Summary: Coconut Thatch Weaving on West Coast Santo – an alternative to Natangura as part of TC Harold Early-Recovery Response

Background

Severity of damage to houses along West Coast Santo

Category 5 Cyclone Harold made a direct hit on West Coast Santo on 6 April. The eye of the storm reportedly passed directly over Kerewai I and II, an area encompassing 13 villages and residential stations.

Assessment teams reported an extremely high level of structural damage.

Communities in West Coast Santo with the highest priority shelter needs

<table>
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<tr>
<th>Community</th>
<th>Population</th>
<th>Number of Households</th>
<th>Percentage of sleeping houses destroyed</th>
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<tbody>
<tr>
<td>TovoTovo</td>
<td>91</td>
<td>21</td>
<td>81%</td>
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<tr>
<td>Lalaola</td>
<td>110</td>
<td>24</td>
<td>97%</td>
</tr>
<tr>
<td>Kerewai I stations - Sulimauri, Sakele, Tialona, Toromauri &amp; Pelopvu</td>
<td>261</td>
<td>61</td>
<td>98%</td>
</tr>
<tr>
<td>Kerewai II stations – Jaranavusvus, Tanakovo, Voji, Valapei, Pesale, Pataiolmatap, Navai &amp; Patuie</td>
<td>630</td>
<td>124</td>
<td>Approx.95%</td>
</tr>
<tr>
<td>Pareo &amp; stations – Salalope/Lovuha</td>
<td>235</td>
<td>39</td>
<td>96%</td>
</tr>
<tr>
<td>Sauriki</td>
<td>376</td>
<td>90</td>
<td>100%</td>
</tr>
</tbody>
</table>

Derived from the report by Dr Christopher Bartlett entitled ‘Summary of Rapid Technical Assessments dated 8 – 12 April 2020’. The full report can be accessed via the following link: https://drive.google.com/open?id=1jWqi0yGezqEHmNqNh870XpphPbsTLrl

The total population of the West Coast Area Council is 2592 people within 528 households. Inhabitants are spread across 25 primary villages and residential stations, living along the coast and inland locations up in the hills.
Limited Infrastructure

A combination of topographical and climatic influences has limited the development of infrastructure on West Coast Santo. The only road access from Luganville is an approximately 3-hour drive to Tasiriki on an unpaved track prone to flooding. From Tasiriki, access to West Coast Santo villages is by local ‘banana’ boat, or on foot via bush tracks.

There are seven primary schools (five of which are government-run) and three health facilities. All educational institutions including kindergartens are reported to have been destroyed or damaged to the point of being inoperable. The three largest schools (Limarua, Ian Livo and Namara) sustained extensive damage to classrooms, staff houses, offices and dormitories.

Housing stock is primarily constructed from locally sourced building materials – bamboo walls, natangura thatched roofs and bush rope for connections. There are very few concrete block houses.

Damage to Flora

The damage to primary forests as a result of Cyclone Harold is high, with recovery of several species expected to last a long time. Across the entire West Coast, approximately 13 000 Natangura palm trees are reported to be totally destroyed. A further 7000 palms suffered partial loss. It is reported that almost 100% of the population on West Coast Santo rely on the forest as a source of building materials.

Shortage and lack of access to tarpaulins

The slowness of the response has meant very few tarpaulins made their way to the West Coast. The few that have, appear to be private donations or personal purchases. There is, however, a paucity of official information about the whereabouts and numbers of tarpaulins in-country. The latest official information is that there will be no tarpaulins for distribution to the West Coast until at least early June.

Coconut thatch weaving workshop – 11 to 16 May 2020

A report of the outcomes and lessons learned has been compiled by Dr Christopher Bartlett, an independent climate change expert based on West Coast Santo. Dr Bartlett is a member of the Technical Assessment and EOC team. He played a key role in the discussions that led to this workshop. He also helped with coordination and logistics on the ground.

His report, ‘Interisland Exchange of Women’s Traditional Knowledge and Skills is Key to Cyclone Harold Recovery and Resilience on West Coast Santo – Coconut Thatch Weaving Workshops’, is attached and should be read in conjunction with this summary.

This section draws upon the material covered in the abovementioned report.
Enhancing local resilience and sharing traditional coconut thatch weaving skills with trainees from West Coast Santo. Standing (left to right): Chief Nakou - the primary organiser of these weavers from the Tannese Community in Luganville, Martha Elud, Margreth Bong, Janet Tally, Kathleen Telma, Christin Naupa, Kenneth Naupa & Maui Harry. In front (left to right): Yvette Nocklam & Kathleen Katipa.

Multi-partner and stakeholder operation

This week-long activity was a collaboration between a number of individuals and organisations with the endorsement of the Shelter Cluster, Sanma PEOC and National Disaster Management Office.

1. The weavers

They were the eight women and one man as shown in the photo above, the majority of whom come from Tanna originally. One weaver comes from Northwest Santo and one from Ambrym. All currently reside in Luganville. These weavers have a minimum of 10 years’ experience in coconut thatch weaving. Many of the women have at least 20 years’ experience.

2. West Coast Santo EOC team and local NGOs

Six members of the West Coast Santo EOC team accompanied the weavers who were spread among different communities to maximise reach. They included Dr Chris Bartlett, Rexly Bune, Rehard Rojo, Jacob RevuRevu, Benua Jamu and Maria Manwoo.

The following local NGOs mobilised the communities:

- Santo Sunset Environment Network
- Edenhope Foundation

3. Financial, technical and logistics support from local organisations & NGOs, government and international NGO partners

- YachtAid Global (YAG) and its implementing partner, Butterfly Trust (BT)
In addition, the following individuals provided valuable connections and knowledge of local networks: Chief Nakou (Tannese community leader), Mr Abel Avock (volunteer), Mr Peter Napwatt (CEO of Vanuatu Agricultural College) and Mr Obed Rovo (MALFFB).

Jude Mlonturala, National Shelter Cluster lead and Paul Morrison, Sanma Shelter Cluster lead, provided oversight.

Primary purpose of workshop and schedule of training in West Coast Santo communities

(Please refer to Dr Bartlett’s report for additional details.)

The primary impetus for this training was to help resolve the urgent need for shelter in West Coast Santo. In addition, the people of West Coast Santo recognise the value of a more robust, longer term and environmentally sustainable solution as opposed to the use of tarpaulins.

In the wider context, the knowledge and lessons gained from this experience should enhance future opportunities for traditional knowledge revival and exchange.

Summary of key outcomes, challenges and lessons learned

(Please refer to the full report for a more comprehensive list.)

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<tr>
<th>Outcomes</th>
<th>Challenges</th>
<th>Lessons learned for future</th>
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<tr>
<td>Figures –</td>
<td>Many coconut leaves had rotted as the training started 5 weeks after the</td>
<td>Community mobilisation will vary from area to area, and depend on the availability of</td>
</tr>
<tr>
<td>• 13 communities and stations reached</td>
<td>cyclone. While some communities prepared well in advance, others were</td>
<td>materials and proximity to each site. The length of time needed to effectively train in</td>
</tr>
<tr>
<td>• 213 men and 339 women trained</td>
<td>unable to gather enough materials including bamboo and bush rope.</td>
<td>the technique is not extensive, although delays can occur due to the effort required to</td>
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<tr>
<td>• 1621 x 2m lengths of thatch</td>
<td>It was pointed out that there were a number of activities taking place</td>
<td>source/harvest materials in sufficient quantities.</td>
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<tr>
<td>• 8 communal structures roofed</td>
<td>simultaneously around cyclone relief (eg looking for food and water,</td>
<td>Community focal persons/teams are essential. For example, the Community Disaster</td>
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<tr>
<td></td>
<td>further assessments) that took up extra time and diverted attention.</td>
<td>Committees (CDCs) or Community Disaster Climate Change Committees (CDCCCs).</td>
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Although of short duration, this initial workshop highlighted the advantage of utilising a readily available and abundant local resource, previously not regarded as particularly useful or valuable. Coconut thatch is an alternative to natangura when the latter is in short supply in the post-disaster context.
Key technical recommendations

- Dried coconut leaves are preferable to green leaves. Green leaves tend to shrink as they wear, creating gaps and spaces in the roof structure.

- Traditional technique favours the use of burao vines to fasten the leaves, due to its flexibility and strength. In the absence of burao, or its alternative, pandanus, good quality synthetic rope is an option.

- Bamboo struts or bars of between 2m – 3m long are optimum. The bamboo should be less than 5cm in width to make tying easier and the finished product more secure.

- Spacing of the thatch over the roof frame determines water-tightness.

- Smoke curing the finished thatch is known to lengthen its life.

- Connect thatch pieces firmly to the frame of the roof. Local vines or 2-inch roofing nails can be used.

A team of 10 women and 5 men from Linduri community rebuilt a small community meeting hall by the end of the workshop. Up to 60 pieces of 2m-length thatch were prepared.

Recommendation: Enhancing local resilience and reviving traditional building knowledge and skills by incorporating ‘Build Back Better’ and Shelter Cluster key messages

Future opportunities for traditional knowledge revival and exchange in the disaster risk resilience context should be explored further.

- Encourage similar coconut thatch weaving workshops for other communities who are urgently in need of adequate shelter, and as part of a long-term alternative. As there is interest from other agencies, partnerships and collaboration should be encouraged to source more funding.
In the absence of sufficient natangura thatch to replace roofs, coconut thatch weaving can constitute one component in the recovery phase. Other components that should be encouraged and integrated include ‘Build Back Better’ key messages as part of practical reinforcement of building knowledge and skills.

Where possible, use of local building materials such as bamboo, bush vines, natangura and coconut thatch should be encouraged as a viable and cost-effective alternative. Environmental impact assessments must be built into the package.

Encourage communities as part of routine disaster preparation to keep a supply of thatch at hand for emergency repairs in the aftermath of any disaster.

In West Coast Santo, it was observed that there are now very few indigenous cyclone resilient structures. The knowledge and skill required to build these structures has eroded over time as the younger generation do not pass on the necessary skills.

There appears to be widespread interest in reviving traditional resilience strategies as the impact of climate change affects all sectors including shelter, food and livelihoods.