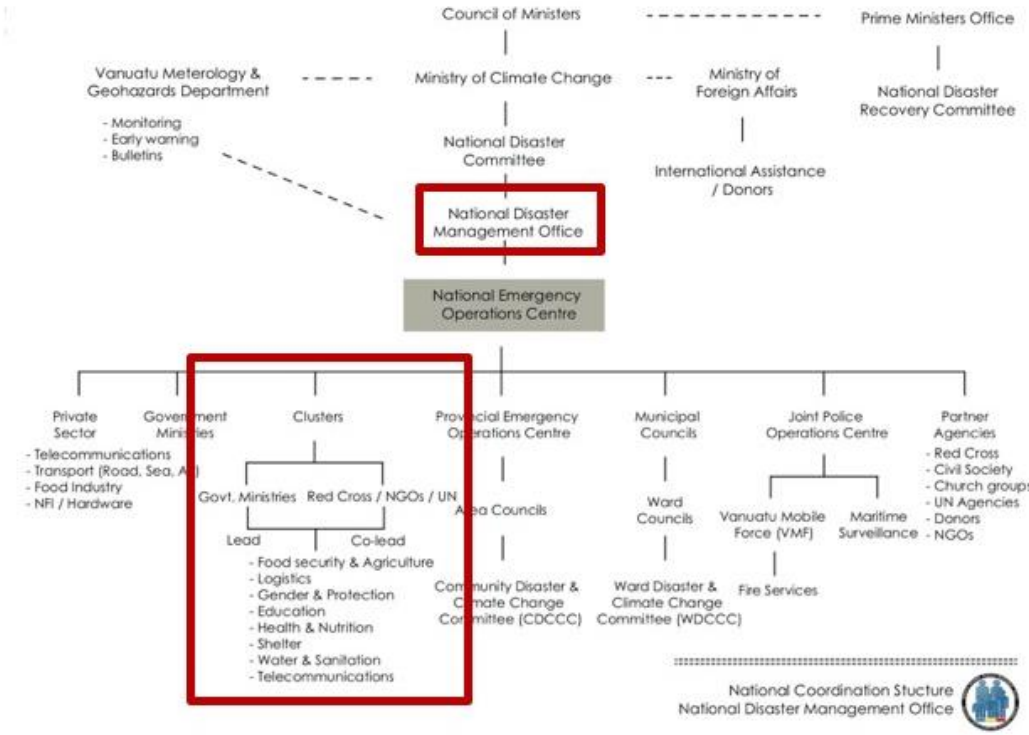

FIGURE 2 NATIONAL DISASTER RESPONSE SYSTEM (SOURCE: NDMO)

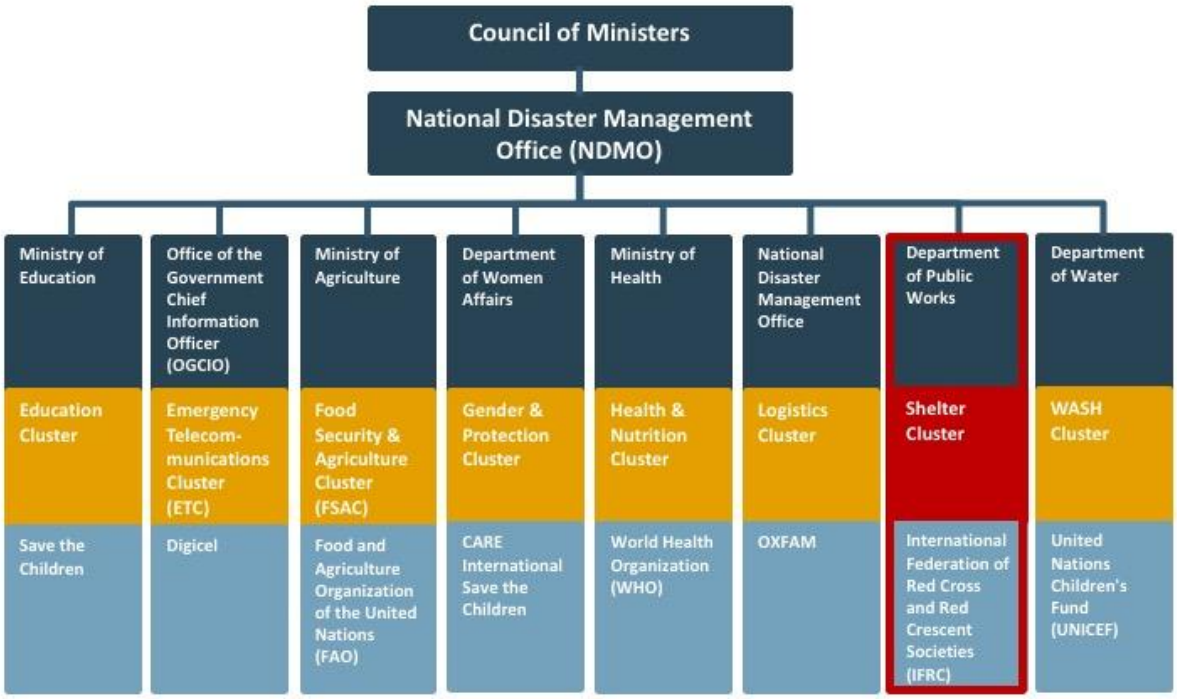

FIGURE 3 NATIONAL CLUSTERS SYSTEM (SOURCE: NDMO/SHELTER CLUSTER VANUATU)

The relationships and preparedness activities developed through the National cluster system has proven effective in enhancing communication and response during local lead disasters. The Inter-Custer is the coordinating mechanism for the 8 technical clusters, under Lead of National Disaster Management Office (NDMO).

1.2 SUB-NATIONAL COORDINATION SYSTEM

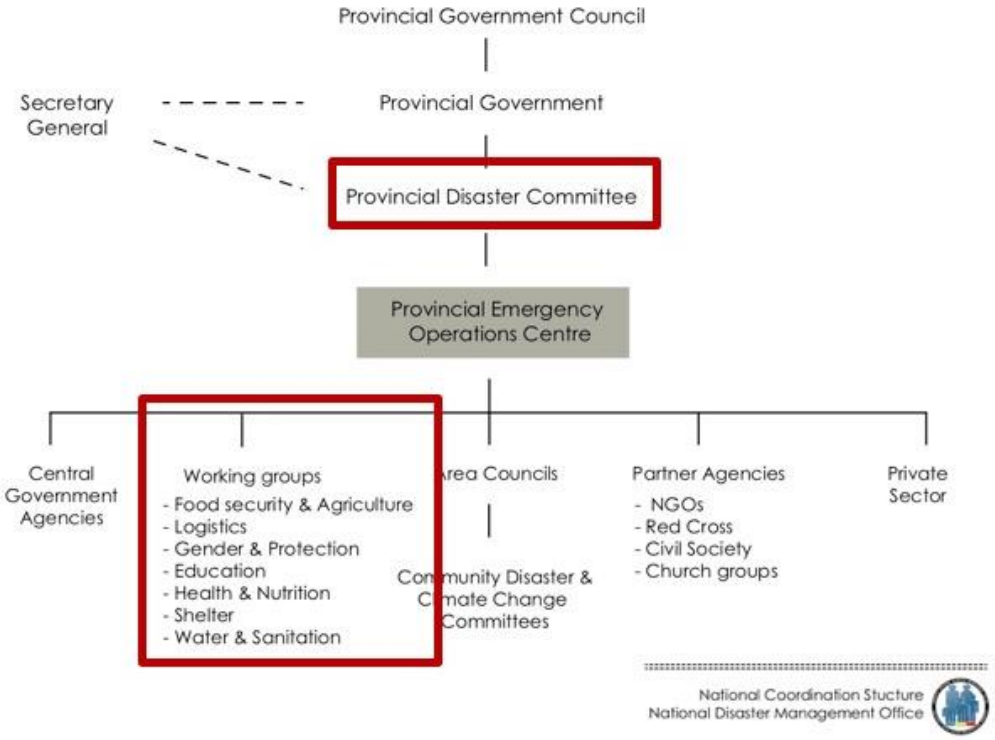

FIGURE 4 PROVINCIAL DISASTER RESPONSE SYSTEM (SOURCE: NDMO)

1.3 COORDINATION RULES OF ENGAGEMENT IN VANUATU

It is important to understand and work through the government and community levels within Vanuatu. National government MUST be aware of where Agencies are going and what they are doing. Agencies MUST contact the provincial government before working with an area council. Only after Agencies have contacted and informed all of these levels can they go to village level.

It is important when going into a village to contact the chief prior to commencing any activities. Agencies MUST introduce themselves and explain what they are there to do. Agencies MUST obtain approval from the Village Chief for to conduct their activities in the village.

Line of Communications

National – Government – National Disaster Management Office (NDMO)

⇩

Island / Provincial – Provincial Disaster and Climate Change Committee (PDCCC)

⇩

Area Council – Area Council Secretary (ACS)

⇩

Community / Village – Chief –Community Disaster and Climate Change Committee (CDCCC)

1.4 Shelter Cluster Vanuatu (SCV) - scope and objectives

https://ndmo.gov.vu/resources/clusters/90-shelter

Under the leadership of the Public Works Department (PWD), the Shelter Cluster is formed by Government and non-Government member agencies with expertise, activities, stakeholders, and resources in the area of shelter, which can provide assistance in disaster preparedness and response Member organisations consist of Government agencies, UN agencies, Red Cross, donors, local and international non-government organisations (NGOs), and civil society groups involved in shelter. Some member organisations only have a presence in Vanuatu during disaster response, but will be kept informed of cluster activities, meetings and decisions electronically and through the Vanuatu Shelter Cluster webpage.

During the TC Pam response, more than 30 partners were involved in the provision of shelter assistance; current active shelter cluster partnership includes the National Disaster Management Office (NDMO), Vanuatu Red Cross Society (VRCS), Care International, Save the Children, Adventist Development Relief Agency (ADRA), World Vision, Butterfly Trust, Vanuatu Council of Churches (VCC), the International Organization for Migration (IOM), Provincial Governments, Customary Land Management Office, Direction of Local Authorities (DLA), Lands Department, and representatives from other clusters.

The International Federation of the Red Cross and Red Crescent Societies (IFRC), as convener of the Pacific Shelter Cluster (as a part of the Pacific Humanitarian Team), is also a member of Vanuatu shelter cluster, and as co-lead, provides support to PWD during preparedness and response. During a disaster response, the IFRC provides surge coordination capacity as requested by the Lead Agency, to the extent required and possible within available resources.

Objectives of the Shelter Cluster

The objective of the Shelter Cluster is to plan and implement proportionate, appropriate and timely shelter responses in humanitarian crisis situations which address immediate too long-term shelter needs of the vulnerable affected populations, while focussing at the same time on the integration of disaster risk reduction activities. The Shelter Cluster works towards these objectives:

a. Coordinate the shelter related activities and programs among members related to disaster preparedness and response.
b. Ensure that the cluster has the tools and information to implement a coordinated approach to shelter related disaster preparedness and response activities.
c. Ensure that during disaster response, humanitarian shelter needs are identified, and strategy is defined for appropriate advocacy and response
d. Support shelter cluster members to provide timely response and information during emergencies.
e. Facilitate effective sharing of information among shelter cluster members.
f. Liaise and coordinate with the NDMO and other clusters - especially with joint initiatives such as preparedness and response, and evacuation centre management.
g. Advise NDMO on shelter requirements and standards during disaster response, to support joint resource mobilization efforts.
h. Promote and support communities' shelter & settlements self-recovery, building back safer initiatives and traditional coping mechanisms.

Scope of the Shelter Cluster

The role of the cluster is to support the process of disaster preparedness and response. While the cluster identifies needs and activities, as well as the resources available from member agencies, the cluster itself does not provide funds or resources.

Shelter is defined as private and community housing and shelter related non-food items such as clothing, blankets, cooking and eating utensils. Shelter excludes public buildings such as schools, medical centres and public service housing such as teacher, nurse and other public authority housing. These are the responsibility of the education and health clusters.

The work of the Shelter Cluster aims to conform to key protection principles:

- Do no harm
- Non-discrimination
- Identifying the most vulnerable and their specific needs with attention to age, gender, disability and other relevant aspects of diversity;
- Safe and dignified access to basic services;
- Community participation and empowerment;
- Identifying and strengthening existing positive community protection strategies

During non-disaster periods, the cluster will meet on ad hoc basis to provide updates regarding on-going shelter programs, disaster preparedness and contingency planning activities.

During disaster response periods, shelter cluster meetings will be held as regularly as necessary to fulfil the obligations of the Shelter Cluster.

The Cluster coordinates a coherent and effective humanitarian shelter response following disaster events, as for TC PAM in 2015, TC Donna in 2017, and the Ambae Volcano crises in 2017 and 2018. It has as well continued preparedness activities in collaboration with other clusters, government agencies and stakeholders.

2. SHELTER CLUSTER RECOMMENDATIONS FOR RESPONSE TO NATURAL DISASTERS EMERGENCIES IN VANUATU.

This section identifies the shelter cluster recommendations to inform preparedness and eventual response to natural disaster.

2.1 EMERGENCY SHELTER AND NFI INTERVENTIONS

Emergency shelter support should primarily be in the form of plastic sheeting (tarpaulins), with rope and fixings, as required and needed. Over a smaller more localised area of response local materials may be more appropriate and should be recommended if relevant.

In Vanuatu, the basic standard for distribution is 2 tarpaulins for a Household of 5 people. These might need to be confirmed or revised for specific shelter & settlement vulnerability as for long term displacement.

Ni van can use the same tarpaulins for at least two years, folding them when not needed for emergency, or using them for covered extension of new built house. During monitoring visit conducted in June 2019 on Santo, the SCV coordination team witnessed that a tarpaulin distributed in 2017 was still in good shape and used by a household for their shelter. It's therefore really important to provide good instruction on how to fix a tarpaulin with its distribution.

Where possible, toolkits should also be distributed to allow for effective use and installation of plastic sheeting and to support self-recovery. The tool kits may be complemented with additional tools for particular terrains, e.g.: communities living in areas with rocky ground may require crow or digging bars to construct their foundations. In this case, consider providing a few of these to each community.

Non-food items (NFIs) distribution at household level may include blankets, mosquito nets, kitchen sets,

Emergency Shelter recommended package	
Materials Distribution for emergency response.	Tarpaulin(s): 6m x 4m, IFRC or equivalent minimum standard recommended.
	Shelter Tool Kit – IFRC or equivalent minimum standard recommended.
Technical Assistance	Orientation, safe shelter awareness, technical guidance, IEC material, monitoring

sleeping mats and solar lights, especially in case of displacement.

It is recommended that cluster partners distribute same type/equivalent items in term of quality and number per households, in area defined with the cluster and local authorities, to avoid duplication and maximize gaps filling, to minimize tensions within or between communities.

- ✓ *See shelter and NFIs technical specifications in 3rd part of these guidelines.*

PROS AND CONS OF TARPAULINS AND TENT PLANNING AND DISTRIBUTION IN VANUATU

When responding to emergency shelter needs we are often faced with the decision on whether to provide shelter kits or tents to affected families. The SCV recommends the use of shelter kits (2 tarpaulins and one tool kit per household) instead of tents (Case study about use of tents for the Ambae volcano response 2017).

Below are some pros and cons of each option to assist this decision making process:

Shelter kits (2 tarpaulins and tool kit)	Tents
Shelter kits support early self-recovery, allowing families to construct emergency shelters as well as repairing their damaged homes, by putting tools in to their hands.	Tents can slow down the recovery process. People often wait around after receiving the tent, waiting for the next shelter assistance. Additional human resource is often needed to train a team responsible for installing the tents
Shelter kits are easily transportable (20kg). Affected people can carry them from place to place.	Tents are heavy and more difficult to transport (50kg). Additional human resource is therefore required to deliver them to affected people.
Shelter kits are not expensive (6,400 Vatus) plus transport) so we can reach more affected people with emergency shelter assistance.	Tents can be expensive (33,000 Vatus) plus transport), so we can reach fewer affected people with emergency shelter assistance.
Shelter kits are easily replenished	Tents are more difficult to replenish, purchase, transport and store
Quality of shelter kits is tried and tested. Durable materials, tarpaulins can last up to 2 years under harsh sun.	Tents have a variable quality depending on type of material, and manufacturer. They can quickly deteriorate under harsh weather conditions found in Vanuatu. Lifespan can be prolonged by covering with shade structure or tarpaulins.
Shelter kits are suitable for most climates.	Tents are not suitable for hot humid climates. Many families in the Ambae Volcano response expressed their discomfort particularly on hot days.
Shelter kits are versatile, they can be used to extend or repair existing houses, and can be assembled in many different configurations	Tents are far less versatile and cannot be extended (you cannot build another wall or put a door for example).
Framing materials such as salvaged timber or locally available bush timber is needed in addition to the shelter kit (tarps and tools) to construct emergency shelters	Tents come as a complete package with framing materials as well as cover, so can be useful in areas without access to markets, salvaged or locally available bush materials.
Once distributed, families can take the shelter kits and manage their future use. If they have to move from campsite back to home, they can carry their materials with them.	At the end of the response period, the Government will be responsible for dismantling, cleaning, drying, repacking, finding a storage place, storing, and maintaining the tents. Additional funds might be required to pay for rental or construction of warehouse.

TABLE 1 PROS AND CONS TABLE ON TARPAULINS VERSUS TENTS (SOURCE: SCV)

2.2 SUPPORTING SELF-RECOVERY, ABOUT TOOLKITS AND SUPPLEMENTING LOCAL MATERIALS

A large percentage of the Vanuatu population live in shelters that they have constructed themselves, using local natural materials (e.g. timber, bamboo, natangora) that are available in their environments.

Tarpaulins and toolkits, along with safe shelter awareness and technical assistance, should be used to support the self-recovery process and community resilience. If available, local building materials as above should be included. Depending on local context and evolution of the response, a reinforcement or fixing kit could be needed to support households and communities. This was the case for TC PAM and Ambae evacuees crisis in 2018. The content of the kit should be discussed with communities' representatives and standards agreed on case by case basis by the Vanuatu Shelter Cluster. Introducing modern building materials into to this type of construction need community and technical assessment as for relevant technical support and awareness, to enhance communities' local construction safe practices.

The Fixing kits were distributed during TC Pam response. They could be used to strengthen traditional dwellings or in the reconstruction of modern houses. Fixing kits were distributed in three levels, L1 Bracing, L2 Roofing and L3 Structural. They could be combined to make a full kit. Some form of construction awareness and tool kits accompanied all fixing kits distributions. Combining all three: tools, training and fixings would be a comprehensive approach.

During Ambae Volcano 2018 response, resettlement kits were distributed to support evacuees in their self-recovery sheltering process, while cyclone kits were distributed to strengthen structures during the approach of TC Oma.

- ✓ *See fixing kits technical specifications contents in 3rd part of these guidelines.*

2.3 SAFE SHELTER AWARENESS

2.3.1 COMMUNITY DISASTER CLIMATE CHANGE COMMITTEES

Community Disaster and Climate Change Committees (CDCCCs) have been established in over 100 communities around Vanuatu, which provides the local coordination structure for preparedness and response, The CDCCCs report to the Area Councils and the Area Councils report back to the Provincial Disaster and Climate Change Committees. It should be noted that while many CDCs have been formed, most communities still do not have a CDCCCs.

As well as setting up the CDCCCs, the NDMO and humanitarian partners support them for other activities that include training, assisting to put together disaster and climate change plans, running simulation exercises and equipping them with tools and equipment such as HF radios and other appropriate equipment that they could use.

As first responders, they should the main entry point to disseminate Safe Shelter Awareness key messages within communities through awareness, training or activities implementation.

2.3.2 SAFE SHELTER AWARENESS - KEY MESSAGES

The Shelter Cluster in Vanuatu has agreed on the 4 Building Back Safer principles and key messages which should be considered for any community and households safe shelter awareness programs: (1) Building Location/Siting the building, (2) Foundations, (3) Fixings/Connections and (4) Bracing. The messages should be disseminated in (a) Bislama, but also in (b) English and (c) French to enhance their dissemination.

a) Blong mekem haos blong yu i save stanap akensem eni najural disasta, emi impoten blong:

1. *Bildim haos blong yu long wan sef ples blong save kipim yu aot long denja*
2. *Mekem gud faondesen blong haos blong yu I stanap strong*
3. *Mekem wan strong koneksen long evri join blong haos blong yu*
4. *Blong bresem gud evri ruf mo wol blong haos blong yu*

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b) To make your house more resilient to any natural disaster, it is important to:

1. *Build your house on a safe site by identifying and trying to avoid potential hazards in your location and build as well as you can to resist them,*
2. *Deeply anchor your house to the ground with strong foundations, setting the posts at least 1 meter deep in the ground*
3. *Ensure that you have strong connections at all joints – the roof material to the roof timbers, the roof to the walls and the walls to the foundations. Strong connections can be made with cyclone straps, tie wire, rope and vines.*
4. *To cross-brace your roof and walls, at least by creating triangles between the corners or junctions of your house.*

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c) Pour que votre maison soit plus résiliente aux désastres dit naturels, il est important de:

1. *Construire sa maison sur un site sûr en identifiant et essayant d'éviter les dangers potentiels, de manière à leur résister.*
2. *Bien ancrer sa maison au sol avec des fondations solides, en enterrant les poteaux à au moins un mètre dans le sol*
3. *S'assurer d'avoir de solides connections à tous les niveaux – des matériaux de toiture à la charpente, du toit aux murs et des murs aux fondations. De solides connections peuvent être réalisées avec des sangles para-cycloniques, du fil de fer, de la corde et de la liane.*
4. *Contreventer la toiture et les murs, en créant au moins des triangles entre les coins et les jonctions de votre maison*

2.3.3 Safe Shelter Awareness - Information Education and Communication (IEC) material

Support to self-recovery and preparedness programming should use IEC material promoting key principles shelter construction as for leaflet and booklet developed by the Vanuatu Red Cross Society.

The Vanuatu Shelter Cluster has developed IEC material for the response to Ambae evacuees' crisis in 2018. They should be checked and adapted as needed for any further response, to ensure appropriateness to context of their use.

Al these IECs could be used for training purpose.

item	Name	Target audience	Mean of dissemination and objectives
1	VRCS-BESIK KONSTRAKSEN HANBUK blong bildim wan sef Selta – 2013	Households and communities - in Bislama.	Safe Shelter awareness and construction handbook developed by Vanuatu Red Cross Society (VRCS).
2	VRCS - KEY PRINCIPLES SHELTER CONSTRUCTION	Households and communities- in Bislama.	6 steps Safe Shelter basic construction developed by Vanuatu Red Cross Society (VRCS),
2	Vanuatu Shelter & Settlements posters.	Households and communities- in Bislama.	Promoting Vanuatu traditional knowledge in construction, involving women, community at large, local knowledge and management of natural resources and a Ni-Vanuatu approach to life. Post TC PAM The posters and banners were utilized by IOM in shelter awareness and training sessions as a tool to support storytelling and to provoke thinking and debate around shelter construction and community resilience. There are 5 posters: - Community Networks and social Capital - Know-How and Revival/Improvement of Traditional Construction Techniques - Women Participation in Construction - Local Materials, Resources Management and Sustainability. - Traditional Knowledge and Knowledge Transfer
3	Vanuatu Shelter Cluster Poster 2018	Communities and general public- in Bislama.	Poster developed in 2018 for the Ambae evacuees' crisis, to serve as dissemination of Shelter Cluster scope, including shelter in communities as for bracing.
4	Safe Shelter Awareness Key messages, A4 side 1 Safe Shelter Awareness Key messages, A4 side 2	Households- in Bislama.	Developing the 4 key messages in a series of drawings, this laminated A4 double sided aimed to be included for each distribution of preparedness material, reinforcing emergency shelter or early recovery kit.
5	Safe Shelter Awareness Key messages, A2 poster	Communities and general public- in Bislama.	Developing the 4 key messages in a series of drawings, this A2 poster aims to be printed on tarpaulin with eyelet, for hang out in communities and public places.

6	Safe Shelter Awareness key messages for social media – Posts 0 – 1 – 2 - 3 - 4	General public- in Bislama.	Developing the 4 key messages in a series of drawings, this 4 posts are in format for publishing on the Vanuatu Shelter Cluster Facebook page.

- ✓ *Visit Library: Technical support and design of the Shelter Cluster Vanuatu website to find last updated IEC material as for other resources for safe shelter awareness.*

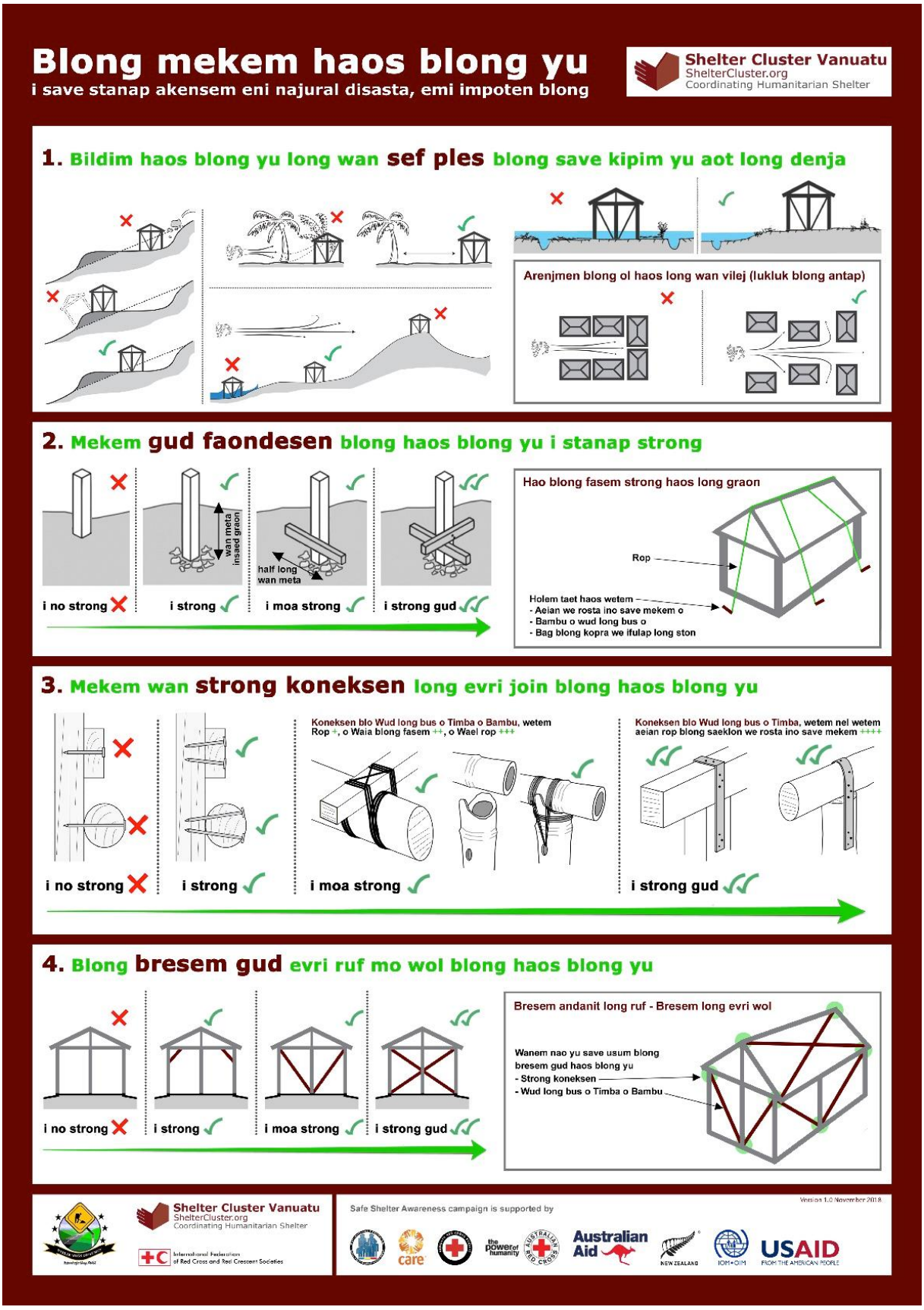


FIGURE 2 IEC #5 - SAFE SHELTER AWARENESS POSTER (SOURCE: VANUATU SHELTER CLUSTER)

2.3.4 Safe Shelter Awareness and training initiatives

Humanitarian agencies may partner with local NGOs or local training institutions such as Rural Training Centres (RTCs) to deliver these programs to the community using practical models and group participation. An RTC is a community owned and run vocational education training centre.

Humanitarian agencies should also rely on, and develop support development of, Shelter Cluster focal points for Community Disaster and Climate Change Committees (CDCCC), if already existing, in liaison with NDMO and Vanuatu Shelter Cluster.

Below table summarize the different initiatives that were implemented during response to Ambae Volcano response in 2018 and 2019.

Safe Shelter Awareness initiatives – Ambae Volcano response 2018
#1 Shelter in Emergency - Training of Trainers (ToT) (1 day).
This curricula is used by Vanuatu Red Cross Society (VRCS) to train volunteers and partners personel on the use of the Shelter and NFIs distributed during response, to allow technical support to erect shelter and disseminate the SCV safe shelter awareness key messages and IECs. In 2018, It has been delivered to 15 people in Port Vila, 10 on Ambae, and 15 on Santo (16 women and 24 men).
#2 Women in Shelter workshop (2 days)
This training, was delivered by CARE staff, and bought 20 women leaders and rep from 13 communities on Maewo, and coming from both Maewo and Ambae with the intention of training them in the methodology before rolling it out with their support in their communities. The main objective was for women leaders to get the knowledge about basic build back better and safer, how to write for small scale project and identify what they can do differently in the future to response to the issues affecting their communities.
#3 Shelter Focal Point for CDCCCs workshop (2 days)
This training, was delivered by CARE staff, for 66 Shelter Focal Points (14 women and 52 men) from each CDCCC on Maewo, one from Maewo and one from Ambae. The goal was to have two SFP's trained to support approximately 50 households, participating in a two-day workshop to build skills and knowledge to identify reinforcement solutions to be done on temporary shelters following the four SCV key message. The purpose was to empower SFPs to provide technical advice to Ambae evacuees building their second homes, as well as assist their Maewo community members through their role in their Community Disaster and Climate Change Committee (CDCCC) by sharing knowledge and technical support in building and strengthening houses into safe houses for sheltering during extreme weather events.

TABLE 2 SAFE SHELTER AWARENESS – AMBAE VOLCANO RESPONSE 2018 (SOURCE: SCV AND CARE)

2.4 Use of Cash and Vouchers in Vanuatu

The use of Cash for shelter to support self-recovery has not been usually encouraged in responses. Reasons for this include cultural acceptance, limited stock in country or a non-existent market on outer islands.

Oxfam and the Cash Working Group has conducted a National Cash Transfer Feasibility Study that should help to explore cash based intervention as part of shelter response in Vanuatu.

For the response to the Ambae evacuees crisis in 2018, Oxfam has implemented a unconditional cash program for all evacuees in Santo, and Save the Children Cash for Work program in Maewo. The pending learning from these two initiatives should help to inform further development of CBI in Vanuatu, to assess their impact on the ni-van society and different communities resilience. Anecdotal evidences would demonstrate that unconditional cash program on Santo has been helping families to purchase material contributing to their sheltering process. At the inverse, Cash for Work programme on Maewo has created various issues within communities, hampering the mobilisation community based self-help concept.

It's therefore crucial, that any potential cash or voucher programming in Vanuatu should be first discussed with NDMO, local government, Financial Service Providers (banks, money transfer agencies) and also with targeted communities and chiefs, to ensure feasibility, relevance and appropriateness for implementation modalities.

2.5 Assessments and Monitoring

2.5.1 Assessment

In some communities in Vanuatu, humanitarian agencies have been working in partnership with the National Disaster Management Office (NDMO) to establish Community Disaster and Climate Change Committees (CDCCCs). The purpose of these CDCCCs is for them to have received the necessary training to enable them to monitor hazards (e.g. using cyclone tracking maps), mobilise communities at the time of a hazard hitting their community (e.g. evacuating communities to safe houses as a cyclone approaches) and then conduct an initial assessment of the effects of that hazard once it has passed. Where there is no CDCCC the NDMO will send an assessment team. This assessment is collected using an Initial Community Assessment form, which is then sent to the NDMO with copies, sent to the Province. Network permitting, the NDMO have also established a system whereby communities can text, using SMS, their assessment data to the NDMO. These assessments represent a significant information source for the shelter cluster.

There is always the threat of too many assessments, so they should be combined whenever possible. There is a need for sectors to work together to develop multi sector assessments and standardised in-depth sectoral assessments. Assessments should be harmonised with government systems i.e. form collection and questions.

The Initial community assessment is covering a lot of indicators that are needed to get basis understanding of affected population shelter & settlements conditions, that should be sufficient to plan initial response. When a specific Shelter sector assessment has to be conducted, no standard form is to be used, as questionnaire should be structured around the questions that would inform the objectives of such assessments and response context. This must be discussed with NDMO and Shelter Cluster coordination before starting the assessment.

- ✓ *See NDMO Communities assessment Guidelines*
- ✓ *See NDMO initial community assessment form in Bislama*
- ✓ *See Community Based Disaster Risk Reduction handbook, or contact NDMO*

2.5.2 Monitoring

Monitoring of the shelter response is primarily done through the collection of data inputted into the 4Ws (who what where when) by shelter cluster partners. Timely contribution to this process is necessary to allow mapping of shelter activities, identify gaps and avoid duplication of distributions. The distributions of shelter items, NFIs and activities are usually measured by households reached, and not by people. In Vanuatu, data should be collected down to the area council level as a minimum. 3W format, reporting modalities and related issues are defined at the beginning of the response, and therefore it is strongly recommended to coordinate with the Shelter Cluster.

- ✓ *Visit Information Management page of the Shelter Cluster Vanuatu website and contact the standing focal points for coordination on coord1.vanuatu@sheltercluster.org .*

2.6 Logistics

The Vanuatu Logistics Cluster (VLC), led by the NDMO, plays an important role in enhancing logistics preparedness and capacity during peace time, and coordinating logistics for small scale disasters.

For more information on VLC and logistic in Vanuatu please contact the NDMO on ndmo@vanuatu.gov.vu

Humanitarian agencies could find the last updated information on Logistics for Vanuatu on the Logistic Capacity Assessment page on Vanuatu and update their shelter and Non-Food Items (NFI) prepositioned stocks on the PALM platform.

- ✓ *See Logistic Capacity Assessment webpage for Vanuatu*
- ✓ *See Logistics planning map*
- ✓ *See and update Shelter and other Non-Food Items prepositioned stocks on PALM platform*

2.7 Definition of Household in Vanuatu

The definition of household in Vanuatu does not refer to one nuclear family living under one roof. A household in Vanuatu generally refers 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. Traditionally, the “house” is not only one building. It is at least two to more constructions with different purpose and design. It includes a garden.

- ➢ The Vanuatu National Statistics Office (VNSO) define household as *“Those persons who usually eat together and share the work of preparing the food and/or the cost of work of providing it”*
- ➢ The National Disaster Management Office (NDMO) and the Ministry of Health define a household as a family unit sleeping in one shelter.

As well, response actors may also have a different definition of households. For instance, international organizations such as UN-Habitat define a household as a group of individuals (not necessarily from the same family) living under a same roof.

It is important that cluster partners know the different definitions of household in Vanuatu and decide on a common definition that can serve adequately the purpose of disaster responses at its earliest stages, in agreement with cluster lead and NDMO. Depending on which definition is used, agencies may need to adjust their distribution ratios.

The current NDMO definition will give agencies a higher number of beneficiaries and will be the most common definition to work with in time of emergency response.

About household dwelling consideration

Typical traditional household in Vanuatu dwelling usually encompass different buildings, at least one for sleeping and one separated for kitchen, that is at the centre of Ni-Van culture. While addressing the emergency shelter needs of a household, it's therefore important to consider the sleeping place, but also the kitchen area that is also crucial as constituting often also the social space for women. Providing for instance two tarpaulins by household might be relevant to cover both separated spaces or structures.

As good practice, shelter assessments should consider specific needs for gender and social groups to target the support needs for households but also communities' infrastructures. For instance, tarpaulins should be planned to help households to cover their shelters and kitchens, but supplementary ones for livestock, nakamal for the men and community centres for women and children.

2.8 Rural and Urban Construction, tradition and modernity

Individual dwelling units in Vanuatu can be classified through three most common types:

2.8.1 Rural / Traditional dwellings

that are generally fully made of natural materials that can be found in the village and surrounding locations and are constructed using traditional construction methods.

TRADITIONAL DWELLING IN TANNA (PICTURES: XAVIER GENOT)

2.8.2 Rural / Semi Permanent dwellings

that may be made of a mix of different traditional and modern building materials and techniques which are yet to be well integrated and developed into strong disaster resilient building structures and systems.

RURAL/SEMI PERMANENT DWELLINGS IN TANNA (PICTURES: XAVIER GENOT)

2.8.3 URBAN DWELLINGS THAT MAY BE PERMANENT OR SEMI-PERMANENT and can be built of a combination of different building materials and techniques. They may be constructed with modern building materials such as steel or concrete (structural elements) concrete block (structural masonry or infill), timber (structural elements for floors, wall and roof and/or floorboards or wall or roof cladding) and corrugated galvanized iron (CGI) roof cladding. The semi-permanent urban dwellings are generally made of a combination of new and/or recycled or scavenged building materials using modern building techniques without necessarily following neither the building codes and regulations nor the traditional building principles, which make them particularly vulnerable to natural hazards.

PERMANENT DWELLINGS (PICTURES: XAVIER GENOT)

2.9 USING TIMBER / LUMBER

Traditional shelters are constructed using local timbers. The main frame is constructed using bush poles. The roof is often woven thatch made from local materials such as natangora, coconut palm and split

cane. Semi-permanent shelters maybe constructed using sized lumber i.e.: 100mm x 50mm for the wall and roof construction. This lumber maybe sawn from local timber. The walls of these structures maybe clad in woven bamboo or corrugated galvanized iron (CGI). The roofs of these constructions may be covered in CGI or thatched.

When using local timbers for construction it is important to use the correct species for the appropriate components of the construction. If the incorrect species of timber are used in the ground, they will rot very quickly. There are also traditional preservation techniques that could be used. Termites are also a consideration when choosing local timbers for construction. It is important to gain the local knowledge within communities, as using the correct timber species will considerably extend the life of the construction.

Vanuatu does not have large numbers of construction timber in stock at any one time. Most construction timber is imported from New Zealand and China. Not all of this timber is suitable for construction. There is a lot of non-structural timber on the market and this is a contributing factor in building failure when used as structural elements.

- ✓ *See list of suppliers' section 2.15*
- ✓ *Visit website Humanitarian timber*

2.10 Local Materials for Roof and Wall Cladding

There a number of local materials used for the cladding of walls and roofs in Vanuatu. The materials used will very across the islands.

Wall cladding solutions include woven split bamboo and locally sawn timber boards. Roof cladding is usually a type of thatch made from natangora leaf, coconut palm, split cane or a combination of these three materials. Natangora may come in two or three leaf and is usually around 2 meters in length. It may be dipped in chemicals to increase it life span. Part of the traditional preservation methods is to smoke the buildings that have thatched roofs.

2.11 Pre-positioning of NFI's

Some humanitarian actors have emergency shelter and non-food item stocks pre-positioned at national and provincial levels. These stocks aim to support response to a small-medium scale disaster. In case of major scale disaster. Some actors have also stocks pre-positioned at regional level.

Details on quantities and location of these stocks can be found on the PALM platform (https://palm.logcluster.org/#/public/home), that partners organisations should keep up to date their information to enhance preparedness and response.

It is recommended to use specification defined in part 3 of these guidelines for importation of NFIs and shelter items in preparedness and response to future disaster, to enhance equity and quality of the support provided to affected households and communities. The donations of non-solicited goods should always be referred to the NDMO as it can have a negative impact on resources and logistics.

Following cyclone PAM, NDMO is in process of reviewing the Vanuatu prepositioning stocks policy, capacity and strategy. NDMO is also reviewing the legislation for the National Disaster Act that covers issues such as the release of stock.

2.12 INDICATIVE LIST OF MATERIAL AND TOOLS SUPPLIERS IN VANUATU[2]

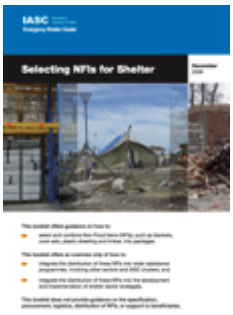
- ✓ Wilco Hardware (Building Supplies) Ph: +678 22385 - Email: wilco@vanuatu.com.au
- ✓ Vate Industries Ltd (Steel & CGI) Ph: +678 22273 - Website: www.vateindustries Email: vateindustries@vanuatu.com.au
- ✓ Tradetools Direct Ltd (Tools and supplies) Ph: +678 22940
- ✓ Port Vila Hardware (Building Supplies) Ph: +678 23274 / 24782
- ✓ BlueScope Lysaght Vanuatu Ltd (BHP) Steel & CGI Ph: +678 23261
- ✓ MCI (Building Supplies) Ph: +678 23657 / 23812 Email: mci@vanuatu.com.vu
- ✓ Vanua Disaen Ltd. (Builder and Building Supplies) Ph: +678 7741775 Email: stumcewen@yahoo.com Website: http://www.vanuadisaen.com/index.html

[2] Last updated 15/08/2015

3. SHELTER AND NFI TECHNICAL SPECIFICATIONS

This section references to the agreed or recommended technical specifications for disaster shelter response in Vanuatu, with reference to global and local resources.

- *For specifications of other relief items, it is recommended to refer to those included in the IASC Selecting NFIs for Shelter booklet, IFRC- ICRC emergency items catalogue or UNHCR' core relief items catalogue*



3.1 TARPAULIN / PLASTIC SHEETING

In general tarpaulin is preferred to tent as it allows for flexible use of material, is waterproof and contributes towards initiating self-recovery process including rainwater harvesting, especially in areas with no ground or unpotable water. Good targeting of only the most vulnerable households will help to minimise the amount of plastic delivered to communities. See guidance note on recycling, reuse and disposal of plastic sheeting, that has been translated in Bislama.

A brief orientation should be carried out prior to distribution regarding the correct and most effective way of using tarpaulins and to maximise their lifespan.

- ✓ *Recommended technical specification IFRC specification for individual and community shelter purpose tarpaulin*
- ✓ *Recommended Information on the specification and use of plastic sheeting in humanitarian relief*
- ✓ *Recommended IEC material for fixing plastic sheets in Bislama.*

3.2 ROPE

Rope is one of the most common fixings for plastic sheeting. For fixing plastic sheeting, black 8mm to 14mm diameter rope is preferred. Black rope is preferred as it resists UV degradation, although other colours (such as blue polypropylene rope) may be cheaper or more available.

While below standards reflect global recommended ones, it's also important to consider the natural assets that might be available on site for Ni-Van, as for bush or wild rope, from which no common standards but local knowledge are available.

Ropes can be made from various types of material, properties of some of the most common materials are summarised below. Properties of the most common types of rope (Based on the MSF catalogue)			
	Natural fibre	Polypropylene	Nylon / polyester
Strength	-	+	++
UV resistance	+++	-	+
Elasticity	+	++	++++
Wear resistance	+	+	++
Resistance to rot	-	++++	++++
Cost	Cheap	Average	Expensive

Specification - Rope:(natural fibre, nylon and polypropylene) Basic specification	
Weight	Large quantities are normally purchased by weight. Minimum lengths should be specified.
Dimensions	8-14mm diameter. (or 3-4mm if polyester hard braid)
Colour	Black for nylon and polypropylene, natural for natural fibres (subject to availability / cost)
Material	Polypropylene, Nylon, other polymers, or natural materials. Fibres should not be recycled (for quality).
Material specification	
Number of strands	3 or 4 strands for twisted rope. Twisted for polypropylene and natural fibres, braided for nylon.
Testing	ISO 9554
Printing and packing	
Printing	Bales of rope should be marked with type, material, manufacturer length, tensile strength, inspection reference.

3.3 Corrugated Galvanised Iron sheet (CGI)

CGI (Corrugated Galvanised Iron) sheet is also known as Corrugated iron roofing or Kapa in Bislama. There are a few suppliers in Vanuatu. (See 2.10). Even if CGI is one of the most common roofing materials used in Vanuatu, it may have a limited life span in the volcanic regions of Vanuatu.

CGI may not be an appropriate material for shelter construction especially when communities have traditionally been using thatch made from natangora leaf, coconut palm, split cane or a combination of these materials. Any change in roofing material must been done with caution and appropriate technical support, as different materials require different structural systems, fixings and connections. If CGI are

not properly fixed, or structure not tied down or adequately braced to adapt to the change of roofing material, there is a strong risk for CGI to be torn off in case of strong wind, becoming life threatening.

CGI sheets are considered to be valuable items, therefore any distribution needs to be carefully considered and discuss with relevant stakeholders, to ensure equity of distribution and avoid tension within communities.

CGI to be used in cyclone areas should be gauge 24 or 26 (0.7 or 0.55 mm thick respectively). CGI should be fixed to the roof battens using roofing screws or twisted roofing nails fitted with cyclone washers.

- ✓ *Recommended standards for Corrugated galvanised iron (CGI) sheets. Red Cross Emergency Items Catalogue.*
- ✓ *Recommended IEC material on use of CGI*

3.4 Shelter Toolkit

This item is one of the most important to supporting shelter self-recovery and should be included as early as possible in shelter response strategies. For large emergencies, local procurement is not preferred as country stocks maybe low resulting in inconsistencies in toolkit contents, creating inequity in support provided to communities.

Shelter Cluster partners should agree on the distribution ratio (how many households to share one toolkit) as soon as possible (based on community feedback, assessments on items lost and resources available for the response), as discrepancy from one targeted group to another one could create tension within communities.

If the ratio is not 1 toolkit for 1 household, it should be discussed and agreed with and within communities before distribution, to ensure fair use, share, safekeeping and maintenance of items provided. A community program should be considered with additional distribution of kits to complement the fixings (wire, nails, etc) that are included in the toolkit, depending on the number of households having access to each toolkit.

- ✓ *Recommended IFRC tool kit specification*
- ✓ *See IFRC shelter kit training material*
- ✓ *See IFRC shelter kit video*

3.5 Family Kit (Emergency Shelter & NFIs)

This kit was distributed to households for the Ambae evacuees crisis in 2018.

Family Kit	
Item	**Number**
Tarpaulins (IFRC specifications)	2
Shelter toolkit (IFRC specifications)	1
Hygiene kit	1

Kitchen set	1
Sleeping mat	2
Mosquito net	2
Jerry can 20l	1
Solar light	1

3.6 Support to Self-Recovery Kits

Fixing Kits

To complement tarpaulins and toolkits distribution, support to self-recovery could include fixing kit distribution. Cluster partners may choose to distribute three different types of fixing kits. The level of their response will determine what kits or combination of kit they use.

L1 kits would be the first level of intervention and would be used for the strengthening of Bracing/Connections in a shelter. The L1 kit would usually be distributed with Build Back Safer Community Awareness Programs.

L2 kits would be used when CGI roofing would be an appropriate intervention.

L3 kits would be used to support the full reconstruction of a roof frame of a shelter (of approximately 18m2). Cluster partners may choose to distribute these kits separately or in combination.

These kits were distributed as part of the response to Tropical Cyclone PAM, but could be included in cyclone preparedness activities;

L1 Bracing/Connections Fixing Kit	
Item	**Number**
Cyclone Strapping 25mm x 19mm x 27m	1 Roll
Tie Wire Galvanized (Galv) 1.6mm	0.6 kg /29 m
Nail Flat Head Galvanized (Galv) 100 x 4.5mm	3 kg
Nail Flat Head Galvanized (Galv) 75 x 3.75 mm	3 kg
Nail Clouts 40 x 2.80 mm 1 kg	2 kg

L2 Roofing Fixing Kit	
Item	**Number**
Iron Sheet / CGI	35 Linear m
Roofing Nails	4 kg

L3 Structural Fixing Kit	
Item	**Number**
Rafter 100mm x 50mm	6/6m
Roof Batten 50mm x 50mm	6/6m
Nail Flat Head Galvanized (Galv) 100 x 4.5mm	2 kg
Nail Flat Head Galvanized (Galv) 75 x 3.75 mm	2 kg
Cement 1 kg	4 Bags

Resettlement Kits

These kits were distributed for the upgrade of the emergency shelters of Ambae evacuees in Maewo in, or to be used by evacuees in their return on Ambae.

Resettlement Kit #1 for Households	
Item	**Number**
White Bags	
Rope 8mn	
Anchor Peg	
Cyclone Straps	
Tape Cloth	
Nail Clout	
2” Nails	
3” Nails	
4” Nails	
5” Nails	
6” Nails	
Nail Plate	
Roofing Nails	
Tie Wire	

Resettlement Kit #2 for CDCCCs on Maewo	
Item	**Number**
White Bags	
Cyclone Straps	
Tape Cloth	
Nail Clout	
2” Nails	
3” Nails	
4” Nails	
5” Nails	
6” Nails	
Nail Plate	
Tie Wire	

CYCLONE KITS

These kits were distributed to strengthen structure of shelters hosting displaced households, before impact of TC Oma.

Cyclone Kit	
Item	**Number**
Steel Anchor Pegs	
Rope 8mm	
Tie Wire	

3.7 TENTS

Note: Tents should be understood here as the packed item, not the word that some ni-van communities are sometimes using to describe emergency temporary shelter made by the use of a tarpaulin in the simple shape of covered space.

As previously mentioned, the use of tarpaulins is the preferred emergency shelter response item in Vanuatu. The shelter kits (toolkit plus tarpaulins) are supporting early self-recovery, and are more versatile than tents, allowing families to construct emergency shelters as well as repairing their damaged homes.

Learning from TC PAM and 2017 Ambae Volcano shelter responses highlighted that tents delivery is often representing an unsuitable modality of shelter assistance in the context of Vanuatu. The Shelter response evaluation for Cyclone PAM conducted 6 months after the impact of the event, show that the majority of households reported having using the received assistance with the exception of tents, selling tents instead of using them.

The tents represent a lot of disadvantages and limitations that should be considered before deciding to deliver them instead of tarpaulins. Please refer to the table 1 of the chapter on *Pros and Cons of tarpaulins and tents planning and distribution in Vanuatu* for more information.

However, if tents are identified as the preferred response solution by the Government, due to specific response context, they should be of (or similar to) the type used by the UNHCR, ICRC and IFRC. The standard tent for a family of five conforms to the recommended minimum-standard living area for hot and temperate climates (3.5m² per person).

- ✓ *See IFRC family Tent specification*

3.8 Blankets

There is a need for blankets in Vanuatu particularly in the southern provinces. The winter months are cool especially in the local context. Woven, 50% wool, 1.5x2m, medium (not high) thermal resistance is what most Pacific Island Countries are using. 80% wool is too hot.

- ✓ *See IFRC Blanket specification item HSHEBLANWMT1*

3.9 Kitchen set

The kitchen is at the core of traditional household social structure and could be standalone building, often vulnerable to natural disaster impact. It is therefore important to provide kitchen sets on the onset of a response with additional shelter items to help communities to recover on this crucial component of their social structure.

- ✓ *See IFRC kitchen set type A specification*

3.10 Sleeping mats

Sleeping mats are not always a high need of communities, but usually made from pandanus type that would supports livelihoods but can rot. No standard is defined yet for Vanuatu, but some mats could be found in hardware shops in Port Vila. There is also the option to look at international standards from IFRC and ICRC.

- ✓ *See IFRC Mats for floor specification*

3.11 Solar lights

Solar lights are highly recommended to be distributed to households as a part of a response or preparedness, particularly in rural areas where communities normally reply upon solar power for lighting and electricity. This item is classified as a protection cluster NFI, as it brings security and comfort to households. No standard is defined yet for Vanuatu, but solar lights could be found in hardware shops in Port Vila that should reflect the most relevant model at the time of its purchase.

3.12 Mosquito nets

Current standard should be checked with Wash and Health sector.

4. National construction and humanitarian shelter standards

4.1 Vanuatu Building Code

According to the *Building Act No. 36 of 2013*, the Building Code, which is under the administration of ("maintained by") the Ministry of Infrastructure and Public Utilities (MIPU), applies to ALL/ANY buildings in any declared Physical Planning Area (under the section 2 of the *Physical Planning Act [CAP 193]*) as well as in, on or over the foreshore as defined in the *Foreshore Development Act [CAP 90]*. However, as stipulated in the Building Act No. 36 of 2013, the latter also applies to the construction of: buildings owned in whole or in part by the State in any local government region; buildings in any municipality; type or class of public building prescribed by the regulations in any local government region; and, such other particular buildings as the Minister may determine by order.

Cluster partners need to be aware of the Vanuatu Building Code if they are involved with any new construction in the Port Vila (Efate), Luganville (Santo) and Lenakel (Tanna)_municipal areas. The building code applies to these areas. The building code comes in three books and can be purchased from the Department of Local Authorities (DLA). See Vanuatu Shelter Cluster Website for *purchase procedure*.

The building code can also be used as a reference for best practice in construction methods and contains a section on low-cost construction.

4.12 Evacuation Centres

Evacuation centres play a fundamental role in managing the impacts of a natural disaster and in protecting the lives of vulnerable communities at risk before such a disaster. They provide emergency shelter from the worst impacts of the disaster as well as essential data to emergency planners regarding those Internally Displaced Persons (IDPs) who have been made fully homeless, or whose shelter is severely damaged rendering them in need of a transition shelter/ durable

Within the preparedness plan, evacuation centres are to provide safe emergency shelter for a short time before the disaster strikes. In principle, evacuation centres will provide safe shelter to communities at potential risk of disaster (cyclone, flash flood, fire, etc.). Evacuation centres will provide lifesaving shelter to IDPs/affected or vulnerable communities pre and at the point onset of natural disasters for a few hours to a few days. Upon formal closure of the evacuation centres, the IDPs will either return to their place of origin or, in the case of those whose homes are lost or damaged such that they cannot return, relocate to an alternate area (ideally close to their place of origin) under the recovery and durable solution framework until their houses are rebuilt.

An evacuation centre could be set up in a state building such as a convention centre, a government office building, a school, a town hall, or it might be established in a community centre, a place of worship such as a church or even a private property such as a hotel or resort, etc. These are places with the greatest potential to be used in case of an emergency to provide safe shelter for the people at risk of imminent disaster.

Within the main centres of Port Vila, Luganville and Provincial Headquarters, the MDC and PDCCC and the Police Force are responsible to identify the evacuation centres and to inform public of the pre-cyclone season planning arrangements. The NDC, NDMO, PDCCC and Southern/Northern Police Commander are all responsible to ensure that this process has been completed, and that a list of evacuation centres is provided to the NEOC prior to the commencement of each cyclone season.

Education and awareness programs should identify the location of shelters and inform the community of self-sufficiency requirement for food, water, bedding, medical supplies (medicines, etc.) and toiletries.

NDMO is leading a working group on evacuation centres with the support of IOM. Few key documents are now available on NDMO website and evacuation centres mapping is completed or ongoing for Efate, Maewo and Santo.

- ✓ National Guidelines for the Selection and Assessment of Evacuation Centres
- ✓ Evacuation Centre minimum requirements check list
- ✓ Community awareness poster

4.3 Sphere Shelter & Settlements Standards Reference

The Sphere Project is a voluntary initiative that brings a wide range of humanitarian agencies together around a common aim - to improve the quality of humanitarian assistance and the accountability of humanitarian actors to their constituents, donors and affected populations.

The Sphere Handbook, Humanitarian Charter and Minimum Standards in Humanitarian Response, is one of the most widely known and internationally recognized sets of common principles and universal minimum standards in life-saving areas of humanitarian response. It includes a section on shelter, settlements and related non-food items.

The Sphere Handbook is the oldest initiative in the field of humanitarian standards. It has been field-tested over twenty years and regularly updated to ensure it remains fit for purpose in a changing world. What does not change is its rights-based foundations: people have the right to assistance, the right to life with dignity, the right to protection and security, and the right to fully participate in decisions related to their own recovery.

The Sphere Handbook 2018 was launched on 6 November 2018. This launch also marked the 20th anniversary of the Sphere movement, established originally as a time-limited project which has grown into a community of purpose spanning the globe.

The 2018 Sphere Handbook builds on the latest developments and learning in the humanitarian sector. Among the improvements of the new edition, readers will find a stronger focus on the role of local authorities and communities as actors of their own recovery. Guidance on context analysis to apply the standards has also been strengthened. New standards have also been developed, informed by recent practice and learning, such as security of tenure in shelter and settlement. Different ways to deliver or enable assistance, including cash-based assistance, are also integrated into the Handbook.

- ✓ See Sphere project overview
- ✓ See Sphere Handbook

4.6 Housing Land & Property (HLP) rights

HLP rights must be integrated as a key component of any humanitarian response to disasters. Humanitarian actors should also advocate for the promotion and protection of HLP rights to the fullest extent.

The main laws governing housing, land and property are the Constitution of the Republic of Vanuatu (1980), the Land Reform Act (1980), the Land Leases Act (1983), and the Custom Land Management Act (2013).

The main government actors responsible for housing, land and property are the Department of Lands, the Land Management Planning Committee, the National Coordinator of Land Dispute Management and the National Housing Corporation.

Land in Vanuatu falls into two main categories: (1) custom land owned by its indigenous custom owners; and (2) public land vested in the Government. All urban land is public land; all rural land is custom land. The status of peri-urban land varies.

- ✓ See GUIDANCE NOTE Integrating Housing, Land and Property Issues into Key Humanitarian, Transitional and Development Planning Processes
- ✓ See Key Housing, Land and Property (HLP) principles for shelter partners
- ✓ See Housing, Land and Property Law in Vanuatu

5. Protection / Gender /Disability Inclusion in Shelter

Women, men, girls and boys have different needs and capacities in crisis. It is vital that shelter programs recognize these differences and incorporate a gender equality perspective into the design and implementation of projects.

Protection, gender and disability should be incorporated into all areas of the shelter response from assessment, data analysis, response design, implementation and monitoring. For context specific data and information, the Shelter Cluster should liaise with the Gender & Protection Cluster

There are many factors to take into consideration in terms of gender and protection in the Vanuatu context. One is that every household has more than one building i.e. sleeping, cooking, bathing. It is always crucial to consult with both men and women on shelter needs and, in this context, even more so as different members of the household may have different shelter priorities. For example, whilst it is key that the sleeping quarters are repaired, women spend a significant amount of time in the cooking dwelling and as such may see the repair of this dwelling as a priority too.

- ✓ *See Gender & protection key documents on Vanuatu Shelter Cluster website*
- ✓ See guidance on Gender and shelter in emergency
- ✓ See guidelines Under One Roof Disability-inclusive shelter and settlements in emergencies
- ✓ See Emergency Shelter Gender Mainstreaming Tip Sheet
- ✓ See Vanuatu Gender & Protection field personnel deployment pack 2018

6. Case Studies and Key References

This section includes case studies and references to shelter response by agencies and references to relevant articles and other sources.

6.1 Vanuatu Shelter Cluster - Tropical Cyclone Pam Response Lessons Learned, June 2015

The purpose of this document is to capture the key lessons of the shelter cluster response to Tropical Cyclone Pam. These lessons are intended to inform the broader National Disaster Management Office (NDMO) lessons learned workshop, and the future development of the shelter cluster in Vanuatu.

6.2 Gaua Volcano Site Assessment and Planning Report

From May 21 – June 2, 2010, a multi-sectoral technical assessment team went to Gaua and Vanua Lava provide detailed plans for selected evacuation and relocation sites, and to provide a quick update on the current IDP situation on Gaua.

6.3 National Cyclone Support Plan Review 2017-2018

This is the last version of National Cyclone Support plan developed by NDMO.

The Shelter Cluster has been provided inputs to NDMO for the next iteration of this cornerstone preparedness document that should be available soon on the NDMO section on disaster plans that regroup national but also TORBA, TAFEA and SANMA provincial disasters plans.

6.4 "The little handbook of disaster and climate change networked governance structure in Vanuatu"

This handbook gives a brief overview of a part of Vachette's PhD research. It includes a description of the Vanuatu DRR and CCA governance system existing in 2015 and reflects the point of view of 90 participants in a survey conducted in 2014. This research was funded by the Centre for Disaster Studies of James Cook University and Vanuatu SPC/GIZ Coping with Climate Change in the Pacific Island Region program, with the endorsement of the National Advisory Board on Climate Change and Disaster Risk Reduction.

6.5 Peace Corps Vanuatu Bislama Introductory Language Lessons

Bislama is the national language of the Republic of Vanuatu. It is a pidgin derived from English, French and indigenous languages that is spoken throughout the country as the lingua franca; a common tongue which enables communication between the many different language communities of Vanuatu.

6.6 Household Living Dwelling Conditions Vanuatu

Living conditions vary considerably across Vanuatu, based in part on access to infrastructure and utilities. Those living outside urban areas and towns tend to go without electricity and often lack piped water and sewage systems. On most islands, almost all households mainly rely on wood or coconut shell for cooking – even in Port Vila almost half of households still cook using these sources. In the more urbanized parts of the country, houses have concrete or wood floors. Many households in Vanuatu live in basic conditions.

6.7 Rebuilding a safer and stronger Vanuatu after Cyclone Pam

Article by Wendy Christie and Brigitte Laboukly, published on June 18, 2015 on the Conversation website.

6.8 Disaster Resistant Housing In Pacific Island countries

A compendium of safe low-cost housing practices in Pacific Island Countries.

6.9 Guidelines for Community Vulnerability Analysis

This document describes an approach to reduce the impacts from natural hazards in Pacific island countries from the point of view of concerned communities working hand-in-hand with government and non-government organizations. The proposed approach for "community vulnerability analysis and action planning" is seen as the beginning of a long-term process towards risk reduction that will increase communities' self-reliance and independence. It acknowledges that disaster managers have long recognized communities as important actors in addressing their vulnerabilities and capacities but that,

to date, there have been few programs established to deal with this issue at the community level. This document seeks to fill that gap by providing guidelines for the identification, planning and implementation of community-based programs towards risk reduction.

6.10 Traditional Architecture in Vanuatu

This introduction to the traditional architecture of Vanuatu is aimed particularly at young people — at those of the younger generation who will have to take the responsibility for choosing between different ways of development in the different regions of the archipelago.

6.11 Human Settlements development and disaster risks in Pacific Island countries

Natural hazards are a serious threat for the sustainable development of Pacific island countries. Their impact disrupts the lives of the people in the Pacific and every year there are lives lost and properties damaged due to cyclones, floods, earthquakes or landslides.

6.12 Traditional Coping Strategies and Disaster Response: Examples from the South Pacific Region

The Pacific Islands are vulnerable to climate change and increased risk of disasters not only because of their isolated and often low-lying geographical setting but because of their economic status which renders them reliant on donor support. In a qualitative study exploring the adaptive capacity of Pacific Island Countries (PICs) across four countries, Cook Islands, Fiji, Samoa, and Vanuatu, it was clear that traditional coping strategies are consistently being applied as part of response to disasters and climate changes. This paper describes five common strategies employed in PICs as understood through this research: recognition of traditional methods; faith and religious beliefs; traditional governance and leadership; family and community involvement; and agriculture and food security. While this study does not trial the efficacy of these methods, it provides an indication of what methods are being used and therefore a starting point for further research into which of these traditional strategies are beneficial.

6.13 The Vanuatu National Survey on Women's Lives and Family Relationships

The aim of the Vanuatu National Survey on Women's Lives and Family Relationships was to conduct a population-based study to provide a reliable benchmark of the prevalence and incidence of violence against women in Vanuatu, and on attitudes to violence including: health and other effects of violence on women and children; risk and protective factors in the family and the community; coping strategies of women; and the implications for prevention and support services.

This report presents findings from the survey, which was conducted by the Vanuatu Women's Centre (VWC) in partnership with the Vanuatu National Statistics Office (VNSO) from March to May 2009. This is the first nation-wide study that has been undertaken in Vanuatu on violence against women and attitudes to women's human rights.

6.14 The tree and the canoe: roots and mobility in Vanuatu Societies

Can the tree, symbol of rootedness and stability, be reconciled with the canoe, symbol of journeying and unrestricted wandering? At first sight, apparently not. Nevertheless, Melanesian civilization uses this dual metaphor, this apparent contradiction, to define traditional identity. On the island of Tanna in Vanuatu, they say that man is a tree that must take root and stay fixed in its place. The local group, on the other hand, is a canoe that follows "roads" and explores the wide world.

6.15 SHELTERPROJECTS.ORG – CASE STUDY ON TROPICAL CYCLONE PAM RESPONSE

This case study was written to capitalize on response to TC PAM shelter response, as part of the shhelterprojects.org, developed by the Shelter Projects Working Group of the Global Shelter Cluster, it's a repository for over 200 case studies, overviews and updates of post-disaster and post-conflict shelter projects, originally published in the "Shelter Projects" series of six books

6.16 SAFEGUARDING INDIGENOUS ARCHITECTURE IN VANUATU

This community-based project inventories the pre- and post- cyclone condition of seven significant traditional nakamals (also commonly known as fareas) in Vanuatu that were recently damaged by Tropical Cyclone Pam, a Category 5 system that crossed the region on the 13th of March 2015.

This report includes inventories of both the tangible and intangible aspects of each nakamal, as well as recommendations for the best safeguarding practices for them. The UNESCO Intangible Cultural Heritage Fund generously provided funding for the project.

6.17 ABOUT TENTS AND AMBAE VOLCANO RESPONSE 2017

Around 250 families from Ambae were housed in tents during their displacement in Luganville, representing over 1,000 people. The majority of these tents were erected at two sites, the Chapuis Stadium and the Chief's Nakamal. Both these sites are open fields without immediate trees or vegetation, although there are several open pavilion type structures where people could seek shade. During the entire four weeks of people's displacement the weather was hot and dry, without any rain at all until the last few days.

Volunteers who spoke with people about their experience living in tents reported that one hundred percent of people interviewed said that the tents were good for sleeping in - but by 8am they were already far too hot to be inside, and remained too hot to be inside until after sundown. People could not rest in or remain inside the tents at all during this time. Without alternative shade people had difficulty with heat exposure, especially older people. One elderly man died after showering during the hot part of the day.

Volunteers also noticed an emerging dependency mentality whereby the tents being grouped into one large area ("camp") with the NDMO coordinated support focussed there, combined to create the sense that even though people could go and stay with family and be more comfortable, and eat better food, the inclination was to stay in the camps so as to ensure they were transported back home at the same time as other people, partly as an insurance against the risk of people stealing/damaging unattended property.

Above: Tents at Chapuis Stadium, Luganville during the Ambae Volcano response

The current situation with the Ambae Volcano response is highlighting many of these negative aspects related to tents as an emergency shelter modality (from Table 1), including storage, maintenance, ownership, longevity and associated costs.

Storage of tents over long periods of time in humid tropical environments is problematic in terms of identification of suitable warehouse space, cost, maintenance, ownership, longevity.

- **Storage space** must be well ventilated or tents will quickly rot. *Tents should be stored protected from the sun, rain and vermin, dry and well ventilated off the ground, kept in easily countable piles at least ½ m from walls.*
- **Regular maintenance** of tents while in storage is required to check they are not damp and rotting, and to extend their lifespan. This will involve unpacking, airing, repacking, and re-storing every tent at least once every 2-3 months. The cost of necessary human resources should be taken in to account.
- **Ownership:** If the tents are stored ready for a future response, it must be clear who has possession of the tents, and under which circumstance they can be removed from storage for deployment.
- **Longevity:** Even if well stored, the lifespan of tents can vary from 6 months – several years depending on the materials and quality of the tents. *In humid environments, cotton canvas is particularly prone to rotting. Tents should be rot proofed at the time of manufacture, although they may still rapidly decay. As a result many agencies procure tents when they are needed. This needs to be balanced against production times which can be long, especially during large-scale emergencies.* There is therefore the risk that the tents will not be useful when needed most during an emergency. This lifespan should be factored in to the cost analysis.
- **Storage cost** is a major consideration. A cost analysis over the lifespan of the tents should therefore be carried out before the decision to select tents as an emergency shelter modality is taken. Are the necessary funds available? Will the storage cost outweigh the cost of the tents themselves?

Recommendations

1. Considering that are now entering a new cyclone season, tents should be retained and stored in a temporary location (should a permanent solution not be immediately available), ready for rapid deployment to new emergencies if needed. If warehousing is not available, temporary storage in classrooms during the end of year school break, until the end of the cyclone season might be the next best option. This should be discussed and implemented in coordination with the education cluster.

2. In parallel with the above point, a cost analysis should be prepared detailing costs associated with storing the tents over a longer period (beyond the current cyclone season). This analysis should identify long-term storage solutions available (existing warehouses, or the need to build a new warehouse), maintenance, transport, etc. This cost analysis will inform the feasibility of keeping the tents over the longer-term.

3. As storing the tents over the longer-term will likely carry considerable cost and risk considering that even good storage in humid environments will not guarantee the tents will not degrade over time, rendering them useless when needed most during an emergency, it is strongly recommended to consider selling the tents, or donating them to community organisations after the 2017-2018 cyclone season. This should be done in consultation with donors, ensuring that any conditions relating to the initial donation are honoured.

   Description and number of tents

   There are two types of tents:
   260 square-shaped family tents
   30 tubular dome-shaped family tents
   All tents are tagged with a blue spray- painted serial number in the format EOC# e.g. EOC17

   Storage area required (including ventilation area)
   Square tents $0.3m^3 * 260 = 78m^3$
   Dome tents $0.2m^3 * 30 = 6m^3$
   (Equivalent to four to five school classrooms assuming standard classroom size = 5600 x 7800 = 43m2)

7. Online training Ressources for Shelter Responders

This section includes key online trainings and other references for shelter responders.

7.1 SHERE standards

*Learn about Sphere and related topics using your computer or mobile device with these **e-learning courses**, videos, webinars and other self-study and distance-learning resources.*

7.2 More Than Just A Roof

This course describes the basics of why shelter programming is an important component of humanitarian response both in natural disasters and conflict. It outlines the challenges that affected families face, and describes the essential elements of how humanitarians can complement the shelter activities of affected families. This online training conveys the essential concepts used by shelter experts to adequately shelter vulnerable families. It is a self-directed e-learning course, which takes 90 minutes to complete and is free for anyone to take.

The training is intended for anyone wanting to know more about effective humanitarian shelter programming and coordination. It is targeted towards those working in humanitarian settings but will also be useful for anyone interested in this area. The training was developed by the Global Shelter Cluster thanks to the financial contributions from ECHO and the British Red Cross. The training is available at this link: http://training.itcilo.org/delta/SHELTER/presentation_html5.html