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POLICY BRIEF

Is a geographically isolated community prepared—or left behind—in disaster risk communication?

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ABSTRACT

Geographically isolated and disadvantaged areas (GIDAs) such as Barangay Mabuhay in Carmen, Davao del Norte, face greater disaster risks because of their remoteness, lack of infrastructure, and limited economic resources. Through a Participatory Rural Appraisal (PRA) approach, this study examines the main challenges in disaster risk communication and identifies targeted interventions that can help address them. The results point to several barriers, including limited technical knowledge, poor access to localized risk information, weak communication systems, and language or cultural gaps, which lead to delayed responses and heightened vulnerability among residents. To address these issues, this policy brief advocates for the adoption of a Community-Based Risk Communication and Early Warning Enhancement Program that promotes inclusive, localized, and culturally sensitive strategies that translate Priorities 1 and 4 of the Sendai Framework into actionable and community-based interventions. It places priority on building the skills of barangay leaders, focal persons, and residents, promoting the use of visual and participatory tools, and investing in technologies that people can access. In the end, the goal is to strengthen a community-based approach to disaster preparedness, ensuring that no one is left behind.

Keywords: *Geographically isolated, inclusivity, preparedness, resilience, vulnerability*

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INTRODUCTION

Disaster risk communication in geographically isolated and disadvantaged areas (GIDAs) continues to pose a significant problem to effective disaster risk reduction. In Barangay Mabuhay, Carmen, Davao del Norte, these challenges are especially pronounced. GIDAs like this are marked by physical inaccessibility, poor infrastructure, limited internet or phone connectivity, and socio-economic marginalization. As a result, the dissemination of disaster-related information is often delayed, inconsistent, and difficult for residents to understand. (Lagmay et al., 2015). Barangay Mabuhay together with Tibulao and Taba has been officially designated as a GIDA under DOH Administrative Order 2020-0023 due to its distance from municipal centers, lack of nearby healthcare facilities, and the presence of a significant indigenous people's population. These factors compound existing vulnerabilities and weaken community preparedness.

Scholars such as Wisner et al. (2012) and Gaillard et al. (2008) argue that communication strategies frequently fail in such contexts due to the neglect of local knowledge systems, cultural sensitivities, and the low perception of risk. Luna (2009) and Cutter et al. (2008) further stress that the lack of culturally and contextually appropriate messaging diminishes communication effectiveness during emergencies. The Philippine Institute for Development Studies (2017) notes that mainstream media and online platforms often overlook remote communities, which underscores the importance of using inclusive communication tools such as community radio and visual IEC materials. Likewise, UNDRR (2019) points out that language barriers and low levels of trust in institutions continue to limit the effectiveness of early warning messages.

This study addresses existing gaps by examining the unique risk communication challenges in Barangay Mabuhay, a geographically isolated community, and by proposing actionable, culturally grounded strategies, including the development of inclusive, locally tailored risk communication programs that empower vulnerable populations and strengthen resilience in underserved and hard-to-reach areas. As a baseline investigation in GIDAs, focusing on a single barangay allowed for a detailed, context-specific assessment of communication gaps. In such highly localized settings, an in-depth study can reveal core issues that broader surveys may overlook, providing a foundation for future comparative studies and informing interventions for similar communities.

APPROACH AND RESULTS

This study utilized a modified Participatory Rural Appraisal (PRA) approach to identify gaps in disaster risk communication in Barangay Mabuhay, Carmen, Davao del Norte. Fifteen participants were purposively selected—comprising five barangay officials, six purok leaders, and four key community members—based on their leadership roles, disaster-related experiences, and knowledge of local communication challenges. A combination of qualitative and participatory methods was employed to capture the lived experiences and contextual realities of the community (Chambers, 1994).

Focus group discussions enabled participants to articulate their perceptions of flood risks and to identify the communication barriers they currently face. Community workshops facilitated the co-development of practical solutions and fostered shared learning. The biophysical analysis pinpointed erosion-prone areas and zones with high exposure, which confirmed and supported local observations. Socio-economic profiling further revealed underlying economic vulnerabilities and uneven levels of access to information. Finally, action planning sessions allowed participants to prioritize interventions and to propose feasible mechanisms for improving disaster risk communication. Finally, data were thematically analyzed to uncover key patterns and issues to strengthen disaster communication within the barangay.

Profile of Barangay Mabuhay

Barangay Mabuhay, which has a total population of 2,147 (PSA, 2022), is a small rural community with both ecological richness and economic variety. Its physical environment includes riverbanks that are prone to erosion, sloping areas planted with fruit trees, and flat sections where critical public facilities are located—such as the barangay hall, the covered court, local churches, and an integrated school. Natural vegetation is still abundant in many parts of the barangay, helping maintain biodiversity while allowing residents to use the land for farming. Agriculture is still the most important source of livelihood, with most households cultivating fruit trees, vegetables, and root crops, and raising livestock. Corn and bananas, in particular, play a key role in sustaining food security and generating household income.

In addition to farming, small-scale enterprises help supplement household livelihoods and contribute modestly to the local economy. However, even with these local resources, most households earn only around ₱5,000 to ₱10,000 per month, which falls below the national poverty threshold. This clearly shows that the community continues to face economic hardship. Because of this, there is a pressing need for sustained development programs and resilience-building measures to help improve the residents' quality of life and strengthen their capacity to adapt.

Disaster Risk Communication Challenges

The findings point to serious gaps in disaster risk communication that weaken the flow of information and reduce the community's level of preparedness. The narratives summarized in Table 1 were drawn from recurring themes identified in the discussions, with similar responses grouped and presented in clearer form. One of the main concerns raised was that both barangay leaders and residents often struggle to communicate disaster risks clearly and promptly. Several barangay officials and purok leaders admitted that they struggle to explain flood hazards because they have not received any formal training. This underscores the importance of structured, community-based training on risk communication. If conducted in partnership with academic institutions, such workshops could provide barangay leaders and focal persons with the skills needed to deliver hazard information in accessible and culturally appropriate ways (IFRC, 2018).

Another concern raised was the community's limited localized knowledge about hazards. A purok leader, along with several residents, noted that they were often unaware of rising water levels during heavy rains because there were no mechanisms to help them recognize early signs of danger. As such, there is a need for localized hazard maps and illustrated IEC materials that indicate flood-prone and other high-risk areas. When developed in collaboration with academic or technical institutions, these tools can greatly improve residents' understanding of risks by combining scientific accuracy with local relevance (Gaillard and Mercer, 2013).

The limitations of local communication infrastructure also make it difficult to issue timely warnings. Many residents stated that they often fail to receive alerts due to unreliable mobile network signals. To address this problem, the use of redundant and low-tech warning systems such as handheld radios, sirens, megaphones, and community bells is recommended. These systems ensure the continuity of communication during network failures and areespecially valuable in geographically isolated or signal-poor areas (UNDRR, 2015).

Furthermore, linguistic and cultural diversity within the community complicates the comprehension of official warnings. One resident observed that not everyone understands announcements delivered in formal Filipino or English, which underscores the importance of using Cebuano or other local dialects for early warning messages and risk-related information. Translating technical warnings into languages that people use every day is a key element of inclusive risk communication, as it promotes wider understanding and encourages appropriate response actions among community members (UNISDR, 2005; Shaw et al., 2010).

Table 1. Summary of disaster risk communication gaps and proposed actions.

Gaps	Narratives	Proposed actions
Lack of capacity to communicate risk	"*Lisod kaayo isaysay sa uban ang hulga sa baha kay wala mi training kung unsaon pag sulti nga masabtan sa tanan.*" — Barangay officials and purok leaders	Conduct community-based training workshops on risk communication in partnership with academic institutions
Lack of localized knowledge about hazards	"*Abi namo normal ra nga ulan, wala diay mi kabalo nga taas na ang tubig sa sapa. Wala mi kabalo unsaon pagkahibalo nga peligro na diay.*" — Purok leader and residents	Develop localized hazard maps and IEC materials through academic institutions
Intermittent communication signal	"*Usahay, way signal dinhi. Dili dayon namo madawat kay walay klarong network.*" — Residents	Establish alert systems such as handheld radios, megaphones, and community bells.
Linguistic and cultural diversity	"*Dili tanan kasabot sa announcement. Mas maayo unta kung binisaya or local dialect gamiton para masabtan gyud.*" — Barangay officials, purok leaders and residents	Translate early warning messages and risk-related information into local dialects.

CONCLUSION

This study highlights the pressing need to improve disaster risk communication in Barangay Mabuhay. Although the community has rich ecological resources and basic livelihood activities, it still lacks technical knowledge, hazard awareness, functional tools, and culturally appropriate communication processes, all of which weaken its preparedness and response to disasters. Although the barangay has already taken steps to address disaster risks, there is still a need to improve communication capacities and provide more reliable infrastructure for these initiatives to become fully effective. By addressing these gaps, Barangay Mabuhay will be better equipped to respond to emergencies, reduce its vulnerability, and build more lasting resilience against future disasters.

IMPLICATIONS AND RECOMMENDATIONS

This study recommends the creation and formal adoption of a Community-Based Risk Communication and Early Warning Enhancement Program—implemented through a barangay resolution—to strengthen disaster resilience at the community level. The program is anchored in the Sendai Framework for Disaster Risk Reduction, with particular emphasis on Priority 1 (Understanding disaster risk) and Priority 4 (Enhancing disaster preparedness for effective response, recovery, rehabilitation, and reconstruction). It positions barangay leaders and community focal persons as central intermediaries in disaster communication and advocates for targeted capacity-building initiatives, conducted in partnership with academic institutions, to improve hazard awareness and risk knowledge (Priority 1). It promotes risk messages that are culturally sensitive, linguistically appropriate, and inclusive, supported by visual aids and participatory tools so that even low-literacy and marginalized groups can fully understand the information. To enhance preparedness andresponse (Priority 4), it recommends the strategic use of two-way radios, mobile alerts, and other appropriate technologies through collaboration with relevant agencies. Additionally, it supports the creation of localized early warning systems tailored to the specific hazards and vulnerabilities of the barangay, fostering a people-centered approach that leaves no one behind. Thus, it helps translate the priorities of the Sendai Framework into concrete, community-based interventions.

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AUTHOR CONTRIBUTIONS

The first author conceptualized and led the study, and prepared the manuscript for publication, while the second author provided valuable assistance throughout the research process.

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DECLARATION

Informed consent statement

The study complied with the ethical standards of Davao del Norte State College and all applicable national and institutional guidelines. Approval was obtained from Barangay Mabuhay officials, and informed consent was secured from all participants, who were assured of confidentiality, anonymity, and voluntary participation.

Conflict of interest

The authors declare no conflict of interest.

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