

Optimizing Disaster Communication Models for Trust and Participation: A Case Study of Tabalong Regency, South Kalimantan, Indonesia

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Abstract

This study examines the disaster communication models employed by the Tabalong Regency BPBD in South Kalimantan, Indonesia, focusing on trust-building and community participation in flood disaster management. Employing a qualitative approach, the research delves into the use of social media platforms, particularly WhatsApp, Instagram, and Facebook, by disaster stakeholders, including BPBD and the Self-Help Disaster Management Unit (UPBS). Literature study and field observations, including direct observations and stakeholder interviews, contribute to data collection. Interactive Model Data Analysis is utilized for data analysis. The findings reveal that Tabalong's effective disaster communication relies on trustworthy information dissemination through social media. Dialogical communication, facilitated by UPBS, enhances community trust and active participation. The models are characterized by ongoing dialogue, feedback mechanisms, and community-driven initiatives. The study underscores the success of Tabalong's disaster communication models in building trust and fostering community involvement. Challenges in model transferability to other regions necessitate contextual adaptations, emphasizing the importance of local organizations and supportive social settings. The research contributes insights into enhancing disaster resilience through tailored communication strategies.

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Highlight

- *Tabalong Regency BPBD utilises WhatsApp, Instagram, and Facebook for flood updates.*
- *UPBS facilitates two-way communication and community involvement in crisis response.*
- *UPBS demonstrates a successful community-based model building resilience and disaster preparedness. This model emphasises community involvement.*
- *Adopting Tabalong's approaches in various communities is challenging due to the necessity for local groups like UPBS and supportive social environments.*
- *Tabalong's continuing discussions reinforce the importance of diverse perspectives and local expertise for efficient disaster management.*

Introduction

The Tabalong Regency became a central area during the significant flood disaster that occurred in South Kalimantan in January 2021, experiencing one of the highest levels of devastation from this historic event. The extensive scale of this flood, which impacted 10 out of the 13 metropolitan districts in South Kalimantan and caused significant damages throughout 46 sub-districts, emphasised the urgent need for effective disaster response policies at both the national and local levels. Stakeholders in disaster management are becoming more aware of the urgent need for skilled and accurate actions at every stage of the disaster management cycle, including the incident phase, recovery processes, and efforts to prevent and prepare for future disasters, due to the significant impact of flooding.

The study conducted in 2022 aims to explain how various disaster stakeholders, including the Regional Disaster Management Agency (BPBD), non-governmental organisations (NGOs), Village Government, and the community, use new media to respond to flood disasters in Tabalong Regency, Hulu Sungai Tengah Regency (HST), and Banjar Regency (Fahrianoor & Hidayat, 2022). The results of this study suggest that Tabalong Regency demonstrated the highest level of effective utilisation of new media compared to Hulu Sungai Tengah Regency and Banjar Regency. Previous studies have shown that the adaptation patterns of the people in Tabalong Regency have influenced the disaster communication practises carried out by stakeholders. This has resulted in fewer casualties compared to HST Regency and Banjar Regency. Specifically, Tabalong Regency had 770 people affected, while HST Regency had 11,200 people affected and Banjar Regency had 11,269 people affected (BNPBB, 2021; Fahrianoor & Hidayat, 2022).

In line with the overall framework of disaster management, the use of new media by the stakeholders of Tabalong Regency in the disaster sector aligns with Nurdin's (2015) claim that successful disaster management requires a combination of soft and hard power strategies for minimising risks. The former relies on community readiness through social interaction and the spread of information, while the latter entails the construction of physical infrastructure such as communication facilities, embankments, and river dredging. The legal frameworks, specifically Law Number 24 of 2007 and Government Regulation Number 21 of 2008, confirm that these techniques are complimentary and emphasise their importance in disaster mitigation efforts, with communication playing a crucial role.

Building upon previous studies, it was determined that the main platforms for distributing flood catastrophe information in Tabalong Regency in 2021 were primarily WhatsApp, Facebook, and Instagram. The decision to prioritise these platforms, as explained by H. Rahmadi, Secretary of the Tabalong Regency BPBD, was based on the large number of users these applications had. In addition, the optimisation of new media goes beyond digital platforms and includes the integration of traditional media across various platforms. For example, local and regional newspapers are now published on Facebook sites like "Habar Tabalong" and the Tabalong Regency BPBD Instagram.

The enhancement of new media was aggressively advanced by catastrophe stakeholders in Tabalong Regency through the Self-Help catastrophe Response Unit and the Disaster Preparedness Group, crucial institutions in the distribution of disaster information. The

involvement of private sector and non-governmental organisations (NGOs) in disaster management is a significant factor. They act as intermediaries outside of government control, working in coordination with national disaster councils and operations control groups. This integration improves the effectiveness of sharing information (Fitzpatrick & Molloy, 2014; Park & Yoon, 2022).

The importance of cultivating public trust in the field of catastrophe communication is closely linked to its crucial position in society, making a substantial contribution to social and economic progress. Increased public confidence strengthens adherence to laws, reinforcing efforts for disaster recovery, as supported by research on the COVID-19 pandemic and other health emergencies (Nakayachi, 2015, 2018; Nakayachi & Ozaki, 2014; Oh & Lee, 2022; Peng et al., 2019). This study explores the impact of public trust on several aspects of disaster management, including collaborative efforts, manifestations of solidarity, adherence to regulations, and the effectiveness of response and mitigation efforts. Recognising the crucial role of public trust in these processes, the study aims to delve into its significance.

The successful utilisation of new media by Tabalong Regency in disaster management highlights the good results achieved via developmental activities and the strengthening of trust and community participation in disaster management efforts. However, it is crucial to do a more thorough investigation in order to identify the variables and features that support efficient disaster communication in Tabalong Regency. Moreover, it is of utmost importance to clarify the communication patterns and models established and implemented by the Tabalong Regency BPBD, which serves as the main entity responsible for disaster communication. This effective methodology, which promotes increased public confidence and active involvement, is positioned as a potential standard for other areas in South Kalimantan to follow, enhancing the region's ability to manage disasters. Therefore, this model can be used as educational material in programmes aimed at mitigating flood disasters in vulnerable locations. The upcoming study aims to further explore the disaster communication model implemented by the Regional Disaster Management Agency of Tabalong Regency. This research builds upon previous studies that examined how new media can be optimised to raise awareness about hydrometeorological disasters in the same region. The research will focus on investigating the role of the disaster communication model in building public trust and encouraging public engagement, specifically in the context of flood disaster mitigation in Tabalong Regency.

Methodology

This study used a qualitative research methodology to thoroughly examine the dynamics of disaster communication in Tabalong Regency. The geographical scope includes four sub-districts located within Tabalong Regency, specifically Haruai District, Tanjung District, Murung Pudak District, and Kelua District. The reason for choosing these places is based on the frequent occurrence of flood catastrophes, which provides an important context for studying the community's tactics for adapting and communicating during disasters. In addition, by utilising knowledge gained from previous studies, Tabalong Regency has demonstrated impressive competence in effectively distributing flood catastrophe information through the Regional catastrophe Management Agency (BPBD) and the Disaster Preparedness Community.

In order to construct a reliable dataset, this research utilises two separate methodologies: an extensive examination of existing literature and direct observations

conducted in the field. The literature study entails a comprehensive examination of pertinent data and theoretical frameworks extracted from written sources and resources. This initial inquiry establishes a theoretical framework, clarifying current information and guiding the succeeding field investigations. In contrast, field observations involve direct involvement through firsthand observation and interviews with relevant stakeholders, such as representatives from the Tabalong Regency BPBD, flood alert groups in the chosen sub-districts, and randomly selected community members living in areas prone to hydrometeorological disasters.

The main research subjects consist of the Tabalong Regency BPBD and flood alert groups in Haruai District, Tanjung District, Murung Pudak District, and Kelua District. These groups have been designated as important informants because of their crucial involvement in disaster communication. In addition, populations living in regions that have been previously impacted by hydrometeorological disasters are chosen as participants through random selection. Their insights provide vital perspectives on the local level of communication dynamics during disasters. The purpose of this multi-stakeholder approach is to obtain a thorough comprehension of the diverse entities engaged in the disaster communication ecosystem.

Data analysis adheres to the Interactive Model Data Analysis, an analytical paradigm devised by Miles et al., (2014). This approach comprises four essential stages: data acquisition, data simplification/abridgment, data display, and inference/validation. The iterative nature of this approach enables a dynamic and interactive analysis process, which permits the ongoing improvement and verification of findings. This methodical approach guarantees a methodical examination of the gathered data, allowing for the extraction of detailed insights into the complexities of disaster communication in Tabalong Regency.

Finding

Tabalong Regency BPBD Disaster Communication Model in Building Public Trust

The research reveals that the Tabalong Regency BPBD employs a structured disaster communication model aimed at fostering public trust, particularly in the context of flood disaster management. Grounded in the Disaster Risk Reduction (DRR) approach, the BPBD's routine dissemination of information through platforms such as WhatsApp serves as a proactive measure to mitigate disaster risks, aligning with the United Nations International for Disaster Reduction (UNISDR) principles. The dissemination of flood information aligns with the five priority actions outlined in the Hyogo Framework for Action (HFA), encompassing governance, risk assessment, early warning, disaster knowledge and education, and reduction of underlying risk factors.

The Tabalong Regency BPBD's information distribution strategy involves two key communication actions: information transmission and sharing. The use of WhatsApp as a communication tool facilitates two-way interaction between the BPBD and the Self-Help Disaster Management Unit (UPBS), enabling a dynamic exchange of information and discussions. Moreover, the information disseminated by the BPBD through various social media platforms, including Instagram and Facebook, ensures wider accessibility. The BPBD's commitment to delivering reliable and trustworthy information is evident, echoing the imperative emphasized by the government's appeal for the public to seek official announcements from credible sources.

The trustworthiness of the information dispensed by the Tabalong Regency BPBD is paramount, as it directly correlates with reducing uncertainty associated with flood disaster information. Community-oriented communication practices, transparently conveying information without embellishment, contribute to building and maintaining public trust. The content of messages serves a dual purpose, imparting educational value and prompting public awareness, as exemplified by recommendations to secure important documents in higher places during floods.

The disaster mitigation communication model constructed by the Tabalong Regency BPBD, as illustrated in Figure 1, emphasizes the production of flood disaster information through circulars and flood evacuation procedures. This information is disseminated through WhatsApp, Instagram, and Facebook, reaching the UPBS, which acts as an intermediary for further community distribution. The public's response, manifested in their preparedness for flood risks, underscores the model's effectiveness in building public trust.

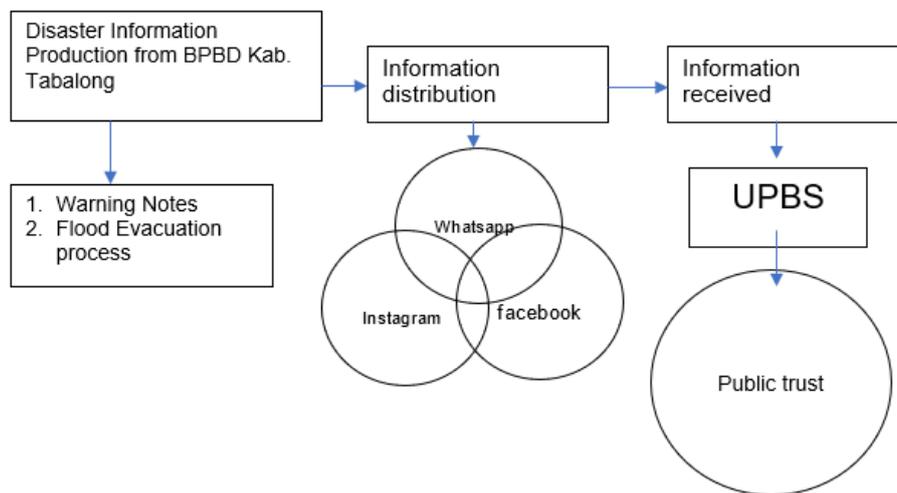


Figure 1. BPBD's Communication Model to Increase Public Trust

Tabalong Regency BPBD Disaster Communication Model in Building Public Participation

The study elucidates the Tabalong Regency BPBD's concerted efforts to instigate public participation in flood disaster management. The establishment of the Self-Help Disaster Management Unit (UPBS) represents a noteworthy manifestation of community involvement, catalyzed by citizen initiative. UPBS serves as a pivotal stakeholder, actively participating in disaster management through a cooperative agreement with the Tabalong Regency Government.

Participation in disaster communication is a vital element, recognized for its potential to diminish disaster risks. The UPBS's active engagement includes communication participation, exemplified by its role in disseminating information from the BPBD. The Tabalong Regency

Government, through the BPBD, extends support to UPBS in the form of communication tools and equipment, fostering institutional strength and collaboration. Training sessions, such as those provided to UPBS in Kapar Village, Murung Pudak District, exemplify the commitment to knowledge transfer and enhancing community capacity in flood disaster management.

The participatory communication model employed by the Tabalong Regency BPBD, illustrated in Figure 2, underscores dialogue as a key element. Recognizing and respecting the voices of all participants, this model prioritizes a dialogical process, facilitating open communication and mutual understanding. The communication process is not merely informative but extends to the identification of problems, analysis, and collaborative problem-solving. The dialogic communication approach aligns with the principles proposed by Goerlandt et al., (2020), emphasizing the importance of recognizing each participant's autonomy in the communication process.

The UPBS's role in submitting reports on disaster prevention and management activities to the BPBD further emphasizes the dialogic nature of the communication process. This reporting mechanism fosters a continuous dialogue, enabling the identification of gaps and the formulation of effective communication strategies. The participatory communication model, as depicted in Figure 2, serves as a conduit for community-driven disaster management initiatives, promoting unity and diversity of voices in addressing societal interests.

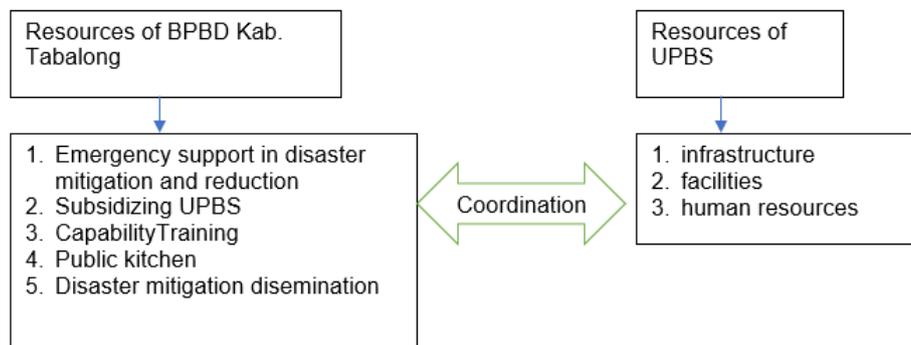


Figure 2. BPBD's Communication Model to Increase Public Participation

Application of Tabalong Regency BPBD Disaster Communication Model in Other Regions

The research contemplates the transferability of the Tabalong Regency BPBD's disaster communication models to other regions within South Kalimantan. To ascertain the applicability of these models, it is essential to consider the presence and functionality of organic institutions akin to UPBS. The success of these communication models is contingent upon the existence of local organizations deeply attuned to their communities and committed to disaster prevention and management.

The models, emphasizing the pivotal role of UPBS in bridging communication between the government and the community, may encounter challenges in regions where the social setting does not foster a collective awareness of the importance of proactive disaster management. The

prerequisite for a supportive social setting implies that successful implementation relies on a pre-existing understanding within the community of the need for self-initiated disaster preparedness.

Barriers to the adoption of Tabalong's communication models may emerge in regions where the social context differs significantly, and community awareness of disaster management is not ingrained. The organic and collective awareness prevalent in Tabalong may not be universally present, necessitating tailored strategies to cultivate such awareness and understanding. Consequently, the application of these models requires a nuanced understanding of the local context, social dynamics, and community receptiveness to participatory communication.

Analysis & Discussion

The study's findings reveal the intricate and thorough disaster communication strategies employed by the Tabalong Regency BPBD to establish public confidence and promote public involvement in flood disaster management. When considering these findings, it is important to refer to prior research that corresponds to the indicated communication techniques and models.

An Analysis of the Communication Model for Building Public Trust

Reliable Dissemination of Information

The focus on spreading reliable information through different social media platforms is in line with the increasing amount of studies supporting the use of social media in disaster communication. The studies conducted by (Valentini, 2015) and Widyastuti, (2021) emphasise the significance of social media platforms, such as WhatsApp and Facebook, in delivering up-to-date information, improving community awareness, and cultivating trust during times of crisis. The approach of the Tabalong Regency BPBD aligns with these findings, emphasising the effectiveness of utilising popular social media platforms for clear and prompt communication.

Enhancing Public Trust through Dialogical Communication

The Tabalong Regency BPBD utilises a dialogical communication paradigm that is in accordance with the ideas proposed by Valentini, (2015) and Jankovic, (2018). These scholars highlight the significance of reciprocal communication, dialogue, and information interchange for efficient catastrophe management. The Tabalong model's integration of community voices, namely through UPBS, aligns with the concept that crisis communication should be a cooperative endeavour including both authorities and the community (Rodríguez et al., 2017). The trust established during this process of dialogue is fundamental for the efficient management of disaster response and recovery.

Analysis of the Communication Model: Promoting Public Participation

Utilising UPBS as a catalyst to encourage participation

The creation of the UPBS and its proactive involvement in disaster communication is in accordance with the ideals of community-based disaster management as proposed by scholars like Beggs, (2018) and Sari et al., (2021). Community-based organisations, such as UPBS, have a vital role in responding to and reducing the impact of disasters, hence enhancing the resilience of the community (Adhrianti & Alfarabi, 2023). The relationship between UPBS and

the Tabalong Regency Government exemplifies a successful collaborative governance paradigm in disaster management, as described by (Noer & Putra, 2022).

Dialogue-based communication in participatory processes

The dialogical communication model, which highlights continuous interaction and feedback, aligns with the notion of participatory communication as articulated by (Al-Taie & Ali, 2017). This approach, based on mutual respect and acknowledgment of varied viewpoints, is in line with the notion that successful catastrophe communication should give priority to local knowledge and community perspectives (Rodríguez et al., 2017). The ongoing conversation between the BPBD and UPBS reflects the participatory communication methods advocated by Asian Development Bank (2018) for effective community involvement in reducing catastrophe risks.

C. Application to Other Regions: Difficulties and Modifications

Model Transferability

The difficulties and factors to take into account while using Tabalong's communication models in other areas are consistent with the wider discussion on the situational aspect of disaster communication techniques. The research conducted by Pfefferbaum et al., (2017) highlights the importance of tailoring communication strategies to specific contexts. It acknowledges that the effectiveness of communication models is contingent upon the local socio-cultural environment and community dynamics. Although Tabalong's models provide useful insights, their effectiveness in different places requires thorough evaluation of the distinct social contexts and levels of community awareness.

Obstacles posed by the social environment

The barrier that has been highlighted in relation to social contexts corresponds to the concerns found in catastrophe sociology and communication literature. Mileti & Peek (2000) emphasise the significance of the community context in influencing catastrophe preparedness and response. The organic and collective consciousness observed in Tabalong may have similarities with communities characterised by robust social cohesion. However, locations lacking such consciousness necessitate the implementation of adaptation techniques.

Importance of Contextual Adaptations

The need to make contextual changes aligns with the demand for flexibility in disaster communication techniques (Rodríguez et al., 2017). The research conducted by Haddow & Haddow (2014) highlights the importance of employing adaptive communication strategies that acknowledge the wide range of community circumstances. The effectiveness of Tabalong's models in different regions relies on customising communication tactics to coincide with local socio-cultural subtleties and promoting community-led initiatives that are in line with established organisational structures.

Conclusions

Given the information we have discussed thus far, this study can draw the following conclusions: The Tabalong Regency Regional Disaster Management Agency (BPBD) has developed a disaster communication approach aimed at fostering public trust and mitigating flood disasters in Tabalong Regency. The Regency BPBD is responsible for generating flood

disaster information in this model. Tabalong has to do with two things: circulars and how to get out of the path during a flood. The storm's updates are being disseminated throughout three social media platforms: WhatsApp, Instagram, and Facebook. The Self-Help Disaster Management Unit (UPBS) receives this information and subsequently disseminates it to the community. The community's response indicates their preparedness for adverse events during floods. The provided information, characterised by its accuracy and competence, fosters trust.

The second plan pertains to the disaster communication strategy of the Tabalong Regency Regional Disaster Management Agency (BPBD), aimed at engaging individuals in mitigating the impact of floods in Tabalong Regency. There exists a societal engagement framework that relies on UPBS institutions. The UPBS institution provides individuals in the community with a means to independently mitigate flood disasters.

According to the aforementioned findings, the study proposes that in order to enhance public confidence in information dissemination, caution should be exercised in selecting the media platform. As per the statement from the Tabalong Regency BPBD, just one out of the three social media platforms under their ownership is effectively utilised, namely the WhatsApp group. This method enables a wider dissemination of information, hence fostering trust in other social media platforms. Consequently, this information necessitates being managed by a distinct organisation. The Tabalong Regency BPBD has assigned UPBS a more prominent role in assisting with flood catastrophes and other calamities, hence encouraging greater public participation. There are measures that can be implemented to enhance the training provided by UPBS.

Ultimately, this study solely examines crisis communication via the lenses of trust and community engagement. To encourage more participation, it is possible to establish a connection between the credibility of institutions and the pursuit of further study. Institutional credibility refers to the perceived trustworthiness of an institution in effectively addressing a problem. One evident issue with emergency communication is the lack of trust among individuals towards the government's data and information. It is crucial to investigate the reasons behind the lack of trust in them and to examine the societal circumstances that influence the level of credibility of institutions.

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Conflict of interest

The authors declare that they have no conflicts of interest related to this study. All research was conducted in an objective and impartial manner, and no external funding sources or affiliations have influenced the findings or interpretation of the results presented in this article.

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