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Author/s	Jeffrey Rosario Ancheta ¹ & George Vincent Gamayo ²
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Jeffrey Rosario Ancheta¹ & George Vincent Gamayo²

¹Faculty Researcher and Assistant Professor, Polytechnic University of the Philippines, Manila, Philippines. ORCID: 0000-0001-5831-8204. Email: jrancheta@pup.edu.ph

²Communication Management Officer and Assistant Professor, Polytechnic University of the Philippines, Manila, Philippines. ORCID: 0000-0001-7223-6993.

Email: qvqamayo@pup.edu.ph

Abstract

Disasters strike globally, but their impacts are often more severe on socially and economically marginalized sectors like women. This is one of the main justifications behind the 2010 Philippine Disaster Risk Reduction and Management Act, which promotes gender equality and inclusivity in all strategies to combat the adverse effects of natural hazards, especially on underrepresented populations. However, gender-based discrimination during disasters is still prevalent in local communities of the Philippines. Thus, this study attempts to unfold the struggles of displaced mothers in Talisay, Batangas, because of the Taal Volcano's eruption in January 2020 and worsened by the COVID-19 pandemic that began in March 2020. Specifically, this study identifies the direct impacts that impede survivors' capacity to recover from the disruptions brought about by the aforementioned catastrophes. Findings, through mothers' narratives, reveal six (6) key themes that reveal insecurity in livelihood, shelter, education of their children, food, health and nutrition, and water, sanitation, and hygiene (WASH). This only proves that displaced mothers face socio-economic issues aggravated by the changing climate that the local government of Talisay needs to address towards a gender-inclusive DRRM.

Keywords: Women, disaster, struggle, displaced mother, volcanic eruption, pandemic

Introduction

Ranking ninth most vulnerable country to natural hazards in the World Risk Index in 2021, the Philippines is home to 24 active volcanoes (PHIVOLCS, 2022). One is the Taal Volcano in Batangas, considered one of the most destructive and deadliest in the world. 22% of its documented eruptions have caused severe damage, while 13% have caused fatalities (Doroteo, 2015). On January 12, 2020, Taal Volcano had a hazardous explosion that caused ashfall even in nearby regions, such as Metro Manila, Central Luzon, CALABARZON, and Ilocos (Prasetyo, 2021). It also generated about 450 volcanic quakes in the first 24 hours after the eruption (Jing, Chauhan, Singh, & Dash, 2020), which left many parts of the Province of Batangas with ground fissures. Consequently, this resulted in class cancellations, flight cancellations in Manila, and millions of dollars of damage to agriculture and infrastructure, prompting the local government to declare the province a state of calamity.

Meanwhile, the rapid spread of coronavirus (COVID-19) in the country exacerbated the risks faced by hundreds of families temporarily sheltered at different evacuation sites in Batangas. The national government then implemented a nationwide lockdown and placed the country in a State of Calamity in March 2020.

Gender-Sensitive Resilience

Women are seven times more likely to perish than men during disasters because of their social vulnerabilities, lack of support from the government (Bradshaw and Fordham 2013, as cited in Drolet et al., 2015), and gender discrimination, especially in developing countries (Neumayer & Plumper, as cited in Dhungel & Ojha, 2012). Meanwhile, single women and mothers are considered one of the most impoverished subgroups in society (Hamizada, Cruz, & Yokomatsu, 2019). Preceding studies also show that women are sexually assaulted in temporary shelters, which reduces their adaptive capacity against adversities (Bhadra, 2017). Violence against women during emergencies also includes physical abuse and human trafficking, according to the Center for Disaster Philanthropy.

Equitable, gender-responsive, and participatory approaches were reviewed and improved in 2015 through international agreements spearheaded by the United Nations and adopted by its member states. These agreements and strategies empower women through inclusive access to information and resources from DRRM and Climate Change Adaptation and Mitigation (CCAM). The Sustainable Development Goals emphasize the inclusion of women, youth, and marginalized communities in climate change-related planning and management. The Sendai Framework for Disaster Risk Reduction acknowledges the role of grassroots women in achieving an inclusive and accessible whole-of-society approach to addressing disaster risks exacerbated by environmental degradation. It aims to reduce disaster risk in all sectors of society's economic, physical, social, environmental, and cultural assets. Meanwhile, establishing a baseline based on gender differences and revising climate change-related policies and strategies in consideration of gender gaps and sex-disaggregated indicators in post-disaster data collection were prioritized in the Paris Agreement's implementation designed to enhance adaptation and mitigation efforts against global warming.

In the Philippines, the Disaster Risk Reduction and Management Act of 2010 (RA 10121) explicitly stipulates gender responsiveness and consideration of human rights in all DRRM efforts of the government. Agencies must also allocate five percent of their budget to gender initiatives (UNDP, 2022). The country was placed seventh in 145 countries for having the best chances of achieving gender equality and women empowerment from political representation to economic engagement, as reported in the 2015 World Economic Forum Gender Gap Index. While women's participation is reiterated in the country's DRRM policies, strict implementation and monitoring of these strategies are highly needed to reduce the continued gender-based discrimination and violence at the local level from the pre- to post-disaster phase (Parcon, 2017).

This study attempts to unfold the struggles of women in Talisay, Batangas, who were forced to leave their homes on Volcano Island due to the Taal Volcano's eruption in January 2020, followed by the nationwide COVID-19 lockdown in March 2020. Specifically, this study reveals displaced mothers' substantive and practical needs to achieve a sustainable and faster recovery rate from

the adverse impacts of the catastrophic phenomena they continue to face. Results from this study will help reinforce tailored gender-based DRRM mechanisms at the local level.

Methodology

To narrate the struggles of disproportionately disadvantaged mothers in Talisay, Batangas, after the Taal volcanic eruption and COVID-19 pandemic, the researchers employed qualitative research to explore in-depth insights into real-world problems and issues (Moser & Korstjens, 2017). Further, it has become apparent that experience and meaning emerge as fundamental concepts to this, leading to a deeper understanding of the subject(s) to be discussed. This approach allows for a more profound knowledge of the participants' perspectives (Daher et al., 2017).

The purposive sampling technique was utilized to select participants who could provide pertinent and valuable data (Palinkas et al., 2015). In qualitative research, a method known as "purposive sampling" is frequently employed to find and choose informants or participants and to make the best use of scarce resources (Patton, 2002) and will help a study to choose and assess individuals that will make the most efficient use of the research resources at hand (Kelly, 2010). Thus, the study's participants should be ten (10) displaced mothers in Talisay, Batangas, after the Taal volcanic eruption and the COVID-19 pandemic, making it more pertinent for the researchers to conduct their research. The criteria used to construct this sampling approach for choosing participants will be specific. As a result, these individuals can contribute sufficient information to meet the study's goals and objectives (Palinkas et al., 2015).

The researchers used a semi-structured interview to carry out this investigation. The researcher will employ interview guide guestions since they allow additional follow-up inquiries, studies, and remarks while generating data through open-ended questions. The participants will use this to describe and clearly explain their experiences. DeJonckheere & Vaughn (2019) state that this approach often entails a conversation between the researcher and the participant, aided by a flexible interview methodology and enhanced by follow-up inquiries, inquiries into more questions, and comments. The technique enables the researcher to delve deeply into intimate and perhaps delicate themes and participant thoughts, feelings, and opinions about a specific topic. The researchers considered it a suitable approach since it enables the analysis of the struggles of displaced mothers in Talisay, Batangas, after the Taal volcanic eruption and the COVID-19 pandemic.

Researchers also followed the Data Privacy Act of 2012 of the National Privacy Commission in respect of the participants' rights regarding the information disclosed during the interview. Additionally, before the interview, the researchers briefed the participants on the nature of the study and went into more detail about its goals and objectives. Before the interview, the participants were informed that the interview procedure will be recorded. All interview participants voluntarily gave their consent and agreed to all the terms and conditions the researchers discussed. Finally, the researchers took all necessary precautions to protect the participants' personal information. All the information obtained during the interview was utilized only for this study and maintained strict confidentiality.

Results and Discussion

The displacement of families in Talisay, Batangas, worsened by the COVID-19 pandemic, brought a massive socioeconomic shock to the province, leaving many families suffering from hunger, social inequities, mental health issues, and livelihood interruptions, among others. Disasters and climate change significantly impact women and hamper their food security, financial stability, health, safety, access to resources, and equal power relations (Babacan, 2021). These implications are somewhat comparable to the struggles of the displaced mothers in Talisay, Batangas, after the volcanic eruption and rapid spread of COVID-19 in 2020.

Household Livelihood and Income Recovery

People who lived on Volcano Island used to be highly reliant on natural resources for their livelihoods, which is why their greatest challenge has been finding a sustainable source of income that will support their daily living in a temporary shelter.

Frankenberger and McCaston (1998) defined household livelihood security as having continuous and stable access to economic resources to satisfy basic needs, such as having enough food, water supply, health care services, educational support, and shelter. A livelihood, through resources or activities, is considered sustainable when it can withstand stresses and shocks, recover from them, and retain or improve people's capabilities and assets in the present and the future without compromising the natural resource (Babacan, 2021).

Based on the participants' stories, they had an abundant life when they were still residing on the island since they could harvest their crops and catch a lot of fish, which they could then sell to locals and tourists. Apart from this, their main livelihood has also been tour guiding for local and foreign tourists who visit their area to explore the beauty of the Taal volcano crater.

On the other hand, they sell various goods in the neighboring town while their husbands work at the construction site to sustain their daily life in the temporary shelter. The participants also recognized a need for capacity building that will provide them with climate-adaptive skills and knowledge to widen their income-generating opportunities without depending on the depleted natural resources in Talisay, Batangas. A few of the livelihoods the participants wish to learn and practice include handicraft making, cookery, crop production, and entrepreneurship. However, providing them with capital or credit to jumpstart their desired livelihoods is necessary to ensure they can utilize their acquired skills and knowledge. Women in rural communities are usually given skills training and knowledge acquisition in pottery, poultry farming, and sewing to create viable jobs and earn a living. However, this initiative usually lacks funding (Jaka & Shava, 2018).

Notably, the distribution of relief goods is just a band-aid solution, primarily because the Philippines supports the Build Back Better campaign of the United Nations. In addition, long-term recovery programs shall consider jobs and livelihood assistance as an essential post-disaster strategy coupled with a strict monitoring and evaluation process.

A Sound Shelter

Along with finding economic support, the lack of a permanent shelter presents a significant struggle for the displaced mothers, as the local government of Talisay prohibited them from returning to Volcano Island to ensure their safety. As a result, Volcano Island is now off-limits even

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to tourists and guests as a permanent danger zone. Pothiawala (2015) claims that shelter is crucial in determining the afflicted populace's survivability in the early phases of a catastrophic event. Therefore, offering security, safety, climatic safeguards, and infectious disease prevention is vital. Additionally, it is crucial to protect each person's rights and help the afflicted community recover from the effects of the tragedy. The displaced mothers did not want to abandon their property on the island, but they were compelled to comply with the local authority's orders to evacuate and never return. The local government is working on a housing project for displaced families, which is expected to be completed in 2023. However, the families must pay a monthly amortization fee once the housing units are turned over, which adds to the participants' struggles.

Moreover, since they only constructed improvised tents to sleep in, they currently have a poor environment at the evacuation site. This environment is also noisy due to a significant number of families occupying the site, making it difficult to maintain in terms of cleanliness. This issue can also trigger several neglected tropical illnesses and diseases, putting children, lactating mothers, senior citizens, persons with disabilities, and comorbidities at high risk.

Quality Education of Children

The COVID-19 lockdown disrupted the youth's delivery of knowledge and skills and even prompted the Philippines to take its most extended academic breaks in recent history. This scenario has exacerbated the educational crisis in the country, especially in disaster-stricken areas. The children's education is one of the challenges displaced mothers face. They are worried about their children's quality of education, considering that they have been in a modular mode of learning for more than two years. According to the participants, there is no guarantee that their children will learn as effectively as online students who receive direct instruction from teachers.

Mothers' concerns during disasters are tied to their children's needs and welfare (Begum, 2016). Participants admitted having difficulties facilitating their children's educational activities in temporary shelters due to the uncontrollable noise in the evacuation site where they have been staying for over two years. Some of them also admit that they cannot assist their children with their academic requirements as they did not attend school.

Both children and adolescents are maturing in an unpredictable, uneven, and dynamic environment where equality, safety, and sustainability are major concerns, which is why proper guidance at school is vital among the youth who will soon deal with the adverse impacts of the changing climate. UNICEF (2020) says that children returning to face-to-face classes should be prioritized as schools are unlikely to be the main drivers of COVID-19. Also, researchers and experts across the globe suggest that many students perform better in a classroom setup where teachers can identify, guide, and support students that lack resources and those that are incapable of utilizing self-paced study plans or home-based education. Remote learning systems do not offer teachers to engage with their students at the same level as when they are gathered in one space. Additionally, students with more proficient reading and writing skills and those with resources and access to technology will perform better than others, especially those who live in an environment that is not conducive to learning.

Children can have fun at school while developing their social skills and awareness of others (Tarkar, 2020). Meanwhile, a conducive learning environment requires safety features and human comfort in terms of acoustic, thermal, and visual (Ahmad, Shaari, Hashim, & Kariminia, 2015). According to the participants, the absence of a peaceful environment for their children to learn effectively makes them anxious and reduces their skill growth.

Food Security

Food security for the entire family is a significant issue for mothers because displaced families lack a permanent location to reside and a source of income. The local government has donated some relief items, but they are not enough to sustain life on a long-term basis. Food insecurity is one of the repercussions of the pandemic and the volcanic eruption. The survivors still suffer from the loss of tourism-based livelihoods, fishing equipment, livestock production, and arable land on Volcano Island, which they left because of the local government's order. According to Alonso, Cockx, and Swinen (2018), food security is a multifaceted and adaptable notion that has been described in many different ways. According to the definition of FAO (2002), food security is a state in which everyone has physical, social, and economic access to enough food that is safe, nourishing, and fits their dietary needs and food choices for an active and healthy life. In addition, food security's underlying central tenets were stable, available, accessible, and utilized (FAO, 2009).

Furthermore, they do not have sufficient space for crop production in their temporary shelter, where they may cultivate vegetables to augment the family's sustenance. Thus, it is paramount that local government units with strained budgets for rehabilitation and recovery strengthen their coordination and network with non-government organizations and the private sector to address the urgent need for food production systems in disasters.

Water, Sanitation, and Hygiene (WASH)

In the early phases of disasters, access to clean water and sanitary conditions is essential for survival and contributes to people's dignity. Individuals who have survived a disaster are typically particularly vulnerable to disease and mortality, primarily due to poor sanitary conditions, insufficient water supply, and a lack of capacity to practice proper hygiene. According to Ersel (2015), it is not enough to provide enough water and sanitation infrastructure; this does not guarantee optimal use or obtain the expected public health outcomes. Therefore, disaster-affected communities must have the relevant data, awareness, and comprehension required to avoid infections connected to water and sanitation and include them in the construction and management of infrastructure to reap the most significant benefits from a recovery.

Challenges arise due to cultural practices and restroom routines, notwithstanding attempts to adhere to water and sanitation regulations. For instance, there were not enough restrooms in the area to accommodate all the families staying at the temporary evacuation site, given the number of families living there. Bathrooms and toilets must be close to the quarters and have proper lighting for safety purposes. Meanwhile, there is no recreational space for children and a secure space for lactating mothers. Additionally, evacuees do not follow proper procedures for having clean drinking water to avoid contamination.

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Malnutrition may also be prevented if the minimum standards set by the United Nations for WASH are observed at evacuation sites. Furthermore, conducting information drives among survivors of disasters living in temporary shelters will help them learn and practice proper hygiene and waste disposal.

Health and Nutrition

Participants were not fully aware of their health and nutrition rights and needs due to a lack of education and social awareness. Thus, access to free medical and healthcare services, especially for high-risk populations, is unknown to them. A number of mothers mentioned that the unprecedented crises they face are taking a toll on their family members. However, no psychosocial interventions were made in the displaced families after the volcanic eruption.

Food and nutrition assistance is necessary for evacuation sites for women and children, the elderly, and family members with chronic diseases. Thus, it is essential to note that food packages provided to evacuees, such as instant noodles and canned goods, are not nutritionally adequate for them to restore their energy and strength living in stressed environments after a disaster. This can even cause malnutrition in infants and children, which could be fatal if not treated properly.

Conclusion

This study has laid out several key themes that the local government can use in DRRM planning to reveal the struggles of mothers who have been forced to leave Talisay Island in Batangas due to the Taal Volcano eruption and worsened by the rapid spread of COVID-19. These concerns include the security of their sources of livelihood, shelter, children's education, food security, health and nutrition, and water, sanitation, and hygiene (WASH). The displaced mothers' stories are evidence that they are dealing with serious issues that could jeopardize the security and safety of their families. Using the presented results, researchers formulated the following recommendations for the local government of Talisay, Batangas:

- 1. Consider updating their DRRM plan with a more gender-inclusive approach.
- 2. Provide psychosocial aid in the aftermath of disasters by seeking help from mental health advocates and professional organizations.
- 3. Establish evacuation guidelines and conduct risk profiling of people in temporary shelters, which may be used to check their survival and healthcare needs.
- 4. Improve the living conditions in evacuation sites by providing people with free medical and healthcare services.
- 5. Strengthen government-private partnerships to produce safe housing projects that are economical for disaster survivors.
- 6. Carry out livelihood programs to help displaced mothers make the most of their skills to secure employment, feeding their families three times a day.
- 7. Create or establish a conducive environment for children to learn effectively even when living in temporary housing. Provide them with free educational supplies that will help them nurture their skills and knowledge.

- 8. Ensure that the minimum standards for WASH are met. This includes the provision of additional toilets and bathrooms that can be used by displaced families and access to clean water to keep survivors healthy.
- 9. Observe the international nutrition standards when conducting feeding programs.
- 10. Conduct information, education, and communication campaigns in evacuation sites and temporary shelters to help people understand and observe proper hygiene and camp management.

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Declaration of Conflicts of Interests

No potential conflicts of interest.

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Jeffrey Rosario Ancheta is a Faculty Researcher and an Assistant Professor at the College of Communication, Polytechnic University of the Philippines, Manila. He is an active researcher in the Filipino language, culture, and media. Currently, he serves as the Research Management Coordinator for the Social Sciences and Communication Cluster under the PUP Research Management Office and the Editor in Chief of Talastásan: A Philippine Journal of Communication and Media Studies under the PUP College of Communication.

George Vincent Gamayo is an Assistant Professor at the College of Communication and a Communication Management Officer at the Communication Management Office at Polytechnic University of the Philippines, Manila. His research interests include Disaster Risk Reduction and Management (DRRM) and Climate Change Adaptation and Mitigation (CCAM).