

Does gender responsive Disaster Risk Reduction make a difference when a category 5 cyclone strikes?

Preparation, response and recovery from Tropical Cyclone Pam in Vanuatu

Why this research?

In March 2015, Vanuatu was devastated by a Category 5 Tropical Cyclone. The southern islands of Tafea Province were hit the hardest. CARE has been implementing gender responsive community based Disaster Risk Reduction and Climate Change Adaptation (DRR & CCA) programs in the Tafea Province since 2011 and supported the local government to provide rapid emergency relief after TC Pam. CARE's programming had a significant and positive impact on communities. A year after the cyclone, an independent study was commissioned to assess evidence of the impact of CARE's mid-to-long term DRR interventions in the event of a major natural disaster. This paper is a summary of the study's findings.

The research method

The study gathered data from nine communities in Tafea Province just over a year after Category 5 Tropical Cyclone Pam hit. The study team visited three communities on each of the three islands of Aniwa, Erromango and Tanna and compared the results. From 2013 the communities on Erromango and Aniwa islands had participated in CARE's DRR programs, and for the purpose of this research these are the 'DRR communities'. Communities on Tanna had not participated in DRR programs before TC Pam, and these are the 'no-DRR communities'.

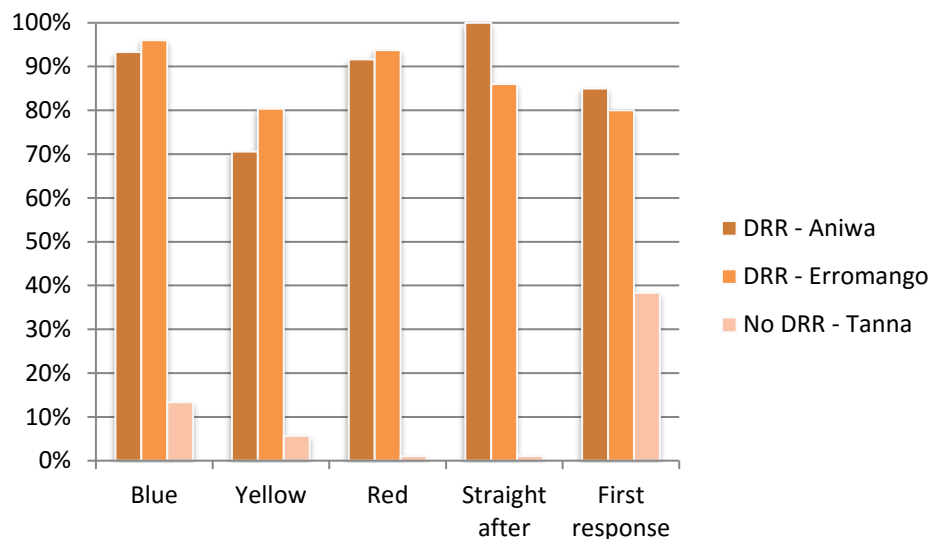
CARE's Disaster Risk Reduction programs

From 2013 to 2015, CARE's DRR work in Aniwa and Erromango aimed to increase the resilience of at-risk communities and schools to the impact of natural disasters, including an explicit aim to build women's leadership in disaster preparedness and response. This was done through setting up and training Community Disaster and Climate Change Committees (CDCCCs) and supporting them over time with planning, capacity building and coordination. CARE worked to ensure gender balanced membership of the CDCCCs and providing training to CDCCCs on gender and protection. Men and women in the CDCCCs were trained to understand early warning information, prepare communities, conduct rapid assessments and undertake emergency simulations. The program was implemented in close coordination with the provincial government, including training and support for the Provincial Disaster and Climate Change Committee (PDCCC) and the National Disaster Management Office (NDMO), and in partnership with other agencies through the Yumi Redi Project Consortia. Developing a tailored Community Disaster Response Plan for each community were also central elements of the programs. CARE and other Yumi Redi partners' approaches to community based DRR are reflected in the national standard currently being adopted by the NDMO.



Findings: Preparedness and early response

The different preparedness and early response steps that communities actually took (or did not take) were recorded and compared to the recommended steps a community should take using a DRR checklist. The checklist was developed based on the five stages of a cyclone: 24hrs before (blue alert), 12hrs before (yellow alert), during (red alert), straight after (within 24 hours) and initial community recovery. **Based on this data it was clear that the communities with whom CARE had worked were far more prepared. Both men and women acted early to prepare houses and the community in a coordinated way, resulting in all but a handful of the people across all communities being in safe houses with food, water and bedding. In contrast, all the no-DRR communities visited were sleeping in their own houses, having not taken warnings seriously and taken no or little action to prepare. As the winds were reaching Category 5 strength, families with children, elderly people and people with disability were moving, often several times, as the houses were destroyed around them.**



Preparedness and response steps taken by island and by different cyclone stages

Communities that had participated in DRR programs, scored between 70% and 100% in all five stages. The Aniwa communities scored between 80% and 100% across all but the Yellow Alert where they scored 71%. This was as a result of a number of factors including some safe houses having inadequate supplies of food and water or some families not moving to a safe house and needing to be rescued by the CDCCC. **By contrast, the no-DRR communities scored between 0% to 12% in all of the first four phases.** In the First Response stage, scores for the no-DRR communities increased to up to 40% reflecting community familiarity with disaster recovery, however the actions were taken house by house, not by the community as a whole. No-DRR communities also did not include efforts to assist households who needed extra help to build back their homes or clear the damage.

Findings: Damage assessments

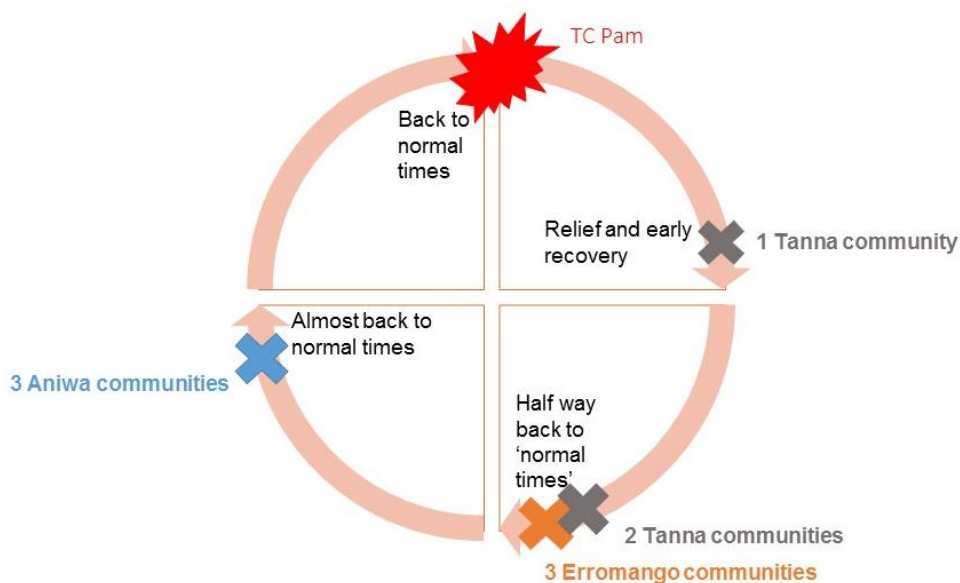
The pathway of the storm is important to understand before considering the damage between communities. Erromango and Tanna both experienced very destructive winds, with the eye of TC Pam passing directly over the Erromango communities. Aniwa was further from the eye and experienced a lesser force as a result. **In Aniwa the proportion of houses that experienced significant damage or were destroyed was between 2% and 36%. In Erromango the proportion of houses that experienced significant damage or were destroyed was between 59% and 81%. In Tanna it was between 94% and 96%.** Aniwa's lower scores would have been partly attributable to the strength of the cyclone.

Because of the many variables it is difficult to solely attribute these outcomes to disaster risk reduction. However, it is likely that some of the reduced impact in Erromango, which also faced the brunt of the storm, was due to the preparedness measures taken by communities there.

Throughout the DRR communities, there were multiple, consistent examples of where preparedness actions reduced losses, but such examples were not evident in the no-DRR communities. Despite damages, communities in the Aniwa and Erromango had places to sleep immediately after the cyclone and whilst re-building, thanks to protected houses or safe houses that were in place. **Coastal DRR communities protected their boats by moving them inland and weighting them down. They did not lose any boats and could recommence fishing immediately after the cyclone. The boats in the no-DRR community were not protected and were almost all damaged beyond repair.** All three islands experienced total or near total loss of gardens and other important plants such as coconuts but the DRR communities had harvested and prepared food which gave them a two week supply to survive on. The no-DRR communities survived on fruit which was ripe at the time and fell down in the winds, which was enough to sustain the community for only a few days. **DRR communities**

protected the water pipes that connected roofs with water tanks. This meant they could use the uncontaminated water in the tanks and collect the very limited rain that fell in the months after TC Pam. As well as damage to houses, the loss of household items such as clothes and cooking pots are important for early recovery at the household level. In Erromango the community reported that as part of their preparation they secured important household items and that, even when the house was destroyed or damaged, these items were saved.

Each of the communities with whom CARE had worked gathered detailed data on damage that was gender, age and disability disaggregated, the majority gathering this information within hours of the TC Pam passing. Based on community feedback and wider enquiries it seems the no-DRR communities did not complete any damage assessment forms, while the both women and men in the communities where CARE had implemented DRR programs had been trained in doing rapid post disaster damage assessments and therefore knew how to do them, did them quickly and shared the findings with provincial disaster authorities who had also been trained as part of CARE's DRR program.¹



Findings: Recovery

In order to gather community perceptions of their recovery progress, the study team prepared a picture of a 'cycle of recovery' and asked the groups how far back to 'normal times' they were. Recovery for all three islands has been held back by additional challenges, including the El Niño induced drought affecting all three islands and increased volcanic activity on Tanna, which has to be taken into account when comparing the recovery stage. Long-term recovery

in all three locations is still in progress but communities have cleaned up, crops are replanted and houses have been rebuilt. The communities' answers were very consistent between the communities on Aniwa and Erromango, with Aniwa communities stating they are 'almost there' and Erromango communities stating they are 'half way back'. On Tanna, people in two communities stated they were 'half way back' but one community stated they were not yet 'half way back' and that they were, in fact, worse off than before TC Pam, due to the significant volcanic ashfall affecting them from increased activity from Mount Yasur.

Conclusions

CARE's gender responsive DRR programming contributed to reducing the impact and damage from TC Pam in the communities that had participated in DRR programming compared to the communities that had not.

CARE's gender responsive DRR had positive impacts on community level preparation, response and recovery. It may have also been a contributing factor to reducing some of the damage experienced by the communities who had been part of DRR programming. CARE's program led to greater coordination of community action before, during and after the cyclone. The study clearly found that in the DRR communities, women and men worked together to prepare, respond and recover from TC Pam in line with recommended approaches. The CDCCC, including strong women leaders, was respected and on their instruction almost all people moved in a coordinated manner to safe houses at least 12 hours before TC Pam hit. In contrast, in the no-DRR communities, disaster preparation, response and recovery was seen as an individual household and family responsibility, action was not coordinated across the community, and overall very little action was taken to prepare for and respond to the cyclone. The benefit of the greater community coordination in Erromango and Aniwa extended into the relief and recovery stage. Distributions and community action was more coordinated in Aniwa and Erromango, as they had an active CDCCC to coordinate this with women playing active roles in the relief process.

¹Using the Tanna population data and other data the team gathered in community meetings it was possible to estimate total damage to the Tanna houses.

Gender and women's empowerment are important goals for DRR

One of the aims of CARE's program was to foster women's participation and decision-making through women's active participation in CDCCCs. CARE's approach led to increased representation of women in community leadership roles, including as chairpersons of the CDCCC in some cases, and the gender training provided to all CDCCC members contributed to increased respect for women's leadership in disasters. Whilst acknowledging inherent cultural differences between Aniwa, Erromango and Tanna, the voices of women were heard more loudly, and women's membership and leadership in CDCCCs was greater and more respected in the DRR communities than in the no-DRR communities. The greater involvement of women in disaster leadership contributed to more inclusive preparedness and response. Each DRR community provided evidence of specific actions taken to seek out and support women, children and people with a disability in preparing, responding to and recovering from TC Pam. In the no-DRR communities, women were less likely to speak up in the community meetings than in Aniwa or Erromango and some reported that they were not able to participate in community decision-making.

The whole community took responsibility for people with disability, children and the elderly.

The equal representation of men and women was found to bring different perspectives to the CDCCC. As a result of communities' participation in the DRR program, disaster management was transformed from a family responsibility to a whole of community one, and people with a disability, the elderly and children were also seen as a community responsibility. A consistent message across the DRR communities was that this joint responsibility extended to looking after vulnerable community members and help was asked for, offered and given across all the stages of TC Pam.

Better preparation dramatically changed community experiences of TC Pam

As well as the differences in the DRR checklist, communities also shared their different feelings about the event with the assessment teams. In Aniwa, for example, the communities were proud to talk about their experiences. They were keen to explain how they worked together and who took on which roles. They spoke constructively about things they could do to improve their response and were looking to the future. In Tanna, in contrast, it was clearly an emotional experience for some people to revisit their experiences of TC Pam. Over a year later people showed that they still carried some trauma about their experiences.

Early warning alone is not enough: understanding of the information and a trusted source is needed

Whilst the alerts about the coming cyclone were widely heard across communities that had no DRR support, they were not taken seriously or fully understood by both women and men. Women in one no-DRR community felt concerned about TC Pam and wanted to go to the garden to harvest food in preparation but the men were not supportive of this action and held them back. Families did not prepare and went to sleep in their own houses. As a consequence, people were put at substantial risk; one by one, families had to move from house to house as they were damaged. Being able to receive early warnings is not enough to ensure preparation: knowledge is needed to interpret and understand the different warnings and know how to act on them. The DRR communities in Erromango and Aniwa had received training on alert phases and community members often cited that they trusted the CDCCCs and took their advice. The CDCCCs in each location went house to house to check on people in their preparation and in Erromango this sometimes meant travelling to outlying settlements. Their actions meant that the early warnings were being delivered by a trusted source, and the warnings were taken seriously and acted upon.

Timing of preparation critical

Although some households in no-DRR communities did act to tie down their houses or to prepare household items, they only did this when the wind was already strong and houses were already being damaged. There were a surprisingly low number of injuries and no deaths in the communities visited, although many families moved from house to house during the height of the cyclone until they found a safe place. This reflects the importance not only of the actions taken, but also when those actions are taken in relation to the onset of the cyclone.

Recovery capacity exists at community level

Communities in Tanna that had had no DRR support prior to TC Pam rated <12% in performing their preparations, but scored up to 40% in completing their early recovery actions. The fact that households started to clean up and rebuild their shelters in the days immediately after the cyclone reflects their familiarity with disasters and early recovery actions in the absence of DRR activities.

The following recommendations are offered in the spirit of increasing the resilience of vulnerable communities to disasters. The knowledge gained hopes to highlight the benefits of gender responsive DRR, and as such to increase the strength of calls for more and continued DRR programming.

Long term engagement in community based DRR linked to strengthening of provincial and national capacities is what works and demands increased investment

The above findings are strongly in favour of increased investments – by governments, donors, and NGOs – in gender responsive DRR. The training and support from CARE was fresh in the minds of the communities in Aniwa and Erromango and the connections with CARE were strong. Effective DRR demands ongoing support and refresher training. CARE worked with these communities over a number of years and established robust community disaster preparedness, response and recovery capacity. Short term or one-off programs are not enough. An approach which focuses on continued training, capacity building and gender equitable membership at the community and provincial government level, combined with strong linkages and national level coordination of disaster management offers an effective and scalable model. As the Government of Vanuatu is currently adopting a national standard for community based DRR informed by the approaches of CARE and other Yumi Redi Consortia partners, there is an opportunity for this model to have a significant and sustainable impact at a national level if adequate support is provided to the Government to implement it at scale..

Empower trusted leaders in communities – both men and women

With ongoing training and support, men and women in the community, and in particular members of CDCCCs are empowered with knowledge and skills to interpret the warning alerts, initiate appropriate response steps and provide leadership to the community. This results in them being trusted and respected within their communities, their early warnings are taken seriously and their response actions followed by the whole community. There need to be active systems in place that are trusted by the communities so warnings and preparedness steps are taken seriously and are listened to and acted upon. Ensuring gender balanced CDCCCs and building and empowering women to take on disaster management leadership roles ensures their voices are heard and that men and women work together in the community to prepare and respond more appropriately and effectively.

Ensure gender equality and inclusiveness is at the centre of DRR programming

A focus on gender equality in DRR programming can empower women to take up new leadership roles in the community, bring new acceptance and respect from the community about the potential and value of women leaders, and ultimately makes disaster risk reduction activities more effective in the face of a disaster when both men's and women's voices and roles are respected. Programs should at minimum include ensuring gender balance on CDCCCs, empowering women to take leadership roles within the CDCCC, providing training on gender and inclusion for all CDCCC members and community leaders and explicitly train CDCCC members on their roles and responsibilities relating to gender and protection. Further, focussing on inclusiveness in DRR ensures that the community work together to ensure everyone in the community is prepared, protected and supported in the event of a disaster including making inclusion of more vulnerable people a community priority.

Consider applying the methodology more widely in Vanuatu and potentially elsewhere

The research methodology used in this study could be applied beyond the work of CARE International in Vanuatu to delve more deeply into the impacts of such DRR work. CARE or other agencies could take this methodology, as it is, to further expand the sector's knowledge of the impact of DRR programming. It could also potentially be applied in other contexts where a localised DRR Checklist, including context-specific preparedness and response measures, could be developed. The findings here could also be tested after a few years, or indeed after another cyclone to see how their efforts compare.

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The full research report is expected to be published in November 2016, and will include full references and detailed community data.

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Cover page photo: A woman stands in front of a damaged house during a food distribution on Aniwa Island (Vanuatu), image by Victoria Cavanagh (CARE).

CARE Australia

1800 020 046
info@care.org.au
care.org.au
ABN: 46 003 380 890

CARE International in Vanuatu

Paray Wharf Road
Port Vila
Vanuatu

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We also deliver emergency aid to survivors of natural disasters and conflict, and help people rebuild their lives.

We have 70 years' experience in successfully fighting poverty, and last year we helped change the lives of 65 million people around the world.