

## SPOTLIGHT

# INDONESIA AND VANUATU

## Displacement for good reason

The responses of the governments of Indonesia and Vanuatu to volcanic activity in 2017 show how effective early warning systems can be in reducing people's exposure to hazards. They also illustrate the fact that displacement need not always be a negative outcome, in that pre-emptive evacuations save lives and are an effective resilience measure. The two countries have unique approaches to disaster risk management, using the Sendai framework and the Sustainable Development Goals to improve their preparedness and responses as a means of reducing loss of life and people's vulnerability.

The Indonesian island Bali was on high alert for much of the last four months of the year as seismic activity around Mount Agung on the eastern end of the island increased. Shallow volcanic earthquakes began in August and evacuations started in September, peaking on 4 October when more than 150,000 people were

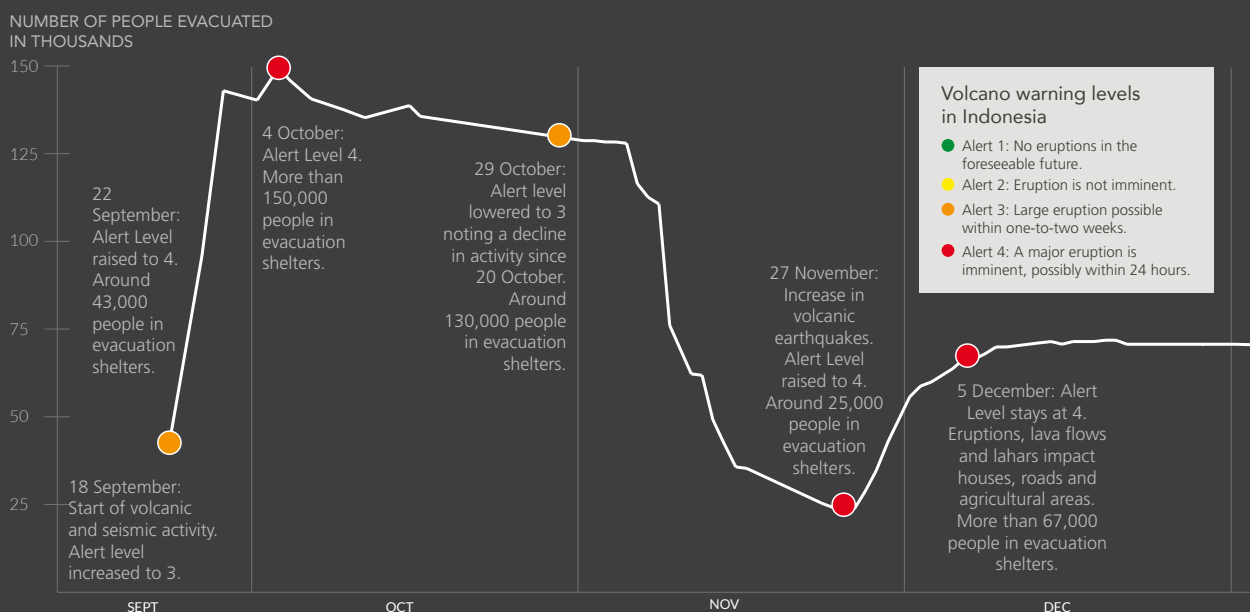
staying in 435 shelters.<sup>131</sup> Agung's activity and the subsequent alert level continued to fluctuate, and the exclusion zone around the volcano was extended from six to 12 kilometres before a series of eruptions began in late November.

Evacuations were carried out effectively, and can be attributed to Indonesia's disaster management system, which includes agencies that monitor and respond to natural hazards. Volcanic activity is closely watched by the country's Centre for Volcanology and Geological Hazard Mitigation.<sup>132</sup> Its alerts and notifications inform the National Disaster Management Agency, the police and the military, who in turn prepare potentially affected populations for evacuation.<sup>133</sup> Memories of Agung's eruption in 1962-63, which claimed 1,100 lives, also helped to make people more responsive to alerts, warnings and evacuation orders.<sup>134</sup>

The primary purpose of displacement in the form of evacuations is to save lives, but it still takes a toll on people's physical and psychological wellbeing. About 10,000 evacuees in Bali were reported to be suffering from fatigue and stress, and from cold and uncomfortable living conditions in their shelters.<sup>135</sup> Evacuations also separate people from their livelihoods, homes and other assets, and they may take undue risks to protect them.

Some evacuees in Bali returned early to tend to their land and livestock, while others, particularly those in

FIGURE 5: Evacuation trends in Bali



Source: Badan Nasional Penanggulangan Bencana (BNPB), Pusat Vulkanologi dan Mitigasi Bencana Geologi (PVMBG), The Smithsonian Institution's Global Volcanism Program



isolated mountain communities, refused to leave at all.<sup>136</sup> In an effort to prevent people on Bali making daily trips in and out of the exclusion zone, the authorities also evacuated as many as 30,000 cows.<sup>137</sup>

While Indonesia was responding to the threats posed by Mount Agung, **Vanuatu** was preparing for the possible eruption of Manaro Voui, also known as Aoba, on the island of Ambae. Faced with an event that potentially put the whole island at risk, the government took extraordinary steps to protect its population of around 11,600 people.<sup>138</sup>

The Vanuatu Meteorology and Geo-Hazards Department (VMGD) is a national body whose tasks include monitoring the country's active volcanoes.<sup>139</sup> When its alert levels change on a scale of zero to five, it notifies various agencies which in turn use the information to guide responses. VMGD issued a level-four alert on 23 September in response to Manaro Voui's increased activity, which in turn prompted the government's council of ministers to declare a state of emergency on Ambae.

Some residents were moved to temporary shelters between 28 September and 2 October, but the national disaster management office then decided that the entire population of the island should be evacuated before 6 October.<sup>140</sup> The state of emergency was lifted on 27 October, when the government announced that conditions were suitable for the evacuees to return. Most did so within three days. Manaro Voui's activity continues, but as of 31 December the alert level stood at two.

The government has initiated discussions to relocate the population permanently due to the increasing risk of future eruptions.<sup>141</sup>

The Bali and Ambae evacuations highlight the importance of robust early warning and disaster management systems which ensure that alerts are translated into action. Such displacement should be seen not as an unnecessary inconvenience, but as a preventive necessity that reduces loss of life. These examples also point to socioeconomic and other challenges that must be considered when planning for pre-emptive evacuations in the context of natural hazards.