

Original Research

The Principles of The Kelud Community in Disaster Management



Vitaria Wahyu Astuti^{1*} & Rimawati¹

¹STIKES RS Baptis Kediri, Kediri, Indonesia

Article Info	Abstract
Article history: Received: 30 September 2020 Accepted: 17 February 2021	<i>Introduction:</i> Natural disasters often occur in Indonesia have prompted the Indonesian government to organize community-based disaster risk reduction which aims to make all Indonesian people resilient in dealing with disasters. The Kelud community is a disaster-resilient community capable of living in peace with disasters and able to immediately rise after experiencing a disaster. The purpose of this study was determined the principles of disaster management in the Kelud community.
Keywords: disaster-resilient community, principle of disaster management, phenomenological study	<i>Methods:</i> This study was a qualitative design with a phenomenological approach. The population in this study were people living close to Mount Kelud, namely Wonorejo Village, Kepung District, and Kebonrejo Village, Puncu District. This study used purposive sampling totaling 15 participants. Data were collected by means of a Focus Group Discussion using an online interview guide, trustworthiness was performed by data triangulation. <i>Results:</i> Data analysis found three themes in the coping principles 1) Fast and precise principles, 2) Priority principles, and 3) Communication and coordination principles. Participants followed the discussion process well, answering questions based on experiences carried out in disaster management. <i>Conclusion:</i> The community is able to implement the principles of disaster management according to the knowledge and skills they have acquired at the training held by the Regional Disaster Management Agency, Jangkar Kelud, and based on the experiences carried out when Mount Kelud erupted.

*Corresponding Author:

e-mail: vitariawahyu@gmail.com



This work is licensed under a Creative Commons Attribution 4.0 International License.

INTRODUCTION

Indonesia is known as a beautiful country called the Emerald of the Equatorial country but on the other hand, Indonesia is also known as a country that prone to natural disasters, non-natural disasters, and even social disasters [1]. Indonesia often experiences disasters because Indonesia is a region that has the largest archipelago in the world consisting of 129 active volcanoes often known as the ring of fire and Indonesia also located at the intersection of the three active tectonic plates of the world [2]. According to Belanawane, it explains that the Indonesian archipelago as a whole has the potential to experience a volcanic eruption with different intensity and strength [3]. The impact of volcanic eruptions is magnificent which can change the ecosystem and social life of people on the slopes of the mountain [4], [5].

Data from the Central Volcano and Geological Disaster Mitigation Agency noted that East Java Province has 7 active volcanoes, one of them is Mount Kelud located on the border of two districts, namely Kediri and Kediri districts [6]. Mount Kelud erupted in 1000 and most recently in 2014, the highest number of casualties occurred in 1919 with the number of fatalities reaching 5160 people. The areas of Mount Kelud that had a very bad impact at the time of the eruption were Ngancar, Puncu, Kepung, and Plosoklaten because these locations were cold lava flows.

Indonesia is a disaster-prone area because Indonesia's territory lies in the ring of fire in the world. Indonesia is aware of the magnitude of the potential for disasters and the risks they cause. This has led Indonesia to have laws and government regulations on

disaster management [7]. A disaster is a natural or non-natural event that happens to anyone and causes damage to the biological, psychological, and spiritual elements, either individually or in general, found in a nation and country experiencing a disaster [8]. Disaster risk is the potential loss caused by a disaster in an area and within a certain period of time, such as death, injury, illness, life threatened, loss of security, displacement, damage or loss of property, and disruption of community activities [9], [10]. Disaster management is a series of efforts that include the establishment of development policies at risk of occurrence of disasters, disaster prevention activities, emergency response, and rehabilitation [10], [11]. One of the activities of the response is community-based disaster risk reduction. This activity involves people at risk actively in assessing, analyzing, dealing with, monitoring, and evaluating disaster risk to reduce vulnerability and increase their capacity [9]. The international declaration states that the paradigm of disaster risk reduction is a basis for disaster management because it can encourage community resilience development aimed at increasing community capacity in better managing the impact of disasters [12]. This is in line with the results of research which states that losses are not a single impact for the community, such as farmers in the Mount Merapi area who benefit after the eruption because fertile soils make farmers more productive. In addition, abundant sand can be used as a new occupation, such as sand mining [13].

Disaster resilient community indicators are the resources, knowledge, skills, and

strength that the community possesses to defend, prepare, prevent, mitigate and cope with adverse impacts or be able to quickly recover from an experienced disaster [14]. The Kelud community is one example of a community that is able to live side by side with danger and can be called a disaster-resilient community because they can immediately rise from the impact of the volcanic eruption in 2014. Based on this phenomenon the research was carried out aimed to determine the principles of the Kelud community in disaster management.

METHODS

This study was a qualitative design with a phenomenological approach. The population in this study were people living close to Mount Kelud, namely Wonorejo Village, Kepung District, and Kebonrejo Village, Puncu District. This study used purposive sampling totaling 15 participants consisting of elements 1) local village government, 2) members of regional disaster management organizations, 3) communities actively involved in disaster management. Data was collected by online Focus Group Discussion (FGD) using the WhatsApp Group video call application which was divided into 2 sessions with an interview guide. Analyze data by doing Describing, Meaning, Categorization, Constants Comparative Method, and Connecting Categories. The validity of the data uses data triangulation techniques using source triangulation to compare the data from the discussion with the results of interviews with two sources who play a role in handling the Mount Kelud eruption, specifically Jangkar Kelud and the Chairman of the TSBD

(Regional Disaster Alert Team). The research was carried out after it was declared that it fulfilled all ethical requirements by the Health Research Ethics Commission of STIKES Baptist Hospital Kediri with letter number 076 / I / VI / EC / KEPK-3 / STIKES RSBK / 2020 and received approval from Badan Kesatuan Bangsa dan Politik Pemerintahan Kabupaten Kediri with number letter 070/277 / 418.62 / 2020.

The interview guides used were: 1) What is meant by disaster?; 2) How many types of disasters do you know about?; 3) What do you understand about disaster management?; 4) How do you know about the principles of disaster management when you were involved in handling the Mount Kelud eruption?; 5) How do the attitude of the community in disaster management?.

RESULTS

Data collected on 15 participants who were active in the response to the Mount Kelud eruption using the focus group discussion method which was divided into 2 groups. Group one was conducted with participants from Wonorejo Village, Kepung District and group two was carried out on 6 participants from Kebonrejo Village, Puncu District. Participants were dominated by men (80%), the average age of the participants ranged from 46-55 (40%), and most (46%) had experience in overcoming volcanic eruptions 2 times.

Themes

Data transcripts were done manually by coding the findings and grouping findings to get a theme [15], [16]. Data transcripts from

the discussion obtained 3 themes in the principles of disaster management according to the Kelud community, specifically 1) Fast and accurate, 2) Priority and 3) Communication and Coordination.

1st Theme: Fast and Accurate

The principle of being fast and precise was carried out by participants based on their knowledge and experience, 60% of the participants conveyed the principles of being fast and appropriate in disaster management. The principle of being fast and precise in responding to early warnings that have been made previously with the TSBD team, and in accordance with the disaster management stage, if not fast and accurate will increase the number of casualties and material (EK, PJ, MK, WDD, BS, SA, SE, FA, BA).

“...Cepat dan tepat sesuai dengan perencanaan yang sudah disusun sebelum terjadi bencana Bu...”

“.....Prinsip cepat dan tepat sesuai dengan arahan dari tim desa tangguh bencana Bu...”

“.....prinsip cepat dan tepat harus dilakukan dalam penanggulangan bencana, supaya tidak ada yang terlambat dalam penanganannya...”

2nd Theme: Priority

In disaster management, the principle of priority must be implemented. This was conveyed by 26.67% of participants that in disaster management the main principle is to save oneself. The evacuation process must prioritize vulnerable groups such as toddlers, pregnant women, and the elderly. During disaster management, we have to help

ourselves and not expect other people's help (PJ, MK, IK, DT).

“...dalam menyelamatkan korban harus mendahulukan kelompok kelompok rentan seperti balita, lansia, ibu hamil...”

“...prinsip saya simple Bu dalam penyelamatan diri yang kita dahulukan adalah diri kita sendiri yang utama..”

“...intinya itu jangan menambahi jumlah korban dimana kita harus mengutamakan keselamatan diri dan keluarga, dan kedua yang perlu kita pahami yang bisa membantu kita adalah diri kita sendiri jangan mengharapkan bantuan dari orang lain...”

3rd Theme: Communication and Coordination

Another important principle in disaster management is communication and coordination. As many as 26.67% of participants stated that the principle that has been adhered to by regional disaster management teams and the community is communication. Each village was given an amateur radio used to provide information regarding the change in the status of Mount Kelud from the Jangkar Kelud team. Meanwhile, the team and the community conducted coordination through socialization at social or religious events thus when Mount Kelud erupted, residents did not panic because it was well coordinated (WDD, BS, EK, HR).

“...prinsip dari kami itu memberi kenyamanan, ketenangan dan ketentraman pada masyarakat bahwa semua itu harus bisa diantisipasi, jika

sudah diantisipasi masyarakat akan bisa tenang dan tentram..., prinsip nyaman dan tenang secara umum itu begini Bu ketika kita sudah mensosialisasikan pada masyarakat bagaimana cara untuk mengantisipasi jika gunung kelud itu meletus, apa yang harus dilakukan paling gak sudah ada gambaran sehingga masyarakat jika ada kabar tentang gunung kelud meletus itu tidak hanyut tidak bingung karena sudah terkoordinir dengan baik...”

“...Menambahi untuk yang dikatakan oleh pak Bs terkait nyaman itu tadi adalah jika terjadi bencana kita menjelaskan kepada warga bahwa mereka tidak sendiri dalam menghadapi bencana tetapi kita ada untuk mereka sebagai perwakilan dari pemerintah yang akan bersama sama dengan mereka...”

“...saya menambahi Bu bahwa prinsip dalam penanggulangan bencana gunung

kelud meletus prinsip yang selama ini kita pegang adalah komunikasi, komunikasi yang selama ini dilakukan oleh tim siaga bencana pada saat gunung kelud meletus adalah kita mengetahui perubahan status gunung kelud adalah dari jangkar kelud beserta tim siaga yang lain. Komunikasi yang kami lakukan adalah dengan menggunakan HT atau radio amatir yang dimiliki oleh tim sehingga setiap jika terjadi apa-apa kami akan segera tahu dan segera melakukan tindakan sesuai arahan...”

“...kesiapsiagaan bencana berprinsip dengan 3 pilar dimana ada selalu ada kerjasama yang baik dalam penanggulangan bencana khususnya gunung kelud meletus, tiga pilar itu adalah babinsa, kamtibmas dan pemerintah desa buk...”

Table 1
The participants' demographic data (n=15)

Variable	Frequency	%
Gender		
Female	3	20
Male	12	80
Age		
26-35	3	20
36-45	5	33,3
46-55	6	40
56-65	1	6,7
> 66	0	0
Experience in countermeasures for Mount Erupt		
1 time	6	40
2 times	7	46,7
3 times	2	13,3

DISCUSSION

The research was carried out aimed to determine the principles of the Kelud community in disaster management, based on this qualitative phenomenological have three principles is Fast and Accurate, Priority, Communication and Coordination. based on the Republic of Indonesia Law the principles of disaster management are Fast and Accurate, Priority, Coordination and Integration, Efficient and Effective, Transparency and Accountability, Partnership, Empowerment, Non-Discrimination, and Non-Proletion [10].

Disaster management strategies become a reference in responding to human behavior or social groups in facing a disaster threat to become more effective, thus this strategy needs to be developed and applied to become a part of human life or groups experiencing a threat of disaster in their daily life [14]. The community is a group of people who lived interacting with each other in certain areas, have legal ties, a strong sense of solidarity and common goals, locality or common needs, for example living in an environment that is both exposed to the same risk of danger, concerns and hopes about disaster risk [9]. Disaster risk reduction aims to reduce socio-economic vulnerability to disasters. Therefore it is necessary to develop an internal disaster management mechanism called Community Based Disaster Management [3]. In various incidents, disasters are related to how the pattern of individual or community knowledge about a disaster threat and patterns in dealing with a disaster threat [14]. Individual community preparedness in making action plans when a disaster strike is

key to successful evacuation [17], [18]. It is also stated in research that community preparedness for disasters is related to community knowledge about disasters [19]. Actions against disaster risk consist of preventive measures, relief, evacuation, and rehabilitation. The form of action is taken to avoid and face risks, not diverting risks [7]. Community participation actions in mitigation activities include disaster education, disaster preparedness, self-preparation, making early warning systems, and saving property [20].

In community-based disaster risk reduction efforts, it is also necessary to pay attention to the principles of disaster management [21]. The principles of disaster management according to law number 24 of 2007 consist of fast and precise principles, priority principles, coordination and integration principles, efficient and effective principles, transparency and accountability principles, partnership principles, empowerment principles, non-discriminatory principles, and non-proletisi principles (prohibition to spread religion or belief during a disaster emergency, especially through the provision of disaster emergency assistance and services). Basic principles International of disaster management 1) Avoid anything best undertaken by survivors themselves, 2) Support and strengthen local governance and capacities, 3) The assessment of human needs is more important than any damage assessment, 4) The compulsory evacuation of survivors should be avoided, 5) Local content in building emergency shelters should be encouraged, 6) Reconstruction of damaged buildings should be a priority rather

than a focus only on temporary solutions, 7) Preparedness is crucial to reduce post-disaster impacts, 8) Reconstruction is an opportunity for risk reduction and reform, 9) The relocation of communities, whether temporary or permanent, should be avoided, 10) Success in reconstruction is closely linked to issues of land tenure, government land policy, and all aspects of land-use and infrastructure planning, 11) Cash donations and the creation of dependency should be avoided, 12) Avoid raising the expectations of affected local communities, 13) The success of post-disaster interventions strictly depends on accountability and the participation of local people, 14) Guidelines should be developed at the local level, by local people, modelled on international guidelines [22].

ACKNOWLEDGMENTS

Based on the results of the study, it was found that the overall principles carried out by residents had been practiced by all levels of the Kelud community. The community is able to implement the principles of disaster management according to the knowledge and skills they have acquired at the training held by the Regional Disaster Management Agency, Jangkar Kelud, and based on the experiences carried out when Mount Kelud erupted.

CONCLUSION

We would like to thank Kementrian Riset dan Teknologi/Badan Riset dan Inovasi Nasional (RISTEK-BRIN) who have provided Research and Service funding for Research and Community Service in Higher Education for the 2020 fiscal year, to Badan Kesatuan dan Politik Pemerintah Kabupaten Kediri for the

recommendations given in conducting this research as well as to all participants in this study.

REFERENCES

- [1] AIPTINAKES JATIM, *Panduan Teknis Pengabdian Masyarakat: Panduan Kegiatan Peningkatan Ketangguhan Masyarakat oleh Dosen dan Mahasiswa*. Malang: Alta Pustaka, Imprint Dioma, 2018.
- [2] BNPB, "Profil BNPB," 2016. [Online]. Available: <http://www.bnpb.go.id/home/sejarah>. [Accessed: 04-Apr-2020].
- [3] O. Sukama, "Pengetahuan Manajemen Bencana dan Kearifan Sosial di Kabupaten Malang," *J. Sosio Konsepsia*, 2018.
- [4] S. E. Atmojo, A. Rusilowati, S. I. A. Dwiningrum, and M. Skotnicka, "The reconstruction of disaster knowledge through Thematic learning of science, environment, technology, and society integrated with local wisdom," *J. Pendidik. IPA Indones.*, 2018.
- [5] H. Tjahjono, *Kesiapan Daerah dalam Pengurangan Risiko Bencana*. Malang: BPBD Jawa Timur, 2020.
- [6] Pusat Vulkanologi dan Mitigasi Bencana Geologi, *Sejarah Letusan Gunung Kelud*. Kediri: Pusat Vulkanologi dan Mitigasi Bencana Geologi, 2014.
- [7] H. Suprayitno and R. A. . Soemitro, "Pemikiran Awal Tentang Prinsip Tindakan Mitigasi Preventif Resiko Bencana Alam Bagi Manajemen Aset

- Infrastruktur & Fasilitas,” *J. Manaj. Aset Infrastruktur Fasilitas*, 2019.
- [8] W. V. Astuti and Rimawati, *Keperawatan Bencana Dalam Komunitas: Untuk Mahasiswa Keperawatan*. Nganjuk: Adjie Media Nusantara, 2020.
- [9] PERKA, “Peraturan Kepala Badan Nasional Penanggulangan Bencana Nomor 1 Tahun 2012 tentang Pedoman Umum Desa/Kelurahan Bencana.” Badan Nasional Penanggulangan Bencana, Jakarta, 2012.
- [10] Pemerintah Republik Indonesia, “Undang – undang Republik Indonesia Nomor 24 Tahun 2007 Tentang penanggulangan bencana.” Pemerintah Republik Indonesia, Jakarta, 2007.
- [11] Pemerintah Republik Indonesia, “Peraturan Pemerintah Republik Indonesia Nomor 21 Tahun 2008 Tentang Penyelenggaraan Penanggulangan Bencana.” Pemerintah Republik Indonesia, Jakarta, 2008.
- [12] J. W. Cresswell, *Designing and Conducting Mixed Methods Research*. United States of America: SAGE Publications, 2011.
- [13] D. Yudistira, R. N. Fadilah, and A. B. Setiawan, “The Impact of Merapi Mountain Eruption to the Society,” *Effic. Indones. J. Dev. Econ.*, 2020.
- [14] R. Pramono, “Sociological Perspectives In Disaster Management,” *J. Masy. dan Budaya*, 2016.
- [15] Giyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: CV.Alfabeta, 2015.
- [16] L. Moleong, *Metodologi Penelitian Kualitatif*. Bandung: Rosdakarya, 2014.
- [17] N. Umar, “Pengetahuan dan kesiapsiagaan masyarakat menghadapi bencana Banjir di bolapapu kecamatan kulawi sigi Sulawesi tengah,” *J. Keperawatan Soedirman*, 2013.
- [18] Khambali, *Manajemen Penanggulangan Bencana*. Yogyakarta: Penerbit Andi, 2017.
- [19] N. M. Ula, I. P. Sriartha, and I. P. A. Citra, “Kesiapsiagaan Masyarakat Terhadap Bencana Banjir Di Desa Pancasari Kecamatan Sukasada Kabupaten Buleleng,” *J. Pendidik. Geogr. Undiksha*, 2019.
- [20] A. E. Sejati, M. Hasan, and D. N. Hidayati, “The level participation in efforts mount Kelud eruption disaster mitigation in East Java,” *Harmon. Sos. J. Pendidik. IPS*, 2019.
- [21] BNPB, *Buku Pedoman: Latihan Kesiapsiagaan Bencana*. Jakarta: Deputi Bidang Pencegahan dan Kesiapsiagaan, 2017.
- [22] A. J. Imperiale, Vancly, and Frank, “Command-and-control, emergency powers, and the failure to observe United Nations disaster management principles following the 2009 L’Aquila earthquake,” *Int. J. Disater Risk Reduct.*, 2018.