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# **Learning from population displacement in the Pacific: case study of the 2017- 2018 eruption of Ambae volcano, Vanuatu**

## ***SWOT analysis and recommendations***

**Disaster Research Science Report 2020/04**

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## ACRONYMS

COM	Council of Ministers, Vanuatu
DPMC	Department of Prime Minister and Cabinet (New Zealand)
FRDP	Framework for Resilient Development in the Pacific
GoV	Government of Vanuatu
IASC	Inter-Agency Standing Committee
ICRC	International Committee of the Red Cross
ICT	Information and Communications Technology
IDP	Internally Displaced Persons/People
IOM	International Organization for Migration
MARN	Multi-Agency Research Network (New Zealand)
MBIE	Ministry of Business, Innovation and Employment (New Zealand)
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
NDMO	National Disaster Management Office (Vanuatu)
NZ	New Zealand
PTSD	Post-Traumatic Stress Disorder
RSE	Recognised Seasonal Employer (New Zealand)
SWOT	Strengths, Weaknesses, Opportunities, and Threats
VAL	Volcanic Alert Level
VMGD	Vanuatu Meteorology and Geohazards Department
VNSO	Vanuatu National Statistics Office
WASH	Water, Sanitation and Hygiene

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## EXECUTIVE SUMMARY

The 2017-2018 eruption of Ambae volcano, Vanuatu, caused the entire population of the island (~11,700 people) to be evacuated off-island twice: firstly in October 2017, and then from the end of July 2018 until the end of October 2018, when the eruption ceased. This event presents a valuable opportunity to learn from a large-scale forced migration in a Pacific setting. Lessons from this event will advise and help to plan for future population displacements and forced migrations due to hazard and climate change events. For the first phase of this report, a review and analysis of the literature on internally displaced people was carried out, and used as the basis to design a questionnaire. Our field team visited the island of Santo, the destination for the majority of evacuees from Ambae, in February 2020, and carried out interviews with 42 evacuees, 26 female and 16 male, ranging in age from 21 to 82 over a four-day period. This report contains an event summary; a description of the research; a SWOT analysis; a discussion of key findings; recommendations; and an identification of future research needs.

### Key Findings

- The NZ-funded cash transfer scheme and the RSE scheme empowered evacuees to meet their needs and improve their living conditions.
- There were considerable material and social advantages for communities that made evacuation decisions together, evacuated together and resettled together. This suggests that evacuation planning should facilitate communities to make decisions communally, and where possible to evacuate and relocate together.
- Almost all interviewees intended to return to Ambae, and most reported experiencing a lower standard of living on Santo compared to Ambae. Recovery planning needs to recognize and facilitate the strong desire of displaced people to return home.
- While most interviewees accepted that it was a good idea to have a second home off Ambae in the event of future volcanic activity, those spoken to had chosen to evacuate to Santo at their own cost rather than taking up the government-sponsored second home scheme on Maewo. Reasons given for not taking up the Maewo option were that it was perceived as being too close to, and downwind of, Ambae volcano; that they perceived that they would not be welcome on Maewo; fears of cultural differences, and scepticism about promises of resources for building second homes. Overall, evacuation planning needs to account for people's preferences and offer options.
- Protracted displacements were causing considerable hardships, including lack of potable water, lack of income and lack of fresh vegetables, in some communities.

## SWOT Analysis

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Strong social capital in villages led to better outcomes for communities that evacuated and resettled together.</li> <li>• Strong desire to return 'home' to Ambae.</li> <li>• Strong support from faith-based organisations.</li> <li>• Evacuees recognize need for second home off Ambae.</li> <li>• New Zealand- funded Oxfam cash transfer programme.</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Subsistence farming on Ambae led to little surplus for evacuees to take with them.</li> <li>• Not enough/unfit land available on Santo for evacuees to grow enough crops.</li> <li>• Few opportunities for evacuees to generate income on Santo.</li> <li>• Higher costs on Santo.</li> <li>• Lack of support and planning for return to Ambae.</li> <li>• Official support for Maewo evacuation option only.</li> <li>• Lack of engagement with communities prior to evacuation.</li> <li>• Lack of communication from the government</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• To continue to support and expand the cash transfer programme.</li> <li>• To consider expanding the Recognised Seasonal Employer scheme.</li> <li>• To include the desires of the community in evacuation planning and provide them with options.</li> <li>• To address protracted displacement in the national framework.</li> <li>• Evacuees may be more willing to proactively engage in evacuation planning in future.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Potential unwillingness of host communities to host if a future evacuation is needed.</li> <li>• Differences in land tenure systems between islands may complicate 'second home' schemes.</li> <li>• Future volcanic eruptions as well as other hazard events such as tropical cyclones or droughts that may be exacerbated by global warming.</li> <li>• Lack of recovery planning.</li> </ul>

## Recommendations

- Continue to support and expand the cash transfer programme.
- Consider expanding the Recognised Seasonal Employer (RSE) scheme.
- Evacuate the community together and resettle them together in the new location.
- Engage potential evacuee and host communities prior to evacuation and as part of pre-disaster planning so their needs are addressed and integrated.
- Implement pre-event recovery and evacuee return plans to include all those that evacuate, including those that are not designated government evacuation points.
- IDP issues and concerns need to be integrated in the various Pacific regional documents and frameworks like the *Framework for Resilient Development in the Pacific*.

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## INTRODUCTION

Forced migrations and protracted displacements bring insecurity and the potential for politicisation of the population and can be drivers of instability in the region (Parker, 2018). This applies to both the community that must relocate as well as the host community. Internally displaced persons (IDPs) place pressure on resources, job opportunities, food, health access and civil and political rights (Schade et al., 2015). Yet we know hazard and climate-related events are already drivers for migration and displacement in the Pacific and are expected to increase in frequency and severity (New Zealand (NZ) Ministry of Defence and NZ Defence Force, 2018). The 2017-2018 eruption of Ambae volcano, Vanuatu, provides a unique opportunity to learn from a large-scale forced migration in a Pacific setting. Lessons from this event will advise and help to plan for future population displacements and forced migrations due to hazard and climate change events. This is a particularly valuable opportunity, as according to Homza et al. (2017), displacements in the Pacific are often overlooked by humanitarian organisations who tend to focus on total numbers, rather than the proportion of the population, affected.

This report contains a summary of the 2017-2018 Ambae volcanic eruption and evacuation; a description of the research; SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis; a discussion of the findings; and finally, recommendations based on the findings. It is the final output of a New Zealand Multi-Agency Research Network (MARN)<sup>1</sup>-funded project Learning from population displacement in the Pacific: case study of the 2017-2018 eruption of Ambae volcano, Vanuatu.

## INTERNALLY DISPLACED PEOPLE AND THE PACIFIC

In 1998 the United Nations' Guiding Principles on Internal Displacement were developed in response to the increasing numbers of internally displaced people (IDPs). The Guiding Principles are 30 ideals for working with and on behalf of IDP (United Nations, 1998). These principles state that IDP have the same rights as others in their country, including the right to request help and protection from their national authorities (Lewis & Maguire, 2016). The obligation for respect and non-discriminatory practices towards IDP also extends to international actors. Relocation is the adaptation of last resort, and all people have the right not to be arbitrarily relocated. IDPs also have the right to be protected from violence, discrimination, and forced labour. The liberty, dignity, mental and moral integrity of IDPs should be protected. They have the right to an adequate standard of living, education, and to protect their family life, property and possessions. Those who return home or remain displaced have the right to participate in public affairs and have equal access to public services.

The 2016 Framework for Resilient Development in the Pacific (FRDP) is a voluntary guide for Pacific Islands seeking to strengthen adaptations and risk reductions to enhance resilience to disasters and climate change, strengthen disaster preparedness, response and

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<sup>1</sup> MARN agencies are: Ministry for Primary Industries, the New Zealand Customs Service, New Zealand Defence Force, New Zealand Security Intelligence Service, Ministry of Defence, Department of Prime Minister and Cabinet, Ministry of Foreign Affairs, NZ Police, Ministry of Business, Innovation and Employment (Immigration NZ), Aviation Security

recovery in the region, and highlight the need for low-carbon development (Pacific Community et al., 2016). The Pacific Resilience Partnership is the institutional element charged with operationalising the FRDP. The issue of IDP is not specifically addressed in the FRDP, however, the intent and objectives of the framework, if achieved, will increase resilience in the region that may affect the numbers and outcomes for IDP over time.

Durable solutions can take three different paths: return to home of origin, integrate into the displacement host community, or integrate into a third internal location (Brookings Institution, 2010). The Guiding Principle (UN, 1998) and the UN Secretary General's Decision on Durable Solutions (2011) underpins rights and responsibilities of creating durable solutions with the primary responsibility falling on national authorities. Inter-Agency Standing Committee (IASC) Framework on Durable Solutions for IDP can be used to measure the extent of durability of solutions (Brookings Institution, 2010).

A continuation of the work by the Brookings Institute further investigated IDP from the perspective of best practices (Ferris et al., 2011). The project developed a set of 12 practical actions that nations could implement to influence the prevention, mitigation, and resolution of displaced populations:

1. Prevent displacement and minimise its adverse effects. (p. 21)
2. Raise national awareness of the problem. (p. 31)
3. Collect data on the number and conditions of IDPs. (p. 43)
4. Support training on the rights of IDPs. (p. 53)
5. Create a legal framework for upholding the rights of IDPs. (p. 63)
6. Develop a national policy on internal displacement. (p. 75)
7. Designate an institutional focal point on IDPs. (p. 87)
8. Support national human rights institutions to integrate internal displacement into their work. (p. 99)
9. Ensure the participation of IDPs in decision making on IDP policies and programmes and can they exercise their right to vote. (p. 113 and p. 121)
10. Support durable solutions (p. 129)
11. Allocate adequate resources to the problem. (p. 159)
12. Cooperate with the international community when national capacity is insufficient. (p. 167)

In September 2018 the Government of Vanuatu (GoV) launched the National Policy on Climate Change and Disaster-induced Displacement (GoV & International Organization for Migration (IOM), 2018). It supports these benchmark principles through its strategic priorities, using the IASC framework as a basis for establishing local priorities. Recognition of Vanuatu's vulnerability to disaster as well as climate change underpinned the development of the national policy which will enable ministries and agencies to work towards the protection of all Vanuatu's people and the development of durable solutions. The foundation includes clear pathways for local communities to appeal for assistance to the national government, built-in protections for customs and culture, freedom of movement, and

fostering of self-reliance. The policy includes both IDPs and people at risk for displacement and host communities.

The objectives are:

*System level:*

1. Strengthen institutional and governance arrangements to address displacement
2. Promote evidence-based approaches to displacement through multi-hazards mapping and improved data collection and monitoring processes on displacement and internal migration
3. Develop safeguards guidelines and SoPs to ensure common standards for protection of all people affected by displacement
4. Invest in capacity-building and training for all stakeholders to promote understanding of the policy and increase sensitivity to displacement issues (p. 29)

*Sectoral level:*

1. Ensure the safety and security of all people affected by displacement, including internal migrants and host communities (p. 32)
2. Incorporate displacement and migration considerations into land management, housing, and environmental planning (p. 34)
3. Ensure all people affected by displacement have equal access to health and medical care, nutrition advice and, where possible, psycho-social or spiritual assistance (p. 37)
4. Ensure access to education for all people affected by displacement, including internal migrants and host communities (p. 39)
5. Ensure all people affected by displacement are included in infrastructure planning and have equal access to water, sanitation and hygiene (WASH) services, energy supplies, transportation, telecommunications and information and communication technology (ICT) (p. 40)
6. Mainstream displacement and migration considerations into national agricultural, fisheries, livestock and employment policies and Technical and Vocational Education and Training initiatives (p. 42)
7. To protect the cultural identity and spiritual resources of communities (p. 44)
8. Strengthen access to justice and public participation mechanisms for people affected by displacement, especially in the context of evictions (p. 46)

It should be noted that this was implemented after the Ambae sequence of events, therefore was not fully enacted to help the evacuees. However, some aspects were considered.

## EVENT BACKGROUND

The island of Ambae is the emergent part of a massive basaltic shield volcano that is the largest by volume in the Vanuatu archipelago (Figure 1). The volcano is also known locally as Lombenben, Manaro, or Manaro Voui. The Vanuatu Meteorology and Geohazards Department (VMGD) has two volcanic seismic stations and one webcam on Ambae that provide real time data to the volcano observatory in Port Vila.

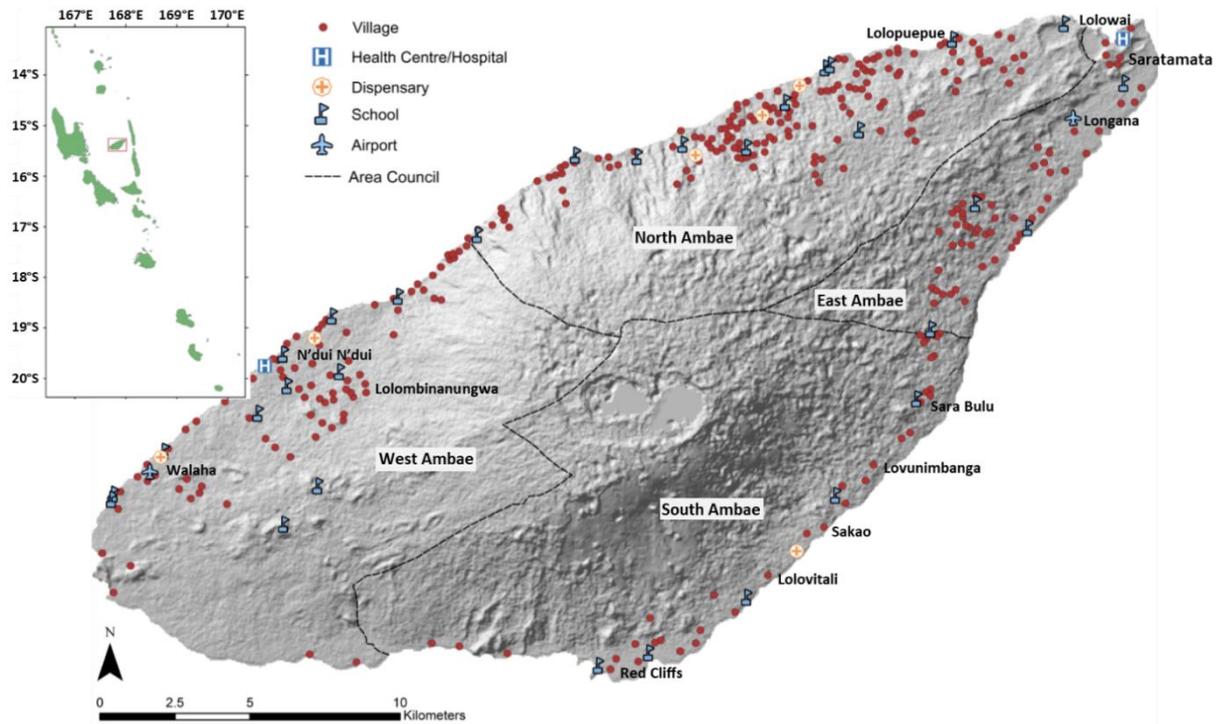


Figure 1 Location of villages and key facilities in Ambae (map credit: Ame McSporrán, University of Canterbury).

In the 2016 national mini-census carried out following Tropical Cyclone Pam, Ambae's population was 10,858 (Vanuatu National Statistics Office (VNSO), 2016), most of whom live along or near the coastline in small villages (Figure 1). Land tenure is heavily dominated by customary arrangements, with 93% of households reporting customary land tenure, compared to 79% of all rural households in Vanuatu (VNSO, 2016). Ambae residents are largely self-sufficient with respect to their food supplies. Staple crops grown are kumala, island cabbage, yam, taro, banana, pawpaw and manioc (VNSO, 2016). The main source of income, for 59% of Ambae households, is the sale of cash and food crops, fish and handcrafts, compared to 51% of all rural Vanuatu households. Important cash crops are coconut (for copra production), cocoa and kava. Other important income sources are wages/salary and business ownership (VNSO, 2016). Just 28% of the adult population of Ambae has a commercial bank account; this is a slightly higher rate than for Vanuatu's rural population (24%). There is a high level of access to participation in democracy, with 92% of Ambae adults holding a valid electoral card.

The eruption period that began in September 2017 is a part of a much longer sequence that began with volcanic unrest in 1991, followed by eruptions in 1995, 2005-2006 and 2011 (Smithsonian Institution, 2020). The 2017-2018 eruption occurred in four main phases (see Appendix 1 for detailed timeline of eruption and response). The first phase (September to November 2017) triggered a mandatory evacuation (Figure 2) of the entire population of the island's approximately 11,000 residents, primarily due to fears of eruption escalation rather than impacts of the volcanic emissions. The population was evacuated primarily to the neighbouring island of Santo, with smaller numbers going to Maewo, Pentecost and Efate. Repatriation to Ambae occurred at the start of November 2017.

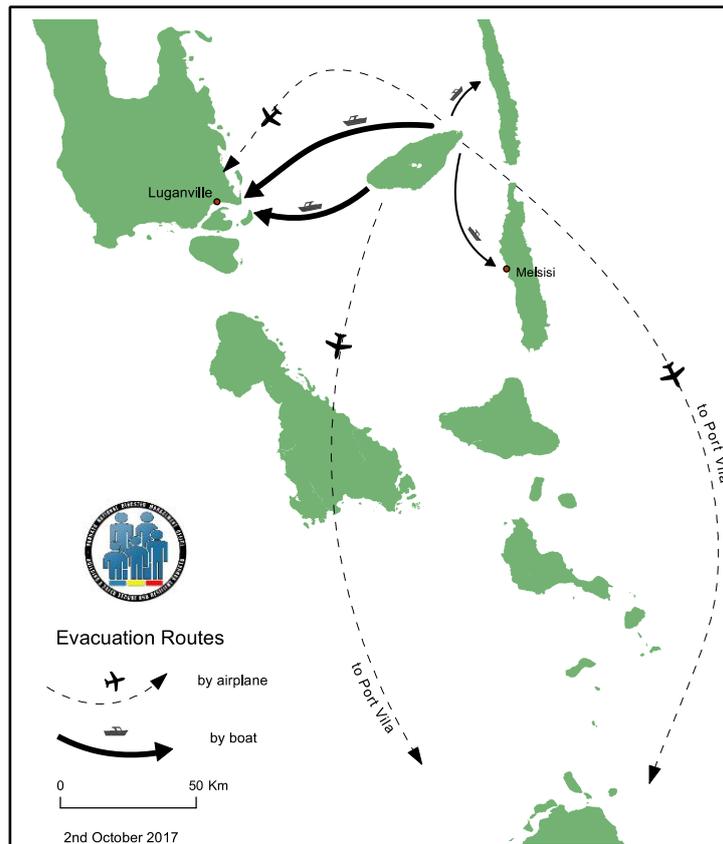


Figure 2 Evacuation routes for 2017 Ambae eruption (NDMO, 2017a).

Following repatriation, assessments on behalf of the GoV were carried out between November 2017 and March 2018. Findings were that some households had not returned to Ambae, and those that had returned often felt unsafe. This was primarily due to the uncertainty and lack of information, fear of the volcano and fears about food and water security. Additionally, health had been affected, livestock had suffered, some crops had been damaged or destroyed, coastal fishing was affected, land-based fish farms were destroyed and food security was of great concern for all (Gender and Protection Cluster 2017a & 2017b; GoV, 2018; Nimoho & Turot, 2017).

Phase 2 (December 2017-February 2018) and Phase 3 (March-April 2018) of the eruption produced thick ashfalls and acid rain to the west and south of the island (Abraham et al., 2018). However, these were able to be managed within-island, by evacuating people from

the most-affected areas to evacuation centres at the relatively unaffected eastern end of the island. Information was also provided by VMGD to residents in less-affected areas on volcanic ash, gas and acid rain hazards and options for minimising their impacts (VMGD, 2018).

Phase 4 of the eruption, from July-November 2018, brought further thick ashfalls to the west, east and southeast of the island, causing major damage to water supplies and crops and causing many traditional buildings to collapse (Figure 3). This prompted another mandatory whole-island evacuation from the end of July until the end of October 2018, when the eruption ceased.



Figure 3 Heavy ashfall damage to crops and traditional buildings under ~150 mm ashfall, South Ambae. 8 August 2018. (Photo Credit: Carol Stewart)

A government-sponsored 'second home' scheme was set up on the neighbouring island of Maewo, whereby evacuees were promised access to land, shelter and building supplies, and food and water, while still keeping their land on Ambae (NDMO, 2018c, Figure 4). Participation in this scheme was voluntary but encouraged, and the government provided transport ships to relocate people to Maewo (Figure 5). Approximately 3000 people took advantage of this scheme. Other Ambae residents self-evacuated, at their own expense, to other islands in Vanuatu, primarily Santo.

# RELOCATION TO MAEWO

## What happens if we stay? What happens if we go?

### STAY ON AMBAE

#### *Relocation is voluntary*

You are free to choose to stay on Ambae—all relocation will be completely voluntary.

#### *Relocation support will end*

Emergency support will continue until the government assisted relocation period concludes. This is currently scheduled for 30 July 2018. After this period the Government will no longer provide relocation assistance.

#### *Government Emergency support will conclude after 30 July 2018*

Government emergency support at existing evacuation centres will cease after 30 July 2018. If volcanic activity increases in the future the Government may not be able to provide you similar assistance. You will be expected to make your own way to your government allocated second home provided on Maewo or to any other location.

#### *Government Services will continue*

Government service delivery will continue on Ambae however this may be at a reduced level.

### MOVE TO MAEWO (2nd home)

#### *Support will be provided*

If you choose to relocate to Maewo before 30 July, you will receive transport and access to land, shelter/building supplies and food and water support until 31 December 2018.

#### *Government will provide transport*

The Government will transport you, your family and your belongings to your 2nd home on Maewo

#### *You will keep your land on Ambae*

You are able to relocate to your 2nd home on Maewo and still keep your land on Ambae. However, travel between the islands and maintenance of your land will be your responsibility.

#### *Your second home on Maewo*

You will be given access to land on Maewo.

#### *Services will increase*

Services like health clinics and schools will be limited when you first arrive on Maewo, but the Government will invest in increasing these services in the future.

Figure 4 Government notice advising Ambae residents of Maewo second home scheme. This notice predated the Council of Ministers decision on 26/07/18 to make the evacuation compulsory. (NDMO, 2018a)



Figure 5 Government-sponsored evacuation ship departing Ambae for Maewo, 9 August 2018 (Photo Credit: Carol Stewart)

However, towards the end of 2018, many evacuees on Maewo were still living in donated tents, an unsustainable situation for the coming cyclone season (NDMO, 2018c). On 26 November 2018 the State of Emergency was lifted (NDMO, 2018b) as the volcanic activity

decreased. A multi-agency inspection team visited Ambae in December 2018 and reported issues with damage to crops from ashfall and from roaming livestock (NDMO, 2019). A Council of Ministers (COM, 2019) decision was made to restore basic services to Ambae to enable people to return.

An assessment team also visited Maewo and noted that just 249 Ambaean evacuees remained by February 2019 (NDMO, 2019). Unsurprisingly, most of the evacuation centres were empty. In March 2019, an assessment carried out by the IOM reported that 4178 people had returned to Ambae, corresponding to 36% of the pre-eruption population (IOM, 2019). The rate of return was highest for East Ambae (55%) and lowest for West Ambae (20%).

In December 2019, the Council of Ministers (COM) issued a decision (COM 388/2019) to restore all government programmes and services on Ambae to pre-eruption levels (Vanuatu Daily Post, 2019). The COM made this decision on the basis of the declining level of volcanic activity, with VMGD lowering the Volcanic Alert Level from Level 2 to Level 1 on 23 September 2019, and the movement of Ambaeans back to the island. An estimated 60% of Ambaeans had returned by May/June 2019, and by February 2020, the Ambae Molitawata Council of Chiefs claimed that 80% of the population had returned (Ligo, 2020). Importantly, the COM noted that as the volcanic hazard persists on Ambae, it remains a government priority for Ambaeans to have a safe shelter or second home off Ambae in the event of future eruptions.

## **SUMMARY OF RESEARCH**

For the first phase of this project, a review and analysis of the literature on IDP research was carried out and used as a basis to design a questionnaire for the field research. Interview questions focused on motivations for option chosen, official and unofficial support received, challenges faced, support needed, and views on future as well as specific issues as requested by MARN partners, such as labour mobility. The questionnaire (Appendix 2) and participant information and consent form (Appendix 3) were submitted to the Massey University Human Ethics Committee as part of an application for approval of ethics. Ethical approval was granted on 11 December 2019 (NOR 19/40). It was also necessary to apply for a Vanuatu research permit<sup>2</sup>; this was granted on 7 October 2019.

The initial field research plan was to spend 2-3 days each interviewing Ambae evacuees on Maewo and Santo, in order to compare outcomes for those evacuees who had evacuated to Maewo as part of the official second home scheme, versus those who had evacuated unofficially to Santo and bought land. However, both the Vanuatu research permit and ethical approval for the project took considerably longer to secure than anticipated, and by December 2019 it was clear that few, if any, evacuees remained on Maewo, and that most Ambae residents had returned home. Additionally, due to funding limitations and the high cost of the research permit and travel costs the scope of the project had to be adjusted. The

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<sup>2</sup> All researchers from overseas are required to get a research permit from the Government of Vanuatu through the Vanuatu National Cultural Council.

field research plan was thus modified to include visits to Ambae, to interview returnees, and to Santo to interview those who were still displaced.

The research team arrived in Port Vila on 8 February 2020. We met with the NDMO, VMGD and a representative from the Department of Women’s Affairs. Unfortunately travel to Ambae was disrupted by Cyclone Uesi which flooded the runway at Longana airstrip. The team modified the plan again to travel to Santo and conduct interviews while waiting for the runway to reopen. This did not happen during our visit, thus all interviews for this project were conducted on Santo, with evacuees only. With the help of a field officer from the Department of Women’s Affairs, a total of 42 interviews were conducted over four days in six villages on Santo with 26 women and 16 men, ranging in ages from 21 to 82. Most of the interviewees were from West and North Ambae (Figure 6).

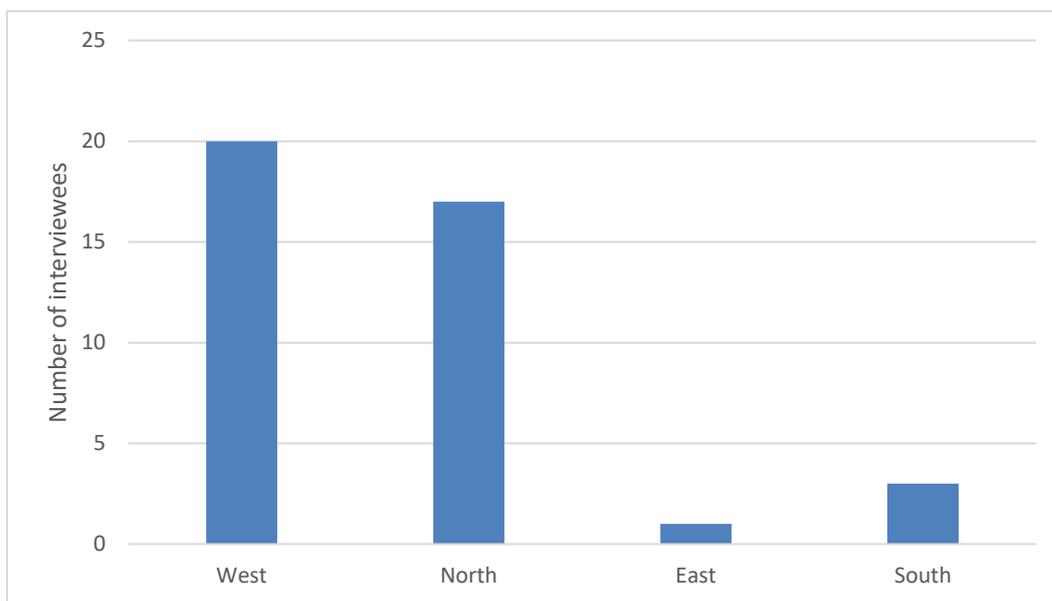


Figure 6 Home region of Ambae interviewees

## **STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS ANALYSIS**

This Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is based on the findings of the field research and is drawn from our key findings and recommendations.

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Strong social capital in villages led to better outcomes for communities that evacuated and resettled together.</li> <li>• Strong desire to return 'home' to Ambae.</li> <li>• Strong support from faith-based organisations.</li> <li>• Evacuees recognize need for second home off Ambae.</li> <li>• New Zealand- funded Oxfam cash transfer programme.</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Subsistence farming on Ambae led to little surplus for evacuees to take with them.</li> <li>• Not enough/unfit land available on Santo for evacuees to grow enough crops.</li> <li>• Few opportunities for evacuees to generate income on Santo.</li> <li>• Higher costs on Santo.</li> <li>• Lack of support and planning for return to Ambae.</li> <li>• Official support for Maewo evacuation option only.</li> <li>• Lack of engagement with communities prior to evacuation.</li> <li>• Lack of communication from the government</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• To continue to support and expand the cash transfer programme.</li> <li>• To consider expanding the Recognised Seasonal Employer scheme.</li> <li>• To include the desires of the community in evacuation planning and provide them with options.</li> <li>• To address protracted displacement in the national framework.</li> <li>• Evacuees may be more willing to proactively engage in evacuation planning in future.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Potential unwillingness of host communities to host if a future evacuation is needed.</li> <li>• Differences in land tenure systems between islands may complicate 'second home' schemes.</li> <li>• Future volcanic eruptions as well as other hazard events such as tropical cyclones or droughts that may be exacerbated by global warming.</li> <li>• Lack of recovery planning.</li> </ul>

## SUMMARY AND DISCUSSION OF KEY FINDINGS

### Key finding 1: The NZ-funded cash transfer scheme and the RSE scheme empowered evacuees to meet their needs and improve their living conditions.

Evacuees on Santo needed money to a greater extent than on Ambae: “So, Santo is a nice place ... but there is only one thing – you are going to use money every day to pay the food and go to the town”. (Interview 28, 11:01). The New Zealand-funded cash transfer programme, administered by Oxfam, was particularly valuable in providing evacuees with cash; this empowered them to meet their needs as they saw fit. Some used the funds to upgrade their housing and buy materials such as iron roofing. Some pooled their resources with their community to buy land. Some used it to pay school fees or supplement their basic diet of rice and tinned fish with fresh fruit and vegetables. And some evacuees needed the funds just to survive on Santo: “It was needed just to maintain the family”. (Interview 22, 18:02).

Approximately 80% of the interviewees had received the cash transfer (Figure 7). Some people that did not receive it had followed more complex pathways, such as moving to other islands such as Efate to stay with family before arriving on Santo, but for others it was less clear why they did not receive it.

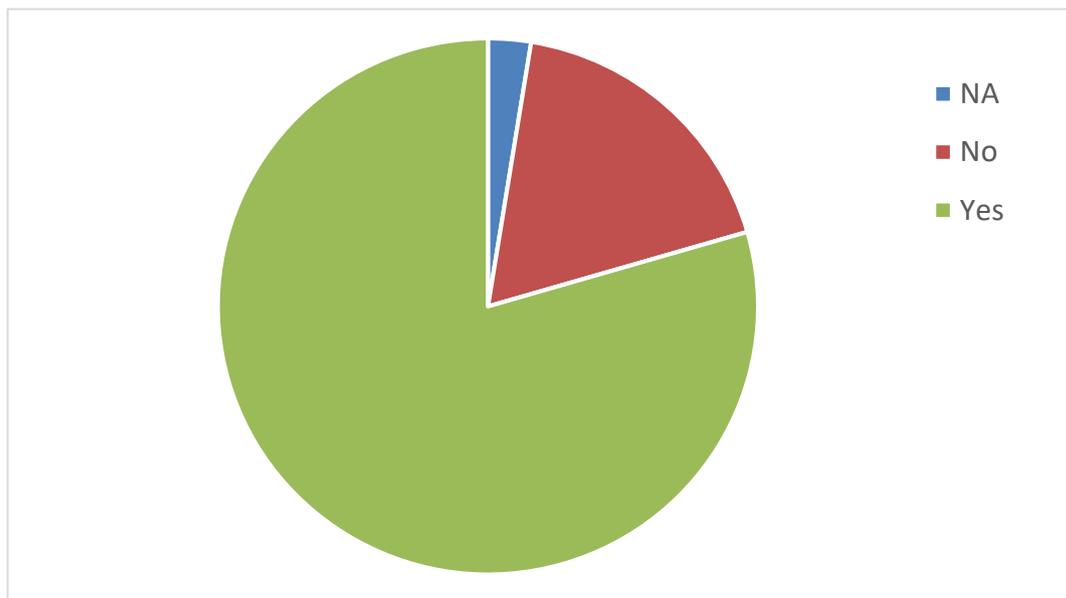


Figure 7 Did interviewees (n=39) receive any financial assistance during the relocation?

In Santo, some evacuees were able to “purchase” land and in some cases build a house. However, there were issues with customary practice versus legal sales. It should be noted that while almost all land holdings on Ambae are customary (VNSO, 2016), on Santo this is not necessarily the case. This left many confused as they try to ascertain if they actually own the land they were calling their second home. One evacuee said: “*Government should permanently negotiate and facilitate a specific site that everyone can reside on and supply them the material to secure a permanent home*”. (Interview 29, 42:24). Having a second home creates security and stability for the evacuees especially when there is a likelihood that they will have to evacuate again in the near future.

Ten of the people interviewed for this study had either worked in New Zealand on the RSE programme themselves or had had a son or daughter or spouse participate in the programme and send money home. In some cases, this was prior to the evacuation. A further four people had participated in the Australian Seasonal Worker Programme. While not all community members are able to participate, families who received income from these schemes reported substantial improvements in their living conditions. Money was generally invested in improving housing (Figure 8). We interviewed a village chief who had observed first-hand the benefits of participation in the RSE scheme for several households in his village.



Figure 8 A house in Bombua village built with income from RSE scheme (Photo credits: Jane Rovins and Carol Stewart)

Overall, both the cash transfer scheme and the RSE scheme had clear benefits for evacuees. Approximately 80% of interviewees received the cash transfer and used it to meet their needs as they saw fit. Approximately a quarter of the interviewees' households received income from the RSE programme and this substantially improved their living conditions.

**Key finding 2: There were significant advantages for communities that made evacuation decisions together, evacuated together, and resettled together.**

During our fieldwork, we visited several evacuee settlements that had evacuated together as communities from their home villages on Ambae. There were both material and social advantages of doing so. In terms of material advantages, families were able to pool resources for essential items such as water tanks (Figure 9). Some villages combined their resources to buy communal land, according to the chief of one of the villages: *“Some of us, we have five villages, we bought our community land, here at Bombua”* (Interview 5, 8:43). The chief also explained that his village plans to return to Ambae together, once services such as schools, banking and the health clinic have been fully restored to their home villages on Ambae.



Figure 9 Communal water tank in Bombua village, Santo, for village who evacuated from Lovanliko, West Ambae. (Photo credit: Carol Stewart)

Social advantages of evacuating and resettling as a community are also considerable. Social capital is typically high in small villages, such as those on Ambae, and keeping communities together helps ensure that family, faith, and social structures stay intact and social capital is preserved. As one interviewee expressed it, “the community needs the family and the family needs the community in order to survive” (Interview 23, 18:26).

A further advantage of keeping villages intact was contributing towards people feeling safe on an unfamiliar island. A sense of safety is recognised as important in reducing post-disaster distress (Hobfoll et al., 2007). Interviewees were asked whether they had felt unsafe at any time during the evacuation. While some people did report feeling unsafe on Santo, this was more associated with initial temporary accommodation in evacuation centres and camps (i.e. crowded conditions, inadequate facilities, and a lack of privacy) and they generally felt safer once living in new settlements.

The importance of social capital in developing coping strategies for IDPs was the subject of a study conducted over a period of years following Hurricane Katrina (Weil et al., 2012). The study found that people with high stocks of social capital experienced more stress initially during displacement; they were compelled to assist and help community members in many ways in addition to looking after themselves. However, in the long term they adapted more readily and had less long term stress than those who were more socially isolated (Weil et al., 2012). In the Phillipines, IDP post-Haiyan conveyed the importance of their social networks and community solidarity (Sherwood et al., 2015). Government solutions that did not reflect this were seen as not reflecting the needs of IDPs. This has implication in the Pacific as family networks are strong and social cohesion and support essential to the recovery. This was noted in our findings as communities that evacuated together fared better than others.

Overall, our findings suggest that evacuation planning should allow for communities to make decisions communally and evacuate and relocate together if possible. This may increase the sense of safety necessary to foster post-disaster recovery. A potential issue to be aware of

is that while social capital is advantageous for medium to long term outcomes, in the short term it may cause more stress as people with high stocks of social capital tend to have many additional responsibilities to others. However, the social cohesion in a homogeneous society helps to build greater resilience over time (Monteil et al., 2020).

### Key finding 3: Interviewees intended to return to Ambae.

While some disasters such as the 2010 Haiti and 2015 Nepal earthquakes have caused thousands to millions of people to be displaced for protracted periods (Kälin & Entwistle Chapuisat, 2017), in the case of the Ambae eruption, there is an opportunity for evacuees to return. Most people interviewed (35 of 41) were planning to return to Ambae or to go back and forth between their home on Ambae and their second home on Santo (Figure 10).

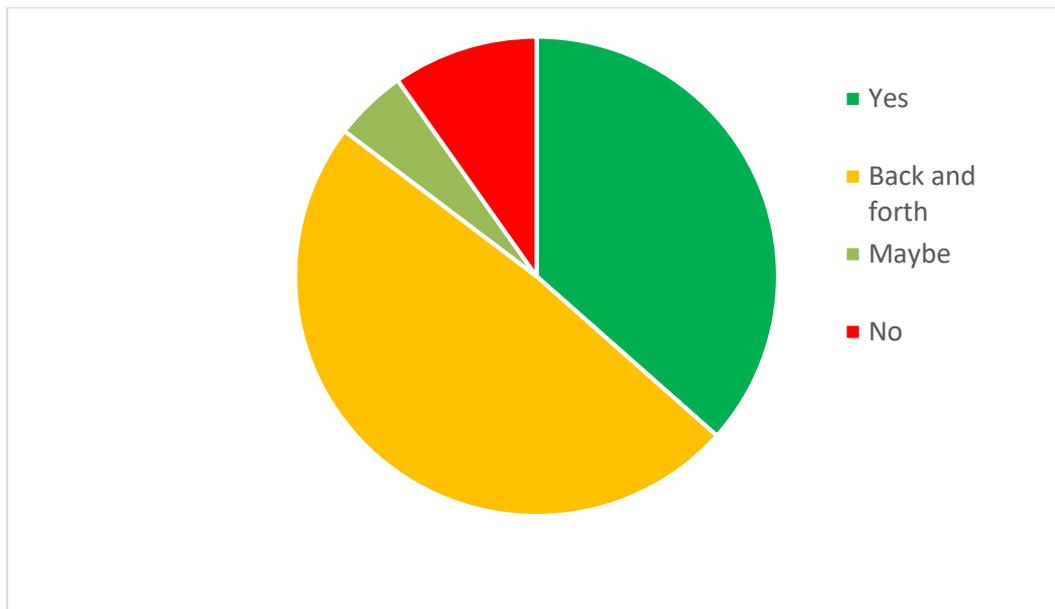


Figure 10 Interviewees' responses to question about whether they intend to return to Ambae (n=41)

The only exceptions were people with high healthcare needs who preferred the more comprehensive range of healthcare services and facilities available on Santo. It was clear that people considered Ambae 'home'. As one interviewee expressed it, "*Ambae much better because it's our inherited home island and everything is there*" (Interview 21, 43:56).

Approximately two-thirds of interviewees considered that their standard of living was worse on Santo compared to Ambae (Figure 10). Themes that came through strongly in their responses were that they preferred the simpler, cheaper way of life on Ambae; that the basics of life, such as food sources, are free there; that boundaries are more relaxed and there are more opportunities to generate income. This last point is reinforced by interviewees' responses when asked about their main sources of income on both Santo and Ambae (Figure 11). Most income sources available on Ambae, such as sales of cash crops, produce, handcrafts and fishing, were not available on Santo. People felt constrained by only having limited land and the quality of the land available on Santo. As one interviewee put it, "*we have a small piece of ground, that's all ... can't make money*" (Interview 5, 26:07).

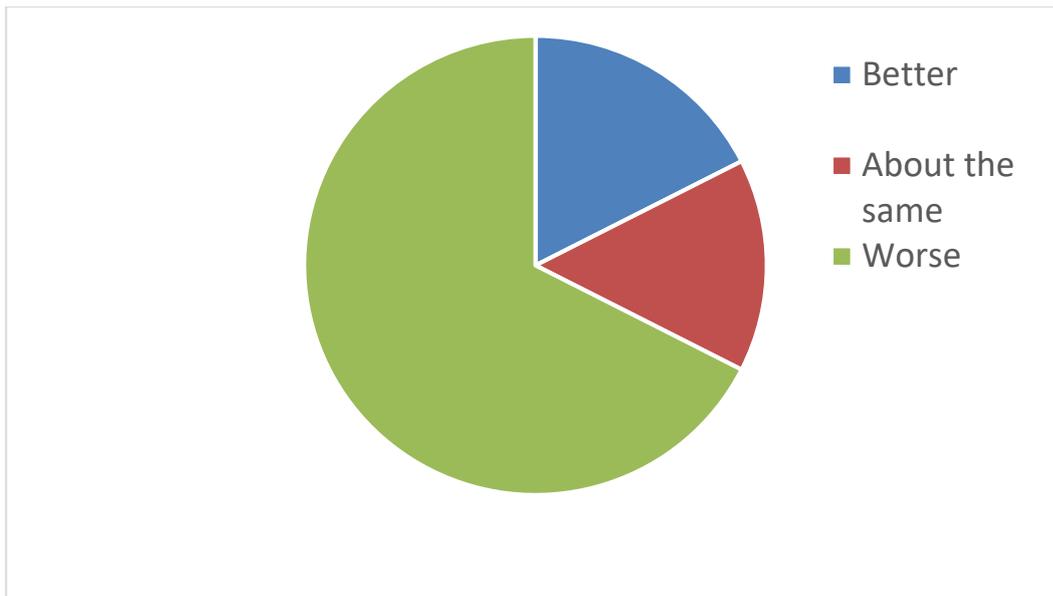


Figure 11 Interviewees' responses (n=40) when asked how their standard of living on Santo compared to their standard of living on Ambae.

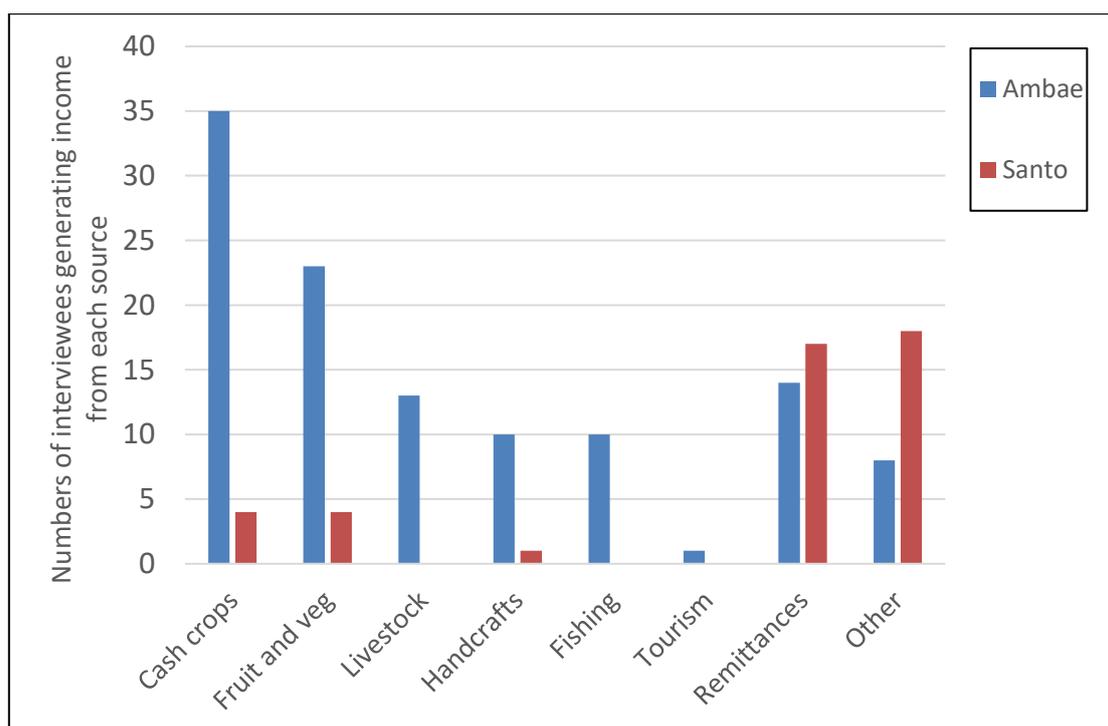


Figure 12 Sources of income for interviewees on Ambae pre-evacuation and on Santo post-evacuation

The main income sources on Santo were remittances, other sources such as day work on plantations, and the Oxfam cash transfer programme. Not only was it harder to generate income on Santo, but costs were higher. As one interviewee said, *"In Santo it's very hard as everything is money ... we just pay everything"* (Interview 28, 19:10). Some interviewees also found the way of life different on Santo and found it more difficult to maintain traditional

family structures and community life. As one interviewee put it, *“It is very hard to keep our children as a family”* (Interview 5, 28:03).

Despite the strong desire of almost all interviewees to return to Ambae, it was clear that there was a lack of government planning for their return and some people felt stranded. One interviewee said that there was *“No arrangement from the government for the people to leave for Ambae, and that is why some people here do not go back, because they have no money to go back to Ambae”* (Interview 30, 22:56). The same interviewee expressed feelings of abandonment: *“I don’t know whether they [the government] still think about us or not at the moment”* (Interview 30, 25:08). During the February 2020 field work, the Government of Vanuatu was still developing the Ambae recovery plan.

Recovery planning needs to recognise the strong desire to return home and facilitate this so that there is clear coordination between people returning and the reestablishment of government services. Providing reliable information from assessment teams about conditions on Ambae would also have been useful to counter rumour and misinformation. For example, some people said that they were waiting for growing conditions to improve on Ambae, but they didn’t have any concrete information as a basis for decisions.

#### **Key finding 4: Evacuation planning needs to include communities’ needs and provide flexible options.**

While the Council of Ministers has committed to restoring all government programmes and services on Ambae, it remains a government priority for Ambaeans to have a safe shelter or second home off Ambae in the event of future eruptions (Ligo, 2020). In general, interviewees appear to have taken heed of the advice to acquire a second home, as expressed by this interviewee: *“We follow the advice of the government to build a second home so anything happen we have a second home”* (Interview 5, 35:40).

While most interviewees thought it a good idea to have a second home off Ambae, people who evacuated to Santo did so at their own cost and on their own terms. When asked why they had not taken up the government-sponsored and supported second home scheme on Maewo, both ‘pull’ factors towards Santo and ‘push’ factors away from Maewo were mentioned. Santo was perceived as being safer than Maewo from volcanic emissions from Ambae, and as having more space and more opportunities to buy land than Maewo. Some interviewees mentioned that cultural links are strong between West Ambae and Santo, going back many generations: *“[It was] more easy for us to move to Santo because our grandfathers and fathers have built up this bridge before”*, (Interview 5, 36:55). Having family already on Santo was a further reason given. Reasons given for not taking up the Maewo option were that it was perceived as being too close to, and downwind of, Ambae volcano; that people perceived that they would not be welcome on Maewo; fears of cultural differences, and scepticism about promises of resources for building second homes.

Interviewees also perceived that only people who evacuated to Maewo received support and resources from the government, and the needs of people on Santo were overlooked: *“The supply, everything goes to Maewo and people here really struggle”*, (Interview 19, 15:54). Others considered it a violation of human rights to present evacuees with only one option: *“The government are really violating their rights because they don’t want to go to Maewo and they just force them to go to Maewo ... it is the violation of human rights. Just give them the option.”* (Interview 19, 15:12).

Our observation and recommendation is that evacuation planning needs to consider the desires of the community, who must be included in the pre- and post-disaster planning. It is important to acknowledge and accept that not all schemes will work for everyone, thus options should be given. This also means working with host communities and ensure they have the resources, or provide resources, to support the evacuees.

In support of this there needs to be more expansive communication between the government and the communities pre-disaster as well as post-disaster. Communities need to be included in the planning for hazard events.

**Key finding 5: Protracted displacements were causing considerable hardships in some communities.**

At Bombua, Banban and Natawa villages, IDPs generally had ready access to water supplies, with large water tanks installed and small roofs built to collect water from (Figure 9). In some of the other settlements, evacuees had to travel considerable distances to buy drinking water from neighbours and collected rainwater in tarpaulins (Figure 12) for other household needs.

Collecting water was even more difficult during drought conditions: *“They had to walk from here, they had to fetch their own water further down that way, some kilometres down that way, to bring it back here – two, three times a day carrying 20 litres”* (Interview 29, 22:02).



Figure 13 Water collection and housing at Jubilee Farm. (Photo credit: Jane Rovins)

At Jubilee Farm, people were still living under tarpaulins, in conditions with poor hygiene and sanitation, some 18 months after the second evacuation from Ambae (Figure 13). Internal displacements due to disaster may cause people to be displaced repeatedly, often before they can rebuild from the previous displacement (Kälin & Entwisle Chapuisat, 2017). This type of displacement leaves evacuees vulnerable and without resources for extended periods. Protracted internal displacement can sometimes be traced back to inadequate frameworks at the national level to address displacement, a lack of will by international actors to move beyond subsistence assistance, and lack of financial resources to address protraction of displacement (Kälin & Entwisle Chapuisat, 2017).



Figure 14 Housing in Jubilee Farm (photo credit: Jane Rovins)

## RECOMMENDATIONS

The agencies for whom each recommendation is relevant are listed in italics after each recommendation.

- Continue to support and expand the cash transfer programme. In particular, we recommend expanding the programme to provide ongoing cash transfers for protracted displacements. *Ministry of Foreign Affairs and Trade.*
- Consider expanding the Recognised Seasonal Employer (RSE) scheme. This should be included as part of the risk reduction and/or preparedness aspect of disaster management, as increasing household income prior to a disaster is likely to increase post-disaster resilience and expediate recovery. *Ministry of Business, Innovation and Employment - Immigration NZ; NZ Customs Service; Ministry of Primary Industries.*
- Evacuate the community together and resettle them together in the new location. *Ministry of Foreign Affairs and Trade, NZ Defence Force; NZ Ministry of Defence; Department of Prime Minister and Cabinet.*
- Engage potential evacuee and host communities prior to evacuation and as part of pre-disaster planning so their needs are addressed and integrated. *Government of Vanuatu, Ministry of Foreign Affairs and Trade, Department of Prime Minister and Cabinet.*
- Implement pre-event recovery and evacuee return plans to include all those that evacuate, including those that are not designated government evacuation schemes. *Government of Vanuatu, Ministry of Foreign Affairs and Trade, Department of Prime Minister and Cabinet.*
- IDP issues and concerns need to be integrated in the various Pacific regional documents and frameworks like the Framework for Resilient Development in the Pacific. *Ministry of Foreign Affairs and Trade.*

## FUTURE RESEARCH

Our team identified some areas of concerns and areas for future research, including:

- The extent to which social networks provide and/or support durable solutions. This was found to be an area that was essential for those that felt more settled and secure. If they moved with their social networks and communities, they had a support system and were surrounded by people they trusted.
- Factors that lead to local integration in urban and non-camp areas. This was an issue for those in Santo as they struggled to integrate into Luganville and find work.
- Issues related to accessing assistance and funding, including who receives access to assistance; how funding is allocated; how it aligns with NZ development objectives; and how it supports women's empowerment. As noted earlier, the NZ-funded Oxfam cash transfer programme was successful in empowering evacuees to meet their needs as best they saw fit. However, when they first evacuated there was some confusion on how to get assistance and what assistance was available. It was also evident that different

assistance was going to different communities which left some communities at a disadvantage.

- Independent research/evaluations of the performance of humanitarian organisations and actors. A formal review of the Oxfam cash transfer programme should be done to continue to make improvements prior to future events.
- The impact of internal displacement on host communities. One way to look at this would be to shift/broaden our understanding by investigating both populations within a 'displacement-affected area or communities' lens.
- How best to pursue local integration and understand social cohesion, including in environments where it is socially and/or politically sensitive to do so.

Addressing protracted displacement can mean finding durable solutions, or making progress to reduce vulnerabilities of IDPs (Kälin & Entwisle Chapuisat, 2017). Protracted displacement can become a peace and security challenge as host community resources are stretched and meeting the basic needs of communities may be jeopardised (Kälin & Entwisle Chapuisat, 2017; Parker, 2018). Better understanding of the impact of IDP on host communities has been identified as an area for future research by Crisp et al. (2012). ICRC and others illuminate the need to consider the host communities, their capacities, and the burden IDP may place on the community and include these people's concerns and issues in plan development (Grayson & Cotroneo, 2019; Kälin & Entwisle Chapuisat, 2017). Similar lessons learned were found in a study of people displaced by Typhoon Haiyan in the Philippines (Sherwood et al., 2015). People centred research found that IDPs in the Philippines did not have adequate information to make informed choices for their future and their limited resources made return to unsafe areas seem like their sole option (Sherwood et al., 2015).

While Dancause et al. (2019) have evaluated distress in repatriated evacuees following the first Ambae evacuation, we are unaware of any studies following the more prolonged second evacuation. Some options for measuring stress in IDP include the Hopkins symptoms checklist-25 for measuring depression (American College of Radiation, 2010) and the Harvard Trauma Questionnaire (Roberts, Ocaka, Browne, Oyok, & Sondorp, 2008). A need for counselling, not only for evacuees but also for responders and aid workers, was identified by government partners and interviewees, during our visit. These ideas are supported by the findings from the Revitalising IDP Research workshop convened by 35 academics to review the state of IDP research and set future research agendas (Al-Mahaidi et al., 2018).

## **FINAL THOUGHTS**

This project provides some insight into how evacuations within a single country, single ethnic group unfold and where there are opportunities for growth and improvement. However, we need to start thinking about what this means in the context of climate change. In this case, the IDPs can return to Ambae, but in a climate change scenario it is highly likely IDPs will not be able to return to ancestral land and "go home." All the recommendations provided in this report would apply in a climate change environment but would be amplified - especially as the displacement would be protracted and permanent.



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## APPENDIX 1: ERUPTION TIMELINE

The following table provides an overview of the volcanic activity and response activity for both eruption events on Ambae. The table is presented in chronological order and has been compiled from several different situational reports and articles detailing events of 2017-2018. Evacuation orders are highlighted.

Date	Event activity	Agency	Reference
August 21, 2016	Ambae Volcanic Alert Level (VAL) raised to Level 2	VMGD	Abraham et al. (2018)
September 6, 2017	<ul style="list-style-type: none"> <li>First ash fall noted and alert raised to Level 3</li> <li>Health cluster assessments</li> </ul>	VMGD	Abraham et al. (2018); NDMO (2017b)
September 23, 2017	<ul style="list-style-type: none"> <li>Villagers witness glow of embers with people self-evacuating to safer zones in the east and west.</li> <li>Ambae Volcanic Alert Level raised to 4, with high level of uncertainty of impact</li> </ul>	VMGD and Inhabitants	Abraham et al. (2018); Nimoho & Turot (2017)
September 25, 2017	COM declare a state of emergency	COM	GoV (2018)
September 26-28, 2017	Ambae population (11,600) ordered to evacuate WASH, FSAC, G&P, Education, and Logistics clusters activated	COM	Abraham et al. (2018); GoV (2018); NDMO (2017b)
October 2-6, 2017	<ul style="list-style-type: none"> <li>Data collection</li> <li>Ambae Volcanic Alert Level decreased to 3</li> </ul>	VMGD & GNS Science	Abraham et al. (2018)
October 20-30, 2017	<ul style="list-style-type: none"> <li>State of emergency declared over</li> <li>Advance teams deploy to Ambae including: Provincial Government Officials, NDMO Provincial Disaster Officer, Financial Services, Agriculture, Education, Health, Public Works</li> <li>Department Staff, Police, and Business Operators</li> <li>Food and non-food items were pre-positioned on Ambae</li> <li>Repatriation of inhabitants conducted</li> </ul>	GoV	Abraham et al. (2018)  NDMO (2017b); Nimoho & Turot (2017)
November 2017	Lowered to Ambae Volcanic Alert Level 2, steam clouds only, no lava, gas, or ash	VMGD	Abraham et al. (2018)
November-December 2017	<ul style="list-style-type: none"> <li>Monitoring data collected finds people feel unsafe (69%-74%)</li> <li>Food security is diminished</li> <li>Education limited</li> </ul>	Gender & Protection Cluster	Gender and Protection Cluster (2017a); Gender and Protection Cluster (2017b)
January-March 2018	<ul style="list-style-type: none"> <li>Increases in activity and indications of another minor eruption</li> <li>Some volcanic ash fall with increased impact on southern part of island</li> </ul>	VMGD	Abraham et al. (2018)
March 5, 2018	Additional monitoring support and data collection	VMGD, Vanuatu Department of Water, GNS	Abraham et al. (2018)

		Science, Massey University	
March 7, 2018	Type 2 Cyclone Hola passes by Ambae	GoV	GoV (2018)
March 18, 2018	Increase to Ambae Volcanic Alert Level 3		Abraham et al. (2018)
April 2018	Declared state of emergency COM decision 117/2018 declaring Maewo a second home for Ambae residents	COM	NDMO (2018c)
May 28, 2018	<ul style="list-style-type: none"> <li>• Preliminary Ambae eruption key messages issued ((Volcanic Gas, Acid Rain, and Ash</li> <li>• Guidance for public education compiled for what to do before, during, and after an eruption</li> </ul>	VMGD, Cluster members, World Animal Protection, Intr'l Volcanic Health Hazard Network, GNS Science	NDMO (2018b)
June-July 2018	Decreased to Ambae Volcanic Alert Level 2	VMGD	NDMO (2018c)
July-August 2018	Increased to Ambae Volcanic Alert Level 3		NDMO (2018c)
July 26, 2018	Decision for mandatory whole island evacuation	COM	NDMO (2018c)
August 2018	COM decision 133/2018 request additional funding to respond to evacuees on Espiritu Santo as well as Maewo	COM	NDMO (2018c)
September 2018	Decreased to Ambae Volcanic Alert Level 2	VMGD	NDMO (2018c)
October 2018	<ul style="list-style-type: none"> <li>• Ambae Volcanic Alert Level 2</li> <li>• Land negotiations on Maewo for IDP</li> <li>• At least 1000 people report total loss of livelihood, house, or both on Ambae. Food supply distribution continues</li> </ul>	NDMO	NDMO (2018d)
November 14-20, 2018	Alert Level 2, Response and Recovery plan developed for Maewo to include infrastructure and ongoing aid and supplies	NDMO & VMGD	NDMO (2018e); NDMO (2018b)
November 24, 2018	Assistance with emergency food to IDP on Maewo and Espiritu Santo continues through December 31	COM Decision 74/2018 & 199/2018	NDMO (2018b)
November 26, 2018	State of Emergency lifted		NDMO (2018b)
December 2018	Multi-sectoral assessment shows East Ambae least affected, some crops in other areas found to be inedible, some cash crops and livestock have survived	NDMO	NDMO (2019)
February 2019	<ul style="list-style-type: none"> <li>• Ambae Volcanic Alert Level 2</li> <li>• 249 evacuees in Maewo</li> <li>• COM decision to restore basic services in Ambae</li> <li>• 13 of 30 schools scheduled to resume classes on Ambae February</li> <li>• National Recovery Committee takes responsibility for recovery programmes working through clusters and multi-sectorial organisations.</li> </ul>	VMGD	NDMO (2019)
23 Sept 2019	Volcanic Alert Level lowered to Alert Level 1	VMGD	

February 2020	Ambae chiefs estimate that 80% of Ambae evacuees have returned home	Ambae Molitawata Council of Chiefs	Vanuatu Daily Post, 14 Feb 2020
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## **APPENDIX 2: VANUATU RESEARCH PERMIT**



VANUATU NATIONAL KALJORAL KAONSEL  
Vanuatu National Cultural Council  
Conseil National Culture du Vanuatu

VANUATU KALJORAL SENTA  
Vanuatu Cultural Centre  
Centre Culturel du Vanuatu

PMB 184, Port Vila Vanuatu, South Pacific Phone/Fax (678) 26590 Email. vkc@Vanuatu.com.vu

07<sup>th</sup> October 2019

Carol Stewart and Dr Jane Rovins  
Massey University  
Wellington Campus, Wallace St, Mt Cook,  
Wellington 6140, New Zealand

Dear Carol,

**Re: Approval of Research Permit for – Carol Stewart & Dr Jane Rovins**

**This is to officially confirm that your research permit has been approved by the Vanuatu National Cultural Council.**

Your research topic: **“Learning from the Ambae evacuation 2017-2019”** will be carried out in Port Vial, Maewo and Santo.

Please comply with our Research Policy and Agreement which has been signed with the Vanuatu Cultural Centre.

Once again, thank you for choosing Vanuatu for this research and wish you all the best.

Yours faithfully,

Richard Sting  
Director, Vanuatu Cultural Centre



## APPENDIX 3: QUESTIONNAIRE

### Learning from the Ambae evacuations, 2017-2018 Questionnaire for evacuees

Location of interview (Island): Santo  Maewo  Other  \_\_\_\_\_

Location of interview (village): \_\_\_\_\_

Date of interview: \_\_\_\_\_

Name of interviewer: \_\_\_\_\_

Interviewee Male  Female  Other

Age: 18-30  31-40  41-50  51-60  61-70  Over 71

1. Do you own a house/land on Ambae? Y/N
2. Do you own a house/land on Maewo/Santo? Y/N
3. Are you planning to return to Ambae? (explain why/why not)

#### Family

1. Are you married? Y/N
2. Do you have children under 18? Y/N
3. Children that live with you? Y/N
4. If no, are they in school on another island? Y/N
5. Did you receive a fee waiver for their school fees? Y/N
6. Did you consider relocating to New Zealand? Y/N
7. If so, what scheme did you consider? Did you apply?

#### QUESTIONS

1. What is your home village on Ambae?
2. Where did you evacuate to in the first (October 2017) off-island evacuation?
3. When did you return to Ambae after the first evacuation?

***The next questions ask about the second off-island evacuation from August 2018 onwards.***

***For Maewo interviewees:***

4. Did you come to Maewo on the mandatory evacuation/government-funded second home scheme? Y/N
  - a. If 'No' please describe how you came to be on Maewo
  - b. If 'Yes' please describe the main reasons you chose this option (open-ended)

***For Santo or other interviewees:***

5. Please describe the main reasons you chose this option (open-ended).

***The next questions apply to the experiences of all evacuees.***

***Long-term safety, security and freedom of movement:***

6. Have you felt unsafe at any time during the evacuation? Y/N
  - a. If yes, please describe
7. Before evacuation, were you aware of the government's disaster plans? Y/N
8. Have you been asked to give input on evacuation planning? Y/N
9. Have options for permanent resettlement or returning to Ambae been discussed with you? Y/N
10. Have you had any opportunity to participate in designing or implementing government aid interventions? Y/N
  - a. Do you feel the aid received was adequate? (Y/N)
  - b. Did the aid received fit the needs of you and your family? Y/N

***Standard of living:***

11. When you arrived on Maewo/Santo did you have access to? (Y/N for all)
  - a. Drinking water
  - b. Sanitation
  - c. Food
  - d. Health care
  - e. Education
  - f. Housing (or land for housing or materials to build housing)
  - g. Land for farming
  - h. Transport

- i. Livelihood/employment
  - j. Police and justice services
12. If you answered 'no' to any of these please describe reasons why you did not have access: (open-ended)
  13. Were there any extra costs for any of these services? Y/N
  14. Has your standard of living changed after moving to Maewo/Santo? (please explain)
    - a. Better
    - b. About the same
    - c. Worse
  15. Have there been any challenges living in Maewo/Santo? Y/N
    - a. If yes, what have been the main challenges? (open-ended)
  16. Please describe your household's main sources of income on Ambae, and then after moving to Maewo/Santo: (tick all that apply)

	On Ambae	Maewo/Santo
Cash crops		
Selling fruit and vegetables		
Selling livestock		
Selling handcrafts		
Fishing		
Tourism		
Remittances		
Other, please describe:		

17. Have you received any financial assistance during the relocation?
18. Overall, was it a good choice to move to Maewo/Santo? If you were in the same situation again would you make the same choice? (explain)
19. Are there any further thoughts you would like to share with us?

**Thank you for taking part in this project. The findings will be shared with government agencies to improve disaster responses in the future. If you would like a copy of the results of this study, indicate below how we can contact you:**

# APPENDIX 4: PARTICIPANT INFORMATION AND CONSENT FORM

## Learning from the Ambae evacuations, 2017-2019

### Project information sheet

We are a team from Massey University in New Zealand. We have experience in emergency management, humanitarian assistance and environmental health assessments following disasters.

We obtained funding from the New Zealand Government to learn lessons from the evacuations of Ambae during the volcanic eruptions in 2017-2018. We wish to interview residents of Ambae who who evacuated to Maewo on the official evacuations and chose to make permanent homes there and those who evacuated unofficially to Santo and bought land. We also wish to interview key government agency and NGO staff who were involved with the evacuations. The purpose of our work is to better understand the experiences of people forced to evacuate due to disasters and the complex issues associated with relocating individuals and communities.

We will provide summaries of our findings to Vanuatu government agencies as well as the New Zealand funding agencies. Forced migration is expected to become more common in the Pacific in future, due to climate change and natural hazard events which are expected to increase in frequency and severity. We hope that our work will inform future evacuation responses in the region and ensure that any overseas aid and assistance is appropriate and effective.

Jane Rovins

[j.e.rovins@massey.ac.nz](mailto:j.e.rovins@massey.ac.nz)

Joint Centre for Disaster Research, Massey University  
New Zealand

Carol Stewart

[c.stewart1@massey.ac.nz](mailto:c.stewart1@massey.ac.nz)

School of Health Sciences, Massey University  
New Zealand



### **Information for participants**

- Participants must be aged 18 years or older.
- Participation is completely voluntary.
- Participants have the right to withdraw from the interview at any time.
- The data collected in this study will be stored securely, treated confidentially and will not be shared with anyone else.
- Participants have the right to be provided with the findings from this study.
- When the findings are reported, it will not be possible to identify any individual.

## PARTICIPANT CONSENT FORM

I have read/been read the Participant Information Sheet and understand the details of the study. My questions have been answered to my satisfaction and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Participant Information Sheet.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full name (printed): \_\_\_\_\_

If you have any questions about this project at any time, please contact any member of the research team:

**Research team**

Dr Jane Rovins      Massey University

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[c.stewart1@massey.ac.nz](mailto:c.stewart1@massey.ac.nz)