



## Implementation of Evacuation Management Plan of a Rural Barangay in Surigao Del Norte, Philippines

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**ABSTRACT:** This descriptive quantitative study evaluated the extent of evacuation management plan implementation as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte. The respondents were 123 residents and were selected through convenient sampling. The data gathered were analyzed and treated using the following descriptive statistical tools: frequency count and percentage distribution, mean and standard deviation, and analysis of variance (ANOVA). Results showed that the camp coordination and management plan was moderately implemented. This suggests that while the plan is being implemented to some extent, there is room for improvement to ensure a more effective and robust evacuation process in the future. In addition, the findings showed a significant degree of difference in the perceived implementation extent of the evacuation phase with respect to the respondents' years of residency, indicating that length of stay may impact residents' knowledge, familiarity with the area, and ability to contribute to the community's resilience during evacuations. Finally, it was recommended that implementing the recommended strategies, actions and proposed enhancement plan can have a transformative impact on the barangay's camp coordination and management plan.

**KEYWORDS:** Quantitative Research Survey, Evacuation Management Plan, Barangay Disaster Risk Reduction Management Office, Residents (IDP), Surigao del Norte, Philippines

### INTRODUCTION

Natural disasters are a common phenomenon in every country in the world. Many natural disasters have posed severe risks to human health and welfare, either directly or indirectly. Due to their severity and lasting impacts, several of them have contributed to history. The recent Turkey-Syria earthquake, a magnitude 7.8 earthquake, happened on February 6, 2023. A week later, the authorities reported that more than 40,000 people had died in both countries—and typhoon Niña, a Category 4 storm that made its impact on July 30, 1975. The flooding resulted from the collapse of the Banqiao Dam in Zhumadian City, Henan Province, China. As a result, their minor dams also collapsed; that incident claims estimated the death toll at 229,000 lives.

On December 26, 2004, a 9.0-magnitude earthquake off the coast of Sumatra sparked tsunamis that rushed along the coastlines of a dozen countries bordering the Indian Ocean and produced waves up to 100 feet high. It killed the lives of over 225,000–275,000 people in 14 nations, with Indonesia being the worst affected, followed by Sri Lanka, India, and Thailand. The problem with natural disasters is that they are sure to happen. They will continue, and most of them occur with little to no warning. The fact that it can result in significant yearly losses of human life, property damage, social and economic disruption, or environmental harm proves that no one can gain from it. Thus, it is one of the most crucial challenges for most developing countries, including the Philippines.

The Philippines is one of the world's most disaster-prone countries. It is located along the boundary of major tectonic plates and at the center of a typhoon belt that is visited by an average of 20 typhoons every year, five of which are destructive. Floods, landslides, and droughts regularly impact its islands. Being situated in the "Pacific Ring of Fire," the country is highly vulnerable to frequent earthquakes and volcanic eruptions. On the other hand, the Philippines ranks among the top three countries in the world for population exposure and vulnerability to hazards (Bollettino et al., 2018). Among the major disasters in the country, Typhoon Haiyan, occasionally referred to as Super Typhoon Yolanda, was a Category 5 storm with sustained wind speeds of more



than 150 mph. According to local officials, it made landfall last November 8, 2013, primarily affecting Tacloban City in the Leyte Province, resulting in 90% devastation of the area.

Filipinos, while being generally resilient, can have another way of fighting the impact of these catastrophes by being prepared generally. Lives and property can be safeguarded by implementing effective management plans and coordination. This evidence aligns with Kaya et al. (2014) proposal that good disaster management will consider the authorities' functions until they perceive the community or society nicely. However, while we cannot prevent a hazard from occurring, we can use Disaster Risk Reduction and Management or DRRM to understand risk and vulnerability, prevent a hazard from becoming a disaster, and mitigate its impact by making people more resilient. Disaster response in the Philippines is multi-sectoral, inter-agency, and community-based, composed of civic organizations and non-government people's organizations. Nevertheless, the differences between the impact of the devastation and the victims depend on how the disaster is managed and how well preparedness is arranged by the agency responsible for dealing with the disaster in helping the affected victims (Ibrahim & Yaakob, 2021).

According to Nograles (2021), Evacuation is one of the essential preparedness measures in disaster management. It requires careful modeling and planning to minimize chaos and confusion during evacuation operations. The choice of decision-makers, whether to evacuate or stay in the area threatened by hazard, is an essential aspect of evacuation travel behavior research. (Lim et al., 2015). However, some issues need to be addressed in existing policy: the Barangay Disaster Risk Reduction Management Office (BDRRMO) must be fully involved when disaster emergency plans are declared.

Moreover, according to the history taken from the Municipality of San Francisco, Surigao del Norte, the magnitude 6.7 earthquake on February 10, 2017, made the school, bridge, houses, and other infrastructures collapse. Recently, supertyphoon Odette left the place devastated and destroyed, where the evacuation management plan had to be implemented successfully with the help of the Barangay Disaster Risk Reduction Management Office or BDRRMO constituents. Indeed, many families were transferred to different areas of evacuation centers, addressing the root causes of vulnerabilities to disasters. All of the evacuees were put to the areas considered as evacuation sites. The areas were the public national high school, elementary school, and quarantine facility building, but the risks and dangers of the sites remained inevitable.

Involving the residents in all aspects of Disaster Risk Reduction, including educating, planning, preparing, practicing, and adopting or changing disaster policy, will significantly contribute to the community's resilience (Cutter et al., 2012). There is still a significant area for improving the implementation of evacuation management plans by the BDRRMO and MDRRMO to equip themselves better with expertise and logical management to better deal with any situation. Ibrahim & Yaakob (2021) argue that disaster could be well handled if careful planning considers all human resource planning and logistical requirements. Barangay Disaster Risk Reduction Management Office (BDRRMO) must instill interventions for a well-organized, well-handled, and practical implementation plan for the security and safety of the vulnerable groups.

## **Framework**

This study evaluated the extent of evacuation management plan implementation as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte, which became the basis for a recommendation of having a localized enhancement plan. Thus, this study is anchored on the Joint Memorandum Circular No. 02 series of 2021, the Guidelines on Camp Coordination and Camp Management and Internally Displaced Persons Protection. By virtue of Republic Act 7160, also known as Local Government 1991, the local governments are mandated to provide immediate basic relief assistance such as food, clothing, psychological support, and emergency shelter to families affected by natural or human induced. There is a need to immediately move the disaster-affected families to a safe evacuation center or safe areas because of the threat of the occurrence of disasters which may cause loss of lives and economic losses. The safety of the population is the primary consideration, but the readiness and resources available for the purpose are oftentimes an issue depending on the magnitude of the disaster.

Camp Coordination and Camp Management or CCCM is the technical sector that coordinates the temporary assistance and protection activities to displaced persons that gave much concentration to the Evacuation Camp Management Plan and Activities enclosing: **Pre- Evacuation Phase**: which focuses on organizing evacuation management team, contingency planning, inspection of available facilities, and assess identified school as designated evacuation center; **Evacuation phase**: which focuses on the stabilization of evacuation centers/camps where most of the basic system established in pre-evacuation especially, registration,



tracing and unification, complementary tracing activities, accommodation, establishment of CCCM/welfare desk, provision of different programs and services for IDPs such as food and non-food item distribution, health, protection, education livelihood and maintenance of evacuation center facilities; and *Post evacuation phase*: which focuses on the return of evacuees to their place of origin when return is possible, or to alternative places where they can move in and termination of evacuation as to criteria's for site closure in completion of the evacuation management plan.

Along with these major variables is the consideration of the independent profile variables of the respondents of the study:

*Age* is considered as part of the independent variables since there are possible outcomes that may vary when it comes to the thinking ability of the parties and how they deal with things based on their experiences.

*Sex* is significant to this study as it speaks of possible outcomes that have different interpretations of how they will respond to such situations. Based on Universal Intelligence (2016) girls mature earlier than boys, the same way women do than men, that's why it is really needed to identify the sex.

*Years of residency* or the number of years that a resident lived in the barangay was also included in the survey to consider how long the residents experienced the implementation of the evacuation center management plans of the locality.

All these will be determined along with the evaluation of the extent of implementation of the pre-evacuation phase activities e.g., preparation, planning, and strategies in preparing the evacuation camp in anticipation of natural disasters, the evacuation phase activities as perceived by residents who experienced the evacuation activities e.g., setting up registration areas, accommodation of shelters, and provision of different programs like relief goods and health services during the previous natural disasters (February 2017 earthquake and 2021 Typhoon Odette), and the post-evacuation phase activities as perceived by the residents who experienced the activities said disasters and evacuation activities.

## Research Objectives

This study determined the extent of evacuation management plan implementation as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte, which became the basis for a recommendation of a localized enhancement plan. Specifically, this study determined:

1. The profile of the respondents in terms of:
  - 1.1. age;
  - 1.2. sex; and
  - 1.3. years of residency
2. The extent of evacuation management plan implementation in terms of:
  - 2.1. Pre-Evacuation Phase;
  - 2.2. Evacuation Phase; and
  - 2.3. Post-Evacuation Phase
3. The significant degree of difference in the respondents' perceived extent of evacuation management plan implementation with respect to the profile variables.
4. The recommendations based on the findings.

## METHODS

This research applied the descriptive quantitative research design employing the survey approach through a validated researcher-made questionnaire. This survey instrument is taken and modified from the evacuation camp management plan and activities guidelines. The 123 residents of Brgy. Poblacion, San Francisco, and Surigao del Norte were selected through a convenient sampling technique, where data is collected from an easily accessible and available group of people. Mean and Standard Deviation were used to quantify the residents' responses on the extent of implementation of the evacuation management plan. The Frequency Count & Percent Distribution were used to quantify the profile of the respondents and the Analysis of Variance was used to determine the significant degree of difference in the residents' responses when they were grouped according to their profiles. Ethics in the conduct of this research were strongly considered for the academic integrity of this study. Ethical research practices in educational institutions are strongly followed since it is always the goal of educational research to contribute to the general welfare



of the academic community and to generally create measurable information or data that will eventually add to the increase of human knowledge (Ederio et.al, 2023) such as the essence depicted by this study.

## RESULTS AND DISCUSSION

### *I – Profile of the Respondents*

Table 1 shows the profile of the respondents in terms of age, sex, and years of residency.

**Table 1. Demographic Profile Distribution of the Respondents.**

Profile Variables	f (n=123)	%
<b>Age</b>		
14-19 years old	10	8.13
20-25 years old	19	15.45
26-31 years old	20	16.26
32-37 years old	15	12.20
38-43 years old	18	14.63
44-49 years old	9	7.32
50-55 years old	13	10.57
56-61 years old	10	8.13
62-67 years old	6	4.88
68-73 years old	3	2.44
<b>Sex</b>		
Male	59	47.97
Female	64	52.03
<b>Years of Residency</b>		
1-9 years	17	13.82
10-18 years	26	21.14
19-27 years	29	23.58
28-36 years	18	14.63
37-45 years	15	12.20
46-54 years	8	6.50
55-63 years	7	5.69
64-72 years	3	2.44

In terms of age, the majority of the respondents (n=123) were 26-31 years old (20 or 16.26%) but not quite far from the rest of the residents who were between 14 to 61 years old of age. Meanwhile, only 3, or 2.44% were 68-73 years old. With regards to sex, there were 59 (47.97%) males who responded in the study and there were 64 (52.03%) females as well, indicating a slight lead count of female respondents compared to the male residents. As to the years of residency, the majority of the respondents lived for around 19-27 years already in the barangay (29 or 23.58%) which is not far from the residents who dwelt in the Barangay in the last 1 to 45 years. Meanwhile, only 3 (2.44%) residents have lived in the barangay for around 64-72 years.



*II – Extent of Implementation of Evacuation Management Plan as Experienced by the Residents of Brgy. Poblacion, San Francisco, Surigao del Norte as to Pre-evacuation phase, Evacuation phase, and post-evacuation phase.*

**Table 2.1 Extent of Implementation of Evacuation Management Plan as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte as to Pre-evacuation phase.**

Pre-evacuation Phase	Mean	SD	VR	I
1. Evacuation drills and trainings related to earthquake, fire, typhoons, and other emergencies were conducted at least once a year	2.82	0.98	MA	MI
2. Information dissemination on trainings and contingency planning for evacuation camps were made throughout the barangay	2.96	0.90	MA	MI
3. Visible and readable emergency signages and warnings are erected on strategic locations within the barangay for public awareness	3.10	0.90	MA	MI
4. Visible signages were erected to inform the community about the location and other pertinent information about the evacuation camp	3.00	1.00	MA	MI
5. Residents are familiar with the early warning system being implemented by the local Government Unit to inform and update the community of incoming disasters and the need to evacuate	3.01	0.95	MA	MI
6. Residents are regularly invited in community assemblies related to disaster preparedness wherein community preparedness is being assessed.	2.83	1.02	MA	MI
7. Symposiums on emergency preparation and disaster preparations were conducted among the residents	2.76	0.98	MA	MI
8. Members of the community were involved in identification, assessment and preparation of evacuation camps.	2.98	0.92	MA	MI
<b>Average:</b>	<b>2.93</b>	<b>0.96</b>	<b>MA</b>	<b>MI</b>

Legend:

Scale	Range	Verbal Response	Interpretation
4	3.25-4.00	Strongly Agree (SA)	Highly Implemented (HI)
3	2.50-3.24	Moderately Agree (MA)	Moderately Implemented (MI)
2	1.75-2.49	Slightly Disagree (SD)	Poorly Implemented (PI)
1	1.00-1.74	Disagree (D)	Not Implemented (NI)

The average mean of the respondents’ evaluation of the implementation of the Barangay’s pre-evacuation phase is 2.93 with a standard deviation of 0.96, which is interpreted as *Moderately Implemented*. This means that the residents perceived the pre-evacuation phase activities have gaps and shortcomings in the actual implementation that should be addressed as much as possible so that the residents would be more ready and prepared in times of natural disasters; all these are crucial for community resilience and disaster risk reduction (Lin, 2018).

Looking into all the indicators presented in Table 2.1., the respondents moderately agreed that there are “*visible and readable emergency signages and warnings were erected on strategic locations within the barangay for public awareness*” indicated by the highest mean rating of 3.10 and a standard deviation of 0.90. This may have contributed to the moderate implementation of the pre-evacuation phase of the entire evacuation management plan of the Barangay. On the other hand, the residents still moderately agreed, but the least among all, that “*symposiums on emergency preparation and disaster preparations were conducted among the*



residents” (M=2.76; SD=0.98). This implies that both residents and officials must actively embrace a collaborative and participative approach to bolster the resilience and adaptability of evacuation management plans (Azad, 2020).

**Table 2.2. Extent of Implementation of Evacuation Management Plan as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte as to Evacuation phase.**

Evacuation Phase	Mean	SD	VR	I
1. The evacuation signages helped us in locating our assigned evacuation camp during the previous calamities	3.14	0.90	MA	MI
2. Accurate documentation were observed during the registration of internally displaced persons of the community in the evacuation camps	3.17	0.88	MA	MI
3. Family members tracings, interview and verification were made to ensure complete accounting of evacuees	3.17	0.85	MA	MI
4. Tracing activities were made in its effort to reunify missing persons to their families	2.98	0.97	MA	MI
5. There is a conscious effort to practice and observe gender and cultural sensitivity and awareness by providing safety and privacy for vulnerable members of the community.	2.94	0.97	MA	MI
6. The evacuation camp was kept safe and secured by the local officials	2.95	1.01	MA	MI
7. The evacuation camp was made comfortable enough given the circumstances the community had just experienced	2.87	0.90	MA	MI
8. The evacuation camp has enough space for people to move about with their daily activities	2.80	0.97	MA	MI
9. A welfare desk is set up to entertain clarification, queries of the residents and to provide relevant services	2.71	0.94	MA	MI
10. The personnel manning the welfare desk were approachable	2.87	0.95	MA	MI
11. Equitable distribution of relief goods were made by the camp management committee	2.77	0.97	MA	MI
12. First aid kits were distributed to every household inside the camp	2.39	1.08	SD	PI
13. Financial assistance though cash-for-work programs were made available to evacuees	2.85	0.96	MA	MI
14. Members of the camp management committee performed maintenance activities for upkeeping the camp	2.76	0.96	MA	MI
15. The coordination and camp management committee ensured the safety of the evacuees inside the camp	2.98	0.89	MA	MI
<b>Average:</b>	<b>2.89</b>	<b>0.95</b>	<b>MA</b>	<b>MI</b>

Legend:

Scale	Range	Verbal Response	Interpretation
4	3.25-4.00	Strongly Agree (SA)	Highly Implemented (HI)
3	2.50-3.24	Moderately Agree (MA)	Moderately Implemented (MI)
2	1.75-2.49	Slightly Disagree (SD)	Poorly Implemented (PI)
1	1.00-1.74	Disagree (D)	Not Implemented (NI)

The average mean of the respondents’ evaluation of the implementation of the Barangay’s pre-evacuation phase is 2.89 with a standard deviation of 0.95, which is interpreted as *Moderately Implemented*. This highlights the need for ongoing efforts to



enhance the execution of the evacuation measures. The National Disaster Risk Reduction and Management Plan (NDRRMP) 2011-2028 emphasizes the importance of completing activities under prevention, mitigation, and preparedness aspects, including evacuation phase activities (Walderhaug et al., 2018).

Specifically, the respondents moderately agreed, but the highest among all indicators, that “*accurate documentation and tracing practices were observed during the registration of internally displaced persons in evacuation camps*” (M= 3.17; SD= 0.88) resulting in a moderate extent of implementation of the Barangay’s evacuation management plan. These practices contribute to the effectiveness of disaster response efforts and meet the immediate and long-term needs of affected residents. However, more improvement and innovation in tracing and documentation must be assumed to ensure a well-coordinated and efficient response to disasters (Heagele, 2016). On the other hand, the respondents less agreed, and the least among all indicators, that “*First aid kits were distributed to every household inside the camp*”, (M= 2.39; SD= 1.08) insinuating the poorly implemented evacuation management plan in the Barangay due to insufficient quantity, inadequate distribution process, or prioritization of resources over first aid kits. Addressing these issues is crucial to ensure the provision of necessary supplies and support to all residents during disasters (Jones, 2019).

**Table 2.3. Extent of Implementation of Evacuation Management Plan as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte as to Post-Evacuation Phase.**

Post-evacuation Phase	Mean	SD	VR	I
1. The camp management committee assessed, verified and confirmed to each family the safety of their homes before being advised to leave the camp	2.83	1.02	MA	MI
2. Information was disseminated beforehand informing the camp evacuees about the camp termination protocols before being sent back to their respective homes	3.07	0.93	MA	MI
3. A member of the coordination and camp management committee supervised and monitored the family during the termination process until they reached their home	2.76	1.00	MA	MI
4. The internally displaced persons underwent a de-registration process (documentation of dismissed persons) upon leaving evacuation area/camp	2.90	0.96	MA	MI
5. Camp evacuees were assisted in their queries and were given guidance on the future to help them live with certainty	3.03	0.88	MA	MI
6. All tools provided by the local authorities were appropriately preserved in secure locations for use in the case of another crisis for the improvement of conditions during an emergency	2.75	0.95	MA	MI
<b>Average:</b>	<b>2.89</b>	<b>0.96</b>	<b>MA</b>	<b>MI</b>

Legend:

Scale	Range	Verbal Response	Interpretation
4	3.25-4.00	Strongly Agree (SA)	Highly Implemented (HI)
3	2.50-3.24	Moderately Agree (MA)	Moderately Implemented (MI)
2	1.75-2.49	Slightly Disagree (SD)	Poorly Implemented (PI)
1	1.00-1.74	Disagree (D)	Not Implemented (NI)

The average mean of the respondents’ evaluation of the implementation of the Barangay’s pre-evacuation phase is 2.89 with a standard deviation of 0.96, which is interpreted as *Moderately Implemented*. This implies that although efforts have been made, there could be aspects that require further attention. There are areas that need improvement, such as refining post-evacuation activities and focusing on reconstruction, recovery, and safety before returning to homes. Effective use of innovative technology



can also reduce the magnitude of loss of life and property. According to Alexander (2015), emergency planning is a process of systematically preparing for future possibilities, including natural and man-made disasters. Good disaster and emergency preparation strategies in post-evacuation activities should be genuine and realistic.

Specifically, the respondents moderately agreed, but the highest among all indicators, that “*information was disseminated beforehand, ensuring camp evacuees were safe, cleared, and prepared before returning to their homes*” (M=3.07 and SD= 0.93) resulting in a moderate extent of implementation of the Barangay’s post-evacuation management plan. This means that there are still areas for improvement in the dissemination of information after the evacuation phase. Information dissemination requires effective communication, and security enforcement agencies play crucial roles in disaster response (Wolshon, 2016). Meanwhile, the respondents moderately agreed, but the least among all indicators, that “*all tools provided by local authorities were appropriately preserved in secure locations for use in another crisis*” (M= 2.75; SD= 0.95), insinuating a moderate extent of implementation of such post-evacuation practice. There are gaps or challenges in the way tools are preserved, such as storage facilities, accessibility, and regular maintenance checks. Local authorities could review their tool preservation protocols, ensure proper storage, inspection, and maintenance, and improve communication and awareness campaigns (Wahid et al., 2020).

**Table 2.4. Summary of the Extent of Implementation of Evacuation Management Plan as experienced by the residents of Brgy. Poblacion, San Francisco, Surigao del Norte.**

Evacuation Management Plan:	M	SD	VR	I
<i>Pre-evacuation Phase</i>	2.93	0.96	MA	MI
<i>Evacuation Phase</i>	2.89	0.95	MA	MI
<i>Post-evacuation Phase</i>	2.89	0.96	MA	MI
<b>Grand Average</b>	<b>2.90</b>	<b>0.95</b>	<b>Moderately Agree</b>	<b>Moderately Implemented</b>

Legend:

Scale	Range	Verbal Response	Interpretation
4	3.25-4.00	Strongly Agree (SA)	Highly Implemented (HI)
3	2.50-3.24	Moderately Agree (MA)	Moderately Implemented (MI)
2	1.75-2.49	Slightly Disagree (SD)	Poorly Implemented (PI)
1	1.00-1.74	Disagree (D)	Not Implemented (NI)

The respondents’ general average evaluation rating when considering all phases of evacuation management (M=2.90; SD=0.95) indicates that, on average, the residents generally agree that the disaster camp coordination and management plan need opportunities for further enhancements or more comprehensive implementation to ensure a more effective and robust evacuation process in the future.

The pre-evacuation phase activities have a significant impact on the residents' experience during natural disaster evacuations. However, not all activities and guidelines were fully implemented during this phase, indicating opportunities for improvement. Likewise, the evacuation and post-evacuation phases received the lowest ratings, implying challenges in their implementations. To address this, efforts should be made to enhance the implementation of the Evacuation Phase, such as improving communication strategies, ensuring efficient evacuation routes, and addressing logistical issues. Technological innovations, such as social media, location-based systems, radio frequency identification, and big data analytics, can significantly reshape the disaster management cycle. These innovations can help stakeholders navigate crises and enhance disaster resilience.





*III - Degree of Difference in the Extent of Implementation of the Evacuation Management Plan as Experienced by the Respondents with respect to their Profile Variables*

**Table 3. Degree of Difference in the Extent of Implementation of the Evacuation Management Plan as Experienced by the Respondents with respect to their Profile Variables**

Profile	Dependent Variables	F	p-value	Decision	Interpretation
<b>Age</b>	Pre-evacuation Phase	1.65	0.109	Do not reject H <sub>0</sub>	Not Significant
	Evacuation Phase	4.66	0.000	Reject H <sub>0</sub>	Significant
	Post-evacuation Phase	2.97	0.003	Reject H <sub>0</sub>	Significant
<b>Sex</b>	Pre-evacuation Phase	0.06	0.813	Do not reject H <sub>0</sub>	Not Significant
	Evacuation Phase	0.74	0.392	Do not reject H <sub>0</sub>	Not Significant
	Post-evacuation Phase	0.27	0.607	Do not reject H <sub>0</sub>	Not Significant
<b>Years of Residency</b>	Pre-evacuation Phase	1.11	0.361	Do not reject H <sub>0</sub>	Not Significant
	Evacuation Phase	2.19	0.040	Reject H <sub>0</sub>	Significant
	Post-evacuation Phase	1.42	0.204	Do not reject H <sub>0</sub>	Not Significant

Generally, it can be inferred from Table 3 that with respect to the age of the residents, their evaluation of the extent of implementation of the evacuation and post-evacuation phases of the Barangay’s evacuation management plan varies. The maturity levels of the respondents along with other age-related factors such as the level of wisdom and knowledge, experience, and exposure truly contribute to the varying experiences of the respondents when it comes to evacuation and post-evacuation management. Likewise, with respect to the years of residency, the respondents’ evaluation of the extent of implementation of the evacuation phase of the Barangay’s evacuation management plan varies. Only with respect to sex that the residents’ responses do not significantly vary. This means that regardless of the sex identity of residents, the Barangay disaster risk reduction officials provided equitable, sustainable, and nondiscriminatory comfort and care for the needs of the residents in times of calamities within every phase of evacuation. As to the significant degree of variance in the evaluation of the respondents on the evacuation phase of the Barangay’s evacuation management plan with respect to the years of residency, it implies that there are situations where the significance of residency duration becomes relevant, most especially in Hazard awareness and response protocol; irregardless of residency years, the focus on ensuring that all residents are equipped with the necessary information and resources to respond effectively during an evacuation somewhat differs. Furthermore, this implies that residency years matter when it comes to the evacuation phase; it could be because of the residents' local knowledge and familiarity. This knowledge is instrumental during evacuations as they may have a better understanding of alternative routes, safe zones, or areas prone to specific hazards. Their familiarity with the community can also facilitate communication and coordination among residents during the evacuation process. As stated in Hamilton's (2020) study, residents with different years of residency can contribute to the overall resilience of the community. Their experiences and knowledge gained from past disaster events may enable them to take proactive measures, support their neighbors, and engage in self-help activities.

**CONCLUSION AND RECOMMENDATIONS**

The Evacuation Management Plan in Barangay Poblacion, San Francisco, Surigao del Norte, was *moderately implemented*, as experienced by the residents. Therefore, in all three phases: pre-evacuation, evacuation, and post-evacuation phase the Barangay Disaster Risk Reduction Management Office and residents have to put in more concerted efforts, enhance the residents' knowledge and preparedness for natural disasters, and address all gaps in the evacuation process at a high level of implementation to ensure safety and well-being of the residents. Moreover, regardless of age, all respondents similarly perceived that the pre-evacuation phase is implemented moderately. However, responses in the evacuation and post-evacuation phases of disaster response have significantly varied with respect to different age groups. Perhaps in some age groups, maturity affects their level of understanding about the technicalities of evacuation and the post-evacuation phase. Also, regardless of the sexes of respondents, both males and females perceived similarly that the pre-evacuation, evacuation, and post-evacuation phases are moderately implemented. The Barangay disaster risk reduction officials provided equitable, sustainable, and nondiscriminatory comfort and care for the needs of the residents



in times of calamities within every phase of evacuation, but are still observed as moderately implemented. Likewise, regardless of years of residency, all respondents similarly perceived that the pre-evacuation and post-evacuation phases are implemented moderately, which means that throughout the years of residence, all residents consistently experienced moderate implementation. However, in terms of the evacuation phase, those who stayed longer and those who stayed transiently in the community had different experiences on the extent of the implementation, especially in terms of familiarity, which can contribute reliable information to the community's resilience.

In consideration of the results and conclusions drawn from this research, the Barangay Disaster Risk Reduction Management Office should extend to encompass the involvement of the Provincial Disaster Risk Reduction Management (PDRRM) in policymaking considerations within distinct phases, accompanied by the formulation of comprehensive implementing guidelines. Also, the BDRRM should strengthen training, awareness programs, and orientations by conducting regular training programs and workshops, such as simulation drills incorporating regular simulation exercises. These drills are designed to immerse residents in hands-on experiences that familiarize them with the intricacies of evacuation procedures. The implementation of such exercises is imperative as they serve to cultivate a practical understanding among residents, thereby fostering a heightened level of preparedness for actual emergencies. The local officials and residents can collaboratively enhance communication and engagement by disseminating information about the evacuation management plan to the residents. They must ensure that the plan is easily accessible and understandable to all community members. Then, the officials can encourage active engagement and participation of residents in the planning and decision-making processes. Ultimately, the local officials and the BDRRM Office may institute localized early warning systems tailored to the unique geographical features and characteristics of the barangay. This entails the establishment of mechanisms such as sirens, CCTV monitoring in the sea levels of community leaders, or other localized means to promptly communicate impending threats. This provides clear instructions on designated assembly points, where residents are given maps and topography of the areas, especially for those living in disaster-prone areas, enhancing overall preparedness and responsiveness during emergency situations.

Future researchers should extend the respondents to the members of BDRRM to incorporate insights and provide a comprehensive understanding of the extent to which they have implemented the evacuation plan. Additionally, soliciting their perspectives will enable a detailed explanation of the specific actions undertaken during the evacuation management plan, enhancing the overall depth and accuracy of the study. Also for further studies, researchers may incorporate the scope and limitations of the study and the substantial reasons for the moderate implementation of the evacuation management plan. This can provide valuable insights and recommendations for refining the evacuation management framework in Barangay Poblacion, San Francisco, Surigao del Norte. Lastly, the researchers recommend that the local DRRM should use this study as a basis for a proposed localized evacuation management enhancement plan for the implementation of evacuations during emergencies; drawing from results of the study to be accepted and considered. Overall, the researchers recommend that the Barangay Disaster Risk Reduction Management Office (BDRRM) and future researchers collaborate with the Provincial Disaster Risk Reduction Management (PDRRM) for comprehensive policymaking and guidelines. Communication improvements are recommended, emphasizing accessibility and clarity of the evacuation plan to engage residents actively. Training and orientation initiatives should be intensified with regular programs and hands-on simulation drills to enhance residents' practical understanding and emergency preparedness. Additionally, establishing localized early warning systems tailored to the barangay's unique geography is proposed to effectively communicate imminent threats. Future researchers are encouraged to conduct a similar study that would include insights from BDRRM members, and explore reasons for the moderate plan implementation, might as well a larger population. Lastly, consider the proposed enhancement plan drawn from the study results for further research and practical implementation considerations.

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