

Disaster Communication among Flash Flood Victims in Garut Regency

¹✉Tita Melia Milyane, ²Amalia Djuwita, ³Slamet Parsono, ⁴Lusy Mukhlisiana

^{1,2,3,4}Universitas Telkom, Bandung, Indonesia

E-mail: ¹✉meliamilyanenane@gmail.com, ²amaliadjuwita@gmail.com, ³slamparsono@gmail.com,

⁴lusy.mj@gmail.com.

Abstract. *This study focuses on disaster communication among victims of flash floods on Friday night, July 15, 2022. According to data from the Regional Disaster Management Agency (BPBD), the severe rain caused 112 places to flood, 27 areas to experience landslides, and nine regions to experience floods and landslides simultaneously. This study aims to determine how the local government handles disaster communication and how victims of flash floods react to government-managed disaster relief efforts. The theories used are public communication theory and the concept of disaster communication. The methodology used is qualitative, with data collection techniques through in-depth interviews with victims and local governments and literature reviews. The results showed that the government has tried to deal with the impact of flooding and communicate it through radio media, local newspapers, civil apparatus, and community empowerment and family welfare (PKK); however, after the flood was over, some residents chose to stay at the location for various reasons and considerations. In contrast, some other residents decided to occupy a new residence provided by the local government. The government also uses social media and WhatsApp groups to coordinate with related agencies and community elements.*

Keywords: *disaster communication, flash flood, public communication, disaster response*

Article Info:

Received 22 Feb 2024, Revised 22 Oct 2024, Accepted 22 Oct 2024, Available online 30 Dec 2024

Copyright (c) Tita Melia Milyane, Amalia Djuwita, Slamet Parsono, Lusy Mukhlisiana

INTRODUCTION

Garut Regency is currently Indonesia's second-most disaster-prone district. This is due to the active volcano, the south coast, the Cimanuk River, landslide-prone places, and floods in Garut. According to Garut Regent Rudi Gunawan, Garut is Indonesia's second most disaster-prone location, with as many as 16 sub-districts rated the most disaster-prone (Bandung, 2021). On Friday, July 15, 2022, a flash flood caused tremendous devastation. Significant material losses have been recorded in at least 14 sub-districts. According to reports, 43 pedestrian bridges, including clean water lines, were destroyed. The Cimanuk, Cipeujeuh, Ciwalen, and Cikendi Rivers burst due to heavy rainfall, flash floods, and landslides. Another possible reason for the floods and landslides is river

constriction.

The most visible consequence of this flash flood was the destruction of 43 bridges that locals used to cross for their daily activities, including as an intersection for kids to go to school. Several government offices, including the Sukaratu Village Office, were devastated, destroying many essential papers. According to Garut Regent Rudy Gunawan, the flood on Friday (15/7/2022) night was caused by high-intensity rain, which caused the overflow of several rivers, including the Cipeujeuh, Cimanuk, Ciwalen, and Cikendi Rivers, which inundated and submerged residentials in urban Garut (AS, 2022).

Data from the Regional Disaster Management Agency (BPBD) of Garut Regency shows that 14 sub-districts are affected by flash floods and landslides.

TABLE 1. Areas affected by flash floods and landslides in Garut

| No | District name | Name of sub-district or village |
|----|----------------|--|
| 1 | Tarogong Kidul | <ol style="list-style-type: none"> 1. Sukakarya 2. Kersamenak 3. Mekargalih 4. Cibunar 5. Haurpanggung 6. Sukajaya 7. Jayawaras 8. Jayaraga 9. Sukabakti 10. Pataruman |
| 2 | Tarogong Kaler | <ol style="list-style-type: none"> 1. Mekarwangi |
| 3 | Pasirwangi | <ol style="list-style-type: none"> 1. Padamukti 2. Padasuka 3. Padaasih 4. Padaawas <p>Three villages were hit by landslides: Pasirwangi, Karyamekar, Barusari</p> |
| 4 | Samarang | <ol style="list-style-type: none"> 1. Sirnasari 2. Cintaasih 3. Samarang 4. Cintarakyat 5. Sukakarya 6. Cintakarya 7. Sukalaksana <p>One village was hit by floods and landslides at the same time : Cintarasa Village.</p> <p>Three villages experienced landslides, namely:</p> <p>(1) Sukalaksana Village;</p> <p>(2) Cintakarya; and</p> <p>(3) Cisarua</p> |
| 5 | Banyuresmi | <ol style="list-style-type: none"> 1. Sukaratu |
| 6 | Cibatu | <ol style="list-style-type: none"> 1. Mekarsari 2. Singdangsuka |
| 7 | Karangpawitan | <ol style="list-style-type: none"> 1. Suci 2. CIMurah 3. Situjaya 4. Sucikaler 5. Lengkongjaya 6. Singdangjaya |
| 8 | Garut City | <ol style="list-style-type: none"> 1. Paminggir 2. Kota Kulon 3. Ciwalen 4. Cimuncang 5. Muarasanding 6. Sukamentri |

| | | |
|----|-------------|--|
| 8 | Garut City | 7. Kota Wetan 8. Margawati 9. Pakuwon 10. Regol |
| 9 | Cilawu | 1. Ngamplangsari 2. Pasanggarahan 3. Cilawu 4. Dayeuhmanggung 5. Dangiang 6. Mangkurakyat 7. Sukamukti 8. Mekarmukti 9. Sukatani 10. Mekarsari 11. Ngamplang 12. Sukamaju 13. Sukamentri |
| 10 | Banjarwangi | 1. Wangunjaya 2. Banjarwangi 3. Padahurip 4. Jayabakti 5. Kadongdong |
| 11 | Cigedug | 1. Cigedug 2. Barusuda |
| 12 | Bayongbong | 1. Panembong 2. Mulyasari 3. Pamalayan 4. Ciburuy 5. Karyajaya 6. Bayongbong 7. Sukasenang 8. Mekarjaya 9. Mekarsari 10. SInragalih 11. Ciela 12. Salakuray |
| 13 | Cikajang | 1. Cibodas 2. Mekarsari 3. Mekarjaya |
| 14 | Singajaya | 1. Sukawangi 2. Singajaya 3. Karangagung 4. Ciudian |

The flash flood also knocked down several power lines, flooded railroad tracks in Ciwalen, stranded the train in Wanaraja, and wrecked several public amenities, such as clean water pipelines. As stated by Ugun Wiguna, Technical Director of PDAM Garut Regency, a

pipeline bridge in the Nangewer region was cut off, disrupting water delivery to the Babakan Sabri area. This also prevented the production pump at the Cipulus MA source from running, causing the interruption of clean water supply in various sections of the Garut Kota,



FIGURE 1. Infographic of Districts Affected by Floods and Landslides



FIGURE 2. Residents' Houses Affected by Flash Floods

Tarogong Kidul, and Kaler branches. The pouring rain also caused some routes, including the Cigugur-Banjarwangi Road and the Munjul Bayongbong route, to be impassable (WAG, 2022). Floods struck Haurpanggung and Sukakarya Villages, according to Tarogong Kidul Police Chief Alit Kadarusman, with the water level in Haurpanggung reaching more than 2 meters due to its proximity to the Cimanuk River.

Disasters always happen abruptly, often with different levels of severity, posing a significant challenge for effective

information exchanges and coordination. (Ravichandran Moorthy, 2018). The enormous region destroyed after the flash floods and landslides in Garut requires immediate action so that victims do not have to suffer too long. In order to get the proper answer in disaster management, the government and allied agencies, as well as the communities, must be able to develop strong communication properly and be measured as well as directed. The communication process will be effective if the communicator performs his role so that a reasonable and expected communication

process occurs, where ideas or ideas are discussed in deliberation between the communicator and the communicant. There is an understanding of information or everything that becomes the subject of discussion to lead to agreement and unity in opinion. (Maharani, 2018).

Floods can be caused by a variety of circumstances, including natural events. Therefore, their occurrences are classified as natural disasters. A flood is caused by natural factors such as (1) high rainfall; (2) river capacity that cannot accommodate the volume of water; (3) poor drainage system; (3) low infiltration ability; (4) topographic conditions of low and sunken areas; (5) the influence of physiography and environmental geography; (6) sedimentation due to erosion; (7) high tide; and so on (Selasar.com, 2020).

Based on the facts of the casualties and damages caused by the flash flood in Garut, several communication issues merit further investigation, ranging from decision-making to action. The author concentrates the study on two aspects: (1) disaster communication carried out by the local government in overcoming flash floods and (2) how the community responds to disaster impact mitigation efforts. The research objectives consisted of (1) analyzing disaster communication carried out by governments and (2) knowing community actions on disaster management. This research is urgent in analyzing disaster communication before and after it occurs. Another urgency is to analyze public communication in disaster-prone communities.

A few researchers have conducted similar investigations on disaster communication, but some significant distinctions exist. One is a research article entitled *Communicating Flood Risk: Looking Back and Forward at Traditional and Social Media Outlets* by David Feldman et al. that analyzes decision-

makers' challenges in disseminating catastrophe risk information to the public. The problem in disseminating information to flood-prone regions includes the selection of communication channels most preferred by flood-prone populations. Government agencies utilize social media because it is considered a valuable medium for providing formal and informal information sources to diverse audiences, thereby creating an effective two-way communication vehicle between citizens and the government. The study also discusses how to improve community capacity to manage disasters by developing flexibility in community communication systems to deal with uncertain events, having alternative or redundant means of communication in community systems to provide information to vulnerable populations, having translators available who can reach people with special communication needs; and conducting training for community organizations and groups. (Feldman et al., 2016).

The following similar research is from Daniel Henstra et al.'s work, *Communicating Disaster Risk. An Evaluation of the Availability and Quality of Flood Maps*. This research suggests that one of the top priorities for disaster risk reduction is ensuring decision-makers, stakeholders, and communities understand their exposure to disaster risk so they can take protective action. Flood maps are potentially valuable tools for understanding flood risk, but previous research has found that their availability and quality vary widely. This research assesses the quality of publicly available flood maps in Canadian communities located in designated flood-risk areas. The results indicate that a more integrated effort to provide high-quality and publicly accessible flood maps is required to fulfill Canada's global commitment to disaster risk reduction (Henstra, 2019).

Another interesting study, *Trust and the Communication of Flood Risks: Comparing the Roles of Local Governments, Volunteers in Emergency Services, and Neighbors*, was written by S. Seebauer et al. This paper discusses risk information as something that needs to be communicated by trusted groups to encourage changes in attitudes and behavior. It compares different levels of trust in local government, volunteers in emergency and relief services, and neighbors and how trust in these groups shapes residents' perceptions and actions related to flood risk. Structural equation modeling was applied to Austria's 2007 sample of flood-prone households. The findings revealed that residents had strong trust in volunteers and assigned high competence to them, which enhanced risk perception while decreasing denial and wishful thinking. Trust in local government reduced risk, forced locals to rely on outside assistance, and fostered fatalism and wishful thinking. Trust in neighbors enhances one's reliance on social assistance while reinforcing wishful thinking. These trust impacts reflect each group's responsibilities and risk narratives. Risk communication can be introduced as a supplement activity in emergency services and voluntary help, where elderly and retired volunteers appear exceptionally qualified as risk communicators (S. Seebauer, 2017).

In the context of disaster communication, every party from any element must be able to master good public communication, especially when mastering the psychological masses who are suffering from disasters. Public communication is carried out to a heterogeneous public or audience where the messages and information conveyed are educative, influence the audience, are organized, and use various channels or media. In this case, public communication is carried out by BPBD through radio

media, PKK communities, government devices, and WhatsApp group social media. Social media aims to improve human social interaction through the Internet and web technology. They have evolved from direct communication with broadcast media for a large audience to the practice of dialogical communication among many audiences. (Dedeh Fardiah, 2020). In order to help communities understand how to prepare for emergency events like floods, fires, hurricanes, and earthquakes, government emergency management agencies employ public communication to inform and educate the public about hazards like these (Johnston, 2020).

In addition, Littlejohn said that communication is difficult to define. Like most terms, the word is abstract and has numerous meanings (Morissan, 2014). Disaster response and recovery ecology includes communication as a crucial component (Spialek, 2019). Communication during a disaster is needed to find out the process of evacuating victims, analyze the causes of flooding, how to overcome flooding, calculate the amount of loss and damage due to flooding, and as a form of psychological strengthening for flood victims. Good disaster communication is one part of disaster management. The simplest definition of disaster management is responding quickly and appropriately to events, their constituent parts, and their aftermath in the face of deadline constraints, impending peril, and a deficiency of precise and sufficient knowledge (Arisandi, 2019). Disaster communication is also essential as a means of coordination between governments, other stakeholders, and the community in general.

Disaster communication is not only necessary during a disaster emergency but also during the pre-disaster period. Preparing communities in disaster-prone

areas must always be done. In addition to adequate information about potential disasters in an area, training and the internalization of habits to deal with disaster situations must also be carried out on an ongoing basis. However, it must be remembered that abundant information is insufficient to make people aware of the dangers of disasters that threaten them. The method of conveying information must also be done appropriately. Communication mistakes can lead to uncertainty that worsens the situation (Nurdin, 2015).

METHODS

The paradigm used in this research is constructionism, which considers that the universe is epistemologically the result of social constructivism, meaning that with constructivism, it is hoped that reality can be built by human reason. According to Guba in Eko Mardiyanto, “knowledge can be described as the result or consequence of human activity; knowledge is a human construction, never accounted for as a fixed truth but is a problem and always changing.” This means that human activity constructs reality, and the result is not a fixed truth but is constantly evolving (Murdianto, 2020). This study used qualitative methodology. Researchers chose a qualitative approach because this research is natural and involves emotions, thoughts, hopes, ideas, and individual interactions, namely flash flood victims and local governments (BPBD). Data was collected by interviewing 15 victims from Tarogong Kidul District and BPBD, as many as four people, as well as observations of flash flood events and their impacts. The informants were selected using purposive techniques, in the form of taking or selecting informants using specific considerations, that is (1) The primary informants were flash flood victims in Tarogong Kidul District and BPBD Garut Regency (2) Informants

were willing to be interviewed, and the results were published in this study.

The subjects in this study were the government and victims of flash floods in Garut Regency, who came from two different sub-districts, namely Tarogong Kidul District and Bayongbong District. The informants were selected using a purposive technique, namely the retrieval or selection of informants using certain considerations that are by the specific characteristics they possess, while the criteria for informants in this study are as follows: (1) The primary informants are victims of flash floods in Tarogong Kidul and Bayongbong Subdistricts. (2) Informants are residents of the two sub-districts who are heavily affected; (3) Informants are willing to be interviewed, and the results are published in this study.

The data analysis technique used is the Miles and Huberman interactive model, which consists of 3 steps, namely: (a) data reduction; in this stage, the researcher selects and focuses on simplifying, abstracting, and transforming the rough data obtained; (b) presentation of data (data display); the researcher develops a description of the information arranged to draw conclusions and take action. Data display or presentation commonly used in this step is narrative text; (c) conclusion drawing and verification. Researchers seek to draw conclusions and verify them by looking for the meaning of each symptom obtained from the field, noting regularities and configurations that may exist, the flow of causality of phenomena, and propositions.

RESULTS AND DISCUSSIONS

RESULTS

Post-Flood Trauma and Losses

The flash floods that occurred in Garut Regency in 2016 and 2022 still left stories of trauma, anxiety, and horror for most of the victims. According to the informant, they felt anxiety and fear of the

flood disaster but felt unable to do much. Generally, disasters are measured by the cost of social and economic damage. The Regional Disaster Management Agency (BPBD) said that material and moral losses inevitably impact disasters. Along with the social and economic losses, the individuals and communities experience mental instability, which might precipitate Post Traumatic Stress Disorder (PTSD), Anxiety, and Depression in the population (Makwana, Vol 8 (10) 2019). Study findings showed that flood is a considerable stressor that develops PTSD. (Seyedin, 2017). The risk of a disaster depends on an individual's exposure to disaster sensitivity and resilience. It also considers the requirements of vulnerable groups, such as the elderly (Guddo, 2022). A 65-year-old informant claimed that all the stuff, including dozens of gas tubes, was swept away. Computers and Play Station gaming equipment were also swept away. The entire damage he suffered amounted to tens of millions of rupiah. Losing property and even many family members is certainly not easy to deal with. However, disasters do come unannounced, and humanitarian agencies usually go into the disaster-affected areas shortly after a disaster, often without much knowledge about the target communities they are dealing with. According to the informants, post-flood recovery took a long time. They struggled to overcome their sense of loss, fear, anxiety, and even fear that the flood would come again. (Ravichandran Moorthy, 2018). According to the victim's informant, the cause of the flooding was not only the endless rain but also the fact that since the dam was built, it seems as if the water has been restricted from flowing, but according to BPBD, the dam was made to anticipate and measure water levels. At the time of the event, 32 homes were in Rengganis, Paminggir Village. However, just a few families remain because most

have been relocated to government-provided houses. In addition to losing property and residence, other impacts of the flood include many residents' documents that were washed away, including several personal identities, diplomas, and other essential documents.

Stages of Disaster Communication by the Government

Flood evacuation is a complex and dynamic process where humans interact with their environment, leading to additional hazardous conditions (Bernardini, 2017). Vulnerability to flooding is increasing, and it is linked to several factors: (1) stakeholders, (2) environment, (3) communities, and (4) infrastructure and maintenance (Muh Aris Marfai, 2014). BPBD conducts emergency response and disaster recovery by regional regulation (Perda) number 12 of 2022 concerning the Implementation of Disaster Management and coordinates with partners such as villages, sub-districts, volunteers, and other agencies (Fitriana, 2023). In addition to evacuating and cleaning the disaster area, the local government of Garut Regency provides house buildings with the status of Right to Use Building (HGB) for permanent relocation for victims. Currently, the HGB houses provided by the government are only inhabited by some flood victims. In contrast, others have decided to stay at the scene of the incident because, according to them, they have made up their minds there and have lived in the area for about 30-40 years, and also because the HGB house provided by the Garut Regency Government is very far away, requiring them to use a motorbike, whereas the average resident does not. It is not just because of the remote location; it is also because they must begin adjusting to their new surroundings, particularly children who must be transferred to school or who have problems driving when they must



FIGURE 3. post-flood situation in Garut



FIGURE 4. Assistance for Victims Affected by the Garut Disaster

work. It is not just about the far location; it is also because they must adapt to the new environment, especially children who have to be transferred to school or residents who have difficulty driving when they have to work. One informant said that they were at home living there and did not want to move, and some of them had even rebuilt the ruins of their houses that had been flooded. At this time, the residents did not anticipate any special measures to deal with the flooding; they could only pray that the flood would not happen again.

The Garut local government conducts disaster communication, including through radio media and local print media. BPBD communicates through media centers and WhatsApp groups of volunteers and sub-districts,

while the website is less updated due to limited human resources (currently, BPBD only has around 50 personnel and does not have a Regional Technical Implementation Unit / UPTD) (Fitriana, 2023).

BPBD states that information obtained from local radio shows that the Garut Regency Government, its offices, and the Indonesian National Defense Forces (TNI) acted promptly. The Regional Drinking Water Company (PDAM) immediately restored the damaged drinking water pipelines. Indeed, the flood caused households to lose clean water for drinking and bathing (Talk, 2022). Therefore, the PDAM responded quickly by rebuilding clean water pipes and establishing water reservoirs to meet residents' clean water demands.



FIGURE 5. Clean Water installation in Cimacan, Tarogong Kidul District



FIGURE 6. Post-disaster repair relocation of Garut City/Up Cibuntu Branch

The field's muddy condition, along with several destroyed bridges, made it impossible for anyone who would give help to reach the road. The cooperation of numerous cross-functional government agencies and volunteers progressively fixed the access issue. According to informants, assistance during the floods did exist, although it was not distributed evenly.

The Population and Civil Registration Office (Disdukcapil) immediately assisted by setting up a registration post and replacing lost documents. According to the Head of Disdukcapil Garut, Natsir Alwi, the service data that has been published currently includes 43 family cards (KK), 31 birth certificates, and one death certificate. (Alwi, 2022). Furthermore, it will be held again Monday, July 18, 2022 with the same activity in a different location, namely in Ciwalen Village RW

7, 8, 9 and 11 Ciwalen Village, Garut Kota District (www.gosipgarut.co.id, 2022).

The Garut Regency Government, in this case, the Regent of Garut, Rudi Gunawan, directed citizens to clean up flood-damaged regions by offering cash for labor. "I give Rp500,000 per house to be cleaned up by the ordinary ones." "For the heavy ones, if there is a collapse or loss, we will reimburse Rp1 million because our finances in BTT are sufficient to assist the people of Garut who are affected by this disaster," Rudi remarked (www.gosipgarut.id, 2022). Meanwhile, Dr. Helmi, the Vice Regent of Garut, noted that food and clean water are the essential demands of the population when personally examining the flood location in the Dayeuhhandap region, Garut Kota Subdistrict. The Vice Regent also appreciated the residents who had worked together to help their neighbors affected by the flood: "The most refugees



FIGURE 7. Location of Issuance of Lost/Damaged Population Documents



FIGURE 8. Residents Help Each Other Overcome the Impact of Flooding

here are in Dayeuhhandap. The others are submerged but threatened because here the height is 2.5 meters from the land affected by the flood,” said the deputy regent (AS, 2022).

The Garut Regency Government also disseminated information quickly through various local media, such as radio, WhatsApp groups, and various online media. The media is essential in disseminating accurate and responsible information in a disaster situation (Widyastuti, 2021). This was done as a form of moral responsibility for the disaster. Technological advances have transformed how communication teams disseminate information to the public during a crisis event (Matthews Collins, 2016). In disaster management, precisely disaster response, networks are essential because many individual organizations with a common concern come together (Ayub Kutosi Masaba, 2023). In addition,

with the dissemination of information as widely as possible, the community can help each other and extend help, as well as provide real action by going directly to the location of the incident.

The Disaster Communication Model

Interview with one of the informants that disaster communication by the Garut Regency administration is often handled after a catastrophe event has occurred, also known as after the tragedy. However, when a disaster happens, the administration of Garut Regency appears solid, one of which is the genuine action of traveling down to the site, spreading information continually, and calling on all government agencies to work together to overcome calamities. Multiorganizational response to emergencies and disasters requires collaboration. Therefore, improving the collective response is an essential question but difficult to answer.



FIGURE 9. Infographic of the Latest Report on the Garut Flood Disaster

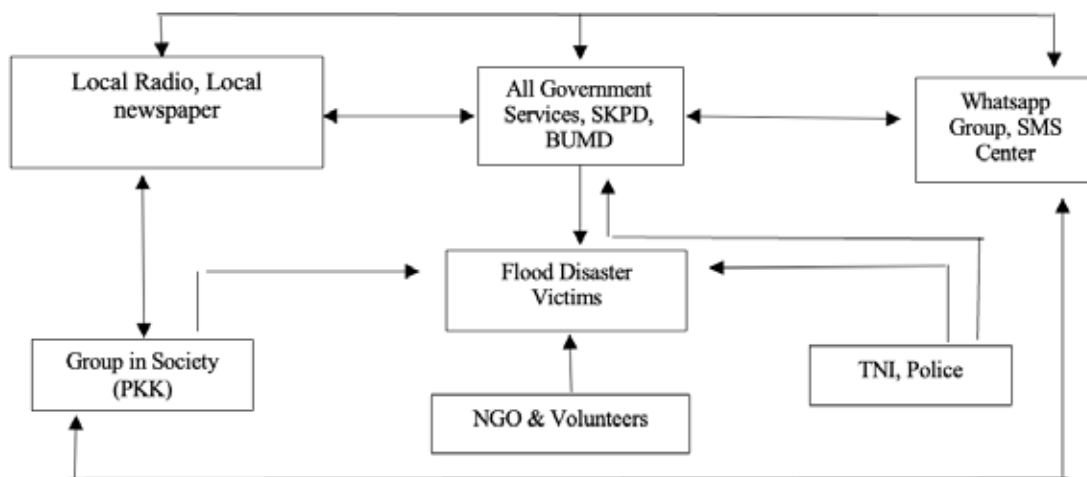


FIGURE 10. The Disaster Communication Model

(Tove Frykmer at, 2021). Meanwhile, the inhabitants appear strong, assisting one another and empathizing with the tragedy. The government’s communication model for overcoming flood disasters in Garut Regency is carried out simultaneously through various elements. When a disaster occurs, the government, through BPBD, coordinates across government agencies/local government work units (SKPD), where each SKPD then moves to carry out its respective duties. One of the SKPDs involved is the Communication and Information Service, which disseminates information to various communication channels such as radio, WhatsApp groups, SMS centers, and local newspapers. The Hygiene Service,

the Public Works Office, the Indonesia National Army (TNI), and the police were also assisted by the SAR team, and volunteers evacuated the victims at the scene. Meanwhile, the Regional Drinking Water Company (PDAM), a regionally owned enterprise (BUMD), is repairing the drinking water network and providing drinking water for flood victims. All teams move simultaneously and continuously until the condition is declared safe and the victim is handled correctly. The role of Family Welfare Development (PKK) is to provide food and beverages for evacuation teams in the field. PKK and volunteers also carry out post-flood trauma recovery through various approaches and activity programs.

DISCUSSIONS

Disaster Prediction

Disaster can not be avoided, but the risk of disasters can be diminished through mitigation. (al, 2021). Untuk mengatasi kondisi krisis ini, upaya sistematis diperlukan untuk mendorong upaya perencanaan, pengorganisasian, pelaksanaan dan mengevaluasi kinerja dalam mengatasi krisis (Riska Dian Vinance, 2021). The warnings issued were, in many cases, either not received by decision-makers or by the public or were misunderstood. Missed or inappropriate warnings hamper effective disaster response. (Zischg, 2024). BPBD has conducted a disaster analysis in Garut and mapped it based on data in the field. It has been assisted by disaster-prone data from the inarisk.bnpb.go.id application. Disaster anticipation for flood-prone areas is by building embankments and dams on the Cimanuk River. Anticipate landslide-prone areas by planting trees to prevent reforestation and stone walls.

Maximum Use of Information Media

Due to the nature of disaster, which is full of uncertainty, communication is the main foundation in minimizing this uncertainty; communication in the context of disaster plays a role as access to information needs in the process of prevention, preparation, and mitigation through the dissemination of information related to disasters. (Riska Dian Finance, 2021). The reluctance of flood victims to move from the scene to the relocation site provided by the government shows

a failure to communicate the emergency. Information on the severity of rainfall, for example, provided by BMKG and BPBD through the INARISK application (Fitriana, 2023), demonstrates no predictive response. In addition to using local radio, local newspapers, and WhatsApp groups, BPBD also uses Instagram to spread its information. BPBD's Instagram has 1065 posts and 11,900 followers, but it is low in engagement and reach. BPBD needs to develop an excellent digital media strategy, such as increasing engagement, using hashtags, and measuring its digital media's effectiveness.

Disaster Training

Flood risk management can be divided into two parts: flood risk analysis and assessment, on the one hand, and risk mitigation, on the other. Flood risk assessment aims to establish where the risk is unacceptably high and where mitigation actions are necessary. Risk mitigation means proposing, evaluating, and selecting measures to decrease risks in these areas (Vojtekova, 2016). BPBD anticipates disasters through volunteer training on an ongoing basis. These volunteers will later function to help BPBD when a disaster occurs. BPBD also conducts socialization in disaster-prone communities by including sub-district heads, village heads, and youth organizations. Hopefully, disaster preparedness information from these elements can be passed on to the community. However, in flash floods in

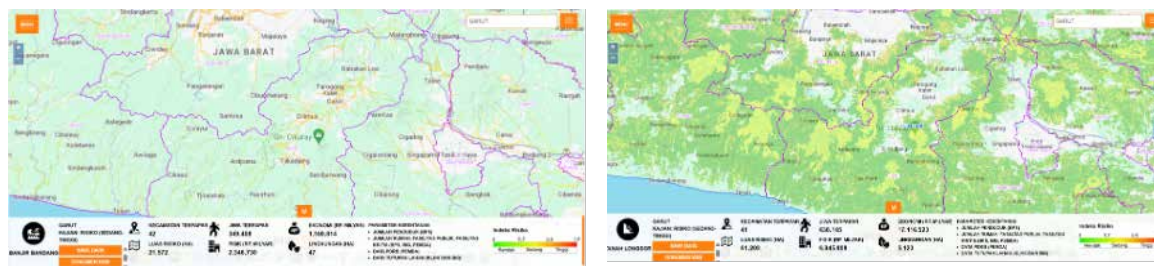


FIGURE 11. Map of flood and landslide-prone areas

Garut, people living on the banks of the river have not been entirely willing to evacuate to new places provided by the government. This raises concerns and questions about the cause of reluctance to move, even though the danger of flooding can occur again at any time. As more inquiry reports and analyses are published, flood risk management is entering a new period of socio-governmental petrification: one where the scale, costs, and severity of impacts are prompting questions about the efficacy of existing flood risk management (R.Cook, 2004). In this case, the government needs to further explore the psychological factors of riverbank communities by more intensely involving volunteer elements in disaster recovery. In addition, persuasive communication needs to be continuously carried out by the government through various personal and group approaches. The government also needs to know the aspirations conveyed by flood victims to produce bottom-up policies in the future.

CONCLUSION

Disaster communication by BPBD is carried out through several stages, starting from mapping disaster-prone areas, cross-sectoral coordination, and using radio media, newspapers, WhatsApp groups, and Instagram. Theoretically, BPBD has carried out the disaster management cycle quite well, namely mitigation, emergency handling, rehabilitation, and disaster reconstruction. However, researchers see that in the rehabilitation process, BPBD does not optimally carry out a psychological and cultural approach to disaster victims, so in the case of this flash flood, there are still quite a lot of flood victims who do not want to be moved to a safer place that the government has provided.

The people affected by the flash floods responded well to the government's evacuation and relocation efforts, but some

flood victims felt that the government was not acting reasonably. The government did not see which natives had houses to live in and which tenants, so those who had rented had the same rights during the evacuation. Finally, disagreement over this relocation effort caused some flood victims to stay in flood-prone areas with all the risks they may face.

ACKNOWLEDGMENTS

We express our gratitude to the Garut Regency government, the Regional Disaster Management Agency and flood victims who have been willing to receive us well and follow the focus group that we held. We also express our gratitude to Telkom University for facilitating the implementation of this research activity well from beginning to end. Hopefully, this research can be helpful.

REFERENCES

- al, Z. K. (2021). The role of communication as the disaster risk reduction in Indonesia capital city transference Policy. *2nd International Conference on Disaster and Management-IOP Conf. Series: Earth and Environmental Science*, 708.
- Alwi, N. (2022, Juli Sunday). Penanganan Bencana Banjir oleh Disdukcapil. (GG, Pewawancara)
- AS, Y. (2022). *Bupati Garut Nyatakan Banjir pada Jum'at Malam Akibat Tingginya Intensitas Hujan*. Garut: GosipGarut. id.
- Ayub Kutosi Masaba, J. M. (2023). Humanitarian Organizational Network and Effectiveness of Disaster Response — A Theoretical Review. *Journal of Emergency Management and Disaster Communications*, 1-12.
- Bandung, K. T. (2021). *Garut Peringkat Kedua Daerah Rawan Bencana di Indonesia*. Bandung: Kompas TV.
- Bernardini, G. e. (2017). Flooding risk in existing urban environment: from human behavioral patterns to a

- microscopic simulation model. *Energy Procedia*, 131-140.
- Daniel Henstra, A. M. (2019). Communicating disaster risk? An evaluation of the availability and quality of flood maps. *Natural Hazards and Earth System Sciences*, 313–323.
- David Feldman a, S. C. (2016). Communicating flood risk: Looking back and forward at traditional and social media outlets. *International Journal of Disaster Risk Reduction*, 43-51.
- Dedeh Fardiah, F. D. (2020). Media Literacy for Dissemination Anticipated Fake News on Social Media. *MediaTor, Vol 13 (2)*, 278-289.
- Fetty Arisandi K, C. U. (2019). Komunikasi Bencana Sebagai Sebuah Sistem. *Mediakom: Jurnal Ilmu Komunikasi Volume 3 No. 1*, 29.
- Fitriana, T. (2023, Nopember Thursday). Kesiapsiagaan Bencana. (TMM, Pewawancara)
- Guddo, R. B. (2022). Understanding the Vulnerability, Resilience and Quality of Life of older adults during natural disasters. *Disaster Advances*, 54-58.
- Hasbi Salman Ashidiq, I. B. (2019). Perubahan Risiko Bencana Banjir Bandang Berdasarkan Perubahan Guna Lahan Dan Peningkatan Jumlah Penduduk Di. *Jurnal Dialog Penanggulangan Bencana Vol. 10, No. 1*, 53.
- Johnston, K. M. (2020). Emergency management communication: The paradox of the positive in public communication for preparedness. *Public Relations Review*.
- Maharani, D. (2018). Manajemen Komunikasi pada Petugas Kebersihan Kota Palembang. *Medator : Jurnal Komunikasi, Vol II (1)*, 119-128.
- Makwana, N. (Vol 8 (10) 2019). Disaster and its impact on mental health: A narrative review. *National Library of Medicine*, 3090-3095.
- Matthews Collins, K. N. (2016). Communication in a disaster - the development of a crisis communication tool within the S-HELP project. *Journal of Decision Systems*, Volume 25, 160-170.
- Morissan. (2014). *Teori Komunikasi Individu hingga Massa*. Jakarta: Kencana Prenadamedia Group.
- Muh Aris Marfai, A. B. (2014). Community responses and adaptation strategies toward flood hazard in Jakarta, Indonesia. *Natural Hazards*, 1127-1144.
- Murdiyanto, E. (2020). *Metode Penelitian Kualitatif (Teori dan Aplikasi disertai Contoh Proposal)*. Yogyakarta: LP2M UPN Veteran Yogyakarta Press.
- Nuridin, R. (2015). Komunikasi dalam Penanggulangan Bencana. *Jurnal Simbolika: Research and Learning in Community Study*, 1.
- Purba, B. (2020). *Ilmu Komunikasi Sebuah Pengantar*. Yayasan Kita Menulis.
- R. Cook, B. (2004). Flood risk management of the future: A warning from a land down under. *Journal of Flood Management*.
- Ravichandran Moorthy, G. B. (2018). Disaster Communication in Managing Vulnerabilities. *Jurnal Komunikasi, Malaysian Journal of Communication*, 51-66.
- RimbaKita.com. (2022). *Banjir Bandang – Pengertian, Karakteristik, Dampak Banjir*: rimbakita.com.
- Riska Dian Finance, R. K. (2021). Disaster Communication Strategies to Improve Preparedness and Reliable Communities. *Scholars International Journal of Law, Crime and Justice*, 482-491.
- S. Seebauer, P. B. (2017). Trust and the communication of flood risks: comparing the roles of local governments, volunteers in emergency services, and neighbours. *Journal of Flood Risk Management*.
- Selasar.com. (2020). *Pengertian Banjir (Penyebab, Dampak, Proses, Macam)*.

- selasar.com.
- Seyedin, H. H. (2017). Psychological sequels of flood on residents of southeast Caspian region. *Natural Hazards*, 965-975.
- Spialek, M. J. (2019). The influence of citizen disaster communication on perceptions of neighborhood belonging and community resilience. *Journal of Applied Communication Research* , 1-23.
- Talk, B. N. (2022). *Banjir Bandang Garut*. Garut: Radio Reks FM.
- Tita Melia Milyane, H. U. (2022). Pengantar Ilmu Komunikasi. Dalam K. D. Komunikasi, *Konsep Dasar Ilmu Komunikasi* (hal. 4). Bandung: Widina Bhakti Persada Bandung.
- Tove Frykmer at, a. (2021). Advancing the Field of Disaster Response Management: Toward a Design Science Approach. *International Journal of Disaster Risk Science*, 220-231.
- Vojtekova, M. V. (2016). Flood hazard and flood risk assessment at the local spatial scale: a case study. *Geomatics, Natural Hazards and Risk*, 1973-1992.
- Widyastuti, D. A. (2021). Using New Media and Social Media in Disaster. *KOMUNIKATOR*, 101-111.
- www.gosipgarut.co.id. (2022). *Jemput Bola, Inovasi Disdukcapil Garut dalam Mempercepat Pelayanan kepada Masyarakat*. Garut: www.gosipgarut.co.id.
- www.gosipgarut.id. (2022). *Bupati Garut Nyatakan Banjir pada Jumat malam Akibat Tingginya Intensitas Hujan*. Garut: www.gosipgarut.id.
- Z Khumairoh, I. K. (2021). The role of communication as the disaster risk reduction in Indonesia capital city transference policy. *2nd International Conference on Disaster and Management-IOP Conf. Series: Earth and Environmental Science*, 708.
- Zischg, A. P. (2024). From flood impact modelling to flood impact forecasts. *Journal of Flood Risk Management*.