

## Participatory communication as the key to successful disaster management in Pangandaran district

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### ABSTRACT

**Background:** Pangandaran, situated within the province of West Java, is considered a region susceptible to natural disasters, leading to significant material damages and, unfortunately, loss of human life. This particular calamity has attracted the attention of various stakeholders, encompassing the local government, affiliated organizations, social communities, volunteers, and numerous others. The circumstances mentioned above have led to the development of participatory communication initiatives to promote cooperation in disaster management. **Purpose:** This study aims to ascertain the factors contributing to heteroglossia, discourse, polyphony, and collaboration among communities and volunteers. **Methods:** The research method utilized in this study is a descriptive study, incorporating a range of data collection techniques, including in-depth interviews, observation, and literature analysis. Furthermore, to conduct comprehensive data analysis, this study involves data reduction, data display, conclusion derivation, and verification. Moreover, the technique employed for data source identification involves systematically classifying stakeholders, including individuals affiliated with institutions and community members/volunteers who actively participate in collaborative efforts to address disaster-related issues in the Pangandaran Regency. Additionally, the study involved a cohort of five key informants deliberately chosen to represent the community under the study. **Results:** The study results indicate that, despite differences in tasks, responsibilities, roles, and level of expertise within the community or volunteers, they are willing to exchange knowledge, drawing on their viewpoints openly. Furthermore, the dialogue process that unfolds among the community/volunteers takes the form of a democratic discussion to attain consensus in their respective roles. **Conclusion:** Communities/volunteers have established collaborative efforts grounded in their understanding, awareness and commitment to assisting individuals affected by adverse circumstances. Moreover, shared norms and beliefs have guided their robust, extensive relationships and networks.

**Keywords:** Participatory communication; heteroglasia; dialogue; polyphony; collaboration

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## INTRODUCTION

West Java is acknowledged as one of Indonesia's provinces prone to natural disasters. Various types of disasters have occurred in West Java, including landslides, earthquakes, floods, droughts, tornadoes, tidal waves, fires, and volcanic eruptions, among other occurrences. The occurrence rate of disasters in the region of West Java has exhibited a consistently increased trajectory throughout the years. Specifically, in the year 2021, 2,400 occurrences were recorded, with landslides and floods emerging as the predominant types of disasters (Wawan, 2021).

Pangandaran, a regency in West Java, is categorized as a geographically vulnerable area prone to natural disasters and has encountered many such events throughout 2021. A comprehensive record indicates a cumulative count of 68 typhoons, 30 fires and six landslides were documented (Fadilah, 2022). Head of the Regional Disaster Management Agency (BPBD) in Pangandaran Regency, Kustiman, remarked:

“There are ten sub-districts in Pangandaran that are highly prone to natural catastrophes. This susceptibility is linked to the terrain conditions in each region, notably in the sub-districts of Cijulang, Cimerak, Parigi, Cigugur, Langkaplancar, Sidamulih, Pangandaran, Kalipucang, Padaherang, and Mangunjaya (F, 2022).

According to the Disaster Risk Index (IRBI) released by the National Disaster Management Agency (BNPB), Pangandaran Regency is placed 16th at the national level, while in West Java Province, Pangandaran Regency occupies 11th position. To respond to this incident, the

Pangandaran Regency Government together with the community/volunteers carried out outreach and disaster mitigation and adaptation exercises

The regent of Pangandaran regency states: “Implementing disaster simulations in Pangandaran Regency offers various benefits. One crucial element is consolidating the readiness of all parties involved in disaster management. The second aspect is to promote community awareness of the region's susceptibility to natural disasters. Finally, the last benefit is to assess and enhance the capability of all disaster management stakeholders, facilities, and infrastructure.”

The community in Pangandaran, comprised of devoted disaster volunteers, stands as a crucial and active participant in the region's disaster management initiatives. Their involvement is particularly noteworthy in the context of disaster simulations, where they play a substantial role in realizing the advantages derived from such preparedness exercises. The individuals within this community inherently exhibit a strong dedication to assisting the government and society in the effective management and mitigation of disasters. This unwavering commitment ensures their continuous preparedness for unforeseen circumstances, thereby contributing significantly to the resilience and collective safety of the community as a whole. The community's proactive engagement and commitment underscore its integral role in fortifying Pangandaran against the potential impacts of disasters through ongoing training, simulations, and collaborative efforts with governmental and societal entities.

He et al. (2023) stated that “the opinion of a leader has a significant role in encouraging people to help each other in the process of taking action in the face of disaster”. Based on this, the community in Pangandaran usually conducts small meetings on the basis that community involvement in the disaster management process in Pangandaran is very important, especially there is an assumption from the community that the participants are leaders who have opinions in the affected area. The purpose of this meeting is to increase community interaction and understanding of disaster management in Pangandaran, so that later the participants can easily understand the issues of disaster management.

The process of forming an understanding of disaster issues is inseparable from participatory communication techniques. According to Noor et al. (2020), “effective disaster communication is essential for community response and recovery during and after disasters”. In addition, Molale and Fourie (2023) also revealed that “the use of empowerment combined with participatory communication can help the process of community institutionalisation”. In Pangandaran itself, participatory communication in crisis management refers to the active participation of volunteers and the whole community in conversations, information sharing, and decision-making processes.

In dealing with disasters, the community in Pangandaran Regency has implemented effective steps, such as a planning process through effective messages to selecting media

channels quickly so that disaster conditioning can be carried out quickly and carefully. This also shows that disaster mitigation efforts in Pangandaran have been carried out systematically, through the establishment of mangrove plants and the creation of evacuation routes. Besides, such non-structural measures are also conducted to mitigate the disaster, including enacting land use rules, establishing early warning systems, communicating through diverse media channels, and conducting disaster simulations (Lestari et al., 2023). In this regard, the Pangandaran Regency Government in disseminating disaster information uses various media, especially social media such as WhatsApp, websites, Twitter, Facebook, Instagram, YouTube, TikTok, and so on, all of which are used to prioritize safety and disaster readiness of all stakeholders.

When tackling disaster issues, community members in the Pangandaran district have a persistent inclination towards collaboration within their communities and with pertinent agencies. Moreover, this collaborative effort extends beyond the community, enabling cooperation with external entities. In this context, community is a symbolic structure that has meaning and identity when carrying out social interactions based on similarities (Gerard Delanty, 2009).

Furthermore, the community possesses distinct traits. Firstly, these groups work within the setting of the human scale. Community commonly involves interactions that take place on a manageable size and usually include

individuals who are familiar with one another, hence ensuring convenient accessibility of interactions for all community members. Secondly, there exists a component of identity and acceptance, wherein individuals experience a sense of belonging, feeling accepted and valued within the group. Furthermore, the community is burdened with diverse tasks and responsibilities, manifesting through active engagement, meaning, and contribution. The notion of *gemeinschaft* also covers a social framework in which a community offers opportunities for each individual to interact with others in a different role, contingent upon the respective obligations associated with each aspect of their task. Lastly, the community derives inspiration from and adheres to local culture (Ife, 2013).

As per Regulation No. 17, 2011, issued by the Head of the National Disaster Management Agency (BNPB) about Guidelines for Disaster Management Volunteers, “a volunteer is an individual or a group of individuals possessing the ability and the willingness to participate in voluntary and genuine endeavors that are directed towards the management of disasters.” (BPBD JABAR).

The importance of volunteers as a resource in coping with the emergency of a disaster has been scrutinised by many studies. Whittaker et al. (2015), stated that “volunteers are needed in emergencies, they can provide essential assistance during periods of crises”. Departing from this, many researchers argue that an adaptive and flexible critical management

model is needed by volunteers, of course by considering the potential and abilities of the volunteers themselves. According to Aminizadeh et al. (2016), by adopting a flexible and adaptive model, stakeholders can capitalise on volunteer participation so as to improve the effectiveness and resilience of emergency management as a whole.

The volunteers involved in operations for disaster management in Pangandaran Regency consist of a diverse range of organizations, including FKDM (Community Early Awareness Forum), Tagana, SAR-MTA (Search and Rescue Majlis Tafsir Al-Qur'an), RAPI (Radio Antar Penduduk Indonesia), and numerous others. The maintenance of effective communication is a crucial aspect that permeates all stages of disaster management, encompassing the pre-disaster, during-disaster, and post-disaster phases. This discourse serves as an interactive exercise within the context of participatory communication. So far, volunteers have often been used by the government to interact with people affected by disasters, but in subsequent developments the government has complemented them by using new technological foundations to collect disaster data (Nahkur et al., 2022).

Rahim (1994) introduced a set of four theoretical constructs related to participatory communication to foster the advancement of empowerment: heteroglossia, dialogic, polyphony, and carnival.

First, Heteroglossia: The notion of heteroglossia highlights the intrinsic

characteristics of development systems, which are intricately connected to diverse groups and communities. These systems are shaped by many economic, social, and cultural elements that mutually reinforce one another. Second, dialogue: Dialogue can be understood as transactional communication in which the sender and receiver actively engage reciprocally within a defined timeframe to establish mutual understanding. Third, polyphony: Polyphony is the pinnacle of dialogue, characterized by the concurrent existence of numerous diverse voices that mutually reinforce, promote openness, and prevent overpowering one another. Fourth, carnival: The concept of carnival within development communication encompasses various cultural customs, such as folklore, comics, festivals, games, parodies, and entertainment. This process is commonly conducted informally and usually incorporates humor and elicits laughter (Satriani et al., 2011) especially in education and health matter. And also the topics were focused in political and economic issues. Empowerment program in alleviating poverty and improving the quality of human resources, promoted by Center for Human Resources Development (P2SDM).

One of the effects of participatory communication is the establishment of collaborative dynamics among the parties involved. Additional evidence from later studies indicates that the act of engaging in interprofessional collaboration requires the implementation of interprofessional communication. Collaborative planning helps

recovery planning and disaster management in order to build community knowledge and skills (Shmueli et al., 2021). In adverse situations, collaboration between stakeholders requires participation and a sense of ownership from all parties (I. Shah et al., 2022). Disaster communication can help identify social structural and situational factors regarding community vulnerability in accessing, understanding and acting on information about disasters (Hansson et al., 2020). Thus, collaborative practices have effectively contributed to mitigating disasters (Hasna & Darumurti, 2023).

Collaboration is a structured process involving sharing information, allocating resources, and delegating responsibilities related to the conception, implementation, and evaluation of initiatives aimed at accomplishing objectives through consensus-based arrangements (Camarihna-Matos & Afsarmanesh, 2008). Collaboration can also be understood as a multifaceted process involving several factors, relationships, and geographical boundaries. This collective effort is directed toward achieving a common goal (O'Leary & Van Slyke, 2010).

According to Roschelle and Teasley, Collaboration can be more accurately as "the collective involvement of individuals in a synchronized activity to resolve a common struggle". Several distinct features characterize collaborative interactions. These features encompass shared objectives, equitable systems, substantial negotiation, heightened interactivity, and mutual dependency" (Lai, 2011).



Collaboration among community or volunteer disaster activists in Pangandaran Regency is inseparable from the social capital they hold, as the resolution of a disaster problem fundamentally cannot be solved by just one community. Therefore, an understanding of social capital and effective cooperation of all community members or volunteers is very important in overcoming this problem. These two things determine the capacity of the organization in the development of effective collaboration (Al-Omoush et al., 2020).

The term “social capital” refers to an organization’s social elements, including its networks, traditions, and trust. These features make it easier for employees to coordinate and work together within the organization, which eventually benefits everyone. Furthermore, networks provide the essential framework for promoting cooperation and communication and building mutual trust among groups. Additionally, rules are created within a society to maintain balance among different circumstances, and trust increases the degree of cooperation among different societies (Putnam, 2013).

In these situations, social capital has a dynamic quality that shapes the types of relationships and teamwork that occur within a community. The aim of this study is to provide a comprehensive understanding of participatory communication and how participatory communication can facilitate cooperative volunteer activities in disaster situations. The volunteers in Pangandaran Regency have

social capital consisting of complex variables that influence their performance, this is an important component in the dynamics of this collaboration. For this reason, research that is able to explain the complex interactions between the variables that influence cooperative efforts in disaster response scenarios will conduct a thorough investigation into the dynamics of communication and the associated social capital.

## RESEARCH METHOD

This research is a descriptive research. According to Sugiyono (2017), the descriptive research method is “a method used to describe or analyze a research result but not used to make broader conclusions”. This study systematically describes the phenomenon of communication that occurs in Pangandaran Regency, especially persuasive communication that occurs between disaster volunteer communities. This study collected data through the process of observation or observation of environmental activists when discussing disaster management measures was carried out. This observation is carried out to gain non-verbal understanding, feelings that arise and actions taken by informants.. For this reason, an interview guide containing keywords is used to guide researchers to obtain the information needed. To complete the data and avoid errors in interpretation, literature/documentation studies on environmental communication, disaster communication, persuasive communication, etc., are used in accordance with the reality being studied. The

documents used in this research are all written materials in books, journals, papers, articles, photos, etc. They are considered relevant to the reality being studied so that they can be analyzed comprehensively. The data analysis technique carried out by researchers used data reduction. In this process, all data from observations and interviews regarding the participatory communication process carried out by the disaster community/volunteers in Pangandaran Regency is reduced and summarized; the main things are selected, focused on the important things, themes or patterns are looked for so that they are easy to process. The reduced data provides a sharper picture of the observation results and makes it easier for the author to search for the data obtained again if necessary.

Data display. In order to see the overall picture of certain parts of the participatory communication research, the author created a picture so that the meaning of environmental activists' participatory communication processes, which include heteroglossia, dialogue, and polyphony in building disaster volunteer collaboration, is based on the social capital they have in Pangandaran Regency can be verified by researchers. Conclude and verify. From the start, the author tried to find and collect meaningful data about the participatory communication process in building disaster volunteer collaboration based on the social capital they had in Pangandaran Regency from informants. For this reason, patterns, themes, relationships, similarities, things that often arise, and so on are looked for in order

to conclude. Conclusions are always verified during the research. Verification is done by seeking new data from environmental activists to achieve inter-subjective consensus, namely joint agreement to guarantee validity or confirmability.

The technique for determining data sources is based on grouping stakeholders, both from related institutions and from communities/volunteers who actively collaborate in dealing with disaster problems in Pangandaran Regency, both before, during, and after a disaster occurs. Based on the potential for disaster in the area, seven informants were purposively selected representing disaster groups/communities. The informants were BPBD, FKDM, Tagana, SAR-MTA, and RAPI stakeholders. Informants representing disaster communities/organizations were selected based on their willingness to accept the presence of researchers, their ability and willingness to explain their experiences before, during, and after being involved in disaster management, and having special experience while being involved in disaster management. The process of approaching informants was carried out firstly using a structural approach, where the researcher contacted the Head of BPBD Pangandaran Regency and the Head of the disaster activist community/organization to ask for permission and willingness to be researched. Using this structural approach, researchers obtained the names of communities and their heads who would serve as key informants. Apart from that, researchers are also allowed to participate in

disaster communication activities organized by community members/volunteers. Second is the personal approach (Rapport), where researchers get to know community members/volunteer volunteers from various disaster organizations and then conduct interviews with them.

## RESULTS AND DISCUSSION

The disaster management process's success requires several parties' involvement, each given specific roles and duties that correspond to their individual areas of competence. In this case, the parties involved in disaster management in Pangandaran Regency are BPBD, FKDM, Tagana, SAR-MTA, and RAPI. The leading sector in disaster management is the Pangandaran district BPBD, which acts as a facilitator and functions to formulate policies and coordinate, implement, monitor, evaluate, and report disaster activities. The establishment of BPBD, in combination with the deployment of essential personnel, resources, and infrastructure, has positioned it as a prominent sector responsible for developing cooperative partnerships and fulfilling the government's duty to manage natural disasters (Harmain et al., 2021).

The BPBD sector is integral in coordinating with other communities and volunteers, serving as an intermediary to address the requirements outlined in the community's program. The primary tasks of the facilitator involve engaging in community outreach and establishing connections with those who live there. For this reason, as a facilitator, BPBD ensures

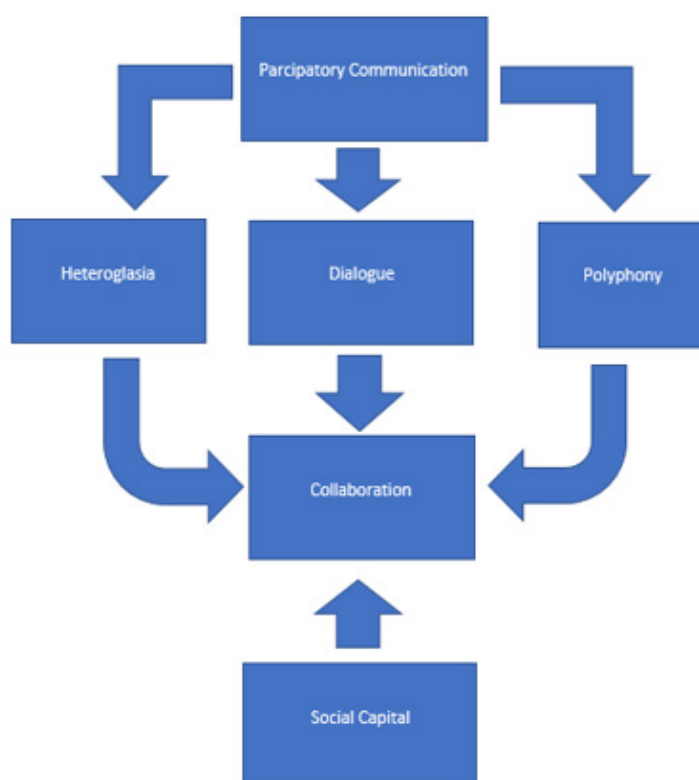
that planning, implementation and supervision of disaster management programs can run smoothly, coordination between stakeholders is effective, and common goals can be achieved.

The planning is discussed with the community and volunteers through participatory communication, fostering harmonious dialogue. Hence, effective collaborative practices in disaster management necessitate leaders who extensively comprehend the current transformational conditions and actively participate in the execution and evaluation (Abdeen et al., 2021).

Participatory communication is an approach where all parties involved can contribute, share information, and actively interact to encourage active participation from all parties, such as BPBD, FKDM, Tagana, SAR-MTA, and RAPI. Those involved in a communication process, from conveying ideas, decision making, planning, discussion and exchanging information to the communication action.

Participatory communication is a process of sending and receiving messages between communication participants and takes place dialogically to build understanding, and then collaboration occurs between various parties. Likewise, what happened among the disaster communities/volunteers in Pangandaran Regency intensively carried out participatory communication regarding the disaster issues to achieve mutual understanding and collaboration in disaster management. Cross-sector collaboration between stakeholders through capacity building, resource redundancy,





Source: Research Documentation, 2022

**Figure 1 Scheme of participatory communication and collaboration among disaster communities/volunteers in Pangandaran Regency**

information collection, and logistical responsiveness can build disaster resilience (Syahara et al., 2021).

The volunteers involved in participatory communication activities are diverse (heterological) regarding their organization (BPBD, FKDM, Tagana, SAR-MTA, and RAPI), responsibilities, educational background, prior experience, and many more. They can work with other communities/volunteers because they communicate about disaster problems in Pangandaran Regency.

Disaster risk reduction requires the efforts of all stakeholders, such as the community (individuals and communities), government agencies, and even the business world. These

efforts are because disaster risk in affected areas is high and closely related to factors such as their exposure to hazards, the vulnerability of the people, their socio-economic and cultural characteristics, the accessibility of their infrastructure, and their capacity to respond. For disaster management, participatory communication is needed to achieve mutual understanding and cooperation among the participants (stakeholders). The participatory communication scheme in disaster management in Pangandaran Regency can be seen in the Figure 1.

Organizational disaster management activities in Pangandaran district are carried out by various stakeholders/communities/

volunteers, such as the Regional Disaster Management Agency (BPBD), Community Early Preparedness Forum Communication Forum (FKDM), Disaster Alert Cadets (Tagana), Search and Rescue (SAR)), Indonesian Inter-Population Radio (RAPI), where the coordinator is BPBD.

These communities have differences in their primary tasks, functions, and experiences. However, when these groups are in the public space, they will be “the same.” That is, both aim to assist the community in coping with disasters. Equality is important, because it can reduce tension and facilitate conflict resolution between stakeholders in a constructive way.

Diversity (heteroglossia) among the disaster communities/volunteers in Pangandaran Regency was beneficial in carrying out each community’s main tasks and functions. This event can happen because they all realize they still have limitations, so when carrying out their duties, the groups complement each other’s limitations. Each community presents a discourse on disaster management from their respective perspectives, such as disaster discourse conceptually narrated by BPBD disaster management practices narrated by communities/volunteers (FKDM, Tagana, SAR). In contrast, disaster information dissemination actions are narrated by RAPI.

By conveying the communication situation, all stakeholders as emergency response officers can understand the scope of the critical situation in accordance with the development of the disaster (Collins et al., 2016).

The limitations above are especially in educating people with more awareness of disaster-related issues. Especially when there are still people who are careless about disasters, usually begging for materialistic matters. For this reason, through participatory communication, volunteers educate the public based on their primary tasks and functions so that the materials they convey are not distinct from those they convey. Besides, to make the public interested in the material and the people who deliver it, communication is developed into a two-way conversation between several people who share information and those who try to learn how to see and work to overcome disasters (A. A. Shah et al., 2023).

The involvement of stakeholders under the command of BPBD as the leading sector for disaster management shows that the diversity of organizational membership, duties and functions can overcome organizational limitations in resolving problems related to disasters in Pangandaran Regency because they empathize with each other. Empathy is essential to build togetherness and responsibility within the community to alleviate emotional stress and increase the healing and recovery of communities affected by disasters (A. A. Shah et al., 2023).

The forum for equalizing perceptions is conducted through participatory communication activities in recitation forums. Meanwhile, disaster mitigation and adaptation education are done at the BPBD Office, and regular meetings are in sub-districts or other places. Thus, the

organization becomes essential for disaster management teams because it can influence the structure and communication process (Celikler & Kern, 2022). Diversity (heteroglossia) among stakeholders has become an adhesive in managing disasters in the Pangandaran Regency. This adhesivity can happen because apart from empathy, they are also strengthened by a sense of togetherness to complement each other in building integration and collaboration in handling regional disasters. Therefore, from these facts, sectoral egos between stakeholders can be minimized. This togetherness is a form of social capital and strength that can overcome various technical problems in disaster management. Furthermore, togetherness gives rise to organized social activities (Thulin et al., 2022).

In carrying out disaster management activities, volunteers from various organizations/communities led by the BPBD held discussions in a dialogical manner to agree on their respective roles before making a final decision to act. In this dialogue, a joint decision is made. BPBD explains the process of the disaster, while the community/volunteers such as FKDM, Tagana, and SAR share the story of rescuing victims, and RAPI plays a role in managing communications by receiving and sending various required information. Discussions about pre-disaster activities, evacuation preparedness, and emergency response by stakeholders play an essential role in rapid consensus-making (Liou et al., 2020).

The discussion material between the

volunteers was based on their experiences while involved in disaster management in Pangandaran Regency. Volunteers will utilize this experience as the foundation for their knowledge in this two-way conversation. Volunteering at a catastrophe site might help victims of disasters feel less alone and less damaged by fostering empathy and helping to prepare necessary strategies for disaster emergency response aid (Quarshie et al., 2018).

When a disaster strikes, all volunteers involved in disaster management, led by BPBD as the facilitator (BPBD), come together to discuss the course of action step-by-step. This is an example of the experience-based dialogue method in action. They first show information regarding the kind of tragedy, the quantity of casualties, and the kind of damage.. Moreover, those people who are vulnerable to disasters, such as pregnant women, older people, and sick people, must be prioritized to be rescued because they are struggling with themselves. These steps were implemented based on volunteers' experience dealing with previous disasters.

From the results of the two-way discussion, it was agreed that all volunteers involved must carry out outreach and provide guidance to the community to build knowledge about disasters and their characteristics.

Dissemination of disaster information in Pangandaran Regency, facilitated by BPBD as the leading sector, is related to disaster prevention, mitigation and preparedness, the implementation of which requires coordination and communication with various stakeholders.

Additionally, willingness to participate in dialogue has a positive relationship with trust-based openness (Nakamura & Chen, 2023).

The dialogue carried out by BPBD with communities/volunteers in disaster management in Pangandaran Regency not only discussed their respective roles, it also discussed the negative side of the particular disaster actions carried out by specific organizations/departments/agencies in the form of social assistance. The volunteers discovered that social assistance caused people to become reluctant to participate, and the intensity of cooperation became low because they assumed that if there were another disaster, they would get more help. Based on the findings in the field, the volunteers agreed to provide assistance when the community received it. Post-disaster assistance is an important component in helping, restoring and maintaining the psychological condition and safety of individuals resulting from disaster trauma (Wang et al., 2020).

Assistance is an educational endeavor undertaken within the community through a dialogue approach. The discourse surrounding the goal of education holds significant importance as it pertains to the limited awareness among individuals regarding disaster-related issues that are predominantly focused on materialistic aspects such as financial gains and consumption. Moreover, many individuals exhibit a state of panic in response to a disaster. At the same time, concurrently, there exists a need for more public awareness regarding effective disaster mitigation strategies. As a

result, a consensus was reached to organize an educational program to foster awareness, reduce public panic, mitigate public panic, and enhance public understanding of disaster mitigation. Dialogue serves as a mechanism for fostering community empowerment, facilitating self-awareness, and comprehension of one's surroundings. It engenders a heightened recognition of the significance of collective unity and socio-ecological interdependencies (Ounvichit & Yoddumnern-Attig, 2018).

Participatory communication that takes place dialogically among disaster volunteers in Pangandaran can build their conceptual knowledge and skills, which will become provisions in carrying out their activities to help the community overcome disasters.

Based on communication activities among BPBD Pangandaran Regency volunteers, who serve as the leading sector, each conveys messages about disaster problems according to their respective duties and responsibilities. BPBD conveys the disaster occurrence process, FKDM, Tagana, and SAR convey the process of saving disaster victims, while RAPI is responsible for the disaster communication process. Thus the dialogic communication influences internal organizational relationships, so that it can foster safety perceptions and behavior (Lee, 2022).

The dialogue process between the community/volunteers takes place openly. They can share information and experiences to formulate a decision or an agreement to collaborate in dealing with disaster problems.

Dialogue like this is a fundamental form of polyphony because all dialogue participants complement each other, open up, and clarify the discussed material. This form can be seen from the discussions, where each community/volunteer delivered material based on their duties, such as FKDM is the team at the forefront in educating the community to become stronger in facing disasters.

This form can be seen from the discussions, where each community/volunteer delivered material based on their duties, such as FKDM is the team at the forefront in educating the community to become stronger in facing disasters, and Tagana is in charge of protecting victims. Additionally, Tagana has its specifications according to its expertise.

The logistics sector, which includes cooking and rescue operations activities, can be further categorized into distinct sub-fields such as water rescue, vertical rescue, and specialized aid for trauma treatment. The Participant of Search and Rescue – Medical Technical Assistance (SAR-MTA) in mitigation endeavors mostly centers around search and rescue operations, including locating and recovering deceased individuals, among other related tasks. Meanwhile, RAPI's social responsibility in communications is exemplified by its utilization of radio to foster disaster resilience within the Pangandaran Regency Community. This initiative aims to address and mitigate the challenges posed by disasters.

Collaboration between volunteers and BPBD was built because of understanding and

awareness of the need for intensive cooperation in solving disaster problems in the Pangandaran Regency. Among the mutual understanding and awareness in solving disaster problems is outreach to the community. The agreement to carry out disaster outreach was taken through a participatory communication process. Therefore, to build trust and commitment regarding disaster mitigation, a dialogic communication channel is needed between stakeholders in order to share understanding and cooperation as a collaborative effort between them (Pratikno & Kurniadi, 2021).

The partnership between volunteers and the Pangandaran Regency BPBD primarily entails the execution of a collective accord founded upon the outcomes of the Memorandum of Understanding (MoU) with the National Disaster Management Agency (BNPB). Based on the results of the MoU, it is evident that volunteers collaborate in implementing programs initiated by the National Disaster Management Agency (BNPB). These programs encompass various activities such as educational initiatives, the establishment of Disaster Resilient Villages, and active involvement in Tsunami Destana excursions.

The reason why volunteers collaborate to build disaster-resilient communities in Pangandaran Regency is a collective responsibility to convey messages about disasters to the community, a desire to selflessly dedicate themselves to the community through the implementation of positive programs, to share knowledge with the community,



especially in disaster response and mitigation. Responsibility to society in the form of justice in making disaster management policies and redistribution of the public sector through inclusive governance is the most effective approach to minimizing and managing the impact of disasters (Crosweller & Tschakert, 2021). The social responsibility shown by the disaster community/volunteers in Pangandaran Regency reflects their sincerity in helping people facing disasters, so they are highly dedicated to helping victims of natural disasters. High dedication to disaster preparedness means not leaving “no words” before, during and after a disaster, providing basic rights, non-discrimination, generating participation, and facilitating access to transparent and accountable information (Boyland & Anschell, 2023).

One of the collaborative practices in disaster management in the Pangandaran district is when FKDM works together with other volunteers, and the village as the coordinator assesses the nature of the incident, what the cause is, who the witnesses are, how much loss, then an electronic report and also a written report are made. The report was followed up with BPBD Social Services and submitted to the National Zakat Amil Agency.

Based on the submitted report, there is typically an emergency response at that period, along with aid like instant noodles, medicines, and wheelchairs. This response suggests that pertinent stakeholders work together to recover from disaster. A collaborative approach is able to prevent, prepare and recover communities

affected by disasters, because it has the ability to empower, connect and manage disasters effectively and efficiently (Menya & K’Akumu, 2016).

The emergency response carried out by the related agencies above can occur because of their communication and coordination. Such a performance is an achievement for the community/volunteers, and it is even a matter of pride that their performance exists. They know the community’s needs through the assessment reported and followed up by the relevant agencies. Therefore, communication is essential because it can influence people’s vulnerability to disasters, such as challenges in sending, receiving, and understanding information about danger, so they cannot take appropriate action to protect themselves and others (Hansson et al., 2020).

Another reason for volunteers to collaborate is that they experienced themselves as victims of a disaster and experienced the position of being helped by others. That incident was a terrifying experience for them, even though they only lost the material they had owned, their house or the land they cultivated, which were caused by tornadoes, landslides, and forest/land fires. Direct experience and high intensity in dealing with natural disasters will produce the highest level of preparedness (Castañeda et al., 2020).

Further motivation for individuals to pursue volunteer work is the opportunity to preach. Volunteers can effectively convey valuable messages using preaching, drawing upon the principles of “Hablumminannas”

(Islamic beliefs to create good relationships between people). These volunteers came from Islamic boarding schools (SAR-MTA), who feel responsible for helping the community deal with disasters. This religious approach is carried out to complement conventional disaster management techniques carried out by other communities/volunteers. This approach reminds volunteers that disasters are tests that necessitate cultivating patience, trust, and concerted efforts to surmount them.

All communities/volunteers involved in disaster education who collaborate in disaster education are reminded that the occurred disasters cannot be separated from human activities that damage the environment. The provision of guidance by faith-based groups has the potential to enhance cohesion and foster social capital within a wide-ranging network, thus facilitating the efficient progression of the healing process for those affected by disasters (Koopman, 2023).

Stakeholders in Pangandaran Regency collaborate to achieve common goals, fostering knowledge, positive attitudes, mindset shifts, and community participation in disaster issues. This collaboration addresses shared challenges such as disseminating educational information, cultural and religious awareness, and financial considerations. The importance of collaboration lies in building agreement, enhancing coordination, and mitigating the negative impacts of disasters on humans and ecosystems (Guerrero et al., 2023).

Activities carried out by volunteers while

collaborating in dealing with disaster problems in Pangandaran Regency are becoming executors in implementing disaster preparedness simulation training, being a medium between BPBD and FKDM to design disaster program implementation by potential disasters in their area, conveying messages to the community via radio, facilitators and instructors. Disaster competency is important because it influences involvement in responding to disasters (Liou et al., 2020).

Collaboration among communities/volunteers in disaster management in Pangandaran Regency can be built based on their social capital. This social capital is an important resource for them and the community in general in adapting to survive when a disaster strikes their area.

The social capital owned by the community/volunteers includes trust, norms, and relationships, serving as resources for carrying out their collective actions. In practice, this forms an inclusive social capital, as it involves relationships among community volunteers (FKDM, Tagana, SAR-MTA, and RAPI), volunteers/community with the community, and volunteers with the community and local government, as well as other relevant agencies (BPBD and Social Services). Social capital is important because it can foster mutual trust, resilience in making plans, and collective action in handling disasters (Rayamajhee & Bohara, 2021). The social capital possessed by volunteers/disaster communities in Pangandaran Regency is very effective in facilitating their

collaboration. With the main tasks of each organization, disaster management can be carried out effectively, too. That statement can be proven by one of the volunteers/communities who stated that there is local wisdom regarding flood disasters in their area.

The people in the Ciparanti Village believe there will be a flood if the water flowing from the Cibening River does not reach the sea. Therefore, the people in the village have local wisdom in planting rice by paying attention to the potential for disaster. This local wisdom is then benchmarked by disaster volunteers/communities in socializing disaster mitigation. One of the agreements between volunteers/disaster communities in Pangandaran Regency in carrying out their collaboration is the norm to jointly rely on local wisdom when collaborating in outreach in disaster areas.

Volunteers and communities collaborate based on disaster potential, with designated roles. Some assist affected individuals, while others collect and convey data, disseminating leaders' guidance through recitation forums, village meetings, and WhatsApp groups. This method fosters networks among volunteers, local government, and relevant institutions, enhancing trust and perceptions of disaster risk (Xue et al., 2021).

The Pangandaran Regency disaster volunteers' social capital promotes beneficial contacts and linkages both within organizations and within society, hence igniting collaboration. Solidarity between volunteers and communities in Pangandaran creates a strong basis for

cooperation. This cooperation is important to overcome barriers and achieve common goals, such as supporting the government and community in times of disaster. Kaltenbrunner & Renzl (2018) argue that "factors including avoiding misunderstandings and frequent interactions can enhance volunteer and nonprofit collaboration". This cooperation is based on strong social capital that includes norms governing cooperation, mutual trust, and peaceful relationships. Over time, this social capital not only builds community resilience, but also fosters mutual trust and understanding. As a result, a culture of assistance without explicit requests has emerged (Tu, 2020).

## CONCLUSION

Disaster management in Pangandaran Regency works well because everyone works together. The collaboration between volunteers and BPBD (Regional Disaster Management Agency) is driven by a common understanding that intensive cooperation is needed to address disaster issues in Pangandaran Regency. The basis of this collaboration is motivation, commitment to shared principles, and skill development related to disaster mitigation. This collaboration between people from different backgrounds openly appreciates and respects each other. It is certainly a good momentum in building trust and helping everyone understand the problem better. In the process, stakeholders, communities, and volunteers for the facility shared skills and knowledge that made things run smoothly. However, further collaboration is

needed to develop disaster communication and management so that it can be an investment in helping them work together more effectively when disaster strikes. The implications of the results of this research include helping to identify more effective participatory communication strategies for mobilizing and coordinating communities in dealing with disasters.

The recommendation from this research is that, in implementing participatory communication, it is necessary to develop a joint communication platform that is inclusive and easily accessible to all communities/disaster volunteers.

There searchunderscores the need to establish a joint and inclusive communication platform accessible to all communities and disaster volunteers. Strengthening communication networks and resources is crucial, as is fostering inclusive decision-making mechanisms where various parties, including local communities, actively participate in planning and implementing disaster management measures. The overall implication of this research lies in identifying more effective participatory communication strategies to mobilize and coordinate communities effectively in dealing with disasters.

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