



The Role of Communication Through Leaflets in Emergency Management and Information Dissemination When a Disaster Occurs in Pasir Lapangan Village

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ARTICLEINFO	ABSTRACT
<p>Article history:</p> <p>Received Apr 05, 2025 Revised Apr 22, 2025 Accepted May 30, 2025</p> <hr/> <p>Keywords:</p> <p>The Role of Mass Media, Disaster Communication, Disaster Management.</p>	<p>Indonesia is highly vulnerable to disasters, including the coastal areas of Pasir Lapangan Village, Sibolga City, which are prone to tidal flooding and tsunamis. This study aims to determine the role of communication through leaflets in emergency management and the dissemination of disaster information to the public. The research method used was descriptive quantitative with a sample of 90 respondents (10% of the population of 845 families). The results showed that the use of leaflets has a significant role in three phases of disaster management: mitigation (visual education), preparedness (emergency numbers), and response (quick guides). The use of pictograms proved more effective and easier to understand than long text. The study concluded that optimizing leaflets is crucial in reducing response time and increasing the resilience of coastal communities.</p>

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1. Introduction

Indonesia is one of the countries in the world with a very high level of vulnerability to natural and hydrometeorological disasters, due to its geographical location on the Pacific Ring of Fire and the existence of two main seasons (rainy season and dry season) which increase the risk of flooding and landslides. (Sulistiyawati, 2019), (Surmayanti, et al, 2015) According to research by the National Disaster Management Agency (BNPB) in the 2024 Indonesian Disaster Data Book, Indonesia recorded thousands of disasters in the recent period, indicating that disaster risk management and emergency communications are crucial. (Bakhriansyah, Anhar, & Noor, 2025), (Bakhriansyah et al., 2025).

North Sumatra Province (Sumut) has a large population, according to data from the Central Statistics Agency of North Sumatra Province (BPS Prov. Sumut), the population reached approximately 15,785,839 people in the latest publication (BPS Prov. Sumut, 2025), which means the potential for exposure to disasters is also large. In the context of emergency management, this requires an effective communication system so that the public knows the actions to be taken when a disaster occurs. (Tamitiadini, Adila, & Dewi, 2019), (Ermanto, Martono, & Mizuno, 2025).

Risk communication or emergency communication is a crucial element in every phase of disaster management before, during and after a disaster.(Tresnanti, Kurniadi, Puspito, Widodo, & Kusuma, 2024),(Budi, Pradiptha, Bongsoikrama, Pratama, & Niigata, 2024)BNPB guidelines, such as Guideline No. 3 of 2024 concerning Disaster Management Socialization, emphasize that educational media and outreach to the public must be targeted, easy to understand, and implemented sustainably to be effective.(Zain, Hakim, Alif, & Rahayu, 2025),(Bakhriansyah et al., 2025).

One of the media frequently used in this communication is the leaflet (brochure) as a printed medium for education and information. The advantages of leaflets include relatively low production costs, ease of direct distribution to the community (e.g., to homes and evacuation posts), the ability to be used as material that can be stored and referred to by the community, and flexibility in conveying brief instructions such as evacuation routes, emergency numbers, and safety points.(Rozalinda & Adinda, 2025),(Reni, 2021). A study entitled *The Effectiveness of Health Education and Leaflets on Community Knowledge and Attitudes about Flood Disaster Mitigation* by Sugiarto, Susanto & Purnamaningsih margin in 2024 showed that the use of leaflets plus education had a significant correlation with increasing knowledge and attitudes about flood disaster mitigation.(Reni, 2021),(Reni, 2021).

However, in field practice there are a number of challenges that influence the role of leaflet communication in the context of emergency management.(Solihin, Sos, Kom, & Abdullah, 2023),(Karaeng, 2024). These challenges include: accuracy of content and relevance to local contexts (language, culture, geographic conditions), timely distribution and to hard-to-reach areas, diverse levels of community literacy, ethnic/local language diversity (including in North Sumatra which has many tribes and languages), and lack of integration between print media such as leaflets with digital or social early warning systems such as sirens, SMS warnings, social media(Munirah et al., nd),(Ingamer & Karim, 2026)For example, the study “Effective communication using visual media to communicate emergency action plans based on dam failure models” (Juliastuti et al., 2019) shows that visual media (including leaflets) are important in conveying emergency action plans but still require the support of other support systems.(Juliastuti, Wulandari, Purbasari, & Kuntjara, 2019).

2. Methods

This study used a descriptive quantitative design. The research location was Pasir Lapangan Village, Sarudik District, Central Tapanuli Regency, and was conducted in November 2025. Primary data were collected through questionnaires (Likert Scale), interviews, and observations of 90 respondents. Data analysis was performed univariately and bivariately using the Spearman correlation test in SPSS.

3. Results and Discussion

Pre-Disaster (Mitigation): The community is educated through leaflets regarding potential risks. During a Disaster (Response): The community is able to carry out independent evacuation quickly (Response Time improves) referring to the leaflet guidelines. Post-Disaster (Recovery): Coordination of information recovery through available contacts.

The creation of Community-Based Emergency Management Improvement in Pasir Lapangan Village, where the community becomes more independent, alert, and resilient to disasters through planned and structured information.(Ali, Haris, & Henny, nd),(Aridamayanti et al., nd).

Respondent Characteristics: The majority of respondents were female (56%) with the dominant age group being 20–35 years (39%).

4. Conclusions

This study shows that leaflets play a crucial role in increasing public knowledge and preparedness in Pasir Lapangan Village. The use of pictograms significantly facilitates the understanding of safety instructions. It is recommended that leaflets be developed with more durable materials and adapted to local language to reach all age groups.

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