Communicating Community Resiliency in Times of Disaster: The Case of Marikina City

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Abstract. Natural disasters like strong typhoons and extreme floods have become part of the reality that the Filipino people are facing. The country's vulnerability is attributed to physical, social, environmental, and economic factors. Marikina City is one of the cities in Metro Manila that is vulnerable to storms and floods. Marikina City is a valley surrounded by mountain ranges and divided by a river. Due to its geographic location, the city faces considerable problems in terms of flooding. In 2009, the city's residents experienced one of the strongest typhoons and worst flooding incidents recorded in their locality and the country. This negative experience changed the way Marikina City is dealing with disasters nowadays. Learning from their previous experiences, Marikina City is now implementing commendable disaster risk reduction and management strategies. Communication has been integral to improving the city's efforts to make their communities more resilient to disaster. This paper examined the role of communication in promoting community resilience among the residents of Marikina before, during, and after disasters. The various phases of the disaster experience in Marikina will be analyzed using communication. Specifically, communication strategies were analyzed to highlight the city's best practices and challenges.

Keywords: Community Resilience, Communication Strategies, Disaster Risk Reduction and Management, Good practices

INTRODUCTION

Natural disasters and calamities may strike at any time. It robs away lives, properties, and livelihoods of people, especially vulnerable groups and communities. The recurring disaster experience hinders affected countries' and communities' economic development, social well-being, and safety (Dangcalan et al. 2019). The destructive force of natural disasters may result in multiple losses and damages, injuries, traumas, and deaths.

Studies show that natural disasters are now more substantial due to the force of global climate change. Climate change affects billions of people, including those from developing countries and even the poorest communities. The National Oceanic and Atmospheric Administration (2021) reported that climate change will result in stronger typhoons. Various communities are at risk of flooding, erosion, storm surges, and even involuntary displacement.

The Philippines is not new to these kinds of problems. It is a hotspot for calamities such as strong typhoons, frequent floods, and deadly landslides annually. Despite being one of the most minor contributors to global carbon emissions, the Philippines still earned the number one spot for being the country most prone to disaster globally in 2023. Together with other large countries like Indonesia, Russia, and China, the government was cited in the 2023 World Risk Report.

In 2021, the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA) reported that an average of 20 tropical cyclones usually entered the Philippine Area of Responsibility (PAR) annually. Each of these typhoons typically causes flooding and landslides, which endangers thousands of Filipinos, especially those in the coastal communities.

One of the most notable typhoon disasters that struck the Philippines was Tropical Storm Ketsana, which is locally known as Typhoon Ondoy. September 26, 2009, devastated significant parts of the country and changed how Filipinos think of disasters. Typhoon Ondoy brought flash floods that hit 80% of Metro Manila, which serves as the center of all political and economic activities in the Philippines (Porio et al., 2019). This situation gained huge attention during that time, being one of the worst natural disasters recorded in the country. Its

significant impact on the National Capital Region, the largest economy among the 17 regions in the Philippines, also raised alarm among the government and policymakers.

In his article, Pena (2023) wrote how extreme weather events in the region will continue to increase throughout the years as impacts of climate change. Disasters will inevitably affect individuals and local communities by increasing threats to their safety, security, and quality of life. Increases in death and mental health disorders, tolls in livelihoods and agriculture, and damages in infrastructures are the immediate effects of natural disasters strengthened by climate change.

Based on numerous studies, Marikina City has long been affected by various environmental hazards which resulted in multiple deaths and property casualties. The overflowing of Marikina River and the overflooding of the area is an old problem of the local community. Situated at the center of the valleys of the Sierra Madre Mountain Range, Pasig City, San Mateo and Cainta, the Marikina City served as a catch basin of flowing water coming from the Sierra Madre. The geographic location of Marikina City definitely poses a huge challenge for the city when facing strong typhoons.

One of the strong typhoons that struck the community is the Tropical Storm Ketsana, popularly known as Ondoy. It resulted in the Marikina River reaching a critical record of 22.8 meters. This record is higher than their current third alarm that requires forced evacuation which is 18 meters above sea level. Due to this negative experience, Marikina, a city located on the eastern border of Metro Manila, was heavily devastated.

Another notable typhoon in June 2011 was Tropical Storm Meari locally known as Falcon. The typhoon caused the Marikina River to once again reach a critical level. Few months later, the Typhoon Nesat, locally known as Pedring, caused the river to submerged several barangays. Delos Reyes and Espina (2016) cited that these flood incidents resulted in the displacement of residents particularly the informal settlers in the riverbanks of Marikina.

Recurring circumstances like these requires both the local and national government to increase their responses to its annual problems. More than others, climate change greatly increased the vulnerability of local communities to natural disasters including environmental

hazards like flooding. It is hard to imagine how strong future typhoons will be in the next few years.

The severity of the risk that the residents of Marikina are facing calls for effective community resiliency. Resilience is often defined as the ability to respond to the threats of adverse weather events. It is understood as the ability to cope with any hazard, like climate change and its impacts, by providing ways to maintain the usual function while growing the ability to learn and change. Rather than more formal and organized efforts, Hardee (2017) explained that resilience in some rural areas takes the form of adjusting their lifestyles as a way of responding to impacts of disasters.

Lu and Stead (2013) shared that resilience may come in two forms. It can either be static resilience and dynamic resilience. The ability to revert to the original conditions or the same state before disaster is called static resilience. Meanwhile, dynamic resilience is reached when the community experiences a different state, either better or worse than before. Several studies linked resilience and good communication. Mutual understanding facilitated by an effective two-way communication resulted in the needed resources and intelligence of the community. However, the problem relies on communicating to vulnerable communities in order to promote preparation and recovery after the disaster.

These findings justified the need to strengthen the country's adaptive and mitigation strategies through improved disaster planning and preparedness, more coordinated actions in times of disaster, and faster recovery after calamities. Since more substantial natural disasters are now inevitable, it is relevant to look at the resiliency strategies of communities during disasters. Resiliency is a trait that is constantly being linked to the Filipinos. However, only a few studies have explored the nexus of communication and community resiliency.

Statement of the Problem

This paper aimed to understand how community resilience is communicated during natural disasters. The paper drew out the necessary information through the following questions: 1) How do the local leaders in Marikina City communicate community resilience before, during, and after the natural disasters?, 2) What are the communication problems that the local leaders in Marikina City encountered in times of disaster that tested their community

resilience?, and What communication best practices of the local leaders in Marikina City during disasters can they recommend to other LGUs?

Significance

This paper lies in its potential to inform and inspire various stakeholders in disaster risk reduction and management, beginning with the local leaders of Marikina City. By highlighting the communication strategies used before, during, and after disasters, the study may help city and barangay officials identify each other's initiatives, enabling better coordination, resource sharing, and overall synergy. It also provides an opportunity for them to reflect on their strengths and challenges in promoting and sustaining community resilience. Beyond Marikina, the findings may also serve as a valuable reference for leaders from other cities and municipalities who seek to replicate effective local strategies, particularly in engaging civil society organizations and integrating communication into their disaster plans.

At the national level, this paper may contribute to shaping future policies and strategies that promote community resilience. Policymakers can draw on the findings to strengthen coordination among stakeholders and improve the flow of relevant information to disaster-prone communities. The general public, including vulnerable sectors, may also benefit by gaining a deeper understanding of the importance of proactive communication in disaster preparedness and response. Likewise, civil society organizations and volunteer groups can be guided on how to build stronger partnerships with local governments, amplifying their advocacies and interventions. Moreover, the study aligns with global development goals—contributing to SDG 1 (No Poverty), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action)—by emphasizing the role of communication in mitigating disaster impacts, fostering inclusive resilience, and supporting long-term climate preparedness.

LITERATURE REVIEW

Resilience is an important concept in disaster risk reduction. However, there exists no common definition of resilience. Different definitions have been proposed by physical and social experts, as well as various organizations. Cohut (2021) defined resilience as the ability to "bend, bounce back, and grow" in the face of adversity, while Bakic and Ajdukovic (2021) emphasized its dynamic nature. Bonanno et al. (2015) highlighted the importance of building

individual-level resilience, noting that focusing solely on community-level adaptation may not suffice. Institutions like the Asian Development Bank (2019) have also framed resilience in economic terms, pointing to the ability of various actors to absorb and recover from shocks without compromising long-term development. Keating et al. (2016) further stressed that resilience should go beyond recovery and include proactive measures that avoid the creation of new risks. Collectively, these perspectives affirm the multifaceted and evolving understanding of resilience in DRR.

The emBRACE Resilience Framework (Kruse et al., 2017) offers an integrated, multi-scalar approach to understanding community resilience. It highlights three interlinked domains: actions toward civil and social protection (e.g., preparedness, response, recovery, and mitigation); available resources and capacities (e.g., geographic, socio-political, financial, physical, and human assets); and the learning domain, which encompasses risk perception, critical reflection, innovation, dissemination, and monitoring. Graveline and Germain (2022) underscored the local character of hazards and the vital role of community-level actors in resilience-building. FEMA (2014) and Escober (2021) emphasized preparedness and experience as key factors in reducing vulnerability. Learning, as Matyas and Pelling (2015) explained, is a continuous process that builds adaptive capacity over time. These frameworks and concepts collectively guide the present study in examining how the City Government of Marikina communicates and operationalizes resilience, offering insight into replicable practices for disaster preparedness and response.

Factors Contributing to Resilience

The United Nations Office for Disaster Risk Reduction (2020) defines local capacity to include infrastructure, institutions, human knowledge and skills, and collective attributes like social relationships, leadership, and management. Considering this, it can be noted that understanding local capacity in the context of natural disaster is a complex phenomenon, which includes not only people's skills and resources, but also other dynamics, including socio-political attributes.

The understanding of local capacity is relevant in understanding the local efforts of Marikina City. In the generation of data, resources like infrastructures, relevant institutions, knowledge and skills will be looked at to see if these enabling resources truly helped the LGU

in communicating community resilience. Social relationships, leadership and management also played an important factor in terms of prioritization and greater push. Hence, the need to incorporate these lenses in understanding community resilience.

On an individual level, the theory posits that resilience can emerge when people see that even small actions can have a good impact on themselves, their families, and their neighbors. This involves factors, such as positive outcome expectancy, self-efficacy, and critical awareness. In other words, people who have a positive outlook on how their small efforts can help to mitigate disasters (positive outcome expectancy), who believe they are more capable of dealing with the difficulties posed by disasters (self-efficacy), and who are aware of potential hazards and understand the consequences of inaction (critical awareness) are more likely to take preventive measures, thereby increasing their overall disaster resilience.

On the community level, the theory notes that resilience means people are actively involved in identifying risks and developing solutions for themselves. This involves factors, such as place attachment, sense of community, community participation, and collective efficacy. In other words, individuals who feel a strong connection to their community (place attachment), have a strong sense of unity and cohesion (sense of community), participate in decision-making processes and community initiatives (community participation), and have a strong belief within a community that its members can effectively work together to achieve common goals (collective efficacy) are associated with community resilience.

Finally, at the societal level, the theory stresses that resilience can be achieved when institutions encourage community-led initiatives, foster mutual trust, and promote respect. This recognizes the role of governments and NGOs as well as private sectors in fostering trust in the community and ensuring empowering environments.

Meng (2018) highlighted the challenges in communicating community resilience. According to Meng, the general sense of community resilience in going back to normal is concerning because the community is only going back to the same state as before. However, Kruse et al (2017) already argued that community resilience involves learning particularly the ability to reflect critically. Hence, communities should and must learn from their experiences in order to avoid experiencing the same situation as before.

The Role of Communication in Promoting Community Resilience

Communication is broadly defined as the transmission of messages between a sender and a receiver, but it also entails a symbolic, transactional process where meanings are constructed and shared through verbal and non-verbal codes within a specific context (Hashilinda et al., 2019). This broader understanding positions communication not merely as information exchange, but as a mechanism for fostering shared understanding among individuals and groups.

In the context of disaster risk reduction (DRR), communication plays a vital role in enhancing public awareness of hazards, preparedness, and mitigation strategies. It enables communities to comprehend, absorb, and act on disaster-related knowledge efficiently (Khumairo et al., 2021). Effective communication must be clear, direct, precise, and complete to influence behavior positively (Hardiyanto & Pulungan, 2019).

Several scholars link communication with core management principles. Rudianto (2015) outlined four pillars of effective disaster communication: customer focus, leadership commitment, situational awareness, and media partnership. These emphasize the need for accurate, timely information delivery, active leadership involvement, transparent information flow, and collaboration with media to combat misinformation.

Participatory communication is increasingly advocated in disaster contexts, where community members are viewed not merely as recipients of information but as active agents in disaster response and recovery (Khumairo, 2021). However, Bakic & Ajdukovic (2021) caution that an overemphasis on information dissemination may overlook deeper social and psychological factors that shape behavior.

Effective communication also involves multilevel engagement. Matze-Fawcett (2021) and Drew (2023) highlight the role of families as primary socializing agents, underscoring the need to integrate interpersonal and familial dynamics into DRR communication strategies. King (2023) further argues that resilience communication must go beyond top-down information sharing and instead foster two-way dialogues between authorities and

communities. Such dialogues are central to "networked adaptive capacities," a key component of community resilience.

Kruse et al. (2017) and King (2023) emphasize that communication promotes resilience across three key functions: awareness-raising campaigns, facilitation of emergency response, and enabling recovery through continuous exchange and feedback.

Despite its recognized importance, communication remains underexplored in DRR research (Bergstern et al., 2018). Yu et al. (2020) demonstrated that communication from credible local officials significantly enhances both perceived and actual preparedness. Their findings affirm the crucial role of localized, trustworthy communication in mobilizing communities toward proactive disaster risk management. 2023) emphasized that poor strategic planning and risk management usually results in low anticipation and poor preparation for disaster, and such a situation might negatively impact the communication process.

Given the above, the concept of resilience, though variably defined across contexts, remains a critical element, particularly for disaster-prone regions. A key insight from the literature is the limited attention given to the communication processes that underpin effective Disaster Risk Reduction and Management (DRRM). While communication is widely recognized as essential in promoting disaster awareness, preparedness, and response, gaps persist in understanding how it can be strategically employed to deliver timely, accurate, and context-sensitive information—especially during times of crisis. Moreover, much of the existing literature on disaster communication is rooted in Western paradigms, which may not fully capture the unique challenges faced by developing countries, including disparities in disaster awareness, technological capacity, bureaucratic structures, and communication cultures.

This paper seeks to bridge that gap by exploring how resilience can be effectively communicated within a developing country context. Specifically, it will focus on the actors, processes, and systems that shape disaster communication. The case of Marikina City—known for its recurring flooding yet recognized for its efforts in building community resilience—offers a compelling site for this inquiry. By examining the city's communication strategies and

experiences, this research aims to contribute meaningful insights that respond to the research questions outlined in the preceding chapter.

METHODOLOGY

Research Design

This paper analyzed the strategies, shared challenges, and replicable practices of the local leaders of Marikina City in promoting community resilience to natural disasters. In order to gather the necessary information and to meet the objectives of the study, a qualitative method was employed by the research. Tenny et al. (2022) defined qualitative research as a kind of research that examines and provides a deeper level of analysis to real-world problems.

Mohajan (2018) emphasized that qualitative study focuses on understanding beliefs, experiences, and interactions through interviews, observations, focus groups, textual analysis among others. In her article about research designs, McCombes (2017) described qualitative methods as flexible and inductive in nature. This gave the researcher an opportunity to adjust the approach based on the findings along the process. The researcher used descriptive research design to describe the phenomenon and situation in Marikina City.

This paper analyzed the case of Marikina City. It included the specific messages that they cascaded, the means and timing of communication, and its effect in contributing to the community resilience of Marikina City.

Tradition of Inquiry and Data Generation Method

This study employed a case study approach, which analyzes a specific phenomenon within its real-life context (Coombs, 2022). In this case, the focus was on examining Marikina City's strategies, challenges, and replicable practices in promoting community resilience during disasters.

Data was gathered through in-depth interviews, a method involving detailed conversations with a small number of respondents to explore individual perspectives and experiences (Rutledge & Hogg, 2020). Key informant interviews (KII) were conducted with

city and barangay-level officials, as well as community volunteers, to obtain both personal and collective insights on how resilience is communicated in disaster situations.

Collected information was analyzed using descriptive analysis, a method that summarizes and interprets raw data to generate meaningful insights (Bush, 2022). This process helped identify common strategies and practices based on the experiences shared by informants from Marikina City.

Sources of Data

This study utilized purposive and selective sampling, where participants were chosen based on specific criteria relevant to the research objectives (Palinkas et al., 2015).

Key informants included four officials from the City Government of Marikina and one official and one volunteer each from three flood-prone barangays located along the Marikina River: Barangay Tumana, Barangay Nangka, and Barangay Malanday.

To qualify, local government officials and barangay personnel were required to have at least 20 years of residency in Marikina and a minimum of five years' experience in disaster risk management. Volunteers were also required to have lived in the city for at least 20 years and have a minimum of three years of active participation in community-based disaster risk reduction efforts. Informants were selected based on their familiarity with and involvement in past and ongoing initiatives related to communicating resilience in disaster situations.

Research Instrument

To achieve the study's objectives, an interview guide was utilized. The questions focused on local leaders' communication strategies in promoting resilience among their constituents, as well as the factors contributing to effective messaging, best practices, and encountered challenges. All questions were designed in alignment with the study's research objectives.

The interview guide was divided into three parts. The first part included eight (8) questions exploring strategies for communicating community resilience, such as respondents' understanding of resilience and the approaches used during different phases of a disaster. The

second part contained three (3) questions aimed at identifying challenges and areas for improvement. The final part included four (4) questions on replicable practices observed in Marikina City. As key informant interviews were used, flexibility was allowed for follow-up questions based on the flow of conversation.

Data Generation Procedure

Prior to data collection, the study received the necessary endorsement from the research adviser, thesis panelists, and the faculty of the PUP-Graduate School in February 2024. Following this, an application for Ethics Clearance Certification was submitted and granted on April 15, 2024.

A formal letter was sent to the City Government of Marikina in April 2024, providing an overview of the study, its objectives, the interview schedule, and a list of requested informants. To help secure the participation of the intended respondents, assistance was sought from the City Government and the DILG Field Office of Marikina City to endorse the letter to the appropriate offices and barangays. To expedite coordination, individual letters were also sent directly to selected barangays.

Key informant interviews began with the Marikina DRRMO via Zoom on April 29, 2024, followed by in-person interviews conducted on May 1 and 11, 2024. All interviews were audio-recorded, with accompanying notes taken during the sessions.

Transcriptions of the interviews were produced and analyzed thematically. Through familiarization with the data, themes and codes were identified to align the responses with the research objectives and questions.

Ethical Considerations

Before recording the proceedings, consent was obtained from all key informant interview participants. Permission to take photos for documentation purposes was also requested. The interview questions avoided discussion of traumatic experiences and instead focused on local efforts to communicate resilience during disasters. A victim-sensitive approach was applied to prevent any potential harm.

Participants were given full autonomy to choose their preferred time and mode of interview. Ethical practices were observed throughout the study to ensure impartiality and protect the well-being and dignity of all participants.

RESULTS AND DISCUSSION

Local Understanding of Community Resilience

While various researchers already provided definitions of resilience, the participants from Marikina City also have a localized understanding of the resilience concept. These answers emanated during the key informant interviews where they were asked about how they communicate community resilience. Aside from community resilience, understanding individual resilience in this regard is important as resilient individuals are more likely to engage in preparedness activities, reducing the impact of future disasters (Bonnano et.al, 2015).

For the participants from Marikina City, critical understanding of present risks and hazards are being linked to community resilience. For them, a community can be resilient if the concerned leaders and implementers ensure that the community is well-aware of the present risks and hazards in their locality. The World Health Organization (2015) stated that increasing community risk awareness is a vital part of community-based disaster risk reduction. When the residents are well-informed about the disaster risks and hazards that are present in their community, they start to understand the situation and they can do proper actions in order to guarantee their safety and well-being (WHO, 2015).

Dangcalan et al. (2020) shared insights that the residents in Marikina City manifested greater awareness in managing disaster risks as influenced by their negative experiences in Typhoon Ondoy. Due to the "greater awareness" of the residents of Marikina to present risks and hazards in their community, they know what to do when they see signs of possible flooding. Whenever there are heavy rainfalls, the residents are already actively engaged in social media, or waiting for further announcements from televisions and radios. Ranaday (2015) has noted how the use of social media further aid in the disaster preparedness and response of Marikina City. The concept of preemptive action and evacuation is already part of the community consciousness.

Based on the responses from the participants, flooding and typhoons are no longer the biggest woe in Marikina due to their awareness and past experiences. The participants claimed that they are already adept in handling typhoons and floods due to their recurring past experiences. Guggenheim (2014) highlighted how extreme experiences from disasters can cause radical change among the affected citizens. On the part of Marikina City, although typhoon and flood problems are imminent, the local leaders already felt confident and more prepared to face it.

In fact, during the data gathering, the participants regularly mentioned that the current biggest threat to them is the "Big One", not the flooding anymore. Medina (2019) described the Big One as the looming apocalypse in Metro Manila and nearby provinces including Bulacan, Rizal, Laguna and Cavite. The movements of the Valley Fault System will trigger an estimated 7.2 magnitude earthquake. The Marikina Fault System is part of five active fault lines together with the South of Mindanao Fault, Eastern Philippine Fault, Western Philippine Fault, and Central Philippine Fault (Medina, 2019). Given the seriousness of this upcoming danger, the local leaders in Marikina City are firming their plans toward this type of disaster. It is now evident that aside from floods and typhoons, the residents in Marikina understand another hazard that may soon strike their city anytime. This critical level of understanding provides a certain level of consciousness to anticipate future risks and hazards.

Aside from awareness, preparedness to disasters is something that is being linked to community resilience. A resilient community does not only understand the risk, but also knows how to prepare for it. Disaster preparedness is an important phase of civil protection under the emBRACE Resilience Framework of Kruse et al. (2017). Within Marikina City, the local leaders ensure that the residents are prepared for the risks and disasters that may impact their community. Yalao (2022) have noted how the local action plan of Marikina City is in place to provide all City Departments the roles and functions in responding to natural disaster emergencies like strong typhoons and overflooding.

Before the Ondoy Tragedy, the participants admitted how residents had low preparedness on the disaster risks in their area. This was attributed to their experiences of minor incidents of storms and typhoons back then. However, following the negative experiences and strategies that claimed the lives and properties in their city, the communities in Marikina have

learned to become prepared for typhoons and floods. Ting (2019) recalled the lessons of Ondoy Tragedy from the people in Marikina City. Her article in 2019 entitled "A decade after Ondoy, lessons are still being learned" focused on the changes of disaster actions of the residents post-Ondoy.

The city started to establish protocols and early warning systems for floods. Serafica (2017) highlighted how the 3-level alert system in Marikina City informed the resident's actions and decisions. Thus, preparing them for what is about to come. These alarm systems range from 1st alarm for preparations, 2nd alarm for evacuations, and 3rd alarm for forced evacuations will be triggered once the water level has elevated to the required measure.

Good planning at the city and barangay level is also associated with community resilience. The local government leaders know the needs of their constituents; hence they know to address these problems (Dangcala et al., 2019). The Marikina City and its barangays are complying with the required formulation of disaster risk reduction and management plans. The local plans are crafted in line with the National Disaster Risk Reduction and Management Plan and the National Climate Change Action Plan. These important local plans on disaster will serve as the framework in implementing future efforts related to disaster governance.

Ebino et al. (2023) described in the Disaster Preparedness Manual for local government units the ideal measures to respond to typhoons and floods. A sound disaster risk reduction and management plan indicate the city/barangay profile with specified location, accessibility and topography. The local governments also conducted risk profiling by identifying the hazards present in their community. Aside from it, the barangays identified in the DRRM Plan the committees that will be involved in their community resilience efforts. Some of which are the (a) warning committee, (b) rescue committee, (c) relief committee, and (d) post-disaster committee. The Department of the Interior and Local Government has provided a checklist for local government units to ensure early disaster preparedness the province, city/municipality, and barangay level (Ebino et al., 2023).

Planning is also an important process for the local government of Marikina City and its barangay government units. Careful planning allows the local government to ensure that the allocated 5% budget for the Local Disaster Risk Reduction and Management Fund will be

appropriated accordingly. The budget appropriation must adhere to the guidelines for the allocation and utilization of funds that was issued by the national government. Sutherland et al. (2024) stressed some considerations in the budgeting process to enable risk reduction and management. Additionally, a comprehensive budget for disaster must cover disaster risks considerations in order to translate resources to strategies (Sutherland et al., 2024).

During disasters, a resilient community shows positive traits of strength and optimism. Despite experiencing extreme stress and losses, the community knows how to maintain its current threshold. The concept of giving up is alien to the residents that are already resilient to typhoons and floods. Participants noted how Filipinos, including the residents of Marikina, manage to smile despite the negative experiences that they are facing.

Bonnano et al. (2015) stressed the importance of individual-level resilience. In the Community Resilience Theory of Berkes and Ross in 2013, they put significant emphasis on the mental and developmental psychology strand of their theory. The participant's response about personal strength, positivity, hope, and optimism encapsulated their idea of community resilience. Readiness and independence are also linked by the participants to community resilience. This attribute is where the residents are no longer dependent on the interventions from the barangay or city government. A resilient community is fully-prepared before a disaster may happen no matter if there are orders or interventions from the authority or not.

The respondents claimed that the residents in Marikina City no longer needed micromanagement during disasters. This is attributed to the fact that they already know what to do (Bagayas, 2018). The community volunteers like the Barangay Emergency Response Team are also spearheading initiatives out of their own resources. As barangay volunteers, they do not rely heavily on the efforts of the barangays. Instead, the barangay volunteers and local community groups know what to do to help the residents in their area.

In addition, the Homeowner's Association also has its own initiatives to fund their operations. They do not rely on the 5% meager disaster budget of the barangay alone. They use their networks to tap for possible additional resources that will be distributed to the beneficiaries. Santos (2017) noted the valuable contributions of grass-root organizations like the civil society organizations, local non government organizations, and homeowner's

association in Marikina City as actors and enablers of disaster risk reduction efforts. On the part of Marikina City, the local volunteers and community groups serve as an added force for the local leaders to address disaster risks. These strategies are effective because according to Ganao et.al (2023), the spirit of volunteerism can boost disaster preparedness, response, and recovery efforts. Thus, it can make communities more resilient and capacitated to overcome any challenges posed by natural disasters.

Lastly, community resilience also corresponds to fast recovery (Queensland Government, 2023). Considering the previous experiences of Marikina in terms of calamities and disasters, the community was still able to withstand the shocks that affected their community. In every disaster and calamity, the major concern that always emanates is its recovery. Over time, Marikina City proved itself to be resilient by bouncing back and recovering from the damages felt from typhoons and floods. Espina (2018) already cited the recent typhoons and flooding impact in Marikina including the Typhoon Ondoy in 2009, Typhoon Falcon and Typhoon Pedring in 2011, moon rains or habagat in 2012. On Ondoy alone, the property damage reached up to 27 million worth of damage and 70 people died (Tomacruz, 2020). Participants claimed that the Typhoon Ondoy, being one of their worst experiences, inflicted fear to some residents. The residents also lost the majority of their properties and the way of living was hampered. However, despite the severity of experience, community resilience provides extra courage for the residents to bounce back and recover from the stress that it felt. This only reinforced the discussion of Berkes and Ross (2013) about the mental and developmental psychology approach towards understanding community resilience.

The above-mentioned findings gathered from the answers of the participants contribute to the first theme that emanated under this objective. The first theme talked about the local understanding of the participants to community resilience. It discussed the traits and behaviors observed by local leaders in Marikina City towards natural disasters like typhoons and floods. The Marikina City's decades worth of experience in facing different adversaries like natural disasters have already provided clear imagery about a resilient community. These concepts serve as a compass for local leaders and policy makers of Marikina City whenever they implement plans, programs, and activities related to disaster risk reduction. It also answered the questions "where are we now?" and "what do we want to achieve?" key questions when formulating programs and policies focusing on natural disasters. The second theme below will

discuss how the local leaders in Marikina communicate community resilience. It will explain various communication strategies to disseminate their concept of community resilience before a disaster.

Pre-Disaster Communication reduces risks and vulnerability

Communicating before a disaster is important to ensure that the residents are ready for any possible risks during natural disasters. Nakamura (2017) highlighted how smooth and effective communication is a key factor in promoting community-based disaster prevention strategies. Under this particular theme, the researcher analyzed the communication strategies of Marikina City in communicating community resilience before disaster. Below are the topics that floated under this theme:

Before a disaster, Marikina City communicates disaster awareness and preparedness up to the grassroots level. The City Government, through the City Disaster Risk Reduction and Management Office, usually informs and trains the community including the members of church groups, school students, other public and private institutions, and volunteer organizations about the risks present in their community. The residents are well-informed and oriented about what to do in times of disaster including the protocol that they need to follow. When talking about preparations for flooding, Marikina City could be considered as the most prepared and equipped local government unit (Dangcalan, 2019).

The capacity development interventions are not solely being provided by the City Government. The Barangay Governments and community volunteer groups are actively doing their part incapacitating the residents about disaster risks and management. Johnston et al. (2022) have noted how a successful engagement with the community results in informing the constituents, and capacitating them to deal with the risks of disasters. Such a community-based approach to disaster preparedness can successfully reduce the susceptibility of communities to natural hazards (Ryan et.al., 2020).

For instance, training about basic rescue is being provided for free in some capacity building activities led by the city and barangay government, and volunteer groups. Volunteers from BERT are dedicated in providing training to their fellow barangay residents. The members of the BDRRMC regularly conducted drills and seminars for their constituents. As

stated in the literature, disaster management training can help disaster relief personnel and volunteers improve their preparedness and response time at all levels, before and after disasters (Juanita et.al, 2018).

Aside from it, various strategies are being implemented to reach different kinds of audiences. According to Lovari & Bowen (2019), leveraging the use of social media in the context of disaster provides citizens a larger role in planning for and controlling calamities and help develop resilient communities. In the case of Marikina, the use of proper utilization of social media to disseminate needed information before a disaster is being implemented. The Facebook page of Marikina City Rescue 161 alone has 197,000 followers as of May 18, 2024. The city and barangay government, including the volunteer groups, are actively posting in their social media to provide the residents in their jurisdictions the necessary information to help them become more prepared towards disaster (Tapang, 2015). Available training and seminars that the residents of Marikina may join are being cascaded through online means. Aside from the social media, the Community Relations Officers were also being tapped by the City to cascade further information. This experience constitutes the idea of Cvetković & Nikolić (2023) expressing that social media is collaborative, decentralized, and community-driven, transforming individuals into both content consumers and producers. This feature enables social media to form emergency management communities that share responsibilities and can concentrate on specific disasters or at-risk communities.

English and Filipino information, education, and communication materials (IECs) and posters were also disseminated by the DRRMO for the residents who are not into social media. Participant Citas noted the importance of the whole-of-government approach as part of their strategies. Some of the key Offices and Departments that have been vital in ensuring the success of Marikina are the Legislative Department, Marikina Settlement Office, Public Information Office, Bureau of Fire Protection, Philippine National Police, Fire Volunteers, Department of Education, barangays, and all volunteers (Yalao, 2022). The City Government of Marikina ensures that all members of the community, including the City Government Departments, are involved in the community resilience efforts of the city.

On the other hand, Fakhriati et. al. (2023) noted that communicating disaster is not only limited to digital-based communication as most rely on traditional ways of communication

because disasters are natural events that affect humans. For instance, the local leaders in Marikina are also utilizing the traditional form of communicating disasters including the use of megaphones in street, public address by the Punong Barangay, and house to house visits led by barangay officials, barangay inspector, maintenance supervisor, health workers, and barangay tanods.

To further firm up their preparations before a disaster, the community also communicates the needs to firm up their infrastructures. Communicating engineering interventions are vital to ensure that the Marikina City is ready for typhoons. Marikina City ensures the cleanliness of their drainage system because of the implication of an unmaintained drainage system in their city . In fact, in 2021 the City Government served as the beneficiary of the project of the DPWH in partnership with JICA. This project named Pasig-Marikina River Channel Improvement Project - Phase 4 facilitates the continuous dredging efforts and reinforcement of flood walls in Marikina River (DPWH, 2021). The project also ensured that the drainage system will be fully functional by the time the city will be hit by a typhoon. The roads in Marikina City were also cemented as part of their learnings in the past, and the materials used in building houses are concrete materials. The damaged dikes are also restored and various dredging operations were initiated to further strengthen the city preparations before an actual disaster. All of these are parts of efforts to improve community resilience before a disaster that was powered by an effective communication of learnings and insights.

Communicating policy reforms is also part of the efforts of the city government to promote community resilience before a disaster. Policy reform may come as a form of critical reflection responses mentioned by Kruse et al. (2017). In 2014, the City Government of Marikina, through the Ordinance 48 s. of 2014, mandated all houses located in low-lying areas to be constructed in stilts. To encourage residents to build or convert their houses to stilt-type houses, the City Government provided a blueprint that is government subsidized (Alquitran, 2015). Blueprints for 24 sqm size houses were provided by the local government.

Before the passing of the said ordinance, Delos Reyes & Francisco (2014) noted a significant number of families in Marikina were living in houses that are made of light materials and makeshift houses. Specifically, based on the Community Based Management System (CBMS) Census from 2012-2013, the top three barangays with the most households with

makeshift houses are in Barangay Tumana, Malanday and Nangka. By building houses on stilts, the Marikina residents living nearby the river would be able to mitigate the impact of floods. This can be observed in the houses in Barangay Nangka, Tumana, and Malanday that are located near the river. As stated in the City Ordinance, violators will be fined Php 5,000.00 (Alquitran, 2015). Respondent Marie Angelie highlighted how practical it is for the residents to build houses on stilts. There would be less stuff to elevate once the water went inside their houses. The ground floor may be allocated for parking, comfort room, and sink only. Most of the cases, the second floors were treated as the first-floor level of their houses.

Aside from the above,, Hidayat & Rasadi (2020) expressed that community participation in disaster-based development planning is necessary, particularly when dealing and identifying risks that exist in their local community, making vulnerable citizens more aware of the environmental conditions based on their experience and knowledge of disasters that have occurred in their territory. In the context of Marikina, participative planning is also being practiced by the local government of Marikina. Participant Rodel shared that they involve non-government organizations and people's organizations in the formulation of their disaster risk reduction management plans. During this process of planning for the barangay, concerned stakeholders and partners are given the opportunity to contribute in the development of local plans that will reinforce the Marikina's disaster governance.

The responses captured from the participants clearly outline the efforts of Marikina City to enforce community resilience before the event of the disaster. The responses affirm that the city is not only active during disasters. But, it is continuously championing disaster governance in the city and barangay level. The next theme will now focus on the efforts of Marikina City during disasters.

Close Coordination and Quick Responses During Disaster

Different from the pre-disaster phase, situations during disasters are hard to control and anticipate. Therefore, an affected community must have established common knowledge about what to do in times of disaster (Henry, 2018). During disasters, the residents already know what to do based on the alarms in their early warning system.

The Marikina City is also following specific protocols during disasters that they established through years of experience. This includes protocols in the activation, positioning, and deployment of personnel, as well as protocols when accommodating evacuees inside their camps (Serafica, 2017). For instance, the Camp Managers of the City Government are already on standby when the water level reaches 13 meters above sea level. Although the first alarm will ring if the water reaches 15 meters sea level, the Camp Managers who are the Department Heads, as well as their Co-Camp Managers who are the Schools Principals, will open the schools identified for camp management. If the water reaches 14 meters above sea level, all Camp Managers or their representative will proceed to their assigned camp to set-up. All required equipment will be readied together with the rooms and modular tents that will be used by the incoming evacuees (Bagayas, 2018). If the water reaches 15 meters above sea level, it is expected of the Registration Team, Medical Team, Safety and Security Team, WASH Team and the Food and Non-Food Distribution Team.

Inside their camps, the Marikina City Government is implementing specific protocols. The Evacuation Management Team guides and assists all guests to their respective rooms (Bagayas, 2018). Participant Citas was confident because the majority of the guests already knew what to do inside the camp. The familiarity of the guests to their process and protocols led to the efficient and seamless provision of assistance inside their camps.

Usually, the City Government limits the room to two (2) to four (4) families only to avoid congestion and provide the needed space for families. If the camp reaches the limit of its capacity to accommodate, then the Camp Manager will close it. The remaining incoming evacuees will be advised to go to the next evacuation camp. A Memorandum of Agreement was forged by the City Government with the schools, learning institutions, and other infrastructure that will serve as the Camps for the evacuees. Guiao (2024) cited that as of April 2024, there are over 50 evacuation centers in the City. Aside from that, there are also other camps that are on-standby.

Inside their respective camps, the evacuees were treated as "guests" to provide a hotel-like experience where the family would check-in (Bagayas, 2018). In their rooms, families will be given food. The usual scenario inside an evacuation center, where the area is messy, crowded and disorganized, is not applicable to the evacuation camps in Marikina City. Inside their

camps, the City Government makes sure that the residents are provided with comfort and care that they need to avoid inflicting further harm or trauma to them. Participant Citas stressed that they wanted to provide humane treatment to all guests. This is related to what Lee et al. (2020) pointed out in their research article where they shared how post-traumatic stress disorder (PTSD) and other mental health concerns are present to those who were hit by natural disasters. Supporting the mental health of the victims are still necessary considerations when dealing with disaster management (Lee et al., 2020).

The spirit of bayanihan is also being observed inside the camp. Here, everyone was helping each other and all units were given specific tasks including the doctors, nurses, security personnel, firemen, social welfare, teachers and even the librarians (Guiao, 2024). The City Government provided a dedicated room for children where they can play, learn, or watch films and cartoons with the assigned teachers. Every camp has their own strategies to make their guests feel very comfortable inside their assigned camps. Some camps even have their own mess hall for communal eating.

Recognizing that community resilience cannot be achieved through sole efforts of the government alone, Mary Jane cited their good practice of empowering volunteers as force multipliers within the City and barangays. The volunteers help in cascading required information to the constituents of the barangay during disasters. Berardi et al. (2022) acknowledged the important participation of local community volunteers in disaster preparation and responses. For instance, local volunteers can serve as additional responders and complementary manpower during disaster situations (Berardi et al., 2022). Aside from the Barangay Emergency Response Team, the barangays are also tapping the participation of special community groups like the breastfeeding groups in the barangays. These groups of breastfeeding mothers are responsible for evacuating and taking care of other breastfeeding moms inside their camps.

> Mary Jane: *Mayroon din tayo nabuo na mga kananayan o breastfeeding groups. Nangunguna sila kapag may baha, sila mismo nagpupunta at maginspect sa mga evacuation area…*

The members of the Marikina Evacuation Management Team also pay attention to all guests needing specific medical attention. For instance, persons with special needs like the elderly, persons with disabilities, and early babies were placed in more accessible locations inside the camps. Usually, these people with specific needs and concerns are placed on the first floor of the camps.

Coordinated action and tight communication within the concerned stakeholders is required among the City Government, Barangay Governments and volunteer groups in Marikina Before a disaster (Enano & Reysio, 2019). Respondent Julietta shared how they maintain a Messenger group chat with the BDRRM and other members of the Homeowners' Association. This group chat also served as an instrument in receiving crucial information coming from the national government and city government. In the case of the Barangay Tumana, its Homeowners' Associations contributed to their efforts by helping in the dissemination of information to the residents. The same goes for the Homeowners Association of Barangay Nangka. Participant Rolando, being the President of all Homeowners Association in their barangay, led the dissemination of information to its members. He cited the importance of verifying the information before it was cascaded to the ground. As expressed by Guo et.al (2020), accurate information is the cornerstone to a successful, effective, and trustworthy intervention and response to disasters. The volunteers and local community groups in Marikina City contributed in disseminating accurate and urgent information to all concerned stakeholders.

Support and donations from various groups also pour during disasters. Private individuals and organizations helped in repacking relief goods and providing food to the affected residents. Popular food chains provided food for residents including Jollibee Corp. and McDonalds. Telecommunication also installed booths for free charging and access to phones. These private sectors are contributing to disaster risks and management through sharing of resources and providing the necessary services to victims of floods. It also aids in the recovery of typhoon-affected residents.

Aside from the above, Marikina City also has its Operation Center that is operational 24/7. Participant Rodel boasted of their city's Operation Centers and Rescue 161 which were helpful in the feedbacking of needs and emergencies that were later on relayed to the members

of Search and Rescue (SAR) and Emergency Response Team (ERT). One of the key messages that the City Government wanted to relay in times of disaster is the presence of the local government. Respondent Citas wanted their guests/evacuees to feel the local government was there to help them in their needs. Hence, their special treatment of guests in their camps.

The successful practice of one-way communication was also very helpful in ensuring the success of their coordination. Bhasin (2023) stressed how downward communication plays an important role in ensuring the success of organizational efforts. The City Government is practicing their Incident Command System to ensure that there is a clear flow of information and command in times of disaster (Dangcalan et al., 2019). The Chairperson of the Incident Management Team is the elected City Mayor. They follow specific protocols in relaying information and ensuring the correctness of their data. This practice helps in avoiding confusion and miscommunication. For instance, the official head count of affected residents is being released by Camp Managers alone. They follow this practice in order to avoid having different versions of head counts.

By maintaining a clear flow of information and protocols, the City Government was able to suppress negative actions based on wrong information. Marikina City is implementing strong downward communication as part of its protocol during disasters. Bhasin (2023) described downward communication as flow of information that usually follows a chain of command from the leaders, down to the lower level of hierarchy. Downward communication, when effectively conducted, plays an important role in ensuring the success of an organization's undertakings (Bhasin, 2023).

To summarize, rich inputs were captured from the participants based on their experiences and involvement in the above-mentioned efforts and strategies during disasters. The fourth theme will now look at the strategies of the City Government to communicate community resilience after disaster. It is a crucial part given that post-disaster requires assistance for immediate recovery.

Facilitating Power of Communication Towards Fast Community Recovery

Community resilience doesn't end with the pre-disaster and disaster phase. After experiencing disaster, a resilient community knows how to fastly recover from stress and

disturbances (Whalstrom, 2015). Participant Leodegario defined community resilience as recovering from the disaster on its own. Although he has doubts whether the community is fully resilient already. These fundamental concepts of community resilience are necessary to understand how the Marikina Government is communicating it before, during, and after disasters.

After the disaster, a stress debriefing for the affected residents is being practiced to relieve them from traumas that they experienced. Some volunteers within and outside the city provided free counseling to the affected residents. Post-evaluation activities were also conducted by the city and barangays.

Even if the evacuees have already returned to their homes, the City Government religiously goes house to house to give relief packages. Bakic & Ajdukovic (2021) stressed the importance of resources to support recovery after disasters. Particularly, they found out that communities with more resources have better post-disaster outcomes.

The local government and volunteers also check the camps for remaining residents that might still need assistance. Participant Ferdinand highlighted that the communication of community resilience does not end before and during disasters. Rather, there is a need to monitor the status of affected residents.

After disasters, some local government units also extended assistance and support to Marikina. Some of these are Valenzuela City, Quezon City, Taguig, and Makati City. These local government units provide relief for the victims of flood. At the community level, some active CSO's in Marikina, namely the Guardians, Tao Gamma, El Phi, Lion's Club, Rotary Club, Red Cross, World Vision, and Tzu Chi Foundation, also assist in the recovery of the community.

On the other hand, in order to maintain the usual operations within the City, the local government together with the Metro Manila Development Authority, conducts road clearing operations to remove the debris and any possible obstruction for the passing residents. Debris are removed through manpower and heavy equipment. The City also collects household wastes to ensure cleanliness of the area after the typhoon.

Due to the best practices of the City of Government, the local government received a Gawad Kalasag (Kalamidad at Sakuna, Labanan, Sariling Galing ang Kaligtasan) Seal of Excellence from the National Disaster Risk Reduction and Management Council (Guzman, 2024). This only proved that the City Government has been doing exemplary efforts in the field of disaster risk reduction and management in their locality.

To summarize, the Community Resilience Theory of Berkes and Ross (2013), they explained that there are two distinct approaches towards community resilience. These are categorized as socio-ecological approaches, and mental and developmental psychology approaches. The socio-ecological approach was defined as the ability of the community to remain within its critical thresholds despite experiencing disastrous calamities such as Typhoon Ondoy, Typhoon Falcon, and Typhoon Pedring.

Meanwhile, the mental and developmental psychology approaches tend to look at the individual capacity to cope up with the stress and traumas that it experienced. Despite experiencing various stressors and psychological scars such as loss of relatives, loss of properties, and loss of livelihood and employment, the individual still manages the stress and goes on with his/her daily life. Both two-distinct approaches in understanding community resilience were fully linked in the theme that emerged under the first objective.

Common Bottlenecks in Communicating Community Resilience

In the review of related studies of this research, the researcher already discussed some factors contributing to resilience. The United Nations Office for Disaster Risk Reduction (2021) cited local capacity as the enabling factor towards resilience. The local capacity incorporates the readiness of infrastructures, adequacy of knowledge and skills, organization of a required institution or structure, among others. It also looked at the leadership and management, social relationships, and availability of resources as the key elements contributing to community resilience. Aside from disaster actions including preparedness, response, recovery and mitigation, it is also important to look at the resources and capacities. These key elements, when present, facilitate the achievement of community resilience.

The researcher also found out the significant role of communication in promoting and achieving community resilience. Hashlinda et al (2019) highlighted that we engage in

communication in order to convey a key message that we would like to share. Through communication, we create and coordinate meanings and we also engage with symbolic and transactional processes.

Regardless of upward, downward, or horizontal direction, communication was proven to be helpful in raising public awareness about disasters. From planning process, to implementation and execution, and even in monitoring and evaluation, we use communication to transmit and receive information. To do this, the communication must be direct, clear, complete and precise as highlighted by Hardiyanto & Pulungan (2019).

Although Marikina City has good practices in terms of disaster risk reduction and management, they lacked enough documentation especially with their established Camp Management System. This has been attributed to the fact that all of them in the City Government are occupied and mobilized during disaster situations. Once a disaster situation occurs, their focus is to provide immediate responses to their assigned Camps and not to capture documentation as a mode of verification. Hence, the reason why there were limited photos, video documentations, and write-ups that are available about their replicable good practice.

Oftentimes, the Camp Management System of Marikina is being featured by different news outlets. However, as far as internal documentation is concerned, the participants, especially those from the City Government, claimed that this is something that they need to work-out. In the future, the City Government wanted to submit their good practice as an entry to award-giving bodies and recognitions about good practices in disaster.

Despite the fact that the Marikina City have engaged with various partners from the past including private sectors, non-government organizations and civil society organizations, the partnerships were not institutionalized or formalized via a Memorandum of Agreement or any other form of written agreement. The partnerships established by Marikina City with its regular partners were more of an informal partnership. Thus, the need to institutionalize through a written agreement in the future.

In the past, Marikina City had several partnerships with telecommunication companies like Globe, Smart, and Ditto. These telecommunication companies provided free access to

mobile booths and charging outlets during extreme typhoons and flooding. These companies help the evacuees connect with their loved ones in times of disaster. They also provide free electricity for the use of mobile phones and other gadgets that are needed by the evacuees. Institutionalization of partnerships may firm up the relationship between government and non-government actors. Necessary innovation and flexibility, together with increased funding opportunities, can be achieved through partnerships with semi-private and private companies (Panda et al., 2020)

Several fraternities, private companies and NGOs are also very generous and supportive to help Marikina recover during natural disasters. The institutionalization of partnerships through an agreement will ensure its sustainability of forged partnerships in the long run. With institutionalized partnerships, the connection between the City and partners will continue even with the changing of current administration. It can also encourage other CSOs and private sectors to formalize their engagements with the local government.

On the other hand, although the majority of the residents are highly compliant to their established protocol when facing a disaster including typhoons and flood, there are very few residents who are still difficult to talk with when requesting for evacuation of their homes during a disaster. The number of stubborn residents however is very small compared to the previous years.

The reason for this is their attachment to their homes and properties, and they wanted to ensure that no one would take advantage of the situation. Participant Christine also supported this concern because there were isolated cases of theft during disasters while the people were staying inside the camps. During disasters, a member of the family remains in their home to watch over the house and properties.

The affected barangays that are usually submerged in flood also experienced the lack of electricity during disasters. In November 2020, the Typhoon Ulysses which brought massive flooding in the city resulted in the power outage in some areas. This was a usual scenario during typhoons and massive floods. Most of the time, the authority decides to cut-off the electricity for the safety of the residents, especially when the area is already submerged in water. The lack of electricity and the shutdown of network signals during extreme typhoons and flooding posed

a challenge for the local authorities in delivering the required information to their constituents. Imperial and Morales (2015) have noted how the early warning systems in Marikina City are highly dependent on the internet connection and mobile phones in order to reach out to their affected constituents.

The established knowledge and familiarity within the residents oftentimes contributed to their communication challenges. Due to the high familiarity of the residents to the disaster risk protocols in Marikana, the local leaders sometimes faced challenges in securing the attendance and ensuring the participation of the participants during training on disaster risk reduction and management.

> Fernando: *Sa mga trainings kapag nag-co-conduct kami, sinasabi nila alam na nila. So parang pahirapan magpapunta sa venue ng mga participants.*

Oftentime, the residents claimed that they already knew the topic. In some cases, they are aware they are not living in barangays that are usually affected by floods. Hence, the challenge in securing their buy-in.

Communication strategies with persons with disabilities must also be reinforced before, during, and after disasters. Respondent Citas and her team experienced a barrier when communicating with the persons with disabilities due to their lack of knowledge and skills in dealing with the situation. The responders need to learn sign language to better communicate with deaf people. Although there were previous trainings in the past that were attended by selected local government officials, they still experienced difficulties in communicating to persons with disabilities including deaf and mute people. The United Nations Office for Disaster Risk Reduction (2014) found out that the persons with disabilities are "rarely consulted" when planning and implementing disaster risk reduction strategies.

Disabilities are not only limited in physical aspect. There are also forms of disability referring to the psychological state of a person. During and after disasters, it is important to note that there are people who are experiencing high levels of stress and anxiety. Haase (2023) noted the increase of mental health disorders during disasters including anxiety, post-traumatic stress, and depression. There are also people who experience difficulty in sleeping. Natural

disasters put people under extreme levels of stress. It is for this reason that communicating to persons with disabilities and other illnesses must be considered.

Another communication problem that they experienced is their lack of control over nearby local government units that have direct effects on them. Although the efforts of Marikina City are strong when it comes to disaster risk reduction and management, they are usually affected by the local governance of nearby cities or municipalities especially in the upland areas. Even if the Marikina City cleans their rivers regularly, if the residents from upland areas continue to throw wastes in their river, it will eventually go to Marikina and affect their drainage systems. If the residents cut the trees in the mountain, it will cause flooding to their city being a catch basin of flood.

There are also issues in managing common resources like the Marikina Watershed that is not located within the premises of Marikina City (Robas & Velasco, 2020). In their paper Institutional Challenges to Collaborative Governance on Disaster Risk Reduction: The Case of Marikina River and Watershed, Robas & Velasco (2020) cited how political, legal subdivision, societal, and economical factors affects the local autonomy of Marikina over important infrastructures like the Marikina Watershed.

Sustainability of their programs and good practices is one of the concerns that are usually being floated by the participants during the key informant interview. Community awareness must be sustained and passed on even to the next generation of residents in Marikina. Climate change will further amplify natural disasters including typhoons and flooding. Thus, future generations of residents in Marikina must be equipped on how to adapt to these challenges.

Described as socializing agents by Drew (2023), the role of families may be highlighted in ensuring that the foundational knowledge and rich learnings of the residents of Marikina about disaster risk reduction and management will be sustained to the next generations. By ensuring the sustainability of community resilience through disaster awareness, the Philippines' vision and DRRM Framework that is anchored on the Philippine Disaster Risk Reduction and Management Act of 2010 (RA 10121) will be achieved.

To further examine the challenges experienced, the researcher asked whether the participants experienced conflicting messages from different sources during the communication process of community resilience. The participants shared that sometimes it becomes a challenge when there are simultaneous messages coming in the handheld radios. Regardless of these minor occurrences, the Camp Managers and their guests already know what to do as part of their protocol.

It was recalled that during Ondoy, someone spread false information stating that the dam will release a huge amount of water. These led to various interpretations and assumptions based on the false information from social media. Unverified and misleading information, especially from social media, can easily cause panic and misinformation.

> Christine: *Minsan nag-casue din ang social media na may mga nagsasanga-sangang maling balita. So challenge 'yong fake news na nagagamit sa kanya-kanyang political leverage.*

The case was further supported by the response from participant Fernando. He noted that fake news is not only limited in flooding incidents and typhoons, but also applicable in other forms of disaster. When dealing with misinformation, it is important to do data verification to check that the information received is not fake news.

Participant Marejane, as the Secretary of Barangay Nangka, has one particular experience regarding fake news. Someone made a false report to the Emergency 161 of Marikina saying that there was a huge fire in Nangka. This led to the arrival of numerous fire trucks within the barangay premises, only to find out that this was a false report. Participants Marejane applaud the efforts and dedication of Emergency 161. However, she encouraged that there should be data verification and coordination with the barangay government first to ensure that the details are correct.

Marikina needs to improve its local efforts to further solidify disaster risk reduction and management. Resources and supporting tools were one of the concerns raised by participants Rodel, Christine, Leodegario and others during the key informant interview. This was supported by Dangcalan et al. (2019) who explained that there is really insufficiency in terms

of funding to allow the procurement of equipment, pay for the salary of employees related to local disaster risk reduction, and cover the operational costs for the projects and programs.

This was agreed by participant Julieta, based on her experiences as the Chair of the Homeowner's Association. Additional training and seminars, and supplementary equipment and tools for disaster rescue, must be additionally provided to the volunteers like the Homeowners Association. The volunteers from BERT concurred with their statement. There are still items that needed to be allocated with budget, especially at the barangay level, to strengthen the disaster resilience efforts in the city. Most of the time, BERT is implementing their initiatives out of their own resources coming from the volunteers.

Some of the few concepts that arose during the interpretation of the data is the urgent need to conduct training and capacity building activities that focus on responding to earthquakes and the Big One. The participants claimed that they are already familiar with the protocols in handling typhoons and flood emergencies. However, when it comes to the preparation for the Big One, they admit that they need further training about what to do once the big earthquake devastated their city.

The Big One is one of the active threats in the Philippines being located in the Pacific Ring of Fire. The magnitude 7.2 earthquake will strike Metro Manila anytime and it can cause great damage to the overall living of the residents in Metro Manila including the Marikina City. In 2024, the casualty projection cited by Legaspi is around 30,000 to 48,000 deaths in Greater Metro Manila alone. This adds woes to the residents in Marikina because they already survived extreme floods and typhoons in the past. However, handling other types of hazards is something that challenges the current good practices of the city government.

To synthesize the discussions on the common challenges, it was found out that although Marikina City is one of the role models in terms of disaster governance in the Philippines, there are still things that need to be improved. These challenges, when addressed, will further advance the community resiliency in their city. The next datasets below will focus on the last research objective.

CONCLUSION

Based on the study's objectives, below are the conclusions taken:

1. **The nexus between communication and community resilience**

   The role of communication is seen as critical component in promoting community resilience. Through effective communication, the process of information sharing, coordination, and collaboration among community members regarding critical information before, during, and after disasters become possible, thereby increasing the preparedness levels and response efforts of the community. As shown in the experience of Marikina, promoting clear, accurate, and timely communication enable communities to better identify risks, mobilize resources, and coordinate actions to mitigate the impact of disasters and recover more swiftly. These practices are evident in the experiences of Barangay Nangka, Tumana, and Malanday, such as the use of camp management protocols, early warning systems, and countering misinformation on social media, Moreover, communication helps build social cohesion and trust within communities, for instance by partnering with community groups, making communities build a sense of belonging and solidarity that strengthens collective resilience in the face of adversity.

2. **Preparedness is better than recovery**

   Investing in preparedness is better than investing solely in recovery efforts. Marikina's experience demonstrates that investing in preparedness activities should be the first step toward ensuring community resilience. This includes Marikina's community education activities, infrastructure improvements, early warning systems, policy updates, and the development of community procedures, among others. These approaches enable communities to be properly prepared to address potential disaster risks to their lives, properties, and resources. Furthermore, preparing communities not only educates people on the necessity of disaster preparedness, but also reduces their reliance on external aid and speeds up recovery processes when disasters occur. On the other hand, investing primarily in recovery efforts are most of the time costly and inefficient.

3. **Victim-sensitive approach and trauma informed communication messages**

Promoting a victim-sensitive approach and trauma-informed messaging is crucial in resilience communication. This is because it ensures that all affected individuals, especially the most vulnerable groups of the community, e.g. PWDs, are acknowledged and treated with empathy and respect. Furthermore, promoting a victim-sensitive approach recognizes disaster survivors' emotional, psychological, and physical vulnerabilities and ensures that messages are sensitive enough to improve their mental health, thereby preventing re-traumatization and instilling a sense of safety and trust, especially when facing the impact of disasters. Furthermore, it is seen that victim-sensitive and trauma-informed communication is necessary, especially for PWDs who confront difficulties and challenges and require special attention for the dissemination and reception of disaster-related information. Having that said, this inclusive approach not only helps in the immediate aftermath, but also promotes long-term resilience and well-being for all community members.

Recommendations for Future Researchers on the Role of Communication in Building Resilience

The findings of the study also provide significant implications for future research, especially in improving the understanding of community resilience. It is suggested that future researchers examine the sociological and psychological factors influencing community resilience. By understanding these factors, it can help better understand the preparedness behaviors of the community, for instance, the impact of attachment to property despite several advisories for community members on relocation. It can also be beneficial to understand how personal demographics, such as age, gender, educational attainment, and economic class affect an individual's responses to communication efforts made by the authorities.

In addition, future research may focus on assessing the impact of resource and information constraints, as emerged in this study, on resilience communication. For example, this can be achieved by conducting studies in assessing how financial and human resource limitations affect the impact the process of communicating resilience. Likewise, it is suggested that future research should focus on how collaborations between the government and local community groups (e.g. CSOs / NGOs / volunteers) can be optimized and utilized to improve

resource allocation and information dissemination. Future researchers may also focus on other SDGs to explore its nexus to communication and community resilience.

Lastly, since this research focus on downward communication approach towards communicating community resilience, future researchers may explore upward or horizontal communication approach to better understand how community resilience is being communicated through various directions in the community. Future research that is similar like this may focus on other types of disaster as well including The Big One which is feared to happen in the near future.

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