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Risk Communication For Community Preparedness In Flood Disaster

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Abstract

Indonesia is the third country with flooding potential after India and China, especially in its low-land areas. Flood disasters certainly risk the surrounding community. Therefore these risks need to be understood, managed and communicated beforehand so that people can lead a better life. Thus, risk communication is needed. With the implementations of risk communication so far in society, this research applies the literature review method. This method includes several steps, including identifying, assessing, and providing interpretation of the literature. As a result, many people still prefer to develop risk communication independently and deal with disasters based on personal experience due to the low level of public trust in the government. Future research then requires an approach to formulate effective flood risk communication steps and techniques for use by disaster-prone communities.

Keywords: Risk Communication, Community, Flood disaster

1. INTRODUCTİON

Indonesia is one of the countries with great potential for flood disasters, especially in its lowland areas, judging from the lowland topography, curvature and its areas which are mostly ocean (Rahmat et al., 2021). Indonesia ranks third in the world as a flood-prone area (Zahir et al., 2022), which accounts for 55% of flood events in Indonesia and 18% of them are followed by landslides. It is recorded that Indonesia has 5,590 main rivers and 600 of them have the potential to cause flooding (Kuswati & Zulaikha, 2020). Floods often hit vulnerable areas. The causes include several things, namely human activities that result in spatial changes that can affect natural changes, natural events such as high rainfall and sea tides, and environmental degradation such as the loss of plants. This certainly risks people living in vulnerable areas.

According to Siregar & Wibowo (2019), behavior to understand the risk is how individuals and social groups see and assess their environment and what things can threaten their lives based on a general perspective. These risks must be understood, managed and communicated to make people live comfortably, safely and happily. Regarding disaster risk reduction, Law Number 24 of 2007 has explained that reducing risk can be done through physical activities, community awareness, and disaster management improvement. Disaster management in question, among others, is through the proper organization and process steps.

Based on the description above, this research will gain insight into disaster risk communication. The disaster to examine in this study is the flood disaster. The research will examine the risk communication established by the Indonesian people in dealing with floods to be used as a reference for other citizens to prepare themselves for a potential flood disaster.

2. LİTERATURE REVİEW

In the disaster management discipline, disaster risk is the correlation or interaction between an area's level of vulnerability and potential hazard threats (Prelog & Miller, 2013). The threat of danger in question is primarily a permanent hazard from the natural side and causes the dynamics of changes in the earth's surface through natural processes. The vulnerability level of an area can be reduced by increasing the ability to address threats (Berkes, 2007). The wide scope of the area and the demand for the participation of all communities requires the most effective communication strategy so that disaster risk reduction activities can run optimally. Therefore, it is necessary to formulate risk communication to be used in dealing with disasters (Dransch et al., 2010).

Risk communication is an applied scientific discipline developed since the early 1970s (Tamitiadini & Pradheksa, 2022). Risk communication is an interactive activity between individuals or community groups in conveying risk information to the parties involved. This communication aims to minimize a risk that might occur by linking risk perception and risk management (Alhasany & Fatimah, 2022). People at risk of being affected by a disaster are ordinary people, so the information then delivered must be easy to understand. Communication emphasizes adjustment of the community's perceptions of risks with technically correct risks.

3. RESEARCH METHOD

This research uses a literature review as a method to get answers to research questions. It is carried out through several steps, namely identifying the literature, reviewing

and evaluating it, and providing interpretations of the literature related to previous studies. This method will be used to examine several scientific studies under established processes. Based on this explanation, literature with the keywords flood disaster and risk communication or a combination of these words that have the same meaning needs to be collected.

The literature data obtained will be archived and then processed. The literature used is closely related to the keywords used and obtained from several websites such as Google Scholar and Scopus through the help of the Publish and Perish applications. The articles collected are then analyzed and summarized, and later presented in tabular form. The research results will be brought into a complete discussion to answer the research questions.

4. RESULT

Some previous studies related to risk communication are as follows.

Tabe 1. Studies on disaster risk communication

No.	Author and Year od Research	Research Title	Research Result
1.	(Abunyewah, 2016)	Influence Of Risk Communication On Intention To Prepare For Flood Hazards In Informal Settlements	According to thematic analysis, community participation is served through stakeholders' platforms to reduce the ambiguity of flood messages and increase message adequacy by answering questions in the application platform.
2.	(Setyadi et al., 2016)	Farming Relokasi dan Komunikasi Risiko Bencana Erupsi Gunung Merapi	Communities in disaster-prone areas construct and develop risk communication as a result of distrust in the government's performance and credibility in handling disaster risk reduction.
3.	(Ogie et al., 2018)	Artificial Intelligence in Disaster Risk Communication: A	This study found that research activities focused on two areas: (1) prediction and monitoring for the early warning system, and (2) information extraction and classification for situational

		Systematic Literature Review	awareness. These broad areas are covered, including background information to help build future applications of AI in disaster risk communications. This paper concludes with recommendations on several ways to allow AI applications to play a broader role in disaster risk communication.
4.	(Kammerbauer & Minnery, 2019)	Risk communication and risk perception: lessons from 2011 floods in Brisbane, Australia	Research shows how important it is to identify the institutional fragmentation issues in communication and the active involvement of recipients in understanding and interpreting flood risk information. Targeted information about risks is to avoid misinterpretation of warning information.
5.	(Ben Walkling, 2020)	Flood risk perceptions and coping capacities among the retired population, with implications for risk communication: A study of residents in a north Wales coastal town, UK	Adults' perceived vulnerabilities, capacities, and risks concerning disasters are diverse and dynamic. The participants' coping capacity varies, with some being able to support others, and others showing limited means to prepare for a flood. Some are very concerned and aware of the encountered risks, while others show no concern and/or no awareness.
6.	(Binh et al., 2020)	Risk communication, women's participation and flood mitigation in Vietnam: An experimental study	This research demonstrates that communicating flood risks and how to address them by improving threat assessments and countermeasures will motivate households to take more non-structural action. While formal risk communication has an immediate effect,

			informal risk communication is internalized through psychological variables.
7.	(Suryandari & Wijayani, 2022)	Mewaspadai Bencana: Perspektif Global tentang Komunikasi Risiko Bencana	In the case of disaster management related to global terrorism, what needs to be considered is the need to overcome the language barrier. The next research needs to examine public reactions to disaster warning messages and disaster management policies in terms of handling disaster issues at the global level.
8.	(Pratiwi, 2022)	Komunikasi Risiko Kesiapan Masyarakat Desa Blang Beurandang Menghadapi Bencana Banjir	Risk communication for disaster preparedness has not been fully well-run, as seen from several indicators studied. First, regarding the Message and Information indicator where people have not been optimally informed. As messages and information mostly come from the village apparatus, some people of Blang Beurandang Village act according to their experience when dealing with the flood.
9.	(Mol et al., 2022)	After the virtual flood: Risk perceptions and flood preparedness after virtual reality risk communication	Many individuals encounter issues in understanding and preparing for the possibility of high-impact risks, such as flooding. This research investigates VR simulation of floods as a risk communication strategy that can address the possibility of under-weighting and help people understand the risks. Studying the persistence of the effect by conducting a follow-up survey a few weeks after the VR intervention

			becomes the major novelty of this current setting.
10.	(Li & Yi, 2023)	How Can Community-Based Organizations Improve Flood Risk Communication? A Case Study of China Based on Grounded Theory	It is difficult for traditional risk communication to run effectively in vulnerable groups. Thus, there is a lack of risk knowledge in many contextual systems. Community trust, reciprocity, and a common goal to improve livelihoods developed through knowledge acquisition and trust mechanisms are the driving forces behind the gradual increase in community resilience, although not everyone is receptive to disaster reduction strategies in a short time.

Individuals have unique and diverse personalities, as seen from the disaster management of each individual or each community group. Vulnerabilities, capacities, and perceived risks related to disasters also vary and move dynamically. Each individual has varying capacities. Some can work together and support each other to analyze and deal with disasters, but some show limitations in preparing for floods (Rose & Jayawickrama, 2016). Some are very concerned and aware of the risks, while others show no concern or awareness.

Table 1 presents the results of previous studies. Abunyewah (2016) explained that the community can basically participate in improving disaster management through a communication website platform operated by stakeholders. The public can send messages such as questions and answers to stakeholders operating the platform. Risk communication is mediated by platform applications to reduce message ambiguity. Contrary to Abunyewah, Setyadi et al (2016) found that communities around disaster-prone areas prefer to construct and develop risk communication independently since residents have a low level of trust in government performance.

5. DİSCUSSİON

Risk communication will work effectively if both parties (government and community) want to work together (Boholm, 2019), the community needs to convey their perceptions regarding risk management to the government to allow the government to

analyze problems and issues within society, make policies and deliver information about them using a proper approach. Community trust, reciprocity, and a common goal to improve livelihoods developed through knowledge acquisition and trust mechanisms are the driving forces that can strengthen a gradual increase in community resilience, although not everyone is quickly willing to accept disaster reduction strategies.

Apart from that, risk communication also needs to provide information about the causes of the disasters to identify fault points to be corrected later and predict how significant the impact will be. It is important to identify the communication issues, but this will be ineffective if there is no communication and active involvement from recipients of information and informants (Kammerbauer & Minnery, 2019). Risk communication is necessary to avoid misinterpretation regarding warning and handling information (Mehta et al., 2020). Research by Binh et al (2020) shows that communicating about flood risks and how to deal with them will motivate people to take more non-formal action.

Until now, risk communication for disaster preparedness has not been fully well-run. Pratiwi (2022) shows that the community is not optimally informed as the messages and information they receive are partly from the village apparatus and are very limited. So, when a flood occurs, some communities take action only based on their experiences. Through this literature review, it is necessary to increase risk communication in more detail, especially related to flood disasters, bearing in mind that Indonesia is the third country prone to flooding after India and China.

6. CONCLUSİON

Each individual has a unique and diverse personality as seen from how they deal with disasters in their area. Individuals in social groups can collaborate in improving disaster management by establishing communication with local governments. However, communities living in disaster-prone areas prefer to develop risk communication independently due to their low level of trust in the government. It is necessary to increase public trust since with mutual relations and common goals, knowledge will increase and serve as reinforcement for better disaster resilience. In particular, risk communication also should provide information about the causes and effects of potential disasters to make the scale of impact predictable. Future research needs to formulate more effective risk communication steps and techniques for flood disasters to be used by the community on a large scale.

REFERENCES

Abunyewah, M. (2016). *Influence of risk communication on intention to prepare for flood hazards in informal settlements* [School of Architecture and Built Environment]. https://nova.newcastle.edu.au/vital/access/services/Download/uon:34372/ATTACHMENT01

Alhasany, P. F., & Fatimah, S. (2022). Komunikasi Risiko Usahatani Kentang di Luar Daerah Sentra Produksi (Studi Kasus Kelompok Tani Palintang Jaya Desa Cipanjalu Kecamatan Cilengkrang Kabupaten Bandung). *Agrikultura*, *33*(2), 147–160. https://doi.org/10.24198/agrikultura.v33i2.39132

Ben Walkling, B. T. H. (2020). Flood risk perceptions and coping capacities among the retired population, with implications for risk communication: A study of residents in a north Wales coastal town, UK. *International Journal of Disaster Risk Reduction*.

Berkes, F. (2007). Understanding Uncertainty and Reducing Vulnerability: Lessons From Resilience Thinking. *Natural Hazards*, *41*(2), 283–295. https://doi.org/10.1007/s11069-006-9036-7

inh, P. T., Zhu, X., Groeneveld, R. A., & van Ierland, E. C. (2020). Risk communication, women's participation and flood mitigation in Vietnam: An experimental study. *Land Use Policy*, *95*(July), 104436. https://doi.org/10.1016/j.landusepol.2019.10443

Dransch, D., Rotzoll, H., & Poser, K. (2010). The Contribution of Maps to the Challenges of Risk Communication to the Public. *International Journal of Digital Earth*, *3*(3), 292–311. https://doi.org/10.1080/17538941003774668

Kammerbauer, M., & Minnery, J. (2019). Risk communication and risk perception: lessons from the 2011 floods in Brisbane, Australia. *Disasters*, *43*(1), 110–134. https://doi.org/10.1111/disa.12311

Kuswati, S. N., & Zulaikha, S. R. (2020). Preservasi Arsip Pasca Bencana Banjir (Studi Komparasi di LIPI Jakarta, Depo Arsip Koran Suara Merdeka Semarang Perpustakaan Ceria Demak). *Acarya Pustaka Jurnal Ilmiah Perpustakaan Dan Informasi*, *7*(2), 1–15. https://ejournal.undiksha.ac.id/index.php/AP/article/download/25683/19688

Li, Q., & Yi, L. (2023). How Can Community-Based Organizations Improve Flood Risk Communication? A Case Study of China Based on Grounded Theory. *Hebei Academy of Social Sciences*, *11*(2), 53. https://www.mdpi.com/2079-8954/11/2/53

Mol, J. M., Wouter Botzen, W. J., & Blasch, J. E. (2022). After the virtual flood: Risk perceptions and flood preparedness after virtual reality risk communication. *Judgment and Decision Making*, *17*(1), 189–214. https://doi.org/10.1017/s1930297500009074

Ogie, R. I., Juan, C. R., & Rodney, J. C. (2018). *Artificial Intelligence in Disaster Risk Communication: A Systematic Literature Review*.

https://ieeexplore.ieee.org/abstract/document/8636380/citations?tabFilter=papers#citations

Pratiwi, A. R. (2022). *Komunikasi risiko kesiapan masyarakat desa blang beurandang menghadapi bencana banjir*.

Prelog, A. J., & Miller, L. M. (2013). Perceptions of Disaster Risk and Vulnerability in Rural Texas. *Journal of Rural Social Sciences*, *28*(3), 1–31. http://www.ag.auburn.edu/auxiliary/srsa/pages/Articles/JRSS 2013 28/3/JRSS 2013 28 3 1-31.pdf

Rahmat, H. K., Syarifah, H., Kurniadi, A., Putra, R. M., & Wahyuni, S. W. (2021). Implementasi Kepemimpinan Strategis Guna Menghadapi Ancaman Bencana Banjir Dan Tsunami Di Provinsi Kalimantan Timur. *Jurnal Manajemen Bencana*, *7*(1), 1–18. https://doi.org/10.33172/jmb.v7i1.627

Undang-Undang Republik Indonesia Nomor 24 Tahun 2007 Tentang Penanggulangan Bencana, (2007).

Setyadi, Y., Sarwoprasodjo, S., & Muljono, P. (2016). Framing Relokasi Dan Komunikasi Risiko Bencana. *Jurnal Komunikasi Pembangunan*, *14*(2), 109–119.

Siregar, J. S., & Wibowo, A. (2019). Upaya Pengurangan Risiko Bencana Pada Kelompok Rentan. *Jurnal Dialog Penanggulangan Bencana*, *10*(1), 30–38.

Suryandari, N., & Wijayani, Q. N. (2022). Mewaspadai Bencana: Perspektif Global tentang Komunikasi Risiko Bencana. *Jurnal Ilmiah Ilmu Sosial*, *8*(2), 162–169. https://doi.org/10.23887/jiis.v8i2.47497

Tamitiadini, D., & Pradheksa, P. Y. (2022). *Dasar-Dasar Komunikasi Risiko*. Universitas Brawijaya Press.

Zahir, A., Jusrianto, Nur, H., & Parubang, D. (2022). Sanitasi dan Bakti Sosial Dalam Pencegahan Bencana Banjir di Kawasan Pesisir Aliran Sungai Rawan Banjir Pendahuluan. *Abdimas Singkerru*, *2*(2), 99–104. http://jurnal.atidewantara.ac.id/index.php/singkerru/article/view/140