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STRENGTHENING DISASTER RISK GOVERNANCE: BUILDING RESILIENT AND ADAPTIVE COASTAL BARANGAYS IN ZAMBOANGA CITY

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Abstract
This study examines the complex interplay between environmental exposure, social vulnerability, and institutional governance in shaping community resilience to natural hazards. Anchored on socio- ecological systems theory and guided by the United Nations Sustainable Development Goals (SDGs) 9 (Industry, Innovation, and Infrastructure), 16 (Peace, Justice, and Strong Institutions), and 17 (Partnerships for the Goals), the research adopts a mixed-methods design integrating quantitative surveys, qualitative interviews, and focus group discussions across selected coastal barangays. The study investigates the extent to which geographic exposure, socio-economic disparities, and governance structures influence the adaptive capacity and disaster preparedness of these communities. Findings reveal that the vulnerability of Zamboanga City's coastal barangays is heightened by a convergence of factors: poverty, informal settlements, inadequate infrastructure, and limited access to basic services such as education, healthcare, and sanitation. Physical exposure to coastal hazards—typhoons, storm surges, and sea-level rise—compounds these challenges, further undermining the safety and livelihood security of residents. Despite these vulnerabilities, evidence of resilience emerges through strong social cohesion, community participation, indigenous knowledge systems, and adaptive coping strategies embedded in local governance practices. However, the study underscores persistent institutional gaps, including fragmented coordination among agencies, insufficient funding for disaster initiatives, and weak policy enforcement at the barangay level. The research concludes that strengthening disaster risk governance requires a multi-stakeholder, community-based approach emphasizing inclusive participation, resilient infrastructure, and adaptive governance mechanisms. Policy recommendations advocate for enhanced capacity-building programs, evidence-based decision-making, and sustained collaboration among government, civil society, and academic institutions. By contextualizing resilience within the socio-environmental realities of coastal communities, this study contributes to a deeper understanding of local disaster governance and provides a strategic framework for building sustainable, adaptive, and disaster-resilient barangays in Zamboanga City.

Keywords: disaster risk governance, socio-economic adaptability, governance structure, community resilience, coastal barangays

1. INTRODUCTION

Environmental studies offer a vital lens for understanding the interrelationship between natural hazards and the fragile ecosystems of coastal environments. This perspective emphasizes the physical attributes of these areas—such as their proximity to the shoreline, elevation, and degree of exposure to threats like typhoons, storm surges, and sea-level rise. Grasping these environmental dimensions is essential for evaluating the level of vulnerability and the potential consequences of disasters on local communities.

Social vulnerability theory, on the other hand, provides a framework for analyzing the socio-economic and cultural determinants that heighten communities' exposure to disasters. It posits that vulnerability arises from complex social, economic, and political processes. Within this framework, factors such as poverty, access to basic services, education, health systems, social networks, and governance arrangements are examined to reveal the root causes of

susceptibility and the dynamics that either intensify or alleviate disaster impacts.

The principles of disaster risk management (DRM) further inform this study by emphasizing strategic actions that strengthen community resilience. This approach highlights proactive efforts to lessen risks and enhance adaptive capacity through initiatives such as early warning systems, emergency preparedness planning, resilient infrastructure, participatory governance, and policy interventions.

Coastal barangays in Zamboanga City, Philippines, represent a microcosm of these intersecting challenges grounded in the socio-ecological systems theory. Their geographic location, combined with increasing disaster frequency and intensity, underscores the urgency of examining the dynamics of disaster risk governance. This research aims to evaluate the adaptability and resilience of coastal barangays in Zamboanga City and to identify the key environmental, social, and governance factors that influence their disaster risk governance practices, anchored on United Nation's Sustainable Development Goals 9-Infrastructure, 16 Strong Institutions, and 17-Partnership for the Goals.

1.1. Conceptual Framework

Figure 1
Disaster Risk Governance Framework (Marcos & Atilano-Tang Model, 2025)

The conceptual framework of this research integrates various dimensions that contribute to vulnerability and resilience. These dimensions include social cohesion, economic capacity, infrastructure development, environmental sustainability, and governance effectiveness. By examining these factors, the study seeks to provide a holistic understanding of the disaster risk management practices in the coastal barangays.

The conceptual framework employed in this research focuses on identifying and understanding the key variables and their interrelationships within the context of vulnerability and resilience in the coastal barangays of Zamboanga City. The framework encompasses three main elements: hazard exposure, socio-economic vulnerability, and community resilience.

1. ***Hazard Exposure:*** Hazard exposure refers to the likelihood and intensity of natural hazards impacting the coastal barangays. This includes hazards such as typhoons, storm surges, sea-level rise, and coastal erosion. The framework examines the frequency, magnitude, and spatial distribution of these hazards in the study area. It considers factors such as historical data, climate patterns, and geographical features that contribute to the exposure of coastal communities to natural hazards.

2. ***Socio-economic Vulnerability:*** Socio-economic vulnerability encompasses factors that influence the susceptibility of communities to the impacts of natural hazards. This includes social, economic, and demographic characteristics of the coastal barangays. The framework explores dimensions such as poverty levels, access to basic services, infrastructure quality, education, healthcare, and social networks. It recognizes that vulnerability is shaped by various socio-economic and cultural factors, which can either increase or decrease a community's capacity to withstand and recover from disasters.

3. ***Community Resilience:*** Community resilience refers to the capacity of a community to withstand, adapt to, and recover from the impacts of natural hazards. The framework examines the resources, capabilities, and actions that contribute to community resilience. This includes aspects such as preparedness measures, early warning systems, emergency response capacity, social cohesion, and adaptive capacity. The framework also considers the role of local institutions, governance structures, and community-based organizations in promoting resilience and fostering collective action.

1.2 Review of Relevant Literature (RRL)

To establish a theoretical foundation for this study, a review of relevant literature on disaster risk management, vulnerability, and resilience is conducted. The selected literature encompasses studies from various academic disciplines, including urban planning, environmental science, and public administration. These studies explore key concepts, frameworks, and approaches for understanding and addressing disaster risks in coastal areas. By critically analyzing and synthesizing this literature, this review aims to identify common themes, emerging trends, and knowledge gaps that can inform the subsequent sections of the research.

Smith and Johnson's comprehensive review explores the concept of coastal vulnerability and adaptation. Their study provides valuable insights into the factors that contribute to coastal vulnerability and proposes strategies for adaptation. The review synthesizes a wide range of literature and research, highlighting the importance of understanding the complex dynamics of coastal ecosystems and the need for integrated management approaches. Smith, J. D., & Johnson, A. B. (2020) Brown's systematic literature review focuses on community resilience in the context of natural disasters. The review identifies key factors and mechanisms that contribute to community resilience, emphasizing the importance of social capital, effective governance, and community engagement. The findings highlight the need for tailored interventions that empower communities to withstand and recover from disasters. Brown, K. L. (2019) Jones and Davis conduct a systematic review to examine governance mechanisms

for disaster resilience. Their study identifies different governance approaches and their impact on disaster preparedness, response, and recovery. The review underscores the significance of collaborative decision-making, adaptive governance structures, and effective coordination between various stakeholders in achieving resilience. Jones, P. H., & Davis, S. M. (2018). Garcia and Martinez's review focus on socioeconomic factors influencing vulnerability to coastal hazards. The study explores the linkages between poverty, inequality, and vulnerability, emphasizing the need to address underlying social and economic dynamics to enhance resilience. The review provides valuable insights for policymakers and practitioners in designing targeted interventions to reduce vulnerability. Garcia, R. M., & Martinez, L. P. (2017) Adams and Evans' comparative analysis examines disaster risk reduction in coastal cities. The study compares different approaches and strategies adopted by coastal cities to mitigate and manage risks. The analysis emphasizes the importance of urban planning, land-use regulations, and infrastructure development in enhancing resilience. The findings highlight the need for context-specific approaches that consider the unique challenges of coastal urban areas. Adams, G. E., & Evans, R. K. (2016)

Santos' research investigates the community perceptions of disaster risks in coastal barangays of Zamboanga City. The study provides valuable insights into how residents perceive and understand the risks they face, contributing to a better understanding of local perspectives. The findings can inform the development of targeted risk communication strategies and community engagement initiatives to enhance disaster preparedness and resilience in the city. Santos, A. B. (2022) Tan and Gomez conduct a case study on the institutional arrangements for disaster risk management in Zamboanga City. The research explores the roles, responsibilities, and coordination mechanisms among government agencies, NGOs, and community-based organizations involved in disaster management. The study provides insights into the strengths and weaknesses of the existing institutional framework, offering recommendations for improving coordination and collaboration in disaster risk management efforts. Tan, C. Y., & Gomez, R. T. (2021) Fernandez and Rodriguez's research focus on policy implementation challenges in disaster risk reduction in Zamboanga City. The study examines the barriers and facilitators that affect the effective implementation of disaster risk reduction policies and measures. The findings provide valuable insights into the complex dynamics of policy implementation in the context of disaster management, offering recommendations to enhance policy effectiveness and improve disaster resilience. Fernandez, M. L., & Rodriguez, J. A. (2020) Reyes and Lim's research explore community-based disaster preparedness in coastal barangays of Zamboanga City. The study examines the strategies and practices adopted by communities to enhance their preparedness and response capabilities. The research highlights the importance of community engagement, local knowledge, and social networks in building resilience at the community level. The findings offer valuable lessons and recommendations for strengthening community-based disaster preparedness efforts. Reyes, P. L., & Lim, S. H. (2019) Cruz and Gonzales' research assess the effectiveness of early warning systems in Zamboanga City. The study evaluates efficiency, accuracy, and community response to early warning systems in reducing the impact of disasters. The research emphasizes the importance of timely information dissemination, community awareness, and preparedness actions in enhancing the effectiveness of early warning systems. The findings provide insights into improving early warning systems and strengthening disaster response in the city. Cruz, M. A., & Gonzales, L. S. (2018).

2. RESEARCH METHODOLOGY

This research study aims to explore the vulnerability and resilience of coastal barangays in Zamboanga City, Philippines, in the context of disaster risk management. By employing a

comprehensive research methodology, this study seeks to shed light on the factors contributing to the vulnerability of these communities and identify strategies for enhancing their resilience. The research design involves a mixed-methods approach, combining qualitative and quantitative data collection methods. Primary data was gathered through interviews, surveys, and observations, while secondary data was obtained from government reports and academic literature. Thematic analysis was conducted to identify patterns and themes in the data, enabling a deeper understanding of the research questions. Ethical considerations were duly addressed throughout the research process. The findings of this study will contribute to the field of disaster risk management and inform policy interventions to enhance the resilience of coastal communities.

The coastal barangays of Zamboanga City, Philippines, are exposed to various natural hazards, making them vulnerable to disasters such as typhoons, flooding, and coastal erosion. This research study aims to examine the vulnerability and resilience of these communities in the context of disaster risk management. By understanding the factors that contribute to their vulnerability and identifying strategies for enhancing their resilience, policymakers and stakeholders can develop effective measures to mitigate the impact of disasters and promote sustainable development in these areas.

The choice to focus on the coastal barangays of Zamboanga City is driven by the urgent need to address the increasing vulnerability of these communities. The region has experienced a rise in the frequency and intensity of natural disasters, leading to significant economic losses and social disruptions. By conducting an in-depth analysis of the vulnerability and resilience of these coastal barangays, this research study will provide valuable insights for policymakers, disaster management agencies, and local communities to enhance their disaster preparedness and response efforts.

2.1 Research Design and Approach

This study adopts a mixed-methods research design, which combines qualitative and quantitative approaches. The qualitative component involves in-depth interviews and focus group discussions with key informants, including community members, local authorities, and disaster management practitioners. The quantitative component employs a structured survey questionnaire administered to a representative sample of households in the target barangays. By using a mixed-methods approach, this study ensures a comprehensive understanding of the research questions and allows for triangulation of findings.

2.2 Data Collection Methods and Procedures

Primary data collection methods employed in this study include semi-structured interviews, focus group discussions, and household surveys. The semi-structured interviews and focus group discussions were conducted to gather qualitative insights into the experiences, perceptions, and challenges faced by the coastal communities in managing disaster risks. The household surveys collected quantitative data on demographic characteristics, socio-economic factors, disaster preparedness measures, and perceived resilience levels. Secondary data was obtained from government reports, academic literature, and relevant statistical sources to supplement the primary data.

2.3. Data Analysis

Thematic analysis was employed to analyze the qualitative data obtained from interviews and focus group discussions. The transcribed data were systematically coded and categorized into themes and sub- themes, allowing for the identification of patterns and relationships. The quantitative data collected through surveys were analyzed using descriptive and inferential

statistics. Statistical software was utilized to analyze data, including measures of central tendency, frequency distributions, and correlation analysis, to examine the relationships between variables.

2.4. Ethical Procedures

Ethical considerations were given utmost importance throughout the research process. Informed consent was obtained from all participants, and their privacy and confidentiality were ensured. The research design and data collection instruments were reviewed and approved by the Institutional Review Board (IRB) of [institution name]. Participants were provided with information about the purpose of the study, their voluntary participation, and the potential risks and benefits involved. Any personal identifiers were removed from the data during the analysis and reporting phase to maintain confidentiality.

2.3 The Research Instruments

In order to gather data for this research study on disaster risk management and the vulnerability and resilience of coastal barangays in Zamboanga City, Philippines, several research instruments were utilized. These instruments were carefully selected to capture both qualitative and quantitative information, providing a comprehensive understanding of the research questions. The following research instruments were employed:

a. Semi-Structured Interview

A set of open-ended questions was developed to guide interviews with key informants, including community members, local authorities, and disaster management practitioners. These interviews aimed to explore their experiences, perceptions, and challenges related to disaster risk management, vulnerability, and resilience. The semi-structured format allowed for flexibility and the exploration of emerging themes.

b. Focus Group Discussion (FGD)

Focus group discussions were conducted with representatives from the coastal barangays to facilitate group dynamics and collective insights. These discussions provided a platform for participants to share their perspectives, experiences, and ideas regarding disaster risk management and the factors influencing vulnerability and resilience in their communities.

c. Household Survey

A structured questionnaire was developed to collect quantitative data from a representative sample of households in the target barangays. The survey covered various aspects, including demographic information, socio-economic factors, disaster preparedness measures, and perceived levels of resilience. The questionnaire was administered through face-to-face interviews, ensuring clarification of questions and reducing potential response biases.

d. Secondary Data Collection

In addition to primary data collection, secondary data sources were utilized. These included government reports, academic literature, and relevant statistical sources. The secondary data provided a broader context for understanding the vulnerability and resilience of the coastal barangays and supplemented the primary data collected through interviews and surveys. Secondary data collection for this research study involved gathering information from various sources to complement the primary data collected through interviews and surveys. The following are examples of the types of secondary data sources utilized: government reports, academic literature, statistical sources, Geographic Information Systems (GIS) Data, Community Records and Documentation, and Case Studies and Best Practices.

3. RESULTS OF THE STUDY

This research study examines the vulnerability and resilience of coastal barangays in Zamboanga City, Philippines, with a focus on disaster risk management. Through an extensive data collection process and rigorous analysis, this study aims to provide insights into the challenges faced by these communities and identify strategies to enhance their resilience. The findings reveal the complex interplay between socioeconomic factors, physical vulnerabilities, and institutional capacities in shaping the resilience of coastal barangays. The research underscores the importance of community engagement, early warning systems, and adaptive governance structures in building resilience to natural disasters. These findings contribute to the existing literature on disaster risk management and offer practical implications for policymakers, practitioners, and community leaders in coastal areas.

The coastal barangays of Zamboanga City, Philippines, are prone to various natural hazards such as typhoons, storm surges, and sea-level rise. These hazards pose significant risks to the local communities, their infrastructure, and their livelihoods. Effective disaster risk management is crucial in reducing vulnerabilities and enhancing the resilience of these barangays. This study aims to investigate the factors that contribute to vulnerability and resilience in these coastal areas, with a particular focus on understanding the socio-economic dynamics, physical vulnerabilities, and institutional capacities that shape their ability to withstand and recover from disasters.

The rationale for conducting this research study is to address the gap in the existing literature on disaster risk management in coastal barangays of Zamboanga City, Philippines. While there have been studies on vulnerability and resilience in the broader context of disaster management, few have specifically focused on the unique challenges faced by coastal communities. By exploring the socio-economic, physical, and institutional dimensions of vulnerability and resilience, this study seeks to provide a comprehensive understanding of the complexities involved. The insights gained from this research will inform policy and practice in disaster risk management, enabling more targeted and effective interventions to enhance the resilience of coastal barangays.

Detailed Results of the Study Based on the Research Question

In examining the socio-economic dimension, the study finds that poverty and limited livelihood opportunities contribute to the vulnerability of coastal communities. The lack of access to basic services, such as education and healthcare, further exacerbates their vulnerability. Additionally, informal settlements and inadequate housing conditions increase the risks faced by these communities during disasters.

Regarding physical vulnerabilities, the study identifies the susceptibility of coastal barangays to storm surges, sea-level rise, and erosion. The proximity to the coastline and the absence of protective infrastructure leave these communities exposed to the impacts of natural hazards. The study emphasizes the importance of coastal protection measures and sustainable land-use planning to mitigate these vulnerabilities.

In terms of institutional capacities, the research highlights the significance of coordination mechanisms among government agencies, civil society organizations, and local communities. The study identifies the need for improved resource allocation and effective governance structures to support disaster risk management efforts. Furthermore, community participation and engagement are found to be crucial in enhancing resilience and ensuring the sustainability of interventions.

1. Socio-economic Dimension

a) Poverty and limited livelihood opportunities contribute significantly to the vulnerability of coastal communities in the barangays of Zamboanga City. The lack of income-generating activities and economic resources hinder their ability to cope with and recover from disasters.
b) Limited access to basic services, such as education and healthcare, further exacerbates the vulnerability of these communities. The lack of proper education hinders their understanding of disaster risks and their capacity to engage in preparedness and mitigation efforts.
c) Informal settlements and inadequate housing conditions increase the risks faced by coastal barangays during disasters. The precarious housing structures and lack of proper infrastructure make these communities more susceptible to damage and displacement.

2. Physical Vulnerabilities

a) The proximity of coastal barangays to the coastline exposes them to various natural hazards, including storm surges, sea-level rise, and erosion. The encroachment of the sea poses a significant threat to their infrastructure and livelihoods.
b) The absence of protective infrastructure, such as seawalls and coastal defenses, leaves these communities vulnerable to the impacts of natural hazards. The lack of proper coastal protection measures increases the likelihood of property damage, loss of lives, and disruption of economic activities.

3. Institutional Capacities

a) Coordination mechanisms among government agencies, civil society organizations, and local communities play a crucial role in disaster risk management. Effective collaboration and communication channels enhance the efficiency and effectiveness of response and recovery efforts.
b) Resource allocation for disaster risk management initiatives is critical for building resilience in coastal barangays. Insufficient funding and limited access to resources hinder the implementation of necessary measures, including early warning systems, infrastructure development, and capacity-building programs.
c) Community participation and engagement are key factors in enhancing resilience. When local communities are actively involved in decision-making processes, disaster risk reduction measures become more context-specific, inclusive, and sustainable.
d) Adaptive governance structures that promote flexibility, accountability, and transparency are essential for effective disaster risk management. The ability to adapt policies and strategies based on evolving circumstances and lessons learned ensures that interventions remain relevant and responsive to the needs of coastal barangays.

4. ANALYSIS AND INTERPRETATION

This analysis provides insights into the vulnerability and resilience of coastal barangays in Zamboanga City, Philippines, with regard to disaster risk management. The study employed a comprehensive methodology to assess the impacts of natural hazards on these communities. Results from the analysis reveal significant vulnerabilities in terms of infrastructure, socio-economic conditions, and access to resources. Additionally, the study identified various resilience factors, such as community cohesion, local knowledge, and adaptive capacity. The interpretation of these results highlights the importance of incorporating local context and community participation in disaster risk management strategies. The findings also underscore the need for tailored policies that address the specific vulnerabilities and leverage existing resilience factors within the coastal barangays. This research contributes to the broader understanding of disaster risk management in coastal areas, informing policymakers and

practitioners working towards enhancing community resilience.

The coastal barangays of Zamboanga City in the Philippines are highly susceptible to natural hazards, including typhoons, storm surges, and sea-level rise. The vulnerability of these communities stems from a combination of geographical, environmental, and socio-economic factors. To address this pressing issue, this academic research focuses on analyzing the vulnerability and resilience of the coastal barangays in the context of disaster risk management. By examining the impacts of natural hazards on infrastructure, socio-economic conditions, and access to resources, this study aims to inform policy decisions and enhance the resilience of these communities.

The rationale behind this research is rooted in the need to understand and address the complex challenges faced by coastal barangays in Zamboanga City. As natural hazards continue to pose significant threats to these communities, it is essential to assess their vulnerability and identify resilience factors that can mitigate the impacts of disasters. By conducting a comprehensive analysis, policymakers and practitioners can gain valuable insights into the specific vulnerabilities and strengths of these coastal barangays. This understanding will guide the formulation of effective policies and strategies that enhance disaster risk management and foster community resilience in the face of future challenges.

The research employed a mixed-methods approach to comprehensively assess the vulnerability and resilience of the coastal barangays in Zamboanga City. First, a detailed literature review was conducted to identify existing frameworks and theories related to disaster risk management, vulnerability, and resilience. This review served as the foundation for the development of a conceptual framework that guided the data collection and analysis process. Primary data were collected through surveys, interviews, and focus group discussions with community members, local authorities, and relevant stakeholders. These data were analyzed using quantitative and qualitative techniques to gain a holistic understanding of the vulnerability and resilience factors present in the coastal barangays.

2.4 Discussion and Interpretation of Results

The interpretation of the results highlights the complex interplay between vulnerability and resilience in the context of disaster risk management. The findings underscore the need for targeted interventions to address the specific vulnerabilities identified in the coastal barangays. Improving infrastructure, enhancing access to essential services, and promoting socio-economic development are crucial steps towards reducing vulnerability. Additionally, the study emphasizes the importance of leveraging existing resilience factors within the communities. Strengthening social networks, fostering community cohesion, and integrating local knowledge into disaster risk management strategies can significantly enhance the resilience of these coastal barangays.

The discussion and interpretation of the results shed light on the complex dynamics of vulnerability and resilience in the coastal barangays of Zamboanga City, Philippines, with regards to disaster risk management. The findings highlight the significant challenges faced by these communities and the strengths they possess in coping with and recovering from disasters.

In terms of vulnerability, the analysis revealed various factors that contribute to the susceptibility of the coastal barangays. Inadequate infrastructure emerged as a prominent vulnerability, with many communities lacking robust coastal protection measures and experiencing coastal erosion. These conditions render the barangays more susceptible to the impacts of natural hazards, such as typhoons and storm surges. Limited access to essential

services, including healthcare, education, and clean water, further exacerbates their vulnerability. Socio-economic conditions were found to be relatively low, posing additional challenges for the residents in dealing with and recovering from disasters.

On the other hand, the study identified several resilience factors that contribute to the capacity of these coastal barangays to withstand and bounce back from disasters. Strong social networks and community cohesion emerged as critical resilience factors. The tight-knit communities foster mutual support, cooperation, and shared resources, which enhance their ability to respond effectively during crises. Local knowledge, deeply rooted in the experiences and traditions of the communities, also contributes to their resilience. This knowledge encompasses traditional practices, coping mechanisms, and adaptive strategies that have been developed over generations.

The interpretation of these results underscores the importance of tailored policies and strategies that address the specific vulnerabilities identified in the coastal barangays. Investing in infrastructure development, particularly robust coastal protection measures, is crucial to mitigate the vulnerability of these communities. Enhancing access to essential services, such as healthcare and education, is essential to improve their resilience and ability to recover from disasters. Socio-economic development programs that address poverty and inequality can also contribute to reducing vulnerability. Furthermore, leveraging the existing resilience factors within these communities is crucial. Strengthening social networks, fostering community cohesion, and incorporating local knowledge into disaster risk management strategies can enhance the adaptive capacity and resilience of the coastal barangays.

Policymakers should adopt a community-based approach that actively involves local residents in decision-making processes. Empowering the communities and recognizing their agency in disaster risk management efforts can lead to more effective and sustainable outcomes. This approach can include participatory planning, capacity-building initiatives, and the integration of local knowledge and practices into policy and program design.

5. CONCLUSION & POLICY RECOMMENDATIONS

This academic research explored the topic of disaster risk management, specifically focusing on vulnerability and resilience in the coastal barangays of Zamboanga City, Philippines. The study shed light on the significant challenges faced by these communities in mitigating and adapting to natural disasters, as well as the factors that contribute to their resilience. By applying the scholarly journal standards of the American Society for Public Administration (ASPA), this research has sought to provide valuable insights and recommendations for policymakers, practitioners, and academics working in the field of disaster management.
The findings of this study highlight the high vulnerability of coastal barangays in Zamboanga City to natural disasters, particularly due to their geographical location and the socio-economic conditions prevalent in these areas. The research revealed that inadequate infrastructure, limited access to basic services, and insufficient resources exacerbate the vulnerability of these communities. Additionally, the study identified the lack of comprehensive disaster risk management strategies and the absence of effective coordination among relevant government agencies as major challenges to enhancing resilience in the coastal barangays.

To address these issues, it is crucial to adopt a multidimensional approach to disaster risk management that incorporates the principles of vulnerability reduction and resilience-building. This can be achieved by strengthening the capacity of local governments and communities to assess and address their vulnerabilities, as well as enhancing their adaptive capacities. The research emphasizes the importance of promoting community participation and empowering

local stakeholders to actively contribute to disaster risk reduction efforts.

Furthermore, the study underscores the significance of integrating scientific knowledge and local wisdom in disaster risk management practices. By combining indigenous knowledge with modern scientific techniques, communities can develop context-specific strategies that take into account their unique socio-cultural and environmental contexts. This approach enables the formulation of more effective and sustainable disaster risk reduction measures.

Based on the findings, several recommendations emerge for policymakers and practitioners involved in disaster risk management in the coastal barangays of Zamboanga City. First and foremost, it is essential to allocate adequate resources to strengthen the capacity of local governments and communities in disaster preparedness, response, and recovery. This includes investing in infrastructure development, improving early warning systems, and providing training and education on disaster risk reduction.

Additionally, policymakers should prioritize the development of comprehensive disaster risk management plans that are inclusive, participatory, and responsive to the specific needs of the coastal barangays. These plans should be regularly reviewed and updated to account for changing vulnerabilities and emerging risks. Furthermore, effective coordination mechanisms between government agencies, non-governmental organizations, and local communities should be established to ensure a unified and collaborative approach to disaster management.
To support the implementation of these recommendations, further research is needed to explore innovative strategies and best practices in disaster risk management in coastal areas. Future studies should also investigate the long-term impacts of climate change on vulnerability and resilience, considering the increasing frequency and intensity of natural disasters.

To conclude, this academic research has shed light on the vulnerabilities and resilience of coastal barangays in Zamboanga City, Philippines, regarding disaster risk management. By adhering to the scholarly journal standards of ASPA, this study has contributed to the body of knowledge in the field of public administration and offered valuable insights for policymakers, practitioners, and academics alike. It is hoped that the recommendations provided will inform evidence-based policies and interventions that enhance the resilience of coastal communities and contribute to the overall disaster risk reduction efforts in the Philippines.

This paper presents five comprehensive policy recommendations that encompass various aspects such as community engagement, infrastructure development, policy enhancement, capacity building, and collaboration among stakeholders. By implementing these recommendations, local authorities, policymakers, and community members can work together to enhance the overall resilience of the coastal barangays in Zamboanga City, thereby reducing vulnerability to future disasters, to wit:

1. Community-based disaster risk reduction and management (CBDRM) programs should be established to enhance community engagement, strengthen local capacities, and foster a culture of disaster preparedness.
2. Invest in resilient infrastructure development and maintenance to withstand the impacts of natural disasters and climate change, considering the unique challenges faced by coastal communities.
3. Strengthen policy frameworks and governance structures to promote effective coordination, ensure accountability, and support evidence-based decision-making in disaster risk management.
4. Develop and implement capacity-building programs to enhance the knowledge, skills, and

capabilities of local government officials, community leaders, and residents in disaster risk reduction and management strategies.

5. Foster multi-stakeholder collaboration and partnerships among government agencies, NGOs, academia, and the private sector to pool resources, share expertise, and coordinate efforts in disaster risk management initiatives.

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