



Integrated Disaster Communication of Government Public Relations in Disaster Management of Mount Merapi Eruption, Sleman Regency

Adhianty Nurjanah

Media Communication Program, Faculty of Social and Political Science, Universitas Muhammadiyah Yogyakarta, Indonesia

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Abstract

Natural disaster management requires an integrative communication approach to minimize negative impacts on communities and tourists in at-risk areas, such as the Mount Merapi area. This study discusses the implementation of integrative disaster communication carried out by various parties, including the Sleman Regency BPBD, community institutions, local governments, and the tourism sector. This study uses a qualitative descriptive method with a case study method, with primary data collection techniques carried out through FGD and in-depth interviews with the Sleman Regency BPBD which acts as the main coordinator in collecting, managing, and disseminating information during pre-, during, and post-disaster. This study also identifies the role of local communities and non-governmental organizations in disaster mitigation based on local wisdom. Secondary data collection techniques are obtained through internet sources, documents, and related journals. Data analysis techniques use the Mile & Huberman Models, data triangulation is carried out to obtain data validity. The results of the study indicate that integrated coordination between platforms and sectors, supported by effective regulations, is the key to reducing community uncertainty and increasing tourist confidence in disaster management. These findings emphasize the importance of a collaborative and dialogical approach in disaster communication to support sustainable tourism in disaster-prone areas.

Keywords: *Integrative Disaster Communication; Government Public Relations; Mount Merapi Eruption*

Introduction

Indonesia is located in a disaster-prone region (Nurjanah, Ishak, & Sakir, 2019), and disasters in the country result in loss of life, property damage, environmental destruction, and impact various sectors, including the economy, socio-culture, security, and tourism (Urbanus, 2017). The tourism sector is Indonesia's third-largest foreign exchange contributor and serves as a key source of creative economy (Sutrisnawati, 2018). However, many tourist destinations in Indonesia face challenges due to their high risk of being situated in disaster-prone areas (Akbar, 2020). Most of Indonesia's popular tourist attractions are located in these high-risk regions (Nurjanah, 2022). Hence, according to Nurjanah's research, it is crucial to establish a communication system for disaster management (Budi, 2012) to

ensure safety and comfort in the tourism sector, which can be addressed through effective disaster communication (Atmasari, 2021).

Based on a 2021 Traveloka survey, Bali and Yogyakarta are the most sought-after destinations for tourism in Indonesia (Zaenuri, 2014). However, both regions are categorized as high disaster-prone areas but still attract visitors due to their appealing tourist attractions. In late 2010, tourist destinations in Sleman Regency, Yogyakarta, were severely affected by the eruption of Mount Merapi (Negoro, 2021). Similarly, Bali's tourism sector experienced a decline due to the eruption of Mount Agung from 2017 to 2018 (Sutrisnawati, 2018). These challenges underscore the need to construct safe and sustainable tourism (Coppola, 2009), accommodating visitor needs while ensuring safety in disaster-prone areas that house prominent tourist attractions (Fitra et al., 2001).

In disaster management, communication is a critical aspect to minimize risks (Lestari, 2018). Government public relations, specifically BPBD (Disaster Management Agency), acts as a facilitator, communicator, and mediator between the government and affected communities (Fetty & Uman, 2019). Clear information can provide a sense of security for tourists visiting destinations in Indonesia (Wardyaningrum, 2018).

Disaster management is generally divided into three phases: pre-disaster, disaster response, and post-disaster (Coombs & Holladay, 2010). During and after a disaster, accurate information is essential for the community (Ural, 2016) and private institutions concerned with disaster victims (Praya, 2022). Disaster communication is not only crucial during emergencies (Creswell, 2012) but also during and after disasters (Moleong, 2017). Effective communication is key to ensuring successful disaster mitigation, preparedness, response, and recovery (Wardyaningrum, 2018). Communicating disaster-related messages to the public can be guided by five fundamental principles: customer focus, leadership commitment, situational awareness, media partnership, and disaster management (Silalahi, 2009).

The importance of effective disaster communication to the public (Creswell, 2012) and the involvement of key stakeholders (Nugroho, 2018) in achieving sustainable tourism highlights the need for disaster crisis communication (Pascual et al., 2023) in tourist areas. This ensures tourists' safety and comfort when visiting destinations like Mount Merapi and Mount Agung (Nagai et al., 2023).

According to the Widyaningsih (2020) in disaster management supported by factors including communication, commitment, and mutual understanding among stakeholders which are realized through cooperation and awareness of all elements regarding their respective tasks and responsibilities so that inhibiting factors in the form of limited human resources, equipment and budget can be overcome through this collaboration. Therefore, robust risk management, including crisis communication, is essential (Aqila, 2022).

Previous research by Ritchie et al. states that tourism is vulnerable to natural disasters, necessitating disaster management in tourist regions (Ritchie et al., 2004). Despite this, no studies have explored integrative disaster communication. This study will examine how the implementation of integrative disaster communication by Government Public Relations in handling the Mount Merapi Eruption disaster in Sleman Regency? Therefore, this study aims to fill this research gap by contributing insights into the significance of integrative disaster communication in disaster management.

Literature Review

Disaster Communication in Mitigation

The statement above reflects our view on the importance of the role and benefits of disaster communication in disaster management. Disaster communication must always be prioritized because in

addition to educating the public, it can also prepare the mental resilience of the population in dealing with disasters, especially in disaster-prone areas. Regarding disaster communication, Haddow and Haddow (2008) offer four pillars that can be used in Hardiyanto and Pulungan (2019) to strengthen communication in mitigation.

1. *Costumer Focus*, namely understanding what information the community and volunteers need. Communication mechanisms must be implemented to ensure the delivery of correct and accurate information. As in the case study of the 2010 Yogyakarta Merapi eruption, this created very good security for local residents in general and for families living around Merapi in particular. When a natural disaster occurs, emails and text messages contain questions about the state of the area and the condition of victims, who are looking for loved ones, seeking help, and seeking assistance (Permana, 2015).
2. *Leadership Comitment*, Managers involved in emergency response must be committed to effective communication and actively involved in the communication process. Executives are at the forefront of planning a program or strategic area successfully.
3. *Situasional Awareness*, in carrying out mitigation efforts, disaster communication will have practical value, measured based on the collection, analysis, and dissemination of disaster response information. The existence of civil interests and the diversity of cultural backgrounds of the community makes the implementation of mitigation initiatives difficult. One of the principles of effective communication is transparency.
4. *Media Partnership*, in addition to mature disaster communication planning that is ready to be implemented, media involvement also plays an important role in disseminating information. Mass media such as television, newspapers, radio and others are very important to convey adequate information to the public. This is also closely related to public communication, which is the key to the success of the government's climate change mitigation efforts, so that all levels of society get information.

B. Management Crisis

According to Coombs, the stages of crisis and crisis management models consist of pre, during, and post-crisis (Coombs, JS, Holladay 2010).

a. Pre-Crisis

The communication management model during the pre-crisis phase involves signal detection, prevention, and preparation. An effective crisis communication model in this stage includes creating awareness about potential crises and aligning perceptions among organizational members.

b. Crisis

During the crisis phase, the communication management model involves identifying trigger events, responding appropriately, and containing the damage. The crisis communication model that should be implemented focuses on shaping public perceptions of the crisis, influencing public perceptions of the organization, and highlighting the organization's efforts to address the crisis through initial responses and corrective actions.

c. Post-Crisis

In the post-crisis phase, the communication management model encompasses recovery efforts, learning from the crisis, providing follow-up information to the public, and collaborating in investigations to restore normalcy. An effective crisis communication model during this stage includes rebuilding and

restoring the organization's reputation, which can be achieved through thorough evaluations (Coombs, 2010)..

An effective disaster communication model is very important in disaster management. The 2021 Mount Merapi incident in Indonesia showed the importance of disaster communication in disaster management and mitigation. An effective disaster communication model that involves the delivery of early warning information, collaboration between stakeholders, and psychosocial support helps communities to be more prepared and responsive in dealing with disasters (Barata et al., 2017). By increasing public awareness and involving all relevant parties, an effective disaster communication model can help reduce the impact of disasters and save communities in disaster-prone areas.

Method

This study employs a qualitative approach to generate descriptive research (Sugiyono, 2013) that elaborates on the effective disaster communication model (Creswell, 2016). Data collection was conducted using the Focus Group Discussion (FGD) method involving BPBD Public Relations, and communities in disaster-prone areas around Mount Merapi in Sleman Regency, Yogyakarta. A qualitative method was utilized to produce descriptive data (Moleong, 2017) by analyzing information through the lens of disaster communication theory and stakeholder engagement. Additionally, a quantitative approach was applied to measure and objectively validate the qualitative findings (Silalahi, 2009).

Sleman Regency, Yogyakarta, is vulnerable to natural disasters, particularly volcanic eruptions. The findings of this study aim to contribute references and recommendations for BPBD Public Relations regarding effective disaster communication models and appropriate crisis communication management strategies to enhance tourism safety in Indonesia. The data collection process relied on primary data obtained through FGDs with BPBD and the Sleman, the Merapi Disaster Care Community, and tourism managers around Mount Merapi. Interviews were also conducted with tourists to evaluate their perceptions of government preparedness in disaster-prone areas. Data analysis was performed concurrently with data collection, interpretation, and report writing (Creswell, 2012). The interactive data analysis method encompassed three components: data reduction, data presentation, and data triangulation, culminating in final conclusions and verification (Nugroho & Sulistyorini, 2018).

Result and Discussion

A. Integrative Disaster Communication

Effective disaster management requires integrative communication among communities, governments, and private sectors. This approach facilitates interaction, coordination, cooperation, and collaboration to address disaster-related issues at tourist attractions, aiming to achieve sustainable tourism. Integrative communication within an organization is essential to avoid uncoordinated communication activities that may lead to conflicting perceptions. It ensures that governmental institutions maintain their reputation and gain public trust, enabling communities to follow the government's directives in addressing disaster-related challenges, especially in tourism areas.

Integrative communication is not solely the responsibility of public relations but involves every department related to disaster management (Reynolds & Seeger, 2005). Communication activities should be implemented comprehensively across all organizational components. No single department should be overlooked, as neglecting any part can obstruct the flow of information and lead to misinformation. Such confusion can severely harm the organization. Integrative communication ensures that all forms and

messages of communication within an organization are interconnected and function harmoniously (Grigorescu & Lupu, 2015). It facilitates complex managerial decision-making at all levels of contact between the organization and its stakeholders.

The principles of integrative communication include:

- a. Reflecting the organization's identity and aligning with its goals (Barker & Angelopulo, 2006).
- b. Engaging all stakeholders, including local communities where the organization operates (Stuart et al., 2007).
- c. Directing and guiding overall organizational communication (Cornelissen, 2014).
- d. Fostering two-way communication and encouraging dialogue with stakeholders (Chicco & Chandler, 2002).
- e. Targeting both internal and external audiences as message recipients (Ristino, 2013).
- f. Aligning, harmonizing, and integrating internal and external communication to achieve organizational objectives (Massie & Anderson, 2003).
- g. Building positive trust and long-term relationships with stakeholders (Duncan, 2002).

Ensuring that disaster-related messages and information are appropriately contextualized during the pre-disaster, disaster, and post-disaster phases enhances public understanding and readiness while fostering adaptability to the disaster's impacts. During natural disasters, effective communication involving information and communication technology is vital, particularly for government agencies to deliver timely, precise, and accurate updates to affected communities (Budi, 2012).

Characteristics of Integrative Disaster Communication

Integrative disaster communication involves activities in pre-disaster, during, and post-disaster phases that align with organizational objectives to reduce disaster risks and casualties:

- a. Aligning shared goals in disaster management, particularly in disaster-prone tourist destinations, to minimize risks and casualties among tourists and affected communities.
- b. Coordinating and collaborating with disaster management stakeholders through the dissemination of disaster-related information, casualty data, evacuation procedures, and the establishment of assembly points, especially for tourists in high-risk areas.
- c. Facilitating dialogical communication between internal and external publics (e.g., affected communities), creating platforms or forums for interaction between governments and communities.
- d. Reducing public uncertainty to build trust in government institutions.

In summary, integrative communication is critical for aligning internal and external information and building public trust in government agencies, especially those responsible for disaster management.

B. Implementation of Integrated Disaster Communication in Merapi Eruption Management

When a disaster occurs, effective disaster response in the field requires the readiness of all involved parties at the affected site. The extent of damage caused by a disaster is often unpredictable, highlighting the complexity of such events, which can lead to chaotic and uncontrollable situations. However, pre-planned measures undertaken by various stakeholders can significantly mitigate adverse impacts.

To understand the actors or stakeholders involved in disaster management, this study illustrates that each actor operates with specific objectives. For instance, in the Kali Adem tourist area of Mount Merapi, the tourism management must coordinate with other agencies responsible for disaster management, such as the Regional Disaster Management Agency (BPBD), Social Affairs Office, and the Police Department in Sleman Regency.

During the Merapi eruption, BPBD Sleman plays a central role in gathering relevant information and coordinating disaster response efforts. The BPBD serves as the delegated communicator by the Sleman Regent, providing directions and clarification in disaster mitigation. Information is collected from multiple posts during the disaster, curated, and compiled, often with assistance from the Geological Disaster Technology Research and Development Center (BPPTKG). The BPBD also disseminates accurate information to the public, correcting any misinformation reported in the media to ensure clear and reassuring communication with affected communities.

1. Mechanisms for Disaster Communication

BPBD employs both manual and digital communication methods. Manual tools include handy talkies (VHF frequency: Output 159.800 Hz; Duplex: -5000; Tone: 146.2 MHz), a 24-hour telephone hotline (0274 898350 / 2860051), and formal letters. Digital communication utilizes WhatsApp (082125101212), social media platforms (Instagram, TikTok, Twitter), BPBD's official website, the Sleman Disaster Reporting Application, and the Early Warning System (EWS), which comprises 34 units, including sirens and voice messages with a one-kilometer coverage radius. These systems are utilized pre-disaster, during, and post-disaster, contingent upon the availability of electricity and network signals, while manual tools like handy talkies are essential in power or signal outages.

2. Community Involvement and Volunteer Networks

The local community demonstrates a high level of awareness of living in disaster-prone areas and is knowledgeable about responding to emergencies. For tourism-related disaster communication, BPBD adopts a community-based approach, engaging volunteer networks, such as jeep tour operators in the lava tour areas, who are often members of local tourism associations.

These tourism groups play a crucial role in disaster management, as they are the first responders in pre-disaster, disaster, and post-disaster situations. Given their proximity to affected areas, they can make rapid decisions. BPBD Sleman recommends improving communication and information systems for disaster-prone tourism areas by integrating cross-platform and cross-sector collaboration into regulations to strengthen synergy.

3. Disaster Communication Model for Tourist Areas

Pre-Disaster: The Regent issues a circular on the closure of tourist areas, disseminated by BPBD both manually and digitally.

During the Disaster: Tourist sites are closed, and patrols are conducted to ensure evacuation where necessary.

Post-Disaster: Once conditions are safe, a circular revoking the closure is issued and distributed manually and digitally by BPBD.

4. Local Wisdom in Disaster Mitigation

Disaster mitigation efforts integrate local wisdom and experiences from previous eruptions, such as those in 2010, 2006, and 1994. Residents rely on official government information and conduct independent visual observations to confirm risks. Announcements are also made through loudspeakers in mosques or face-to-face meetings. To achieve sustainable tourism, disaster management emphasizes two critical messages:

- a. **Spatial planning for safe distances:** Using systems like SIMANTAB (Sleman Disaster Information System) to inform users of safe distances and evacuation routes.
- b. **Community-based communication:** Empowering local communities to act as communication agents during pre-disaster, disaster, and post-disaster stages.

5. Collaborative Roles of Stakeholders in Disaster Management

- a. **Local Village Organizations:** Focus on mitigation activities tailored to specific regional characteristics, such as awareness campaigns and evacuation assistance.
- b. **Non-Governmental Organizations (NGOs):** Collaborate with the government in disaster mitigation and rehabilitation, contributing to structural and logistical support.
- c. **Local Government:** Enforces regulations, allocates budgets, and coordinates disaster response following legal mandates like the Sleman Regency Regional Regulation No. 7 of 2013.
- d. **Ministry of Tourism:** Focuses on mitigation and recovery efforts, including trauma healing, financial assistance, infrastructure restoration, and promotional campaigns.
- e. **BPBD/BNPB:** Acts as the central coordinator for evacuation, victim assistance, and disaster risk reduction training.
- f. **BASARNAS, Military/Police, PVMBG:** Provide specialized expertise and resources for evacuation and geological monitoring.
- g. **PHRI (Indonesian Hotel and Restaurant Association):** Supports tourists during disasters by offering free accommodations, food, and transportation.

Integrated disaster communication fosters effective collaboration among stakeholders, reducing the negative impact on communities and visitors. By ensuring accurate and timely information, stakeholders can enhance public trust, promote preparedness, and create a safer environment for sustainable tourism

Conclusion and Suggestions

This study underlines that integrated disaster communication is an important component in disaster risk management, especially in tourism areas such as Mount Merapi. This approach allows various stakeholders, including BPBD, local governments, local communities, and the private sector, to work together effectively to reduce disaster risks and impacts. The use of manual and digital communication methods, coupled with the utilization of local wisdom, has increased community preparedness and accelerated the mitigation process. In addition, integrated collaboration between

platforms and sectors, supported by adequate regulations, contributes to more efficient disaster management. This study recommends strengthening the synergy between the government, community, and tourism sector through the development of a more holistic disaster communication system to support sustainable tourism in disaster-prone areas.

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