

PART I.

Introduction

Rabaul Volcanological Observatory (RVO) is the national institution responsible for monitoring volcanoes Papua New Guinea. It comes under the Department of Mineral Policy and Geohazards Management. It was established in 1940 following the 1937 volcanic eruption of Tavurvur in Rabaul. It expanded its responsibilities to other volcanoes in Papua New Guinea after the disastrous eruption of Lamington in 1951.

There are 15 active and 22 potentially active volcanoes in Papua New Guinea and people and infrastructure near these volcanoes are exposed to volcanic disasters. RVO is monitoring only seven of the active volcanoes due to lack of resources in terms of funding, manpower and monitoring equipment. Consequently alternative best practices in early warnings and preparedness must be considered to make these vulnerable communities become more resilient.

RVO's Mission Statement and some of the Key Result Areas stated below captures some of these alternative best practices.

Mission Statement:

“To study and monitor volcanoes in Papua New Guinea effectively so that early warnings of volcanic eruptions can be provided to authorities, and to work in partnership with these authorities and with communities to promote awareness of volcanic hazards and risks so that communities become self reliant”.

Key Result Areas

- **Volcano monitoring and eruption forecasting**
- **Risk and hazard mapping and assessment on volcanoes**
- **Community awareness and preparedness on volcanic hazards**
- **Provision of assistance for volcanic disaster plans**

Engagement with Provincial authorities

RVO's engagement with provincial authorities began in Rabaul, East New Britain Province, in 1983 following the start of Rabaul volcanic crisis in March 1983. This culminated in passing of an Act of Parliament on establishment of Provincial Disaster Committees in Papua New Guinea. East New Britain Provincial Disaster Committee was the first to be established. Furthermore,

the engagement and collaborative work between RVO and the Provincial Disaster Committee resulted in compilation of the first volcanic disaster/evacuation plan in Papua New Guinea. The launching of the disaster/evacuation plan was followed by preparedness activities including mock evacuation exercises coordinated by the then newly established Provincial Disaster Committee in anticipation for an eruption. The last mock exercise was conducted about six months before the 1994 twin volcanic eruptions.

This engagement and collaborative partnership was later expanded to other Provinces that have volcanoes. They include Madang, West New Britain, Autonomous Region of Bougainville, Oro, Milne Bay, Morobe, Southern Highlands and Manus Provinces.

Community awareness/outreach programs

Due to lack of resources RVO's outreach programs were restricted to Rabaul area only. However this changed in 1998 after an existing Australian Government aid program for rehabilitation of RVO monitoring facilities since 1995 expanded its activities to cover community awareness/outreach and preparedness programs in six identified high risk volcanoes. The cost for a single visit to each volcano costs about U\$10,000.00. Identification of the high risk volcanoes were based mainly on eruptive history and nature of eruptions the volcanoes had produced in the past and exposure of population, social and economic infrastructure from volcanic hazards and other associated risks.

The community awareness/outreach and preparedness program involved preparation of awareness materials in the form of leaflets and pamphlets, posters, videos, etc., in the initial stages of the program. This was followed by scheduled three weeks site visits to conduct awareness/educational programs in vulnerable communities.

The programs are scheduled so that Provincial Authorities are briefed first before the activity trickles down to the communities.

At community level between 20-30 communities are visited during the three weeks period. This includes schools as well. Furthermore, a lot of emphasis has been made on gender equality and children participation and this is clearly evident in the audience turnout in all the places visited. Women and children make up almost 50-60% of the audience at each site.

The theme of the program has been **"LIVING MORE SAFELY WITH VOLCANOES"** with the main message being, **"WHAT TO DO BEFORE, DURING AND AFTER A VOLCANIC DISASTER"**.

Between 2004 and 2014 RVO visited the six high risk volcanoes 2-3 times for a period of 3 weeks, and others were visited only once for the same period of time. The last program was conducted in June/July 2014 around Bagana volcano in the Autonomous Region of Bougainville.

The feedback about the program from communities has been very positive and encouraging. Indeed many have requested for the program to be continued.

Engagement with/by other Stakeholders

Besides the above programs RVO has also been engaged by other like-minded agencies like Papua New Guinea resident UNDP OCHA and educational institutions as resource people in their related activities.

Besides in-country activities, RVO also provided Vanuatu volcano agency with volcano crisis response assistance with mobile seismic monitoring equipment and some community awareness activities for a 3-week period in 2010.

RVO also provides frequent volcano situation reports to Darwin VAAC, the regions volcano ash advisory center on ash and aviation disaster.

Statistics on eruption casualties

Listed below is statistics on human casualties from volcanic eruptions in Papua New Guinea.

Rabaul

1937 - 500 deaths
1994 - 5

Lamington

1951 - 3000

Manam

1996 - 13
2005 - 1

The only few events above shows a decline in human casualties. Other eruptions between 2000 and present had no casualties.

All the above activities played a part in the low numbers of casualties in recent times.

Challenges

The main challenges in having ongoing community awareness/prepared programs and having an affordable and reliable instrumental monitoring and early warning system relies heavily on funding resources.

Solutions

Be proactive in conducting activities associated with reducing disaster risk for a safer community with available limited resources, and continually explore opportunities for external funding to continue systematic programs such as above.

PART II.

The level of internal funding RVO receives from its mother Department to support its activities associated with the theme of this award is virtually nil. However, it has been lucky and fortunate to have conducted the major programs stated above with external funding from Australian Government Aid. The total funding expended in these programs is in the vicinity of U\$100,000.00 over twelve years. This funding has ceased as of this year and the likelihood of RVO to continue this activity nil.

If RVO is awarded this prize it will use the funds in the following areas;

- Revise and reprint some of the awareness leaflets/pamphlets and posters
- Continue to conduct community awareness/preparedness activities aimed at reducing volcano-related disasters and associated risk for a more safer
- Improve some of the monitoring equipment to enhance early detections of volcanic precursors before an eruption so adequate early warnings can be provided to all stakeholders.



A community awareness session in a coastal village in Bogia District, Madang Province in 2011.



A community awareness session in a Primary School outside Kime Town, West New Britain Province in 2011.

Self-sufficiency — it's your responsibility

Mitigating disaster & reducing vulnerability

BREAKING THE LINK

HAZARD → **DISASTER**

There are many things a community can do to live more safely with volcanoes:

- Develop a disaster plan
- Plan evacuation routes
- Build airstrips and wharfs
- Support your volcano observatory
- Ensure people live in safe places, away from ashfall zones and the paths of pyroclastic flows and lava flows.

Australian AID

You can't stop eruptions but you *can* reduce disasters!

Section of an awareness poster on reducing disasters risk.