5

Manam Lives in Limbo: Resilience and Adaptation in Papua New Guinea

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Manam Island, Volcano Island

As we know from the dramatic eruption of an underwater volcano in Tonga that created a new island in December 2021, the Pacific Ocean is far from pacific. The ash from the eruption—raining down from a plume that shot a mile and a half into the air—not only wrought havoc on nearby islands and caused planes to reroute, hindering much-needed aid to the Tongan people; it also sent tsunami-like waves across the Pacific Ocean and beyond. Indeed, because of the ocean's relationship to the so-called Pacific Ring of Fire, the region is characterised not only by its numerous islands, large and small, but also as a site of continual physical change. This dynamism results from the collision of tectonic plates that causes frequent volcanic and seismic activity (Torrence 2003; Connell 2015). Pacific islands not only appear, disappear and recede, they also *grow* due to volcanic and seismic activity—as is happening now on the Big Island of Hawai'i with the Kilauea volcano's continuing eruptions. Indeed, it was Kilauea's actions that originally led Pacific Island scholar Epeli Hau'ofa to contemplate the Pacific Ocean as a 'sea of islands' (Hau'ofa 1993). Other examples of active volcanoes in the Pacific, besides Hawai'i and Tonga, are found in New Zealand, Fiji, Samoa, Vanuatu, the Solomon Islands and Papua New Guinea (PNG).

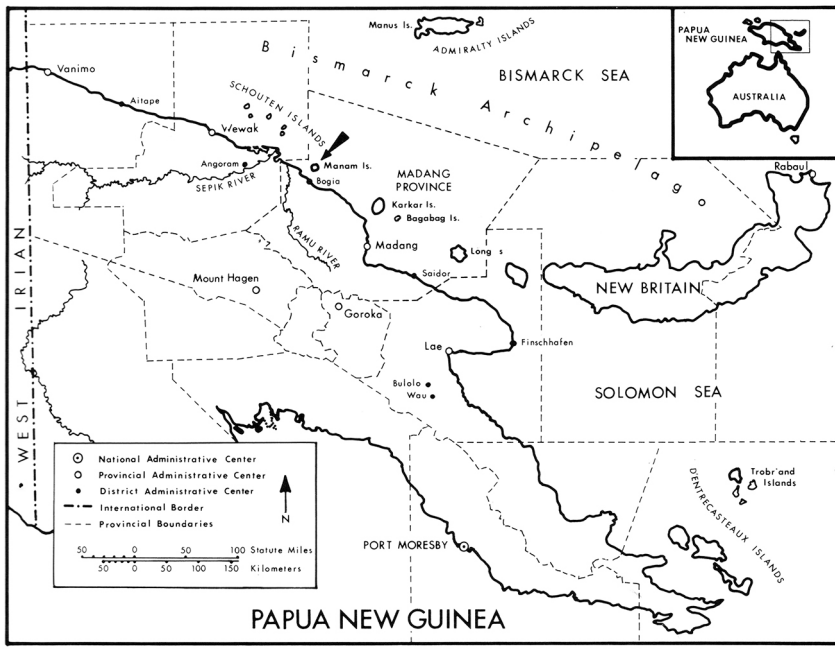

Figure 5.1: Papua New Guinea and Manam Island
Source: Lutkehaus 1995a: 2.

This chapter is concerned with Manam Island, one such small volcanic island in PNG.[1] A still active volcano located 13 kilometres off the north coast of Madang Province near the mouth of the mighty Sepik River (Figure 5.1), the island's lengthy and continuous eruptive history is recorded in the oral history of Sepik and coastal peoples (von Poser 2014), as well as in the earliest accounts of European explorers who traversed the north coast of New Guinea beginning in 1616 (Taylor 1958; Palfreyman and Cooke 1976; Johnson 2013). The number of currently active volcanoes in PNG is quite small, and among those the frequency of major eruptions is even smaller (Johnson 2013, 2020). Thus, as Filer points out in Chapter 2, active volcanic islands in the region are exceptions in a general discussion of small islands in peril.

We could conclude therefore that the disruptions caused by volcanic eruptions—like those that result from other natural disasters (tsunami, king tides, etc.)—are of less significance in the long term for small island

1 Regular updates on the condition of the Manam volcano are available from the Smithsonian Institution's Global Volcanism Program at volcano.si.edu/volcano.cfm?vn=251020

populations in general than other concerns such as population pressure. Nonetheless, their existence is still noteworthy, not simply because they create dramatic 'crisis' events that capture the media and the public's attention, but because, as I suggest here, there are lessons, both positive and negative, to be learned from them that have relevance to small islands in general. In the discussion that follows I focus on two contributions—one positive, the other negative—that an analysis of the fate of the Manam Islanders might have for other small island populations, as well as scholars and policy makers interested in thinking about the future of small islands in the Pacific. The positive contribution focusses on an ethnographic analysis of the successful grassroots adaptations Manam Islanders have made to a moment of extreme disruption to their lives. The negative contribution focusses on a broader analysis of the national and provincial plans to deal with this environmental disruption.

The 2005 Manam Eruption as a 'Moment of Extreme Disruption'

> [I]t has been an eventful week … Tavurvur resumed eruption on Monday evening and Manam produced another paroxysmal eruption on Thursday night … Our observation post at Warisi village was wiped out completely by what is described as pyroclastic flow … All our equipment was destroyed by the event. There were about 14 people at Warisi at the time of the eruption and all got injured while trying to escape …
>
> (Ima Itikarai, 29 January 2005, quoted in Johnson 2013: 311)

In January 2005, the entire population of Manam Island was dramatically evacuated as the result of a major eruption of the volcano that began in late 2004.[2] At the time there was extensive media attention that covered the event. Since their evacuation, the Manam Islanders have been living on the mainland across from Manam in what were meant to be temporary 'care centres' scattered along the north coast of Madang Province from Hansa Bay and Bogia, the provincial government's administrative centre, in the west to Mangem and Asuramba in the east (see Figure 5.2). Officially, the national and provincial governments have prohibited the islanders from returning to live on Manam as they claim that the extreme volatility of the volcano has made the island unsafe for habitation.

2 The reported size of the population that was evacuated from Manam ranges from 7,200 to 9,000 people.

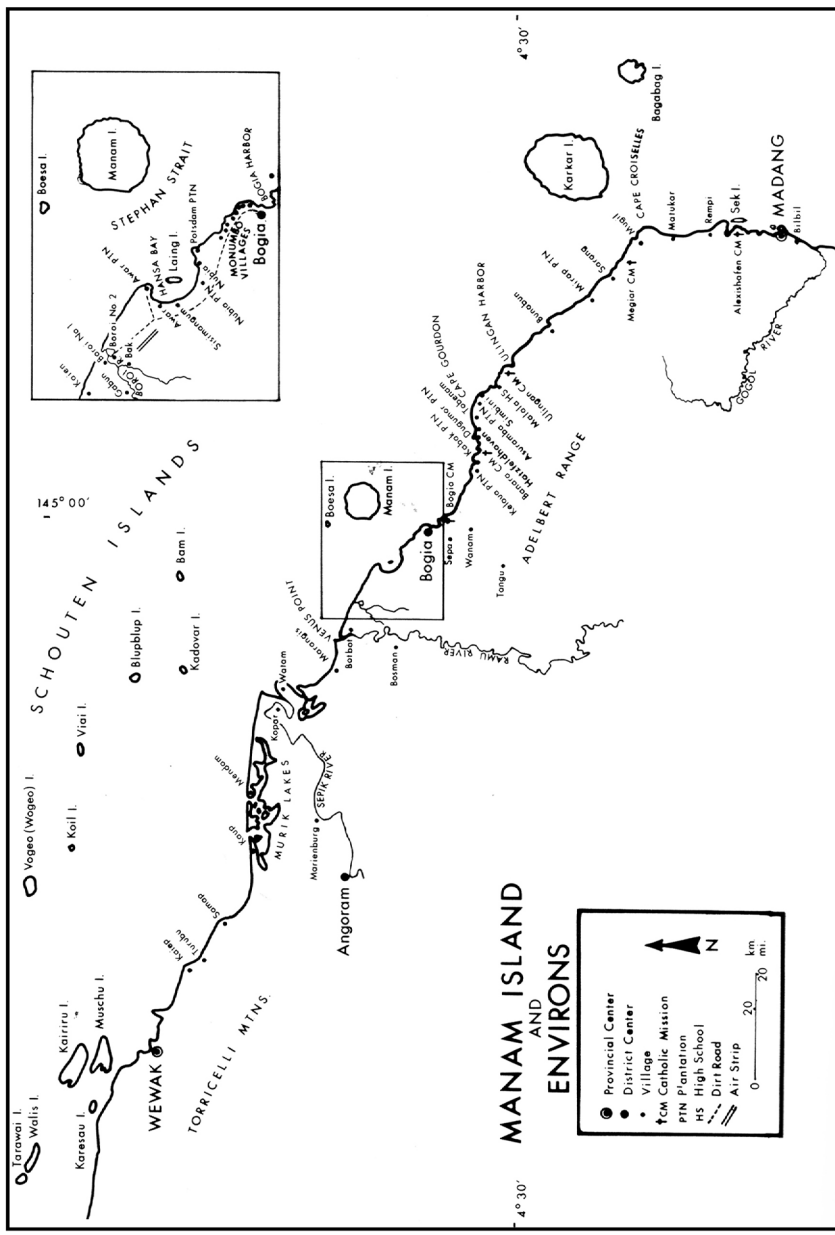

Figure 5.2: Manam Island and environs

Source: Lutkehaus 1995a: 38.

There is no doubt that the 2005 Manam eruption was an example of what Filer (Chapter 2) refers to as a 'moment of extreme disruption' that transformed the relationship between the 15 Manam Island communities and their island ecosystem in ways that were profound and irreversible. Although, as we shall see, some islanders have returned to Manam in defiance of the government's sanction (or, in one extreme case, at the behest of the provincial government), the population in the care centres, which has grown exponentially since 2005, remains 'in limbo'. They continue to live in the care centres while they await resettlement inland in Madang Province and their status continues to be that of what the United Nations (UN 2011) calls 'internally displaced persons' (IDPs).[3] This moment of extreme disruption in 2005 stands in contrast to previous moments of temporary disturbance caused by the Manam volcano that had occurred on the island before written colonial records began. A major contrast was that the PNG Government did not officially allow the islanders to return to live on Manam as they always had done in the past.

This means that the Manam Islanders have experienced a type of 'double jeopardy' in that they are subject to the same concerns that face the inhabitants of many small islands, such as population growth and resource depletion, along with the added concern of volcanic activity. Moreover, they have already been displaced from their island. How the Manam Islanders have adapted to their situation and why they are still in limbo is the focus of this chapter.

The Eruptive History of the Manam Volcano Before 2005

I have written elsewhere about the culture of the Manam Islanders prior to the major eruption in 2005 and their adaptation to living on an active volcano (Lutkehaus 1985, 1995b, 2016). In 1933 the British anthropologist Camilla Wedgwood also studied Manam society (Wedgwood 1933, 1934, 1937, 1948), as did the Catholic missionary Karl Böhm (Böhm 1975, 1983). Thus, we know quite a lot about the colonial and post-colonial culture and history of the Manam Islanders and the ways that they had adapted in the past to the periodic eruptions of the Manam volcano. Much like the

3 Vini Talai (2015) questions the validity or appropriateness of the use of this designation with regard to the Manam Islanders.

beliefs of the indigenous Hawaiians who attribute the volcanic activities of Kilauea to the Hawaiian goddess of fire Pelehonuamea, or Pele for short,[4] the Manam Islanders attribute the eruptive activity of the Manam volcano to a female spirit they call Zaria. They call the second, smaller crater Yabu, the name of a male spirit and Zaria's consort (Lutkehaus 1995a).

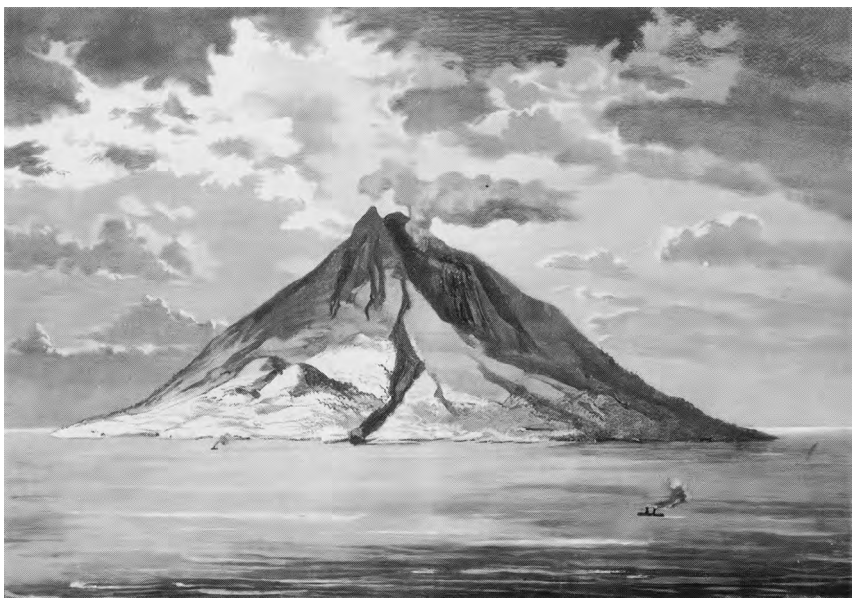

Figure 5.3: Nineteenth-century engraving of Manam Island
Source: Lutkehaus 1995a: 62. Reprinted from Finsch 1888.

The entire maritime region along the north coast of PNG in East Sepik Province and Madang Province is dotted with small islands, including the Schouten Island archipelago with the islands of Vogeo (Wogeo), Kadovar, Kairiru, Koil and Bam that are volcanic islands in the west and Karkar and Long Island to the east. Until the recent eruption of Kadovar in 2018, only Manam and the tiny island of Bam had experienced eruptive activity extensive enough to warrant evacuation of their entire island population in recent history. Bam last erupted violently in 1954 (Taylor 1960; Johnson

4 See Torgersen (2022) for a detailed discussion of the history of past and present indigenous Hawaiian beliefs about the goddess Pele and detailed references concerning Pele and her sisters. Pele is said to have originally travelled from Tahiti to the Hawaiian Islands. Beliefs in the relationship between supernatural spirits such as Pele and Zaria and volcanic activity are not unusual in the Indo-Pacific region. See the work of Michael Dove (2007, 2010) about the activity of Mt Merapi on Java for an insightful discussion of another example of the link between the moral dimensions of human–supernatural relations and volcanic eruptions.

2013). The Germans, who first colonised this region of New Guinea in 1884, named Manam *Vulkaninsel* (Volcano Island) in recognition of its defining characteristic (Finsch 1888). To the Manam Islanders, it is *Manam Motu* ('Manam Island') and the volcano is *Manam Ewa* ('Manam Fire').

The volcano rises majestically 1,807 m above sea level.[5] It is located in the southwest sector of the Pacific Ring of Fire, where the Pacific Tectonic Plate sinks beneath the Indo-Australian Plate. It is a textbook example of an almost perfect cone-shaped basaltic–andesitic strombolian volcano. In contrast to the usual more slow-moving effusive lava flows that erupt from shield volcanoes such as Kilauea, when a major eruption of a stratovolcano such as Manam occurs it causes a dramatic pyro-chemical explosion that shoots molten lava and rock thousands of metres into the air and rains down a thick layer of ash, blanketing villagers' gardens, trees and houses. Most of the time, however, there is simply a plume of smoke that hovers cloud-like over the mouth of the crater and trails across the sky (see Figure 5.4). The volcano's major vent forms its central crater with a smaller secondary vent to the north. Although these two summit craters are both active, most of the historical eruptions have originated from the southern crater, thus concentrating a major portion of the eruptive materials in the southwestern portion of the island. Four large radial valleys created by lava flows extend downward from the barren summit to the black sand beaches of the island. These 'avalanche' valleys are regularly spaced around the perimeter of the island and have channelled the flow of lava and pyroclastic material down to the coast (see Figure 5.5), creating dramatic 'frozen' lava formations that jut into the sea at the mouths of these valleys.

The island itself is 10 km in diameter. Before the 2005 evacuation of the island, its inhabitants lived in 15 villages situated along the black sand beaches of the island's periphery.[6] There were also two mission stations, Tabele and Bieng, run by Society of the Divine Word missionaries, which housed elementary schools run by the PNG Government on their premises. There was also a small health centre at the Bieng station that was operated by Catholic sisters (Lutkehaus 1995a, 1995b).

5 For further information, see volcano.si.edu/volcano.cfm?vn=251020

6 A smaller island named Boisa is located approximately 5 km off the northwest coast of Manam. It is home to 600 islanders who live in two villages. The Boisa Islanders speak their own dialect of the Manam language. They were not affected by the 2005 eruption and have remained on Boisa.

Figure 5.4: Manam Volcano, 1987
Source: Photograph by Nancy Lutkehaus.

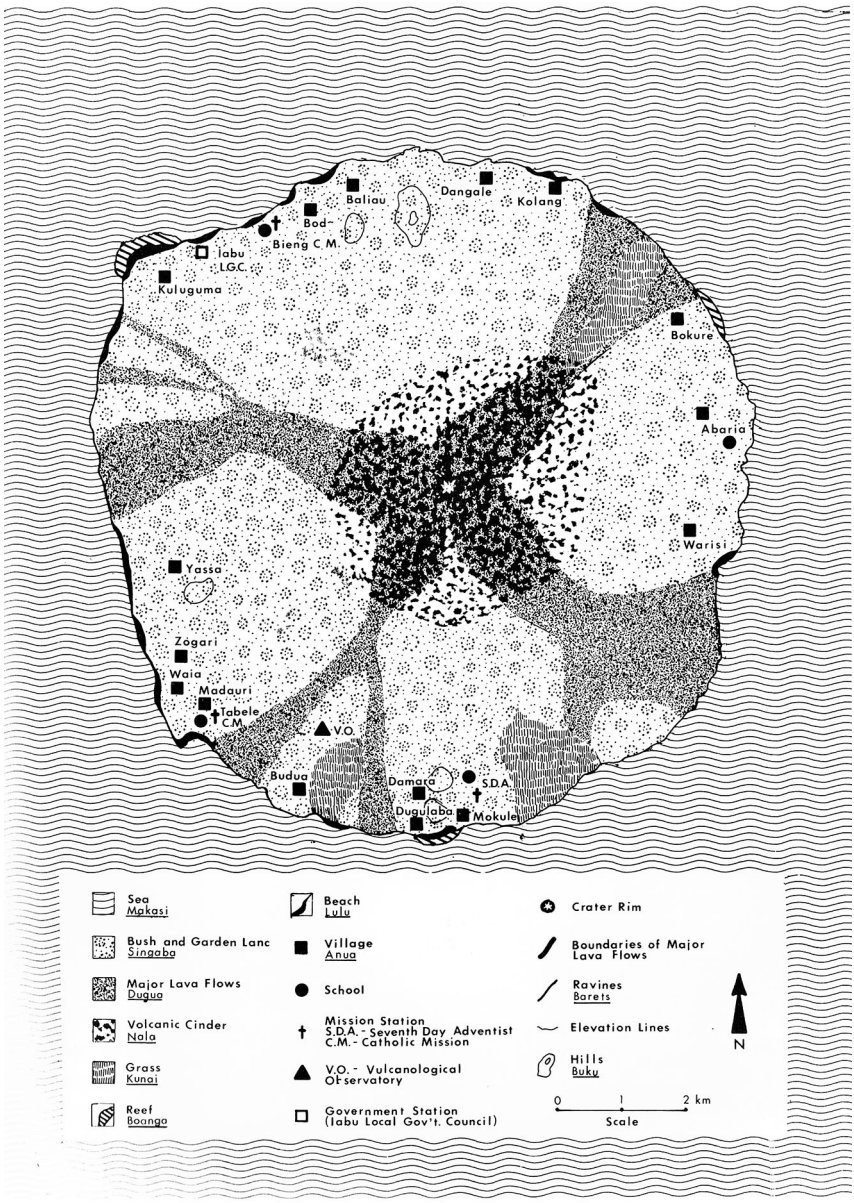

Figure 5.5: Manam Island villages and radial valleys formed by lava flows
Source: Lutkehaus 1995a: 45.

The Role of Scientific Evidence: The Rabaul Vulcanological Observatory

The Rabaul Volcano Observatory (RVO) was established in 1937 after a major eruption in Rabaul on the island of New Britain. The last major eruption of the Manam volcano that entailed the temporary evacuation of the island's population to the mainland occurred in 1959. This event catalysed the establishment of a small permanent vulcanological observatory on the island near the Tabele mission station in 1964 to monitor the volcano's activity daily. It housed delicate instruments that could monitor the seismic activity on the island and was operated by a vulcanologist from the RVO who lived at the Manam station and had direct communication with vulcanologists in Rabaul. However, a land dispute with the local landowners who had been leasing the land to the RVO led to the temporary closure and eventual abandonment of the monitoring station after vandals destroyed the equipment and the building that housed it. A second, smaller replacement station at Warisi village on the other side of the island was destroyed in the 2004 eruption, since when there has been no subsequent on-island monitoring of the volcano.

Since 2004 RVO personnel based on the mainland in Bogia have been monitoring the volcano's activity from a distance. RVO personnel have also conducted comprehensive volcano awareness programs at and near high-risk volcanoes in PNG since 2000 and make regular trips to Manam Island where they are in contact with villagers who have returned to live on the island. The main objective of the awareness program is 'disaster mitigation from natural hazards, with a focus on volcanoes and volcano-related activities, such as tsunamis'. In other words, acknowledging that some Manam Islanders have returned to the island, the RVO workers aim 'to promote awareness of volcanic hazards and risks so that communities become self-reliant' (Mulina et al. 2011). As liaisons between the scientific experts in Rabaul and elsewhere and the islanders living on Manam, the representatives of the RVO in Bogia function as a local warning system for residents in lieu of a permanent vulcanologist on the island.[7]

7 The Darwin Vulcanological Observatory and the Darwin Volcanic Ash Advisory Centre in northern Australia also closely monitor the Manam volcano, as does the Smithsonian Institution's Global Volcanism Program, because smoke emissions from the volcano can be hazardous to planes flying in the area.

Shortly after the major eruptions of the Manam volcano subsided, the vulcanologists at the RVO declared that it was safe for the population to return to the island. Thereafter they quietly and mysteriously withdrew their original statement about the safety of the islanders returning to Manam. The PNG Government then stated that it would no longer operate the two elementary schools on the island. The mission stations were also shut down and the Catholic priests and their assistants, the Servants of the Holy Spirit nuns, also left the island. The final blow to the once well-functioning island socio-economic system was the government's cessation of the copra boat that had operated on a regular basis shuttling people and cash crops, mostly copra and cacao, back and forth from the island to the mainland at Bogia.

The Establishment of the Manam Care Centres

Aid from fellow Papua New Guineans, the PNG Government, other governments worldwide, especially Australia and New Zealand, and international agencies such as the United Nations was provided to the displaced Manam Islanders immediately after the volcano's eruption and the evacuation of the island population to the mainland. This humanitarian assistance was especially prominent in the case of the Manam Islanders since the volcano's eruption came so soon after the calamitous disaster of the tsunami that hit large portions of Southeast Asia in December 2004.

The displaced islanders were housed in what were to be temporary 'care centres'—the UN's terminology for such emergency shelters that provide housing (usually tents) and aid—on the mainland at Potsdam, Mangem and Asuramba (see Figure 5.2). The care centres were established on land that had been transformed into coconut plantations during the colonial period, beginning with the Germans in 1884 and continuing with the Australians after 1914. After independence in 1975, the land had reverted to the Madang Provincial Government and was uninhabited at the time of the Manam eruption. Anxious to ensure that the Manam Islanders would not settle permanently on these lands, the original landowners, along with potential developers, have sought to reclaim them for the past 17 years.[8]

8 Connell and Lutkehaus (2016, 2017a, 2017b) have previously written about conditions in the care centres.

Short-Term Crisis Versus Long-Term Stasis

A series of stamps issued by the PNG Government depicts some of the largest and best-known volcanoes in the country. Mount Tavurvur, whose eruption in 1994 led to the destruction of Rabaul and the subsequent relocation of the East New Britain provincial capital to nearby Kokopo, is perhaps the most famous of these volcanoes.[9] Like the other stamps in the series, the Manam stamps present iconic images of an active volcano billowing clouds of dark but seemingly harmless smoke, exactly the kind of volcano—and dramatic image—that attracts volcano watchers, tourists, photographers and stamp collectors.[10]

The stamps featuring the Manam volcano were released in 2009, four years after the evacuation of the island's population. (Had the island been completely destroyed by the eruption it would probably not have been depicted on the stamps.) Significantly, the image on the stamps includes no people nor, of course, any reference to what has happened to the islanders. Instead, the stamps represent the romance and flirtation with danger that an active, but relatively quiescent, volcano offers outsiders who are far removed from the immediacy of the eruption and its aftermath. Thus, they do not reflect the real impact that the volcano's 2005 eruption, and more importantly, the government's inept response to it, has had on the lives of the displaced Manam Islanders.

The disconnect between the dramatic, but ultimately pastoral, images of the Manam volcano and the reality of the contemporary situation of the Manam Islanders also reflects another type of disconnection: the temporal distance between a moment of crisis and its aftermath. Once the immediate danger of the Manam eruption was over, and the immediate outpouring of humanitarian aid had been solicited, transmitted and dispersed, there

9 The resettlement of villagers living in the vicinity of Rabaul was used as a model for the potential resettlement of the Manam Islanders (Martin 2013).

10 There is an entire travel industry devoted to trips to volcanoes around the world. Like 'storm chasers', volcano tourists are drawn to the enticement of the dramatic and sometimes dangerous situations that active volcanoes and volcanic eruptions afford thrill seekers. See, for instance, the work of vulcanologist and photographer John Seach (volcanolive.com), which caters to film and television productions but also to 'adventure travellers'. Seach was one of the first outsiders to travel to Manam and take photographs of it erupting. In addition to Kilauea in Hawai'i, Yasur volcano on the island of Tanna in Vanuatu is the quintessential example of another active volcano in the region that remains an exciting but still relatively safe tourist attraction. The Yasur volcano was the focus of documentary filmmaker Werner Herzog's 2016 film, *Into the Inferno*, and appeared in the recent National Geographic documentary, *Fire of Love*. For many years adventure travel companies such as Mountain Travel Sobek have brought tourists to climb the Manam volcano as well.

has continued to be the much longer, less urgent, but in many ways more difficult period that has entailed the effort to return people's lives to some state of 'normalcy', whatever that new state might be. It is the difficulty of this decidedly unromantic and anti-heroic process, and some of the factors that have contributed to its complexity, that is highlighted here.[11]

And herein lies the crux of the cautionary tale that the Manam case provides to other small islands facing environmental pressures that are not tectonic in nature: the issue of resettlement. I will return to the complexities of resettlement later. At present I want to discuss the ways in which the Manam Islanders have dealt with their liminal status—that is, how they have breached the gap between the immediate outreach of aid they were provided at the moment of crisis or 'extreme disruption' in 2005 versus the problems caused by the failure of the post-colonial state to facilitate their resettlement 17 years later. What has filled that gap is the resilience, ingenuity and initiative of the Manam people themselves.[12]

Forms of Resilience and Adaptation

Over time, people inhabiting active volcanoes have developed various adaptations to living in such precarious environments.[13] The Manam Islanders had developed a social adaptation that served them well in the past when the volcano erupted and people needed to evacuate the island temporarily. Like many Melanesian peoples, they had a formalised system of exchange relationships. These exchange partners, whom the Manam call *tawa*, were individuals living in various villages on the mainland. This network of *tawa* relations was based on economic exchange and sociality that formed part of a system of regional integration that enmeshed islanders

11 As noted earlier, there was a huge outpouring of national and international humanitarian aid sent to the Manam people that helped them in the immediate weeks and months of their stay at the care centres. This benevolence is not to be dismissed lightly as it was much needed. But, as has been demonstrated time and again, the moral sentiments of humanitarianism—of heroic deeds being performed in the context of extreme natural disasters, which have themselves taken on increasing institutional and governmental importance globally—subside after time. Donor fatigue then leaves the more sobering reality of the complexities of dealing with the long-term effects of the initial events (Fassin 2011: 181–99).

12 See Oliver-Smith (1996: 312–4) for a similar argument in a cross-cultural context.

13 See Torgersen (2022) for a fascinating ethnography of how residents in the Puna region of Hawai'i's Big Island have adapted to living near Kilauea volcano in response to recent eruptions in 2014 and 2018. Unlike the Manam volcano, Kilauea is a shield volcano with long, low slopes, and thus poses slightly different threats to local residents. In both instances, people have chosen to remain living near the volcano and have developed adaptations, both mental and practical, that allow them to continue to live in a precarious environment.

and mainland people up and down the north coast of PNG (Lutkehaus 1985). For example, the Manam Islanders had exchange partners as far away as the Murik Lakes near the mouth of the Sepik River (Lipset 1997). In the past, *tawa* offered their Manam exchange partners temporary places of refuge and assistance with food and other material goods when they had to evacuate the island because of volcanic eruptions. Such relationships with exchange partners are not unique to the Manam or other people living on active volcanoes but are a key characteristic of many island populations.[14]

However, in 2005, due to the government's prohibition on the return of the islanders to Manam, the circumstances between them and their *tawa* changed. Given the extended period the islanders have remained on the mainland, these partnerships, which had been based on short-term stays in the past—a few weeks or months rather than years—predictably deteriorated. The traditional reciprocity that the Manam would have extended to their mainland *tawa*—in the form of pigs and baskets of galip nuts, as well as hospitality on Manam, was no longer possible. Not only were the islanders unable to reciprocate, but they had also overstayed their welcome.

After having lived in what were to have been temporary care centres on the mainland since January 2005, by 2011 the Manam Islanders had developed several grassroots adaptations to their precarious situation. As a result of the inability of the PNG Government to enact the promised resettlement, the islanders have both adapted to and resisted this condition by returning to the island. Given the proximity of the island to the mainland, many Manam Islanders return periodically to cultivate new gardens, to plant and harvest betelnut palms, raise pigs, harvest breadfruit and galip nuts, or to produce copra and gather wood for the construction of homes at the care centres. In some cases, they have also returned to live in their former villages on a permanent basis, just as they would have done in the past, depending, of course, on the activity of the volcano.[15]

14 Indeed, these island–mainland exchange relations are a subspecies of the more general Melanesian cultural phenomenon of exchange partners, of which much has been written by anthropologists over the years, especially with regard to the large ceremonial gift exchange events found in the highlands of New Guinea. Strathern (1971) provides a classic example.

15 As of 2011, two American missionaries and their families from Ethnos360 (formerly known as the New Tribes Mission) have also returned to live on the island, building permanent wood-framed homes there.

After violence erupted on the mainland between Manam Islanders from Baliau village and their mainland neighbours, and in order to reduce the potential for more conflict, a local provincial government official ordered the Baliau chief to move the entire village of 1,000 people back to their village on Manam (Aihi 2009; Matbob 2009). Powerless in the face of the conflict, the provincial officer told me that he had no choice but to remove the islanders from their temporary settlement on the mainland and the only option available was for them to return to Manam despite the national government's prohibition on doing so. Since the government still does not provide schools, transportation to and from the island, or health care for these villagers on Manam, the people of Baliau took it upon themselves to pay for schoolteachers for their children in the village. This example of islanders using their personal funds to provide what should be a public service to PNG citizens, is a striking example of empowerment and initiative in the face of government inaction on the part of Baliau villagers who want to get on with their lives and secure the future of their children (Mercer and Kelman 2010; Peter Irakau, personal communication, May 2015).

Thus, despite the lack of regular government-sponsored boat transportation between the mainland and Manam, there is a continual flow of people travelling back and forth to the island in small privately owned and operated banana boats with outboard motors. The Manam themselves have developed their own independent transportation network of these water-borne 'public motor vehicles' that carry people across the 15 km distance that separates those islanders living on the mainland beaches from their own island.

This system of transportation, now using outboard motors and fibreglass boats rather than traditional outrigger sailing canoes outfitted with coconut fibre sails (and later with outboard motors), is a modern technological transformation of the type of Manam-mainland connections via the sea that had always existed. It has become a small-scale local business opportunity for those individuals who can afford to purchase boats and outboard motors to service their Manam clientele.

Significantly, in the care centres, the Manam Islanders have maintained their traditional hierarchical political structure based on hereditary village chiefs called *tanepwa labalaba* ('big chief') (Lutkehaus 1990, 1995a). Some chiefs have requested that their relatives, especially their brothers, uncles and sons—men who have the title of *tanepwa sikisiki* ('small chief')—accompany villagers who want to return to live permanently on Manam.

Thus, they maintain claims to ancestral lands and resources on the island while the rest of their villagers remain in the care centres. Given that there has been an explosion in population growth in the care centres over the past 17 years (the population is said to have almost doubled), the return of villagers to the island has helped ease the cramped living conditions in the care centres. By sending members of the chiefly clan to live in their former Manam villages, the Manam chiefs are assuring the replication of the traditional Manam political structure in both the care centres and on the island. Thus, for example, the chief of Zogari village sent his uncle and his eldest son back to Manam to rebuild their homesteads in Zogari along with other families that have joined them to establish new gardens.[16] In other words, the chiefs have established two villages—one on the mainland and another back on Manam.

The Revitalisation of Traditional Exchange Festivals (*Buleka*)

When I visited Manam Islanders from Zogari village at the Potsdam care centre in 2015, they had just completed the construction of a new men's house (*keda*). This was a significant symbolic, as well as material, accomplishment since its completion was the catalyst for a traditional inter-village pig exchange festival (*buleka*) and recognition of a new village chief. Thus, the event signalled the revitalisation in a new location of the types of political, social and economic activities that traditionally took place on Manam. The preparations and the performance of the *buleka* served as a social activity that integrated various dimensions of Manam culture as a dynamic whole (Lutkehaus 1995a: 269–316). After some delays, the *buleka,* with its series of accompanying dances and distribution of pigs and food (taro, bananas, sweet potatoes and galip nuts), finally took place. Thus, at one of the care centres, Manam Islanders had begun to resurrect important political and economic activities, symbolic as well as constitutive of the social fabric of Manam culture, albeit in a new location and under less-than-desirable conditions.[17]

16 In addition to returning to live in former villages, some Manam Islanders have returned to inhabit the ruins of the buildings abandoned by the Catholic mission, including the former churches, and also the government schools, staking out claims as squatters on what had been traditional village land before colonisation.

17 I do not have information about whether or not similar *buleka* events have occurred at the care centres at Mangem and Asuramba.

A final impetus to Manam Islanders' returns to their island is their desire to bury their dead on Manam. Many islanders believe that it is important for their deceased relatives to be buried on the island, specifically near their family homestead. For these individuals, the role that *Manam Motu*—the land, the volcano and the sea that surrounds the island—plays in their spiritual and cultural life is so important to them that they have adjusted to the continuing periodic threats of volcanic eruptions. It is important not only for the dead but for their living descendants that the soul of the deceased reside on Manam Island (Lutkehaus 2016).

The Manam Resettlement Project

If in the past Manam Islanders would have returned to their island after the major eruptions of the volcano had subsided, why, given the volcano's lengthy period of relative quiescence, has the PNG state not formally declared the island habitable again? From one perspective, the government appears to want to ensure that the Manam Islanders have a safe and secure future. That is why it has passed the Manam Resettlement Authority Act (2016) and secured funding for the Manam Resettlement Authority that has developed a Manam Resettlement Project (MRP). However, 'security', as we know, is a powerful concept that works as much on potentiality, on the fear of possible events, as on their actual occurrence (Foucault 1977; Collier and Lakoff 2021). While proposing to resettle the Manam Islanders in a permanently safer location, the government has also kept them in limbo, living in declining conditions of health, sanitation and well-being in the care centres.

Why might this be the case?

One answer, among several, may be the usefulness to the PNG Government of the issue of the resettlement of the Manam Islanders as a source of international funding and potential development projects. A fundamental aspect of the MRP is the infrastructure—a road connecting the coast to the new inland settlement, which entails cutting down wide swathes of forest, building bridges, clearing land and so forth—that a project of this scale requires. Roads, of course, have long been a basic element of many infrastructure projects (Harvey and Knox 2015). In the case of the MRP, the contract to build the road was given to a logging company that was already harvesting timber from the surrounding area. The connection between infrastructure and small islands in peril lies in the fact that resettlement of

any sort, urban or rural, involves issues of infrastructure and the allocation of funds for its construction—issues that are inherently political and susceptible to corruption. New theoretical insights by anthropologists into the concept of infrastructure have prompted us to think about the ways in which infrastructure can be considered in temporal terms. This move compels us to consider infrastructure not just as material things, such as roads, pipes and electrical wires, but also as 'intangible networks that facilitate connections and exchange' and as processes that can be analysed in terms of their lifespans, multiple temporalities and multiple actors (Larkin 2013; Anand et al. 2018). Thus, if 'we think of infrastructures as unfolding over many different moments with uneven temporalities', as Anand and others suggest, 'we begin to see that social and political dimensions are as important as the technical and logistical' (Anand et al. 2018: 17). The discussion of the temporal dimensions of infrastructure, coupled with insights into the importance of considering 'the promise of infrastructure'—that is, investigating people's hopes for the future embedded in infrastructure—offer useful avenues for a deeper understanding of the human dimensions of infrastructure and its implications for issues of migration and resettlement.

In their effort to focus on process rather than product, Anand and others eschew a focus on the 'finished' product of a planner's map. However, I suggest that the yet-to-be realised MRP, in the form of a document, is itself a type of bureaucratic infrastructure. As such, it too is an object of ethnographic interest and can be examined as part of the larger infrastructural process that entails various political actors. I build here on the idea that infrastructure can not only be thought of in temporal terms, as a process, but also as an assemblage of ideas and people. As theorists of urban infrastructure have pointed out (Graham and Marvin 2001: 8), infrastructures are socio-technical assemblages that represent long-term accumulations of finance, technology, expertise, and organisational and geopolitical power. Moreover, I suggest, the capital expenses and embedded socio-technics that infrastructures represent—that is, the dynamic and congealed processes of organising finance, knowledge and power—apply as much to rural as to urban infrastructures.

The Manam Resettlement Project as Document and Infrastructure

The origin of the MRP was the issue of security—the need to produce a solution to a situation the government had deemed untenable: the return of the displaced Manam Islanders to safely live permanently on their island. Instead, the national government has promised the islanders that they will resettle them inland and facilitate the creation of a new Manam settlement.

Whether the eruption of 2005, and subsequent smaller eruptions since then, have warranted the government's prohibition on return to the island is difficult to determine. For example, there was a recent eruption of the volcano in April 2022 that showered ash on several village homesteads and gardens but did not cause major damage or lead to the evacuation of villagers to the mainland. The indeterminacy of the situation, and the debate it engenders, is exactly the point. It has allowed the government to refuse to resume services while providing it with the need—as well as the opportunity—to develop a project to permanently relocate the Manam Islanders.

A focus on infrastructure and the politics of security as loci of congealed political power and aspirations, rather than just material forms, brings other aspects of the MRP into view. As 'cost estimates' from a PowerPoint presentation of the MRP revealed, these elements include the opportunity to accumulate finance, procure technology and establish new organisational structures to oversee the enactment of the plan.[18] In 2016, the Manam Resettlement Authority Act allocated an initial sum of 6 million kina (then worth approximately 2 million US dollars) to the MRP. The overarching benefit to the national government is its access to what Naomi Klein (2007) has called 'disaster capital'—funds that have become available because of the need to respond to various natural disasters and the accompanying neoliberal political and economic changes such capital facilitates.[19] A secondary goal is aspirational—the plan offers the state an opportunity to incorporate the Manam Islanders into its larger national goals of economic development and societal transformation.

18 I was present at a slide presentation of the MRP made by Dr Boga Figa at the Madang provincial government offices in May 2015 to a group associated with the International Organization for Migration. Dr Figa is a member of the committee in charge of the implementation of the plan.

19 See also Collier and Lakoff's recent (2021) discussion of the rise of the emergency state in the mid-twentieth century as a new type of social formation tasked with issues of national security.

I have suggested that, in its material form, as a written document and visual PowerPoint presentation, the MRP is a type of infrastructure in and of itself. If we think of the plan—and its performative role in presentations made by government bureaucrats—as a stage in the life history of the entire project, it is a form of infrastructure whose function is the manifestation of a concept, a verbal and visual representation whose goal is to connect ideas with a particular reality. It represents an imagined future settlement. It is thus the first—and necessary—stage in a lengthy process that entails the creation of other forms of infrastructure, such as roads, bridges and deforested land for commercial farming. It is indeed, as Fennell has said of infrastructure, 'a thing that facilitates relations between other things … a thing that facilitates other projects' (Fennell 2015). This outcome is not in and of itself necessarily negative or positive. However, the cautionary tale regarding the MRP and small islands in peril is the nature of the plan's proposed transformation of the way of life of the Manam people, and the encumbrances involved in the plan's realisation.

The MRP's proposal to create a new Manam community for 20,000 people (a projected 5,000 families) includes several classic infrastructural components: in addition to the construction of a 23-kilometre road and bridges that will connect the Andarum hinterland, where land has been obtained for the Manam, to the coastal administrative centre of Bogia (Figure 5.2), it also entails the creation of a new provincial government bureaucracy—the Ramu Development Corporation—to oversee the project, new buildings to house these government employees, and the clearing of 5,000 to 10,000 hectares of virgin jungle in order to provide arable land to lease to the Manam Islanders for subsistence and cash crop cultivation. Eventually, new schools and health care centres will be built to provide for the education, safety and well-being of the Manam population. As a slide devoted to the program's approach stated, 'economic development is adopted in this relocation program as a responsible approach'. Thus, the project also includes plans for the cultivation of smallholder cocoa plots and 'growth centre development', which was described as the creation of a new oil palm plantation where Manam Islanders could find employment. We might sum up the presentation's statement that '[s]ocio-economic viability runs parallel to importance of health and safety for IDP families to ensure livelihood is sustainable' by saying that, taken as a whole, the MRP presents a vision of the transformation of formerly autonomous island-based subsistence gardeners and fishermen living on traditionally held, communally owned lands, who augmented their household economy with the production of cash crops such as copra and cocoa, into land-bound, commodity-based, workers

dependent upon wage labour, cash crop production and leased land. In other words, it is at best a typical Western-based model of economic development and modernity, and at worst an invitation to return to participation in an environmentally (and hence economically) questionable form of plantation economy (Tsing 2005; Tammisto 2016; West 2016; Bolgar 2018; Mitman 2019; Chao 2022).

'The Promise of Infrastructure': Waiting for the Future to Unfold

Even if the MRP is never fully realised or enacted as described in the plan, it still represents a particular modernist vision for the future of the Manam people and their place in PNG. In the case of the MRP, there is an ironic logic that entwines the former colonial-era coconut plantations in New Guinea, specifically those along the north coast of Madang Province that were first established in the German colonial period and later operated by Australian plantation owners, where the Manam are now living in care centres, with new forms of transnational agribusiness—especially the oil palm plantations being developed in PNG and West Papua.[20] Even if there never are oil palm plantations developed at Andarum, as the MRP proposes, the document still proposes this idea as part of the solution to the relocation of the Manam Islanders.

Given that the MRP was initially proposed in 2011, then revised in 2013, and still awaits enactment, the project has been subject to what Gupta (2018: 11) has called 'infrastructural suspension'. In a similar manner to his description of large infrastructural projects in India that are stuck in their implementation due to legal challenges, lack of funding, and corruption, the MRP has also been suspended due to the of lack of adequate funding and internal politics at the national and provincial levels—specifically, allegations of mismanagement of the project's funds (Anon 2019).[21] Moreover, the length of the interruption of the project—11 years since the plan was first developed, 17 years since the Manam were evacuated to the mainland care centres—speaks to both the marginality of the Manam

20 For examples of the controversies surrounding oil palm plantations and their detrimental effects on both the environment and the people living near and working on them in the Global South, especially New Guinea, see Tammisto (2016), West (2016) and Chao (2022).

21 The article reported allegations of fraud and misappropriation of the 6 million kina allocated by the PNG government to the Manam Resettlement Authority. To date, no one has been held accountable for the misappropriation of the funds.

Islanders and the relatively low economic returns envisioned for the state (see Lipset 2013). However, the MRP still represents a vision of and for the future. In this respect its function is aspirational. As Anand and others have suggested: 'rather than thinking of infrastructures as distanced or aloof hardware networks', we also need to consider how infrastructures shape and are shaped by 'human experiences and sentiments of hope, inclusion, violence, and abandonment' (Anand et al. 2018: 11).

In this respect, the MRP is a *promise* of infrastructure that offers the Manam a hopeful future. As such it represents both a gesture of aid as well as an acknowledgment of the government's responsibility for the welfare of the Manam Islanders by enabling them to have a viable future. However, the slowness of the process of building this new future is of paramount concern to the Manam Islanders, who continue to grow increasingly frustrated with the delays they are enduring as the national government seeks to oversee the funding for the MRP. At this point, the only progress that has been made is the construction of housing for the new government employees who will manage the plan (and the clearing of trees necessary for the construction of the road to Andarum). The irony of this situation is not lost on people living in bush-material houses in the care centres while 'modern' Western-style houses with running water, electricity and metal roofs are constructed for a new contingent of bureaucrats.

From Economic Autonomy to (Potential) Plantation Labourers

To fully understand the impact of the MRP at the local level—an infrastructural project based on the premise of providing security to an island population in peril—and its larger implications for small islands facing the prospect of migration and resettlement in the future, it is important to consider it in its temporal as well as its spatial and material dimensions. Specifically, we need to include the initial displacement of the Manam Islanders as well as their extended settlement in what were to be temporary care centres as part of the infrastructural process inherent in the long-term resettlement plan. For the funding to be secured and road building to advance, the livelihood and well-being of the islanders has been seriously impacted. They are now refugees in their own country, living in cramped quarters while waiting for a future promise of a new settlement to be developed, a plan that offers less economic autonomy than their past way of life on Manam Island. However, by 2015 people had become resigned

to the fact that they were not going to be able to return permanently to Manam and that the best option was some variation on what was offered in the government's plan. It is an offer, if it does eventuate, that many older Manam Islanders have gradually and reluctantly come to embrace, seeing it as an opportunity for there to be 'two Manams', one on the island and one inland.

Conclusion: A Cautionary Tale in Perilous Times

In 2015, some Manam Islanders thought of this option in terms of continuing to have villages on Manam but also eventually having inland villages at the new Andarum settlement. In 2023, the reality is a different variation on the idea of 'two Manams'. Rather than the islanders retaining their rights to their land on Manam as well as gaining access to stable ground inland, what has developed instead is a different form of 'two Manams': one made up of a portion of the original inhabitants who have returned to their traditional villages on Manam, the other the temporary village communities, with the same names and indigenous political structure, in the care centres. There are no exact figures available as to the number of Manam Islanders who have returned to the island. The exception to this model of two Manams are the villagers from Baliau and Dugulaba who, due to violence on the mainland, lost their access to temporary settlements there and had to return *en masse* to Manam.

The 'limbo' this chapter refers to is the physical situation the Manam Islanders have found themselves in since they were prohibited by the PNG Government from returning permanently to their former way of life on Manam Island. Thus, they continue to live betwixt and between the unofficially sanctioned villages on Manam and the promised inland resettlement community. This situation has led to their liminal status with reference to their identity as 'internally displaced persons', or 'squatters' and 'interlopers' on other people's land.[22] And finally, there is the existential

22 Unfortunately, as the Manam situation of living in the care centres has dragged on, their displacement in these centres has become yet another example of what the political philosopher Agamben has identified with reference to refugee camps as an increasingly characteristic form of the 'political space of modern life'. He sees camps as a new and stable spatial arrangement 'born out of a state of exception that became a norm' (Agamben 1998: 119–23). Thus, the Manam care centres become another example of 'caution' with regard to the complexities of resettlement.

limbo of being suspended in a situation where they have little or no control over the implementation of the MRP as it is under the jurisdiction and leadership of the Manam Resettlement Authority.

The narrative described here of the mismanagement of the Manam Resettlement Authority funds, and the initial impetus on the part of the post-colonial state to use the situation of the Manam Islanders as an opportunity for the national government to request international funds for the resettlement plan, is certainly not unique to PNG, nor to small developing nations the world over, as was seen in the United States after Hurricane Katrina (Klein 2007).

Where the Manam case does relate to other small islands facing various perils, especially population pressure, is that the solution of migration and resettlement can be fraught with complexities, not the least among them the fact that such plans are inherently political (Oliver-Smith 1996; Lipset 2013; Connell 2015; Gharbaoui and Blocher 2018; Collier and Lakoff 2021). Given that the enactment of any *local* solution for the inhabitants of small islands will entail the involvement of actors at the provincial level, and often the national level as well, migration and resettlement become both infrastructural and political issues—which means issues of power and funds that can entangle the oftentimes powerless inhabitants of small islands in matters that are far more complicated, costly and time-consuming than what might initially have appeared to be the case. While the story of the failure, thus far, of the MRP offers a cautionary tale for the resettlement of other small island populations in the future, the case of the Manam Islanders also offers hope in terms of the resilience, ingenuity and initiative of small island populations in the face of natural and man-made adversity.

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