

# “We were all heartbroken”: Emotional wellbeing and healing after the 2017/2018 Manaro Voui eruptions in Ambae, Vanuatu

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## Abstract

*Disasters cause psychological harm and distress, yet assessments often overlook these impacts in favour of those more easily quantified and monetised. Few studies have, for example, explored psychological functioning of people during and after disasters in Vanuatu – globally the most at-risk nation to environmental hazards. This paper explores the emotional and psychological impact of the 2017/18 volcanic activity on Ambae Island, Vanuatu, and the subsequent evacuations. Drawing on interviews with eight Ambaeans, we explore experiences of loss and the associated feelings of fear, helplessness, distress, frustration, and anger. We also identify ongoing efforts by participants to cope and heal through return movements, reinstating a sense of normalcy, reviving cultural practices and community, environmental recovery, good leadership, and religion. Disaster preparedness, intervention, and recovery efforts must pay attention to local people’s narratives of loss and distress and find ways to support the factors which enable coping and healing of at-risk populations.*

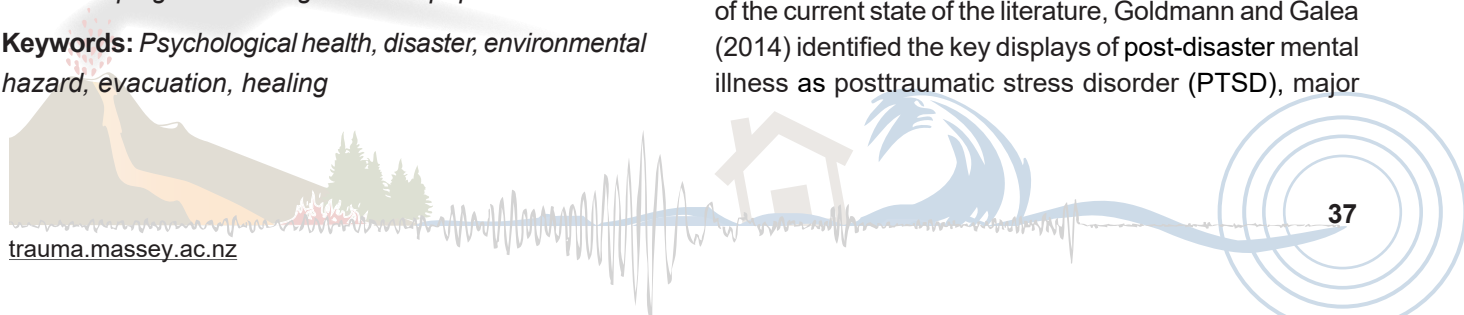
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Disasters driven by natural hazards – such as floods, earthquakes, tsunami, and volcanoes – are often large-scale and sudden events causing significant impacts (Bronfman et al., 2019; Norris et al., 2002). While disasters precipitate both tangible and intangible impacts, the impact of disasters is more commonly assessed by costs that are easily quantified and monetised. Although key intangible impacts such as those on mental health are a growing research area (Goldmann & Galea, 2014; Norris et al., 2002), they are often still given less attention and do not feature centrally in overall disaster impact assessments. In Vanuatu, for example, as the most at-risk nation globally to environmental hazards (Behlert et al., 2020), there have been few studies exploring psychological functioning of residents during and after a disaster (see exceptions: Dawes et al., 2019; Pomer et al., 2019). Studies on the psychosocial health impacts of disaster-induced displacements in low- and middle-income countries are also limited (Uscher-Pines, 2009).

Limited understandings of intangible impacts like these can distort our understanding of disasters, skew decision making (Magee et al., 2016), and hinder the development of adequate disaster preparedness policy and sustainable mental health services (Zahlawi et al., 2019). We draw upon eight semi-structured interviews to explore the psychological and emotional experiences of Ambaeans who were affected by the Manaro Voui volcano which, in 2017/18, entered a phase of activity characterised by eruptions, ashfall, lava flows, and acid rain, among other hazards (Moussallam et al., 2019). These led to the evacuation and displacement of the entire population of Ambae at two different times, in September 2017 and July 2018. The current paper uses interview accounts of the evacuation and displacement to more broadly illustrate the human impacts of these disasters.

## Experiencing and Healing from Mental Health Impacts

A growing number of studies have documented locally-grounded experiences and impacts of environmental disasters on mental and emotional health. In their review of the current state of the literature, Goldmann and Galea (2014) identified the key displays of post-disaster mental illness as posttraumatic stress disorder (PTSD), major



depressive disorder, substance use disorder, and other psychological symptoms. Distress induced by volcanic activity and subsequent evacuations around the world has similarly manifested as generalised anxiety, major depression, and PTSD, with distress levels affected by factors including event exposure, gender, marital status, age, number of times evacuated, length of residency in risky areas, and type of psychosocial support received (Chen et al., 2001; Gissurardóttir et al., 2019; Goto et al., 2006; Kokai et al., 2004; Ohta et al., 2003; Shore et al., 1986; Zahlawi et al., 2019). Echoing cautionary tales from the broader disaster literature (e.g., Cernea, 1997; Oliver-Smith, 1991), studies focused on volcanic disasters also document the disempowerment and loss of autonomy that can occur as a result of displacement and relocation (Bowman & Henquinet, 2015; Connell & Lutkehaus, 2017b; Whiteford & Tobin, 2004). The impacts of displacement are a particularly important consideration in Pacific nations like Vanuatu where there are deep-rooted cultural and spiritual attachments to place, and land is often tied to identity and considered an extension of the “self” (Bolton, 1999; Gharbaoui & Blocher, 2018; Havea, 2007). Severing the physical, socio-cultural, spiritual, and ancestral connections to land can, therefore, significantly affect identity, wellbeing, community/social networks, and sense of place in the Pacific Islands (Barnett & O’Neill, 2012; Charan et al., 2018; Perumal, 2018).

In the context of the 2017/2018 evacuations from Ambae, one study indicated that women were disproportionately affected by distress and those without psychosocial support were at greater risk of distress (Zahlawi et al., 2019). We build on this work by bringing Ambaean voices to the fore and exploring their subjective experiences of resource loss and associated distress from disaster exposure and evacuation, while also outlining how healing has transpired for them. Experiences of loss are critical to document as resource loss – whether it is personal belongings, personal characteristics such as self-esteem, conditions such as marriage or employment, or energy such as time or money (Sattler et al., 2018) – is a primary determinant of post-disaster psychological outcomes. This is consistent with Conservation of Resources Theory, as outlined and explored in Hobfoll (1989, 2011), Benight et al. (1999), Freedy et al. (1992, 1994), and Sattler et al. (2014, 2018).

We also build on the growing evidence of people’s resilience and strategies to heal after distress. In the context of Ambae and the volcanic eruption specifically, Zahlawi et al. (2019) emphasised that healthcare

professionals and traditional community support networks together presented complementary pathways for support and healing. More internationally-focused studies that have examined a range of different disasters (e.g., natural hazards, war, colonisation) have also identified critical factors for healing, including religion (von Vacano & Schwarz, 2014) and communal and collaborative healing (Kuriansky, 2012) as well as collective revival of and participation in culture, cultural practices (Hill, 2014), and normal, everyday activities (Norris et al., 2002). Re-connecting with the natural environment and finding a sense of place can also be critical for healing and recovery (Cox & Holmes, 2000; Cox & Perry, 2011). Amongst studies that focus on volcano-induced displacement and evacuation, albeit not specifically in Ambae, it has been found that returning to, or retaining access to, home environments is critical for healing and recovery. This seems to satisfy a multitude of needs for evacuees: psychological, economic, material (Perry & Godchaux, 2005), spiritual, and/or cultural (Connell & Lutkehaus, 2017a, 2017b; Mercer & Kelman, 2010).

## Study Site and Method

The Ambae volcano is a large basaltic shield volcano in Penama Province and, at 2,500 cubic kilometres and 1,496 metres high, is Vanuatu’s largest (Bani et al., 2012) and potentially most dangerous (Cronin et al., 2004). After over a hundred years of quiescence, it entered a new phase of activity in 2017 characterised by eruptions, ashfall, lava flows, and acid rain, among other impacts (Moussallam et al., 2019). The entire population, nearly 11,000 people, was evacuated at two different times (in September 2017 and July 2018) as mandated by the Vanuatu government.

Eight semi-structured interviews (which were between half an hour and one and a half hours) were conducted in July and August 2020. There were five men and three women involved, all of whom had three or more children (except one who had none) and were aged between 19 and 61 (with the average age being 48). The livelihoods of participants varied, with many having more than one income stream. These included fishing, weaving mats, poultry, and selling crops or local food as well as being a building inspector, fieldworker, church or community leader, part of the Recognised Seasonal Employer (RSE) scheme in New Zealand, or retired. All participants were connected to Ambae, albeit with different backgrounds; some were born and raised there, while others moved there later in life to live with other family members or for work opportunities.

Epistemologically, we draw from interpretivism given our interest in people's social realities to reveal multiple perspectives and experiences. As such, we used a qualitative approach for its flexible and adaptable nature and ability to derive descriptive data, which is not as easily derived from quantitative approaches with rigid protocols (Holloway & Todres, 2003). The qualitative data allowed us to explore Ambaeans perspectives and values, as well as to foreground their voices and nuanced experiences. The semi-structured approach to interviews allowed conversations to be flexible but also focused, to optimise knowledge production (Brinkmann, 2014). Conversations were also informal and relatively casual, to be compatible with the Pacific Islands context (Vaiolenti, 2006; Warrick, 2009). It is critical to note here that our findings from these interviews are based on a small sample size and are, therefore, not representative of the experiences, perspectives, and values of all Ambaeans. By focusing on these eight participants, however, we were able to concentrate on deriving and sharing detailed, in-depth, and nuanced storylines and experiences of a few individuals. Future studies should build on and refine our findings through further exploration of Ambaeans experiences, perspectives, and values around resource loss and distress from disaster exposure and evacuation, as well as coping and healing.

Researchers and practitioners from a local grassroots organisation, Further Arts, provided the critical roles of conducting interviews and selecting participants based on their existing networks as practitioners (i.e., with Ambaeans that they have worked with before). Given their established connections, it is likely that rapport and trust was high, enabling participants to tell their stories. All interviews were recorded and transcribed verbatim before being analysed through content analysis (Bengtsson, 2016) which enabled us to ascertain patterns and capture the essence of discussions through core themes and storylines. Meaning units (in the form of several sentences of spoken text) were gradually and repeatedly condensed and categorised, eventually becoming core themes and storylines which reflected a cluster of content that shared common underlying meanings (Graneheim & Lundman, 2004). The transcripts were explored multiple times to ensure that relevant text was not overlooked during the analysis process (Burnard, 1991). All participants gave informed consent to participate and the University of Queensland provided the ethical approval for the study (Approval number: 2020000640).

## Results

### *Narratives of Loss and Distress*

After the volcanic activity began in 2017, it "change[d] the mentality of the people" and created a sense of fear, helplessness, and stress among Ambaeans (Participant #6). This was often due to Ambaeans losing a sense of control and agency as well as being concerned for their futures:

*...the volcano ash began to fall on us again. We started to feel bad and lonely and helpless to our children. We didn't know how we were going to save our kids (Participant #3)*

The extent of damage on livelihoods was extensive because "the ash fell on everything" (Participant #3). Ashfall blanketed infrastructure and destroyed basic resources, triggering feelings of stress, worry, and lack of control:

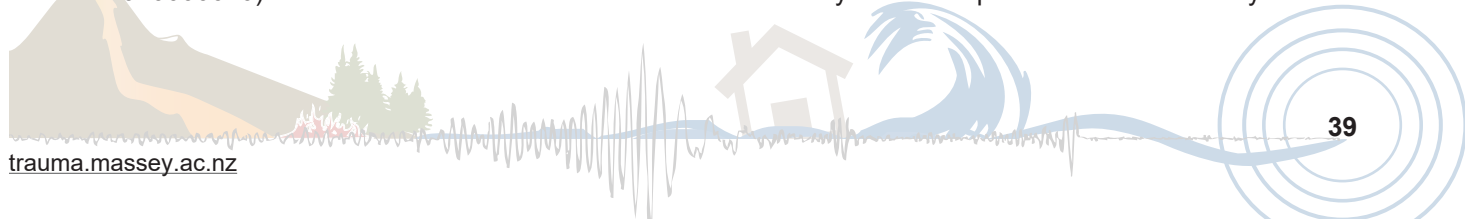
*When the eruption occurred, our lives were damaged. Because it damaged all our plants, water sources, and food sources and destroyed our houses. It destroyed our living and leaving us very worried and questioning ourselves on how to survive like this (Participant #4)*

Despite already causing extensive loss, the volcanic disaster continued to intensify and threaten further losses. Participants and their families were mostly evacuated to the nearby islands of Santo, Maewo, Efate, and Pentecost. Being displaced for weeks to months at a time led to further losses and emotional distress. The immense distress caused by leaving "home" and losing a sense of place was very clear:

*We all wept. The children wept and the women too. We were all heart broken. We all had fear in our hearts. We knew that we have lost our island and we weren't happy to go to other islands (Participant #4)*

*When we left, our dogs cried for us like people were crying and so we didn't know what to expect and worry about. So, when we were evacuated to different islands, we think back to our islands, and we all know we have lost our island (Participant #3)*

Participants experienced a range of difficulties while displaced, especially in terms of acquiring resources: "...my people suffered. We didn't have food, money, or meat" (Participant #4). Some government support and financial aid was provided, although this support eventually ceased, leading to further distress. One community leader expressed that his ability to fulfill



responsibilities as a leader was compromised by the lack of support and recognition from external agencies, which generated feelings of hopelessness, anger, and frustration:

*I really struggled to look after the people... The people were sad because... the money we were given [by the government] was finished and we haven't been eating meat... I went to the operation centre and settled with the NDMO [National Disaster Management Office] and asked them for help... But they ignored me... I was angry with the VMF [Vanuatu Mobile Force] and swore at them along with the Police (Participant #4)*

Further compounding distress during the evacuation was the way evacuees were treated by host communities on these nearby islands. This affected participants' sense of belonging and contributed to the deep yearning for home:

*...most of our families were worried and wanted to return to Ambae because we were being ill-treated in these other islands. This makes us reminisce back to the stories of the refugees. And so, when I look at my people I remember in the olden days when the people were refugees and I tear up because it breaks our hearts (Participant #3)*

Distress also arose from the breakdown and fragmentation of social relationships because of the volcanic disaster and evacuation. Some participants expressed, for example, that the compounding effects of stress from losing livelihoods and security infiltrated family life where tensions grew and caused further distress:

*Disputes and arguments grew in each home because there are risks... My wife and I argued a lot too in my home. Every day we argued. Many families fought for almost every minute an argument stirred up... I was so stressed I felt like I was gonna die (Participant #4)*

The displacement from home also resulted in breakdowns in a sense of community and togetherness. One participant explained the distress he felt from the fragmentation of his church community, which affected his ability to fulfil his role as a church leader:

*Some of us moved to Santo, others to Maewo and some to Pentecost. When we were there, I felt bad and useless, I didn't know where all my extended families and church members were. Because everyone was scattered everywhere (Participant #3)*

It is, therefore, clear that the volcanic activity on Ambae and the subsequent evacuation resulted in a diverse series of resource losses: sense of control and agency,

livelihood security, connection to land and home, ability to fulfil roles as leaders, and family life and sense of community. These losses caused significant emotional and mental distress.

### **Stories of Recovery and Healing**

Participants highlighted numerous enabling factors and strategies for coping with and addressing impacts on emotional wellbeing. In times of crisis where people are fearful, it became clear that turning to religion and God was a key coping strategy that provided a sense of comfort and source of strength and security, especially while Ambaeans were being evacuated or were displaced from home:

*So then we saw our children and women crying, we thought this was it for us. And during that time, many people who never prayed began to pray. Everyone turned to God and prayed for refuge and safety (Participant #3)*

*The government told me that my people's lives were in my hands and I was okay with it because I knew God was on our side. Because even though we were in another island, but God brought us back to our home (Participant #4)*

Critical for coping and recovering from the impacts on emotional wellbeing was reinstating a sense of normalcy. This was achieved through several mutually enforcing aspects, although returning to Ambae was critically important. Returning to Ambae provided relief and hope of restoring (materially and symbolically) what had been longed for – home:

*I had joy in my heart that I was returning home... we thank God for bringing us back... We wanted our old lives back (Participant #4)*

*Wherever we were, we kept praying for our island back... now that we were back in our island, we felt safer and comfortable (Participant #3)*

Returning home and regaining a sense of place was central to providing hope and motivation. Repatriation was perceived by participants as their best chance of rebuilding livelihoods and futures, as well as renewing lost resources. Therefore, despite returning to destruction and the loss of important tangible assets such as housing, participants were not distressed but motivated to rebuild and recover instead:

*We lost many things... some houses fell but we didn't worry. We only cared about the houses that could accommodate us until we could rebuild everything...*

*After doing so, we saw that our lives were improving*  
(Participant #4)

The importance of returning home and renewing important resources for healing was reflected in the dissolving of family disputes: “people beg[a]n to settle things in their homes” (Participant #4). This is not to say that returning home alleviated distress entirely. Despite longing for repatriation, fear around the dangers of the volcano lingered for some:

*... because people have negative thoughts on the volcano and when we return [to Ambae] they do things with fear* (Participant #2)

Once Ambaeans were able to return to Ambae, there were several other aspects that interacted to reinstate a sense of normalcy. Alongside regaining home and land, there was a central importance of coming together as a community to revive cultural and normal, everyday, pre-disaster practices. Reviving cultural practices and activities included, for example, “continu[ing] weaving and doing gardening” and “rebuild[ing] damaged houses so that we could teach, teach our language, teach our weaving and the loss we’re encountering” (Participant #6). When asked what enabled a fast recovery, one female participant explained:

*We talk inside the women’s group, inside the church, inside the kava bar... that is why we recover so quickly... We learn the children have to play, dance and everything... We train inside to revive what has been lost, our traditional food, traditional knowledge, how to prepare food of a leader. So, we train inside the Nakamal [traditional meeting place] and to revive the other Nakamals...* (Participant #6)

The importance of collective and communal efforts in general was also clear: “We work together to support one else in need for help and we do it like that” (Participant #2). Good leadership was also a related critical enabler of recovery and healing as leaders were perceived as important instigators of re-building a sense of community and unity once Ambaeans returned home:

*... we have to revive it and place good leaders because leaders that turn their backs on us are regard as losses... they forget and damage everything in words, attitude which makes people feel bad about it so they don’t cooperate together but with the attitude... to get us together and remove the risk that are affecting the community until we establish a foundation, our community will recover* (Participant #6)

Participants also indicated how observing recovery in the natural environment of Ambae spurred their own recovery and healing, especially as, finally, “food wasn’t much of our worry” (Participant #4):

*One of the things I value here [in Ambae], ever since the eruption... has been an increase in the quantity of fish in the sea... Another one is, when you do gardening near your house, it really grows well* (Participant #5)

*Ambae has returned, it has not altered too much. One good thing that happened is that when you plant crops in this new soil, it grows better and bigger than before* (Participant #3)

It is, therefore, clear that Ambaeans are not passive actors in the face of risk and crisis. They have a series of resources and strategies that they used to help them cope and recover from distress and impacts on emotional wellbeing.

## Discussion and Conclusion

This study provides examples of resource losses following the Ambae disaster and how they were entangled with significant emotional and mental distress for local people, as identified in previous studies and in alignment with the Conservation of Resources Theory (Hobfoll, 1989; 2011; Freedy et al., 1994; Benight et al., 1999; Sattler et al., 2014, 2018). In this instance, distress occurred from the direct (e.g., destruction of food sources and homes) and indirect impacts (e.g., breakdown in family life because of initial losses) of the volcanic disaster.

It is important that painful emotions such as these are processed so that hope and healing is possible (Head, 2016). Returning to home was important for healing and recovery as it enabled the Ambaeans in this study to access resources, rebuild livelihoods, and envision their futures. Further, it allowed Ambaeans to reconnect with their “place” which, as for many Pacific Island nations, is tied to their identity and sense of self (Bolton, 1999; Gharbaoui & Blocher, 2018; Havea, 2007; Perumal, 2018). Other studies on volcano-induced displacement have similarly found that facilitating return movements or, in permanent relocation, retaining some level of access to home is critical as home and place satisfy vital psychological, economic, material (Perry & Godchaux, 2005), spiritual, and cultural needs (Connell & Lutkehaus, 2017a, 2017b; Mercer & Kelman, 2010). Place is critical for reorientation after disorientation as it can act as the foundation for recreating – both materially

and symbolically – homes and community (Cox & Perry, 2011).

Although return movements mean re-exposure to risk, Ambaeans may perceive volcanic hazards as normative and embedded aspects of culture and experience in contrast to government perceptions of hazards (i.e., as abnormal; Connell & Lutkehaus, 2017b). It is thus not surprising that the Ambaeans in this study wanted to return, preferring their place and the hazards they understand and are connected to rather than the uncertainty of displacement and life on other islands. Once they arrived home, there was also a symbolic importance in the recovering natural environment (e.g., crops growing better) of Ambae as a means of healing psyches (Cox & Holmes, 2000; Cox & Perry, 2011).

Cultural reconnection was also important as often displacement from home generates not just nostalgia for the home from which one is estranged geographically but also for “memories of home” (Hill, 2014). Community-organised practices of collective memory making that revive traditional foods, music, dance, and poetry while sharing history, language, and culture are, therefore, critical (Hill, 2014). These activities can also be important for reconstructing a sense of community (Hill, 2014), which is critical as the tendency to turn to traditional and community networks for support in times of distress has previously been observed in Ambae (Zahlawi et al., 2019). Returning to normal activities and routine encourages everyday social interactions which can ensure there are naturally occurring social resources that can be used as a forum for sharing experiences, feelings, and needs (Kuriansky, 2012; Norris et al., 2002). Future disaster response and recovery interventions should also not underestimate the role of religion, which in this study and others (von Vacano & Schwarz, 2014) has been observed to support community healing through offering meaning for the trauma experienced, providing the strength to move forward and bringing comfort to individuals.

Under the growing spectre of environmental disasters, there is a need for intervention strategies that support the mental health and wellbeing of at-risk populations. Reorientation and healing can be stressful and confusing, but it can also be transformative (Cox & Perry, 2011). We believe that paying attention to local people’s narratives of loss and distress are important as these can help guide preparedness, intervention, and recovery efforts in ways that better support vulnerable populations. We suggest that future studies continue to identify ways to support the factors that enable coping and healing, such as a sense

of normalcy, cultural practices, environmental recovery, leadership, and religion – aspects that help “replant the local ties” (Participant #6). Further scholarship in this area will be critical for building on, unpacking, and refining the findings of this study.

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