RESEARCH ARTICLE

SOURCES OF INFORMATION OF COASTAL COMMUNITIES IN SAN JOSE, OCCIDENTAL MINDORO TOWARDS DISASTER RISK PREPAREDNESS

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ABSTRACT

This study determine the sources of information used by coastal communities in San Jose, Occidental Mindoro for disaster risk preparedness. A survey questionnaire was distributed to residents in seven coastal barangays: Caminawit, Pag-Asa, Barangay 4, Barangay 5, San Roque, Bubog, and San Agustin, with a total of 382 respondents selected through proportional probability sampling. Data were collected using an adapted survey instrument. The results indicate that the majority of respondents are young adults, predominantly female, and have lived in the coastal communities for 10 to 18 years. Radio, social media, and face-to-face interaction are frequently used sources of information, whereas print media is used less often. Practices related to prevention and mitigation, as well as disaster rehabilitation and recovery, are performed occasionally, while disaster preparedness, response, and early recovery practices are more commonly implemented. The study finds that age and sex significantly influence disaster preparedness practices, and sources of information are significantly related to these practices. It is recommended that authorities increase efforts in prevention, mitigation, and disaster rehabilitation and recovery to enhance overall disaster preparedness in these communities.

Keywords: *disaster preparedness, sources of information, coastal communities*

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INTRODUCTION

Governments, organizations, communities, and people may better respond to and deal with the immediate effects of a disaster, regardless of whether it is caused by natural disasters or human-induced ones, by taking a number of proactive steps. Reducing the loss of life and livelihood is the goal. Simple actions like preparing for search and rescue missions, establishing early warning systems, creating contingency plans, or storing supplies and equipment may have a big impact. According to Carleton and Hsiang (2016), disaster risk preparedness come within the purview of homeland security. Numerous national challenges are addressed in this subject, such as immigration and border access, terrorism, naturalcatastrophes, essential infrastructure, and public health emergencies. Professionals create recovery plans for a variety of situations in each of these categories.

Coastal regions are becoming more vulnerable to both natural and man-made threats. A crucial first step in lowering catastrophe risk in a community and enhancing its resilience to natural and human-caused disasters is conducting an assessment of community resilience (Burton, 2015). According to Lloyd et al. (2013), the creation and use of adaptive administrative methods to lessen and solve the particular circumstances existing in coastal regions have received more attention recently as a result of the rapidly changing climate.

In line to help the coastal communities for better information dissemination towards disaster risk management and preparedness, in 2010, a law has been passed entitled "Philippine Disaster Reduction and Management Act (RA 10121). The Act changed the country's approach to catastrophes from one of reaction to one of preparedness. Through the creation of the National Disaster Risk Management Framework, RA 10121 offers a thorough, all-hazard, multi-sectoral, interagency, and community-based approach to disaster risk management. A National Disaster Risk Management Plan (NDRMP), which will serve as the master plan for strategies, organization, tasks for interested agencies and local government units, and other guidelines in dealing with disasters or crises, is currently being designed, developed, and implemented. They aspire to accomplish with this strategy a cohesive, coordinated, effective, and responsive catastrophe risk management at all levels.

To this, the researchers would like to find out the sources of information of coastal communities and how it affects their disaster risk preparedness and management to their respective barangays. In addition, the researchers are eager to determine if the residents' location have influence to their level of knowledge and practice for risk disaster preparedness such as their age and length of residency. This paper revolves among the coastal communities of San Jose, Occidental Mindoro particularly in Barangay Pag-Asa, Barangay Caminawit, Barangay San Agustin, Barangay 4, Barangay 5, Barangay Bubog and Barangay San Roque—the seven coastal communities of San Jose, Occidental Mindoro. These barangays were also prone to multiple hazards such as typhoons, storm surge, tsunami and earthquake.

MATERIALS AND METHODS

Research Design

A Descriptive-Correlational Design was employed in this study to identify the sources of information of coastal communities in San Jose, Occidental Mindoro towards disaster risk

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preparedness. Descriptive design was used to determine the profile and sources of information of the coastal communities in San Jose, Occidental Mindoro. Moreover, Correlational design was applied to test the relationship between the socio-economic profile and disaster risk preparedness practices of coastal communities and relationship between sources of information and disaster risk preparedness practices of coastal communities as well.

Study Site

The researchers have conducted the study to the coastal community of San Jose, Occidental Mindoro naming the seven barangays; Barangay Caminawit, Barangay Pag-Asa, Barangay 4, Barangay 5, Barangay San Roque, Barangay Bubog, and Barangay San Agustin (Bubog- 10,223, Barangay 5- 1,882, Barangay 4- 1,133, Caminawit- 11,810, San Roque- 15,316, Pag-Asa- 12,317, San Agustin- 7,060). These are the barangays that are suitable for the conduct of study. Municipal Risk Reduction and Management Office (MDRRMO) of San Jose, Occidental Mindoro stated that these are the barangays that are prone to different natural hazards such as typhoons, storm surge, earthquakes, and flashfloods.

Respondents of the Study

The researchers set the criteria for proportional probability selection of the participants of Barangay Bubog, Barangay 5, Barangay 4, Barangay Caminawit, Barangay San Roque, Barangay Pag-Asa, and Barangay San Agustin. The researcher came up with these seven Barangays because these are the official barangays included to coastal community of San Jose. The total population of all coastal communities is 59,741 residents. 59,741 population with 95% confidence rate and 5% margin of error= 382 respondents. 382 of 59,741 is .64%. Therefore, .64% or 0.0064 of each population of each barangay is: Barangay Bubog has 65 respondents, Barangay 5 has 12 respondents, Barangay 4 has seven respondents, Barangay Caminawit has 76 respondents, Barangay San Roque has 99 respondents, Barangay Pag-Asa has 78 respondents, and Barangay San Agustin has 45 respondents with a total number of 382 respondents checked by proportional probability sampling.

Research Instrument

In this study, the researchers used a survey questionnaire. The researchers have adapted survey questionnaire from two studies authored by Collett (2014) and Pesimo et al. (2019). The researchers have sent a letter of permit to use the instrument through an e-mail to the authors of the two studies. The questionnaires are qualified for the study to apply. These two studies formulated their research questionnaires in assessing the coastal communities and disaster risk preparedness. This instrument consists of questions to ask individuals that are organized in three parts:

Part one, the profile, which includes the demographic profile, the respondents furnish the following information: name, which is optional; age; sex, and length of residency; also, to know where they belong in the barangay in which the study was conducted.

Part two, the source of information, the respondents have the chance to rate the statements according to how they used the following sources of information: social media,

Vol. 3, No. 1, June 2024 | pISSN:2980-4523 | eISSN: 3027-9054

radio, print media, and face-to-face interaction by checking their chosen answer. These set of questions are related to the disaster risk preparedness and management that the respondents have experienced through the aid of different sources of information. This has told how frequent these respondents have encountered the given indicators.

The part three are the practices toward disaster risk preparedness, and there are four categories: prevention and mitigation, disaster preparedness, disaster response and early recovery, and disaster rehabilitation and recovery.

Data Collection

During the administration of the instruments, the respondents were informed that their privacy and identity would be kept confidential and that the data collected would be used only for research purposes and to support the development of the study. The researchers went to the assigned barangays to distribute the questionnaire to the respondents in the selected population. Then, the researchers clarified some terms to the respondents so that the respondents could answer the questionnaire with full knowledge and answer honestly to their responsibility in the study.

Ethical Consideration

The researchers guaranteed primarily the quality and credibility of the data. Furthermore, to ensure the authenticity of the study the researchers avoid influencing or tampering with data and information by their own biases. Confidentiality of the personal information of the respondents is a form of respect that the researchers of the present study strictly adhere to.

Data Analysis

The characteristics of the respondents were ascertained using descriptive statistics, such as percentage, frequency, mean, and range. Frequency in using Source of information of coastal communities in San Jose, Occidental Mindoro towards disaster risk assessed using weighted mean analysis were also observed. Kendall's Tau-B was used to this study to correlate the relationship between the profile and disaster practices and source of information towards disaster practices. Through this, the researchers were able to define the relationship among variables.

RESULTS

The result shows that the residents in coastal communities surveyed is at the age of 12-25 years old is 186 (88.7%). Moreover, the respondents of the study were composed of 217 females (57%) and 165 males (43.19%). Majority of the respondents residing in coastal community belongs to 10-18 years length of residency (39.5%).

Table 1. Profile of the respondents (n=382).

PROFILE	FREQUENCY	PERCENTAGE
Age		
12-25 years old	186	48.7%
26-35 years old	70	18.3%
36-50 years old	68	17.8%
51 years old and above	58	15.2%
Sex		
Male	165	43.19%
Female	217	56.81%
Length of residency		
10-18 years	151	39.5%
19-30 years	147	38.5%
31-45 years	46	12.0%
46 years and above	38	9.9%

Social media is the most frequently used source of information, with a mean score of (mean=3.87), reflecting its importance for timely updates and perceived reliability during emergencies. Radio is also important, with a mean score of (mean=3.46), particularly for community-based information. Print media, with a mean score of (mean=3.00), is used less often and seen as less reliable for disaster information. Face-to-face interaction, with a mean score of (mean=3.55), is considered a reliable method for disseminating information, especially through local barangay practices (Table 2).

Table 2. Level of frequency upon using source of information.

INDICATORS	MEAN
Social Media	
1. I am inclined to read posts from others when the subject is related to current events, disasters, emergences, public health issues and global events.	3.96
2. I believe local government offices, such as public health and emergency management, should use social media to communicate with the community about issues and emergencies that directly impact the community.	3.98
3. I more likely to find out about breaking news, issues, and emergencies from social media posts than I am from the television, radio, telephone calls, or face-to-face communication.	3.86
4. I spend more time using social media than I do listening to the radio or watching television.	3.78
5. I believe active social media users provide more complete, unbiased, and useful information related to an emergency than the media and government provides to the public in a time of need.	3.78
Overall Weighted Mean	3.87

Vol. 3, No. 1, June 2024 | pISSN:2980-4523 | eISSN: 3027-9054

Radio	
1. I have gained information about disaster risk in our community through the use of radio.	3.55
2. Our barangay establish community radio for better information dissemination to our *purok*.	3.16
3. Radio is much efficient and reliable tool as source of information compare to other sources.	3.49
4. We have at least one (1) radio inside our household for us to listen for further announcements and reports about upcoming events.	3.53
5. By using radio, we are regarded with important announcements ahead of time, during a disaster and after a disaster.	3.56
Overall Weighted Mean	3.46
Print Media	
1. Print media messages are contextually correct.	3.09
2. Print media messages play a significant appealing role in crisis communication.	3.05
3. Print media amplify natural disasters.	2.93
4. Newspaper never left out in order to gain information about disaster risk management.	3.03
5. Print media is reliable among all other sources for disaster risk management.	2.92
Overall Weighted Mean	3.00
Face to face interaction	
1. Our barangay assigns barangay member or *tanod* from each *purok/ sitio* to disseminate information from the Barangay.	3.58
2. Face-to-face interaction with other people such as authorities before, during and after a disaster is the most reliable practice to gain information.	3.65
3. Our barangay never failed to give us announcements and reminders whenever a disaster might strike us through house-to-house strategy of disseminating information.	3.66
4. Our barangay uses devices such as megaphones and speakers to inform the public regarding disaster.	3.45
5. Our barangay gather us together for a seminar and training for us to become knowledgeable about disaster risk practices.	3.39
Overall Weighted Mean	3.55
Grand Weighted Mean Sources of Information	3.47

Legend: 1.00-1.50 - rarely; 1.51-2.50 - occasionally; 2.51-3.50 - sometimes; 3.51-4.50 - often; 4.51-5.00 - always

Prevention and mitigation (mean = 3.32) practices are conducted sometimes, indicating that while some efforts like hazards mapping are frequent, other activities such as early warning system installations need improvement. Disaster preparedness (mean = 3.50) is generally emphasized, with frequent training and planning activities in place. Disaster response and early recovery (mean = 3.55) are handled often, showing effective management in

evacuations and relief efforts. Disaster rehabilitation and recovery (mean = 3.37) practices are carried out sometimes, suggesting a need for enhanced post-disaster planning and support. Overall, practices towards disaster risk preparedness have a mean score of (3.43), indicating that these practices are generally performed often across the different categories (Table 3).

Table 3. Disaster risk preparedness practices of coastal communities in San Jose, Occidental Mindoro.

INDICATORS	MEAN
Prevention and Mitigation	
Conduct of inventory, vulnerability and risk assessment for critical facilities and infrastructures.	3.37
Conduct of hazards mapping and assessments at town/city to barangay level.	3.41
Procurement and establishment of equipment and facilities for early warning.	3.30
Installation of localized disaster early warning systems.	3.23
Establishment of community based early warning systems for various hazards.	3.29
Overall Weighted Mean	3.32
Disaster preparedness	
Conduct of Trainings and simulation exercises on disaster preparedness and response.	3.57
Customization of the capacity building activities for disaster risk managers and key decisions makers.	3.45
Development of local disaster risk reduction and management plan.	3.56
Conduct of risk assessments, contingency planning, knowledge management and training activities	3.47
Establishment of the disaster risk reduction and management operations center.	3.47
Overall Weighted Mean	3.50
Disaster response and early recovery	
On time evacuation of affected communities.	3.62
Integration and coordination of search, rescue and retrieval operations.	3.58
Delivery of short-term needs or disaster relief; e.g. foods, water and medicines.	3.57
Provisions of adequate temporary shelter needs.	3.62
Conduct of tsunami and psychological stress debriefings especially to children.	3.34
Overall Weighted Mean	3.55
Disaster rehabilitation and recovery	
Post-disaster needs assessments are conducted.	3.40
Formulation of strategic plan for disaster affected areas is coordinated.	3.31
Identification, formulation and implementation of the needed assistance and programs are identified.	3.38
Identification and provision of suitable relocation sites for affected population.	3.40
Conduct of trainings for social preparation for host communities and those that will be relocated to reduce conflict.	3.34
Overall Weighted Mean	3.37
Practices towards Disaster Risk Preparedness	3.43

Legend: 1.00-1.50 - rarely; 1.51-2.50 - occasionally; 2.51-3.50 - sometimes; 3.51-4.50 - often; 4.51-5.00 - always

Vol. 3, No. 1, June 2024 | pISSN:2980-4523 | eISSN: 3027-9054

Age (r=.130; p-value = .001) and sex (r=.12; p-value = .004) are significantly associated with disaster risk preparedness practices, respectively, indicating that older individuals and different genders tend to engage more in these practices. Length of residency shows a positive correlation (coefficient = .065) but is not statistically significant (p-value = .099). Overall, age and sex play a notable role in influencing disaster preparedness practices, while length of residency does not have a significant effect (Table 4).

Table 4. Relationship between profile and practices towards disaster risk preparedness.

PROFILE	DISASTER RISK PREPAREDNESS PRACTICES	
	r	p-value
Age	.130**	.001
Sex	.121**	.004
Length of residency	.065	.099

***. Correlation is significant at the 0.01 level (2-tailed).*

Social media shows a small but statistically significant positive correlation with disaster risk preparedness practices (r = .097, p-value = .007). Radio and print media both exhibit moderate positive correlations (r = .324, p-value < .001 and r = .262, p-value < .001, respectively), suggesting a significant association with improved preparedness. Face-to-face interaction demonstrates the strongest positive correlation (r = .592, p-value < .001), indicating that direct communication significantly enhances disaster risk preparedness practices (Table 5).

Table 5. Relationship between sources of information and practices towards disaster risk preparedness.

SOURCE OF INFORMATION	DISASTER RISK PREPAREDNESS PRACTICES	
	r	p-value
Social media	.097**	.007
Radio	.324**	<.001
Print media	. 262**	<.001
Face-to-face interaction	.592**	<.001

***. Correlation is significant at the 0.01 level (2-tailed).*

DISCUSSION

The study found that the most common participants were teenagers aged 12 to 25, who demonstrated a strong understanding of various information sources and disaster risk preparedness practices. The majority of respondents were female, consistent with findings from the United Nations Office for Disaster Risk Reduction (2015), which highlight women's involvement in disaster risk reduction programs.

Social media is frequently used for disaster information, though its impact is smaller compared to other media. Radio and face-to-face interactions are highly valued, particularly

for timely announcements and community training. Print media is used less frequently, with mixed perceptions about its reliability and effectiveness.

Hazard mapping and assessments are conducted regularly, but the installation of localized early warning systems is less common. Disaster preparedness activities, such as training and plan development, are well-implemented. In disaster response, practices like timely evacuations and providing temporary shelters are effective, though psychological stress debriefings are less frequent. Rehabilitation and recovery practices are performed occasionally, with post-disaster needs assessments and relocation plans being less frequent. The study underscores the critical role of early warning systems and the need for clear, tailored communication to ensure community preparedness. Effective disaster risk reduction strategies are essential for minimizing harm and financial losses (Liu et al., 2020; Ahsan & Khatun, 2020). Community radio is increasingly important for providing information and warnings, particularly in coastal areas (Nasif et al., 2020; Alexander, 2016).

However, the study has limitations. The sample may not fully represent the diversity within coastal communities, and self-reported data could be subject to bias. Additionally, the cross-sectional nature of the study limits the ability to assess changes in disaster preparedness over time. Future research should address these limitations and explore longitudinal approaches to gain a more comprehensive understanding of disaster preparedness in coastal communities.

CONCLUSION

The study reveals that the majority of participants from coastal areas are aged 12 to 25, with a higher number of females compared to males. Most residents have lived in coastal areas for 10 to 18 years. Information sources in these communities are frequently utilized, with radio being a primary medium for timely announcements. Face-to-face interaction is highly valued, as it enhances information gathering and disaster preparedness. The study also indicates that timely evacuations and temporary shelters are well-regarded.

Age, gender, and location significantly influence residents' knowledge and preparedness for disasters, while length of residency does not. The findings show a significant relationship between sources of information and disaster risk preparedness practices, with social media, radio, print media, and face-to-face interaction all playing roles in information dissemination. The study recommends that authorities and coastal communities focus more on social media, radio, and face-to-face interactions, as these methods are most effective and widely used. Additionally, disaster rehabilitation and recovery should be prioritized to ensure comprehensive support for residents.

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