

Fostering Mitigation Awareness in Disaster Communication: A Study of KPH Brang Beh, Sumbawa Regency

M. Syukron Anshori¹, Trian Nugroho HR², Ihwan Huda Al Mujib³
*syukron.anshori@uts.ac.id*¹, *triannugroho.hr1@gmail.com*², *mujib@polije.ac.id*³

*Affiliation: Communications Science Department
Sumbawa University of Technology^{1,2},
Language, Communication, and Tourism Department
Politeknik Negeri Jember³*

Abstract

This study aims to explore the role of the Forest Management Unit Brang Beh in managing natural resources within its jurisdiction, and to identify challenges in community awareness and readiness regarding disaster risk mitigation. Utilizing a qualitative research approach with a case study method, this study reveals a significant gap in public understanding of disaster risks and mitigation strategies, primarily influenced by insufficient communication and dissemination of adequate information. Research findings indicate that effective communication plays a crucial role in enhancing public awareness and participation in disaster risk mitigation. Communication challenges, such as limited access to official information platforms and inadequate disaster mitigation education, underscore the importance of adopting a more strategic and inclusive communication approach by KPH Brang Beh.

Keywords: Disaster Communication, Mitigation, Media, Communication

Introduction

Attention to environmental issues has become a hot topic worldwide. Human dependency on the environment makes this issue important to be studied both scientifically and in daily life. Sumbawa Regency, a region in West Nusa Tenggara Province, is renowned for its pristine and natural beauty. However, in recent decades, Sumbawa Regency has often been struck by natural disasters due to changes in natural ecosystems. The examples are the earthquakes in 2018, flash floods in April 2023, as well as increasing temperatures due to global warming, ecosystem pollution, and deforestation resulting from forest clearing. Public awareness of environmental protection has a significant impact on environmental stability. In principle, natural disasters, often perceived as harmful by society, are actually natural responses to human interaction with the environment (Muhari, 2023).

In the field of communication science, there is a study specifically addressing the environment and mitigation comprehensively. One of its goals is to raise environmental awareness among stakeholders and the public as audiences to reduce the occurrence of crises that can lead to disaster factors. Efforts to increase public environmental awareness refer to strategies and initiatives undertaken by the government in delivering environmental education. Although many studies have been done in this field, most focus on urban environmental aspects such as waste management and community lifestyles. As stated by Lestari (2018), communication strategies can be implemented before, during, and after a disaster occurs. This involves the careful crafting and delivery of messages to

ensure they are well received by various target groups, communication plays a crucial role in enhancing public environmental awareness.

Herutomo and Istiyanto (2021) emphasize that environmental communication provides a deeper understanding to the public about environmental issues, thus encouraging them to engage in mitigation and preservation efforts. Therefore, environmental communication is not only a tool for conveying information but also a means to trigger behavioral changes towards more environmentally friendly lifestyles.

Geographically, the management area of KPHP Brang Beh (Unit XI) under the Brang Beh Forest Management Unit Office in West Nusa Tenggara Province is located between 117°2'47"-117°26'36"E and 08°48'56"-09°4'50"S. Administratively, KPHP Brang Beh Unit XI encompasses 7 villages in the Lunyuk District of Sumbawa Regency, West Nusa Tenggara Province. From the initial observations of the research, there is an assumption that the community's awareness of risk mitigation in the UPT KPH Brang Beh area is still low. This assumption is based on several factors, including the lack of community understanding of potential disaster threats in their area, as well as the limited availability of information regarding concrete steps that can be taken to reduce these risks. In this context, communication is considered one of the key factors that can influence the level of awareness and preparedness of the community in facing disasters.

One of the communication issues identified in this study is the limited access to disaster risk mitigation information among the KPH Brang Beh community. This problem is exacerbated by the inadequate use of official media channels and the insufficient provision of mitigation education by local governments and related agencies. Additionally, there is a low frequency of disaster preparedness training in the area. Consequently, the community has a poor understanding of the concrete measures they can take to safeguard themselves and their families from disaster threats.

Additionally, another observed issue is the lack of adequate follow-up support after outreach programs, which hampers the community's shift towards a lifestyle more mindful of the forest ecosystem. The limited human resources at KPH Brang Beh significantly contribute to the ineffective environmental communication with the community. Changing the community's mindset and behavior remains a considerable challenge, further compounded by the low active participation of the community in the planning and implementation of disaster risk mitigation programs. Despite the implementation of several risk mitigation initiatives in KPH Brang Beh, community engagement in these activities is relatively minimal. This highlights a gap between government efforts to provide risk mitigation programs and the level of community involvement and understanding of their importance.

The assumption underlying the low awareness of the community regarding disaster risk mitigation in KPH Brang Beh is supported by findings from several previous studies. For example, research by Smith et al. (2018) found that the lack of adequate information access can be a major obstacle in efforts to increase community awareness of disasters and the necessary mitigation measures. Similarly, the study by Jones and Brown (2016) highlights the importance of community participation in the planning and implementation process of disaster risk mitigation programs to achieve more effective and sustainable outcomes.

In this context, this research offers strategies to broaden the understanding of disaster communication dynamics by identifying factors influencing the low community awareness of disaster risk mitigation. This study can provide a basis for the development of more effective and sustainable communication strategies to enhance community

preparedness and resilience to disasters. The research adopts a qualitative research method as its methodological foundation. The selection of this method is driven by the research focus aiming to delve into and comprehend a situation or event (Creswell, 2013).

The approach used in this research is the case study, which is one of the research types in social sciences enabling exploration of specific issues or objects within a phenomenon (Yona, 2006). This case study approach involves a series of in-depth and comprehensive research on a program, event, or activity at the individual, group, institution, or organizational level with the goal of gaining a deeper understanding of the phenomenon.

Method

This study employs a qualitative approach with research informants consisting of four actively involved employees from the Technical Implementation Unit (UPT) of KPH Brang Beh, conducted using purposive sampling method, where informants are intentionally selected based on predetermined criteria (Moleong, 2018). The data collection technique utilized is semi-structured interviews conducted directly with the planning team of KPH Brang Beh as the research subjects. Interviews are conducted using a predefined set of questions, with the flexibility to include additional questions as necessary to further explore the obtained information. In data analysis, the researcher applies the Miles and Huberman (1994) approach, involving stages of data processing and preparation, data reduction, data presentation, and data verification.

Findings and Discussions

The Technical Implementation Unit (UPT) Brang Beh is responsible for the management and utilization of natural resources within the administrative region of West Nusa Tenggara Province, specifically in the Sumbawa Regency. The Forest Area Map of the Working Area of BKPH Brang Beh in 2018 aligns with the Regulation of the Governor of West Nusa Tenggara Number 45 of 2018. Concerning Amendments to the Governor Regulation Number 29 of 2018 regarding the Establishment, Position, Organizational Structure, Duties and Functions, as well as the standard operating procedures of Technical Implementation Units in Regional Offices and Technical Implementation Units of Agencies in the West Nusa Tenggara Province.

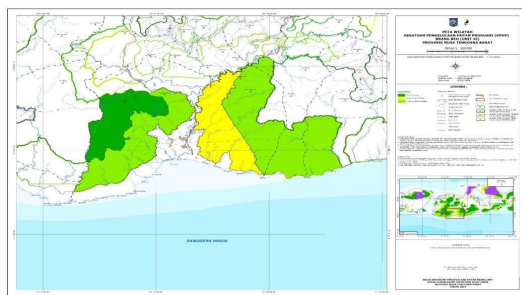


Figure 1: Administrative Working Area of the UPT KPH Brang Beh

The primary focus of forest management functions is to ensure the security and monitoring of forest conditions in accordance with the designated areas set by the government. This role significantly impacts the communities residing in forest proximity, as they traditionally rely on natural resources within the forest to meet their livelihood needs and utilize forest areas for cultivation purposes. Therefore, based on the interview

with the planning team of KPH Brang Beh, the UPT KPH Brang Beh plays a crucial role in managing forest conditions, given the increasing awareness among communities regarding the detrimental effects of declining forest quality in Sumbawa Regency. According to Purnomo (2018), forest technical implementers argue that issues such as fires, encroachment, illegal logging, and mining within forest areas are typically driven by the socio-economic conditions of the surrounding communities. Failure to address these issues effectively poses a threat to the sustainability of the forest itself. Empowering communities is perceived as the optimal solution to resolve these challenges.

Through appropriate communication strategies, it is anticipated that communities can comprehend and support forest conservation efforts in their vicinity. To achieve this goal, KPH Brang Beh must consider various factors influencing environmental communication strategies and identify supporting and inhibiting factors. The analysis of environmental communication strategies conducted by KPH Brang Beh is crucial in determining the direction and effectiveness of their environmental communication endeavors.

Research by Smith et al. (2018) indicates that appropriate communication strategies can enhance environmental awareness and community participation in conservation efforts. For instance, studies by Jones and Brown (2016) underscore the importance of involving communities in environmental decision-making processes to achieve more sustainable outcomes. Thus, it is imperative for KPH Brang Beh to adopt effective and sustainable environmental communication strategies, taking into account the needs and expectations of local communities and considering related environmental factors. In this context, this research makes a significant contribution to understanding and enhancing environmental communication strategies in the context of forest management in the region.

From the research findings, the forest management team of the Brang Beh Production Forest Area (KPHP) has mapped the potential forest ecosystem in its working area, which includes various mixed hardwoods available in the forest area, such as *binong*, *bungir*, and *kayu batu*, with tree diameters exceeding 40 cm and an estimated standing stock potential of 70 m³/ha. Additionally, other woody vegetation types can still be found in the forest area, including *bungir* trees (*Lagerstroemia speciosa*), *rapat bewe* (*Drypetes longifolia*), and *kukin* (*Schoutenia ovata* Korth).

Apart from the timber potential, the forest area of KPHP Brang Beh also harbors diverse Non-Timber Forest Products (NTFPs) potential, such as cinnamon, rattan, honey, liana, bamboo, and *porang*. Particularly for rattan, it is predominantly found in the Selalu Legini Forest Group (KH). However, the presence of rattan has not been optimally utilized by the surrounding communities, as indicated by the minimal traces of rattan extraction within the forest area. The fauna found in the KPHP Brang Beh area includes wild boar (*Sus scrofa*), deer (*Cervus timorensis*), *brahminy* kite (*Haliastur indus*), python (*Pythonidae*), and macaque (*Macaca fascicularis*). Meanwhile, the flora species still abundant in the forest area comprise rattan (*Calamus rotang* L), *kelicung* (*Diospyros macrophylla*), cinnamon (*Cinnamomum verum*), *melinjo* (*Gnetum gnemon*), and forest orchid (*Orchidaceae*).

From the interviews conducted with various stakeholders, including local communities and forest managers, it was revealed that forest encroachment by the local population is a significant phenomenon in the area. This practice is commonly undertaken as a means to expand agricultural land to meet daily living needs. The impacts of forest

encroachment are not only limited to environmental degradation but also have the potential to trigger conflicts between communities and forest management authorities.

As a response to this issue, KPH Brang Beh has made efforts to raise awareness and community participation in forest conservation efforts. One of the steps taken is through education and awareness campaigns regarding the importance of preserving the forest ecosystem and sustainable economic alternatives for local communities. Additionally, KPH Brang Beh continues to strengthen surveillance and law enforcement against illegal logging practices. However, challenges in addressing deforestation remain significant, primarily due to economic factors driving communities to engage in such practices. Therefore, a holistic and collaborative approach involving forest managers, local government, NGOs, and local communities is necessary to create sustainable solutions accepted by all stakeholders. Hr and Anshori (2023) asserted that environmental communication faces challenges due to the inadequate use of appropriate communication instruments, both internal and external inhibiting factors, insufficient post-education guidance, and limited human resources. This results in suboptimal implementation and an inability to significantly impact public awareness and behavior regarding ecosystem conservation. Therefore, it is important that KPH Brang Beh could undergo a series of strategic plan regarding the environmental communication as presented below.

Situation Analysis and Goal Setting

Several crucial aspects need consideration in preparing and planning environmental communication mitigation steps, including strategy development, community motivation and mobilization, and media selection. This analysis involves identifying the causes of deforestation, its impacts, and the actors involved in deforestation practices in the KPHP Brang Beh area. Research by Nur et al. (2023) indicated that economic pressure, legal uncertainty, and inadequate supervision are among the main causes of deforestation in Indonesia. After analyzing the situation, the next step is to establish clear objectives related to increasing public awareness. For example, a set goal could be enhancing community understanding of the importance of forest preservation and the negative impacts of deforestation. These objectives should be specific, measurable, achievable, relevant, and time-bound (SMART).

Audience Segmentation and Message Development

The next step is audience segmentation to understand who the target audience is for increasing public awareness efforts. Audiences can be divided based on demographics (age, gender, education) or psychographics (values, attitudes, behaviors). Research by Marbun (2020) showed that the level of understanding of environmental issues tends to differ between younger and older generations, thus requiring different communication approaches for each audience group.

The rapid development of communication technology enables messages related to deforestation to be conveyed through various media. However, these messages must be carefully designed to be effective and influential. Messages should clearly highlight the link between deforestation and disaster risks, such as floods, landslides, and loss of biodiversity. They should also depict the concrete impacts that may occur if deforestation practices continue, both on the environment and local communities. Research by K. Purwanto et al. (2023) demonstrated that providing concrete and relevant information can enhance understanding and awareness of the risks faced.

Furthermore, messages should provide a clear understanding of what disaster mitigation is and how mitigation practices can help protect communities and the environment from the adverse effects of deforestation. This includes educating on concrete steps that communities can take to reduce risks, such as reforestation, tree planting, and sustainable land management. It is also important to design messages that inspire and encourage real action from the audience. This can be done by including examples of successful case studies where mitigation practices have successfully reduced disaster risks, or by emphasizing the importance of active community participation in mitigation efforts. Additionally, messages should be crafted using language that is simple and easily understood by the target audience, without sacrificing depth of information. This is crucial so that messages can be accessed and understood by various segments of the population, including those with low literacy levels.

Media Selection

After disaster mitigation messages related to deforestation have been developed, the next step in increasing mitigation awareness is to select the appropriate communication media to reach the target audience in UPT KPH Brang Beh. Traditional media such as television, radio, and newspapers remain the primary choices for disseminating disaster mitigation messages to the broader community surrounding forest areas. Subsequently, online media, including official websites, social media, and content-sharing platforms, become vital means of spreading disaster mitigation messages to communities with internet access in rural forest areas. Educational content, infographics, and short videos about mitigation practices can be regularly posted on the official website of KPHP Brang Beh and various social media platforms such as Facebook, Instagram, X or Twitter, and TikTok to reach younger, technology-savvy audiences.

Asteria et al. (2023) state that addressing the prevention of misinformation related to disasters on social media is crucial for stakeholders, particularly within communities. Given the current impact of climate change leading to numerous disasters, effective management requires proactive measures in this regard. While social media can facilitate rapid dissemination of disaster-related information, the spread of false information can induce anxiety, fear, and erroneous decision-making among individuals preparing for and responding to disasters.

Furthermore, community media serves as an effective means of directly conveying disaster mitigation messages to communities in forest areas. Through workshops, group discussions, or community meetings, information about mitigation practices and steps that can be taken by communities can be conveyed in more detail and can trigger deeper discussions. Media selection should be tailored to the characteristics of the target audience, including literacy levels, media preferences, and technological accessibility. By effectively utilizing various types of communication media available, it is hoped that disaster mitigation messages related to deforestation can reach a wider audience and influence positive behavioral changes within the working environment and community.

Conclusion

This research underscores the vital role of The Technical Implementation Unit (UPT) Brang Beh in managing and utilizing natural resources in its area, highlighting the importance of forest condition management in relation to the livelihoods of local communities and environmental sustainability. The study reveals a significant gap in awareness and preparedness among communities for disaster risk mitigation, primarily due to inadequate communication and dissemination of information regarding disaster risks and mitigation strategies.

Findings and discussion indicate that effective communication is crucial in enhancing community awareness and participation in disaster risk mitigation efforts. The observed communication challenges, including limited access to official information platforms and minimal disaster mitigation education, underscore the need for KPH Brang Beh to adopt a more strategic and inclusive communication approach. This approach should aim to provide clear, accessible, and implementable information about disaster risks and mitigation measures, utilizing various media platforms to reach diverse segments of the population.

Moreover, the research highlights the need for a holistic and collaborative approach to address deforestation issues, involving forest managers, local governments, stakeholders, and the local community. Such collaboration is essential to develop sustainable solutions that balance economic development with environmental conservation, ensuring the long-term well-being of local communities and the preservation of natural resources. By enhancing awareness, participation, and community collaboration, KPH Brang Beh can enhance its efforts in disaster risk mitigation and forest conservation, ultimately contributing to environmental and local community resilience and sustainability.

Reference

- Asteria, D., Surpi, N. K., Brotosusilo, A., & Sukwatus Suja'i, I. (2023). Integration of Local Capacity Building in Countering False Information about Disaster Into Community-based Disaster Risk Management. *IOP Conference Series: Earth and Environmental Science*, 1275(1), 012028. <https://doi.org/10.1088/1755-1315/1275/1/012028>
- Creswell, J. W. (2013). *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (3rd ed.). SAGE Publications Ltd.
- Herutomo, C., & Istiyanto, S. B. (2021). KOMUNIKASI LINGKUNGAN DALAM MENGEMBANGKAN KELESTARIAN HUTAN. *WACANA: Jurnal Ilmiah Ilmu Komunikasi*, 20(1), 1–13. <https://doi.org/10.32509/wacana.v20i1.1165>
- Hr, T. N., & Anshori, M. S. (2023). *Strategi Komunikasi Lingkungan UPT KPH Brang Beh dalam Menjaga Ekosistem Hutan*. 10(2), 64–72.
- Jones, B., & Brown, C. (2016). Community participation in environmental decision-making: Challenges and opportunities. *Environmental Science & Policy*, 25(3), 298–312.
- Lestari, P. (2018). *Komunikasi Bencana Aspek Penting Pengurangan Risiko Bencana*. PT. Kanisius.
- Marbun, et al. (2020). Segmentasi Audiens dalam Meningkatkan Kesadaran Isu Lingkungan: Pendekatan Demografi dan Psikografis. *Jurnal Komunikasi*

Lingkungan, 8(2), 45–58.

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE Publications Ltd.
- Moleong, L. J. (2018). *Metodologi penelitian kualitatif* (Revisi). PT Remaja Rosdakarya.
- Muhari, A. (2023, April 5). Banjir Bandang Terjang Sumbawa, Belasan Rumah Hanyut dan Hewan Ternak Mati. *Badan Nasional Penanggulangan Bencana*. <https://www.bnpb.go.id/berita/banjir-bandang-terjang-sumbawa-belasanrumah-hanyut-dan-hewan-ternak-ma>
- Nur, Y., Wijayanti, Tiara, I. U., & Wijaya, W. (2023). Faktor Penyebab Perambahan Hutan di Kaki Gunung Kerinci Dalam Kawasan TNKS di Gunung Labu Kecamatan Kayu Aro Barat. *Jurnal Review Pendidikan Dan Pengajaran*, 6(2), 474–482.
- Purnomo, B. (2018). *Strategi Pemberdayaan Masyarakat Sekitar Kawasan Kesatuan Pengelolaan Hutan Produksi (Kphp) Model Unit Vii-Hulu Sarolangun Dalam Rangka Pengelolaan Hutan Lestari (Studi Kasus Desa Sungai Bemban, Kecamatan Batang Asai Dan Desa Temalang, Kecamatan Limun, Ka. UNIVERSITAS DIPONEGORO SEMARANG*.
- Purwanto, K. S., Kaliky, F., & Karepesina, S. (2023). Inventarisasi Populasi dan Karakteristik Habitat Burung Gosong Kelam (*Megapodius freycinet*) di Suaka Margasatwa (SM) Pulau Kassa Kabupaten Seram Bagian Barat. *Jurnal Agrohut*, 14(2), 85–105.
- Smith, A., Jones, B., & Brown, C. (2018). Understanding environmental communication: A multi-scale approach. *Journal of Environmental Communication*, 15(2), 123–135.
- Yona, S. (2006). Metodologi Penyusunan Studi Kasus. *Jurnal Keperawatan Indonesia*, 10(2), 76–80.