Journal of Critical Social Sciences and Review (JCSSR)

REVIEW ARTICLE
VOLUME NO. 1, ISSUE NO. 1, 2026 (MARCH)

Disaster Mitigation Landscapes in the Philippines: A Scoping Review of Policy Frameworks, Institutional Gaps, and Community Resilience (2015–2025)

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Received: 03/01/2026 Revised: 03/25/2026 Accepted: 03/29/2026 Published: 04/01/2026

ABSTRACT

Because of where it is in the world, the Philippines is quite prone to many natural disasters, which shows how important it is to have strong disaster mitigation plans. The purpose of this study was to find all the available research on disaster mitigation in the Philippines so that we could learn more about what we already know. It aims to tackle essential research inquiries concerning the principal issues and methodologies, along with the advantages, disadvantages, and results of current tactics. It also sought to pinpoint deficiencies in research. The study methodically searched significant databases, such as Scopus, Web of Science, Philippine E-Journals, and Google Scholar, using a set protocol and PRISMA-ScR criteria. It then combined 15 papers that were published in English between 2015 and 2025. The results showed important themes, such as Disaster Risk Reduction and Management (DRRM) methods, community readiness, and an in-depth understanding of how geography affects susceptibility. New issues that came up were social entrepreneurship in disaster recovery, how disasters affect poverty, and how to keep cultural heritage alive. The analysis of the mitigation strategies revealed strengths in resilient policy frameworks and community-oriented initiatives. But it also showed problems, like local Disaster Risk Reduction and Management (DRRM) councils that don't have enough people, problems with monitoring, and a lack of operational testing for preparedness plans. Some important research gaps that have been found are the need for a better knowledge of community resilience, socio-ecological systems, and the things that make it hard to share information. The assessment also stressed how important it is to do thorough evaluations of how ready local governments are, look at institutional problems in more depth, and study how climate change affects vulnerability over time. This study stresses the need for ongoing, evidence-based work to make the Philippines stronger. It suggests that more money should be spent on building local capability, making policies work better and evaluating them, putting research first, and making big changes to how the government works.

Keywords: Mitigation, Disaster, Philippines, Resilience
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INTRODUCTION

The Philippines is an archipelago that is located in the Pacific Ring of Fire and the typhoon belt. Because of this, it is very important to prepare for disasters (Lo, 2009). The country's geography makes it quite vulnerable, as typhoons often cause landslides and flooding (Mascariñas et al., 2013). The Philippines is also seismically active, with many earthquakes happening every day. This makes the danger of high-magnitude occurrences much higher (Calumba et al., 2021). The convergence of the Eurasian and Pacific tectonic plates increases the likelihood of earthquakes (Calumba et al., 2021). The archipelago is at risk from natural disasters like earthquakes and soil liquefaction because of where it is (Concha, 2020). These geological facts show how important it is to have good disaster mitigation plans to safeguard lives, infrastructure, and economic stability.

Disaster mitigation encompasses a range of measures intended to lessen the effects of natural disasters. These things can be structural changes, land-use planning, community-based preparedness programs, and policy frameworks (Vicario-Merino et al., 2019). These measures are essential for mitigating the catastrophic effects of catastrophes, especially in a developing country such as the Philippines, where resources are frequently limited and marginalized communities are disproportionately impacted (Mörchen et al., 2020). A complete strategy to catastrophe mitigation requires a deep understanding of the local situation, weaknesses, and strengths, as well as the use of scientific knowledge, traditional methods, and community involvement. To respond to disasters, it is important to share knowledge and work well together (Ado, 2015). This kind of preparedness can help prevent future injury, but it may not have been tested to see how well it works in practice (Dariagan et al., 2020). Investing in disaster risk reduction is essential for fostering resilience and advancing sustainable development amid escalating environmental hazards.

The goal of this study is to make a map of the present research on disaster mitigation in the Philippines in order to learn more about what we already know. The study specifically aims to address the following research inquiries:

1. What are the main themes and approaches in the literature on disaster mitigation in the Philippines?
2. What are these mitigation strategies' reported strengths, weaknesses, and outcomes?
3. What are the key gaps in the research on disaster mitigation in the Philippines?

This study will give a complete picture of disaster mitigation in the Philippines by answering these questions. It will also show where present research is strong and weak, and point out important gaps that need to be filled in future research.

METHODOLOGY

Protocol:

This study adhered to a predefined research procedure to guarantee a thorough and transparent review process (Tricco et al., 2018). The procedure directed every stage of the inquiry, encompassing the formulation of research questions to the interpretation of data. Any major changes to the initial plan will be carefully noted, which will make the review more open and thorough. The study also followed the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) recommendations, which set a

standard for how to report thoroughly in scoping reviews (Lee & Gambiza, 2022). Following a set methodology and rules makes the review's conclusions more reliable and valid.

Search Eligibility Criteria:

This study summarizes studies on disaster mitigation in the Philippines, following a predefined PCC (population, concept, context) framework (Munn et al., 2018). We included studies published in English between 2015 and 2025, encompassing both peer-reviewed academic literature and relevant grey literature, including government and NGO reports, as well as policy documents.

Population: The study focused on any population within the Philippines involved in or affected by disaster mitigation. Studies conducted outside the Philippines that did not address human populations were excluded.

Concept: The researchers included a study that directly addresses disaster mitigation, encompassing prevention, preparedness, risk reduction, early warning systems, land-use planning, and climate change adaptation integrated with disaster risk reduction (DRR). Studies that focused solely on disaster response or recovery were excluded.

Context: Only studies conducted in the Philippines or specifically focusing on the country were included. Global studies lacking a distinct focus on the Philippines were excluded.

Sources and Areas: The included sources included journal articles, conference proceedings, theses, and reports from databases such as Scopus, Web of Science, Philippine E-Journals, and relevant government or institutional repositories. We considered research from various fields, including public administration, disaster risk reduction and management (DRRM), environmental science, and urban planning.

Search Strategy:

The researchers developed a comprehensive and systematic search strategy to identify all relevant studies on disaster mitigation in the Philippines (Moradpour, et al., 2025). They conducted a methodical search across multiple electronic databases, including Scopus, Web of Science, Philippine E-Journals, and Google Scholar. In addition to these databases, they consulted related government and organizational websites to ensure comprehensive coverage of both academic literature and significant gray literature.

The search process employed a diverse range of keywords and search terms in various combinations to capture the multifaceted aspects of disaster mitigation within the Philippine context. These keywords included terms related to hazards, mitigation actions, and geographical focus:

Disasters/Hazards: "disaster," "hazard," "risk," "vulnerability," "typhoon," "flood," "earthquake," "volcanic eruption," "landslide," "drought," "climate change impacts."

Mitigation/Management: "mitigation," "preparedness," "prevention," "reduction," "adaptation," "resilience," "DRRM" (Disaster Risk Reduction and Management), "disaster risk management," "early warning system," "land-use planning," "capacity building," "structural measures," and "non-structural measures."

Context: "Philippines," "Philippine."

Examples of search strings used in the databases included:

("disaster*" OR "hazard*" OR "risk*" OR "vulnerable" OR "typhoon*" OR "flood*" OR "earthquake*" OR "volcanic eruption" OR "landslide*" OR "drought*" OR "climate change impacts") AND ("mitigate*" OR "prepared*" OR "prevent*" OR "reduction*" OR "adapt*" OR "resilience*" OR "DRRM" OR "disaster risk reduction and management" OR "early warning system*" OR "land-use planning" OR "capacity build*" OR "structural measure*" OR "non-structural measure*") AND ("Philippines" OR "Philippine").

The search concentrated on the most recent and significant studies published between 2015 and 2025. To ensure the research findings were accessible and understandable, only studies published in English were included. Additionally, the researchers conducted reference list checks and citation tracking to identify other relevant publications, which enhanced the overall comprehensiveness of the search. This multi-faceted approach aimed to thoroughly identify all pertinent literature on disaster mitigation in the Philippines, which was subsequently integrated into the study.

The data extraction process was guided by the research questions and key themes identified in the literature review on disaster mitigation in the Philippines. Before formal analysis began, preliminary searches helped the researchers develop a structured approach for data extraction, focusing on three core areas:

Data from the reviewed documents related to the main themes and approaches in Philippine disaster mitigation included extracting information on specific mitigation strategies or interventions, such as community-based initiatives, policy frameworks, and technological solutions. It also covered the types of hazards addressed, the scale of implementation (e.g., national, local, community), and the stakeholders involved (e.g., government agencies, NGOs, local communities).

Additionally, data from the reviewed publications focused on the reported strengths, weaknesses, and outcomes of disaster mitigation strategies. This involved gathering information on the effectiveness, challenges, facilitating factors, and barriers encountered while implementing various mitigation approaches, as well as any observed impacts or results.

Furthermore, information on future directions and research gaps was extracted. This included emerging trends in disaster mitigation, proposed future research directions, and the explicit identification of gaps in the existing literature.

The researchers thoroughly double-checked all extracted data to ensure its accuracy and consistency. The data were then systematically organized and categorized into relevant thematic clusters detailed in the Results section. This meticulous data extraction process ensured that the review included comprehensive and relevant information from the studies analyzed.

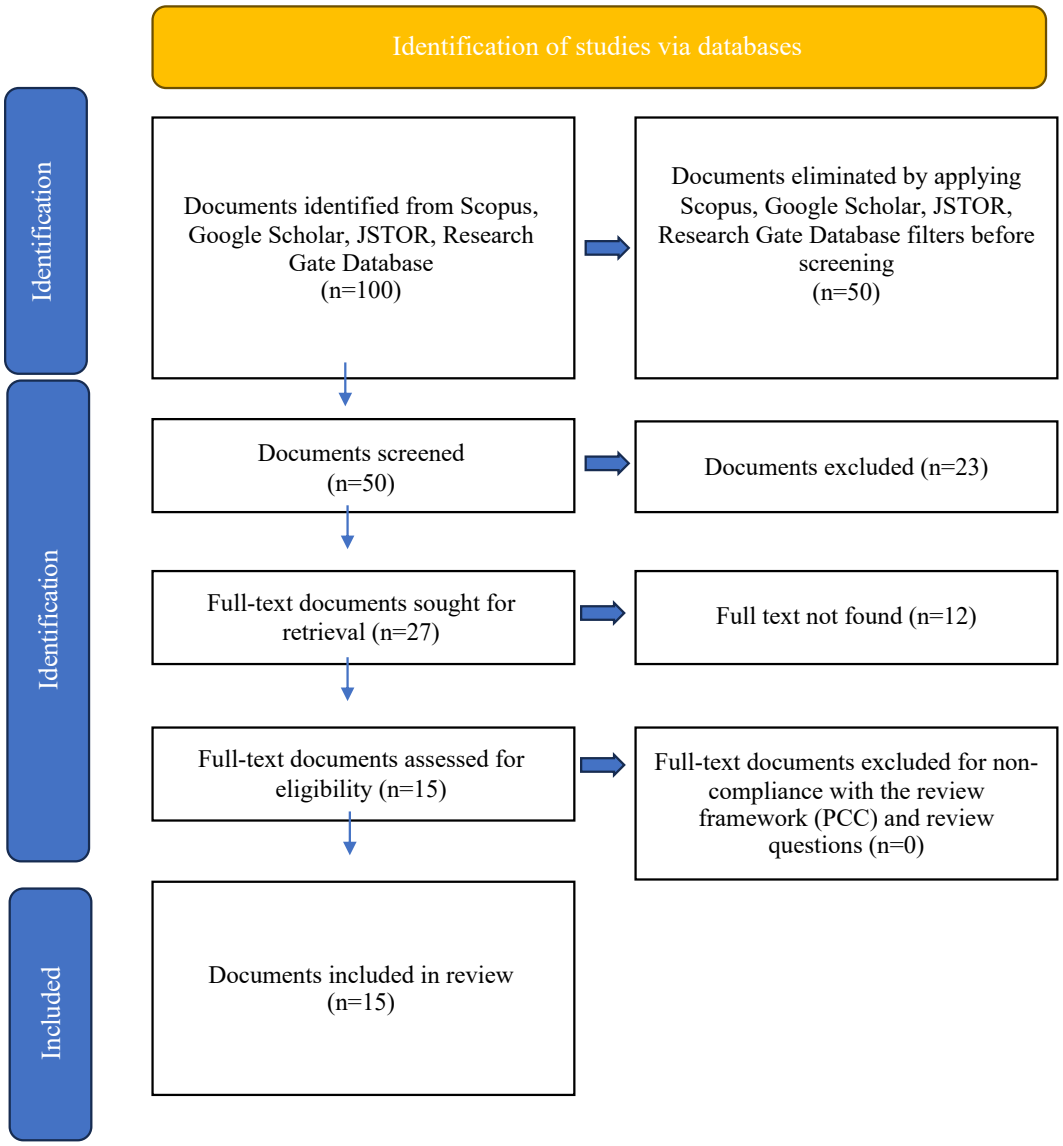
RESULTS

Search and Selection Results:

The final search was conducted on May 23, 2025. Initially, a total of 100 records were identified from the selected databases and government websites. After applying filters for language, subject area, and publication period, the number of records was reduced to 50. Titles and abstracts were then evaluated for relevance, leading to the exclusion of 23 records that did not align with the research questions. Full texts were retrieved for the remaining 27 records, and following a detailed assessment, an additional 12 records were deemed ineligible. This process resulted in a final sample of 15 studies included in the study. The search and selection procedure is illustrated in the PRISMA flow diagram (Figure 1).

Figure 1

Selection of Publications for Review (PRISMA-ScR Flow Diagram)



Documents Ultimately Included in the Review:

The review yielded 12 research articles, 1 review article, 1 case study, and 1 working paper, thus meeting the objective and eligibility criteria (see Table 1).

Table 1

Documents included in the review

Reference	Publication Title
RESEARCH ARTICLE/S	
1. (Orenia & Cabonero, 2023)	Disaster Risk Reduction Management Practices: The Case of a Private Academic Library in Northern Philippines
2. (Sumbillo, Jr. & Madrigal, 2020)	Disaster Risk Reduction Management Practices of Augustinian Recollect Schools in Negros Island
3. (Lee & Tang, 2019)	How Do Natural Disasters Influence the Rate of Poverty?
4. (Geronimo & Gonzaga, 2016)	Disaster Mitigation and Preparedness of the Resident of Cadiz City, Philippines
5. (Maminta, 2019)	Level of Awareness on Disaster Preparedness
6. (Chua, 2015)	Dismantling Disaster, Death, and Survival in Philippine Ecopoetry
7. (Florentin, et al., 2021)	Implementing a Pre-disaster Recovery Workshop in Intramuros, Manila, Philippines: lessons for disaster risk assessment, response, and recovery for cultural heritage
8. (Alcayna et al., 2016)	Resilience and Disaster Trends in the Philippines: Opportunities for National and Local Capacity Building
9. (Merino, et al., 2019)	Resilience and Disaster Trends in the Philippines: Opportunities for National and Local Capacity Building
10. (Dariagan et al., 2021)	Disaster preparedness of local governments in Panay Island, Philippines
11. (Ado et al., 2015)	Design of a Data Build-up Framework and Development of a Dashboard Derived from Natural Disasters' Historical Data for the Philippines
12. (Tang, 2023)	Disaster risk management: Vulnerability and resilience in the coastal barangays of Zamboanga City, Philippines
CASE STUDY	
13.	"Capacity Building in Community Based Disaster Risk Management in the Philippines" in Education for Sustainable Development: Case Studies and Best Practices

WORKING PAPER	
14. (Domingo & Manejar, 2018)	Disaster preparedness and local governance in the Philippines
REVIEW ARTICLE/S	
15. (Chandra & Paras, 2021	Social entrepreneurship in the context of disaster recovery: Organizing for public value creation

Bibliometric Characteristics of the Research Field:

The current review analyzed 16 documents based on several categories: annual distribution, document types, authors, and publication journals. Of these publications, 16 (100%) were classified under the Social Sciences/Public Administration category.

Hypothetical Thematic Clusters:

During the preliminary research phase, the researchers identified potential thematic areas that they later refined and explored further while evaluating studies and gathering data. After several revisions, the researchers finalized three thematic clusters for this scoping review:

1. Main Themes and Approaches in Philippine Disaster Mitigation Literature: This cluster encompasses the diverse strategies, interventions, and conceptual frameworks employed in disaster mitigation efforts across the Philippines. It includes community-based initiatives, policy and governance structures, technological solutions, early warning systems, and land-use planning.
2. Reported Strengths, Weaknesses, and Outcomes of Disaster Mitigation Strategies: This cluster focuses on the effectiveness, challenges, facilitating factors, and barriers encountered in implementing various mitigation approaches. It also examines the observed impacts, successes, and limitations reported in the literature.
3. Future Directions and Research Gaps: This cluster identifies areas that require further investigation, highlights emerging trends in disaster mitigation, and provides specific recommendations for future research or policy development within the Philippine context.

These clusters comprehensively address the key aspects of disaster mitigation in the Philippines, directly aligning with the three research questions guiding the review. They encapsulate the primary findings from the included studies, providing a structured framework for analyzing and synthesizing the literature.

Table 2

Mapping the publications to the cluster

SN	*Authors and Year*	*Cluster 1* Main Themes and Approaches in Philippine Disaster Mitigation Literature	*Cluster 2* Reported Strengths, Weaknesses, and Outcomes of Disaster Mitigation Strategies:	*Cluster 3* Future Directions and Research Gaps
1.	(Orenia & Cabonero, 2023)	✓		
2.	(Sumbillo, Jr. & Madrigal, 2020)	✓		
3.	(Lee & Tang, 2019)	✓	✓	
4.	(Geronimo & Gonzaga, 2016)	✓	✓	
5.	(Maminta, 2019)	✓		

6.	(Chua, 2015)	✓		
7.	(Florentin, et al., 2021)	✓		
8.	(Alcayna, Bollettino, Dy, & Vinck, 2016)		✓	✓
9.	(Merino, et al., 2019)		✓	
10.	(Dariagan, Atando, & Asis, 2021)		✓	
11.	(Ado, Escober, & Masbate, 2015)			✓
12.	(Tang, 2023)			✓
13.	(Shaw & Rouhban, 2020)		✓	
14.	(Domingo & Manejar, 2018)			✓
15.	(Chandra & Paras, 2021	✓		
TOTAL		8	6	4

During the preliminary research phase, the researchers identified potential thematic areas, which they later refined and explored further while evaluating studies and gathering data. After several revisions, they finalized three thematic clusters for this study: (1) Main Themes and Approaches in Philippine Disaster Mitigation Literature, (2) Reported Strengths, Weaknesses, and Outcomes of Disaster Mitigation Strategies, and (3) Future Directions and Research Gaps. These clusters comprehensively addressed the key aspects of disaster mitigation in the Philippines, aligning with the three research questions guiding the study.

Cluster One: Main Themes and Approaches in Philippine Disaster Mitigation Literature

The literature on disaster mitigation in the Philippines highlights several key themes and approaches for effectively managing disaster risks.

Disaster Risk Reduction and Management (DRRM) Practices*:* Orenia & Cabonero (2023) stressed the need to improve disaster risk reduction and management (DRRM) methods, which include getting ready, responding, and recovering from disasters. In the same way, Sumbillo Jr. & Madrigal (2020) stressed how important it is to share excellent DRRM methods and use them in different places. Lee & Tang (2019) contended that effective disaster risk reduction and management (DRRM) strategies and risk management techniques are essential for mitigating the effects of natural disasters. In general, these results strongly support the need for ongoing improvement and the widespread use of comprehensive DRRM frameworks in the Philippines.

Community Preparedness and Awareness: Geronimo & Gonzaga (2016) looked at how well residents were prepared for disasters and usually found that there was still room for improvement. Their research also looked at how well and where information is spread, and they found that TV is a common and effective way to reach people. This indicates that, although awareness initiatives are present, continuous involvement and improved local preparedness are essential domains for advancement.

Vulnerability and Geographical Context: Maminta (2019) and Chua (2015) have pointed out that the Philippines' location makes it naturally prone to a number of natural disasters, such as typhoons, earthquakes, and volcanic eruptions. Their research underscored the significance of comprehending this intrinsic vulnerability as a fundamental component of all disaster mitigation

initiatives. This theme always emphasizes the necessity for tactics that are customized to a location and take into account the country's unique risk profile.

Social Entrepreneurship in Disaster Recovery: Chandra & Paras (2021) examined social entrepreneurship as a framework for facilitating public value creation in the realm of catastrophe recovery. This strategy proposes novel avenues for community-led initiatives that transcend conventional disaster relief, emphasizing sustainable development through entrepreneurial methods.

Impact of Disasters on Poverty: Lee & Tang (2019) examined at the complicated relationship between natural disasters and poverty rates, focusing on ways to lessen the negative consequences of disasters on economic growth and financial development. Their findings highlight the essential connection between disaster resilience and ongoing economic advancement in at-risk areas.

Cultural Heritage Preservation: Florentin et al. (2021) suggested a new way to prepare for recovery after a disaster that aims to protect cultural heritage. Their research underscored the necessity of engaging heritage specialists, disaster management professionals, and the local populace in the planning phase to get more comprehensive and efficacious recovery results. This theme emphasizes the complex nature of being ready for disasters, which includes protecting cultural treasures.

Cluster Two: Reported Strengths, Weaknesses, and Outcomes of Disaster Mitigation Strategies

The studies reviewed offered valuable insights into the effectiveness, challenges, and outcomes of various disaster mitigation strategies implemented in the Philippines.

Information Dissemination and Awareness Programs: Geronimo & Gonzaga (2016) discovered that television was the most prevalent and effective medium for expressing information to residents, hence increasing their preparedness and interest in safety from diverse threats. One major flaw that was found was that the general response on how well the disaster mitigation and preparedness were going often said that they were "in the process" (Geronimo & Gonzaga, 2016). This means that even if there were programs to raise awareness, regular participation and better local readiness were still very important things that needed to be worked on.

Disaster Risk Reduction and Management Strategies: The Philippine Disaster Risk Reduction and Management Act of 2010 has given the country a strong set of policies, procedures, and plans for Disaster Risk Reduction and Management (DRRM) (Alcayna et al., 2016). Multilevel initiatives, established at local, regional, and national tiers, seek to alleviate the consequences of disasters (Merino et al., 2019). Even while these are good things, a big problem is that local DRRM councils often don't have enough staff or aren't professional enough. The National Disaster Risk Reduction and Management Council also has trouble keeping an eye on all the local councils (Alcayna et al., 2016). Dariagan et al. (2021) said that DRRM plans may not have been tested enough to see how well they work in practice, even though they are meant to cut down on harm in the future. Lee & Tang (2019) also suggested good ways to lessen the effects of poverty and encourage long-term economic growth.

Community-Based Disaster Risk Management Strategies: Shaw & Rouhban (2020) highlighted that Community-Based Disaster Risk Management (CBDRM) gives local communities the power to actively lower and control the risks of disasters. Community risk assessments give important baseline data that is needed to make good programs. The main purpose

of these plans is to make communities more resilient by giving them more tools to get ready for, deal with, and recover from disasters. This method always shows that localized efforts work.

Local Government Unit Disaster Preparedness: Dariagan et al. (2021) observed that disaster preparedness programs executed by Local Government Units (LGUs) have mitigated prospective damages. They said that the Local Government Code of the Philippines gives local government units (LGUs) the power to use good governance principles. This makes sure that they do their jobs well and makes it easier for them to get money for local projects from both national and local sources. This freedom lets LGUs better meet the requirements of their constituents (Dariagan et al., 2021). But one big problem with these plans is that they don't get enough testing to see if they work in real-life situations. The Philippines is still quite likely to be hit by tropical storms, floods, earthquakes, droughts, and landslides, even after all the work that has been done (Dariagan et al., 2021).

Cluster Three: Future Directions and Research Gaps

The literature highlights several crucial future directions and research gaps that need further exploration to improve disaster mitigation efforts in the Philippines.

Community Resilience Research: Alcayna et al. (2016) highlighted the importance of doing further study to better understand and improve how communities can bounce back from calamities. This highlights the necessity of examining the methods and elements that enhance a community's resilience to and recovery from different hazards.

Socio-Ecological Systems and Metrics: Alcayna et al. (2016) also suggested that more study be done on socio-ecological systems and that new ways be found to measure these complicated relationships. Their work notably proposed looking into how climate change affects environmental systems, which then affect social structures. It is also important to think about how certain groups of people, such as informal settlers, could experience distinct socio-ecological systems than the communities they are a part of. This research is essential for developing more focused strategies for mitigation, prevention, and preparedness.

Information Sharing and Coordination Obstacles: Ado et al. (2015) emphasized the necessity for research focused on organizational and technical barriers that impede effective information sharing and coordination, especially in the context of disaster response. This gap shows how hard it is to make sure that communication and cooperation are smooth during disasters.

Evaluation of Local Government Preparedness and Institutional Challenges: Domingo & Manejar (2018) stated the necessity for additional research to evaluate the disaster preparedness and mitigation initiatives of local governments. They stressed that plans should not only be made, but also put through thorough testing to make sure they work in real life. They also said that most study just looks at short-term responses and don't look at bigger problems with institutions and governance that could make it harder to deal with disasters. This entails assessing the capability of local government entities to administer resources, augment revenue collection, and guarantee transparency and accountability (Domingo & Manejar, 2018).

Long-term Climate Change Impacts: Tang (2023) clearly indicated that subsequent research should investigate the enduring effects of climate change on vulnerability and resilience, in light of the rising frequency and severity of natural catastrophes. This underscores the imperative to understand how evolving climatic conditions will influence future disaster risks and the effectiveness of mitigation strategies over prolonged durations.

DISCUSSIONS

This study examined the existing literature on disaster mitigation in the Philippines, enhancing comprehension of the present state of knowledge. It found important themes and methods, looked at the pros and cons of several mitigation techniques, and pointed out areas where more research is needed. The synthesis literature provides essential insights into the complex difficulties and potential in disaster risk reduction within one of the world's most catastrophe-prone archipelagos.

The study showed that Disaster Risk Reduction and Management (DRRM) practices were a major theme in the literature on disaster mitigation in the Philippines. This shows that efforts are still being made to improve preparedness, response, and recovery (Orenia & Cabonero, 2023; Sumbillo, Jr. & Madrigal, 2020). This focus also included Community Preparedness and Awareness. Research generally stressed that local readiness needs to keep getting better, even while people were getting involved by sharing knowledge through media like television (Geronimo & Gonzaga, 2016).

The Philippines' intrinsic vulnerability and geographical context continuously surfaced as a critical element, highlighting the imperative of comprehending the nation’s distinctive risk profile for effective mitigation strategies (Maminta, 2019; Chua, 2015). There are also new themes coming up, like the role of social entrepreneurship in disaster recovery (Chandra & Paras, 2021), the complicated link between disasters and poverty (Lee & Tang, 2019), and the preservation of cultural heritage (Florentin et al., 2021). These show that the field is growing. These several themes jointly underscored the fluid and advancing comprehension of disaster mitigation measures being investigated in the Philippine context, directly responding to Research Question 1. A complex knowledge developed via the assessment of the strengths, flaws, and effects of the mitigation techniques (Research Question 2).

One major strength was the Philippine Disaster Risk Reduction and Management Act of 2010's comprehensive policy framework, which backed strong policies and made it possible for prevention activities at many levels (Alcayna et al., 2016; Merino et al., 2019). But this strong policy base was often weakened by problems with putting it into action, like local Disaster Risk Reduction and Management (DRRM) councils that didn't have enough staff or were unprofessional, and problems with national oversight (Alcayna et al., 2016). Even though preparedness plans were meant to lessen damage in the future, they often didn't work as well as they could have because they weren't tested in real-life situations (Dariagan et al., 2021). Community-Based Disaster Risk Management (CBDRM) was often praised for its many benefits, such as giving power to local communities and making them more resilient (Shaw & Rouhban, 2020). The Local Government Code gave Local Government Units (LGUs) more independence, which made it easier for them to get money and respond to local projects. However, the Philippines was still very vulnerable to many dangers. This suggests a continuing disparity between policy objectives and actual results (Dariagan et al., 2021).

The highlighted research gaps (Research Question 3) highlight significant domains for forthcoming scholarly and practical inquiry. There is a clear and urgent need for more study to better understand community resilience (Alcayna et al., 2016). Furthermore, the current literature underscores the necessity for additional socio-ecological systems research, particularly focusing on the impacts of climate change on environmental and social dynamics, especially for vulnerable populations such as informal settlers (Alcayna et al., 2016). Another major problem that needs more research is figuring out how to get over the organizational and technical problems that make it hard to share information and work together during a catastrophe response (Ado, Escober, & Masbate, 2015). Additionally, there is a significant deficiency in the thorough assessment of local

government preparedness and mitigation policies. Contemporary research frequently neglects overarching institutional and governance challenges, including resource management and accountability, which might hinder successful catastrophe mitigation (Domingo & Manejar, 2018). Ultimately, subsequent research should concentrate on examining the enduring effects of climate change on vulnerability and resilience, especially in light of the rising frequency and severity of natural catastrophes (Lee & Tang, 2023).

CONCLUSIONS

This study effectively defined the existing literature on disaster mitigation in the Philippines, hence enhancing comprehension of the current level of knowledge in this vital domain. The evaluation provided thorough responses to its three principal research issues by methodically integrating a variety of studies.

First, the study made clear the fundamental ideas and ways of thinking that are common in the Philippines' disaster mitigation literature. It emphasized the primary emphasis on comprehensive Disaster Risk Reduction and Management (DRRM) practices, the vital importance of community preparedness and awareness, and the critical comprehension of the country's distinctive geographical vulnerabilities. Additionally, new topics like social entrepreneurship in recovery, how disasters affect poverty, and how to protect cultural assets showed that the breadth of the research was getting bigger.

Second, the review methodically listed the stated pros, cons, and results of several ways to reduce risk. It understood how important a strong national policy framework (RA 10121) is and how empowering community-based approaches can be. But it also showed big problems with how it was put into action, especially the fact that local councils were understaffed, had trouble supervising, and didn't test their readiness plans enough. This dual understanding of policy aspiration and implementation reality underlined the challenges inherent in effective catastrophe mitigation.

Lastly, the study did a good job of pointing out the main gaps in current research on disaster mitigation in the Philippines. There were big gaps in the need for more in-depth research on community resilience, complete studies on socio-ecological systems and how they are affected by climate change, and real-world studies on the organizational and technical barriers to exchanging information. The analysis stressed the urgent need for thorough assessments of how ready local governments are, a wider look at problems with institutions and governance, and the long-term effects of climate change on vulnerability and resilience.

In fulfilling its objectives, this study provided a structured overview of the disaster mitigation landscape in the Philippines. It synthesized past and current efforts while illuminating pathways for future research and strategic public administration interventions. The insights gained underscore the necessity for continued, evidence-based efforts to build a more resilient Philippines in the face of escalating natural hazards.

Recommendations

This study has led to some important suggestions for improving disaster mitigation efforts in the Philippines. We need to put a lot more money into it and build up local capacity. This means giving improved training and better use of resources to local Disaster Risk Reduction and Management (DRRM) councils to fix problems with not enough staff and not enough professionalization. At the same time, it is very important to make policy implementation and

evaluation stronger. This means that preparedness plans need to be tested on a regular basis, and any technical or organizational problems that make it hard to share and coordinate information need to be fixed. Also, it is very important to put research and integrated approaches first. We need to look more closely at community resilience, socio-ecological systems, and how climate change will affect vulnerability in the long term. Lastly, it is important to push for broad changes to how governments work. This means giving local governments more freedom to manage their resources, bring in more money, be more open, and be more responsible. The Philippines can make its disaster mitigation system stronger and more effective by following these suggestions. This will protect communities and encourage long-term resilience.

Discoveries and New Knowledge

1. **The Implementation-Gap Reality**
    - **Policy vs. Practice:** The Philippine Disaster Risk Reduction and Management Act of 2010 (RA 10121) gives the Philippines a strong policy framework, yet there is still a big difference between what the government wants to happen and what really happens in the country.
    - Untested Preparedness: An interesting finding is that numerous municipal preparation plans, while present, lack operational testing to assess their efficacy in actual emergencies.
    - **Institutional Barriers:** A study shows that local DRRM councils often don't have enough people and aren't professional enough to do their jobs well.
2. **Evolving Mitigation Themes**
    - **Broadening Scope:** In addition to classic engineering and emergency response, new expertise is being developed in "non-traditional" fields, including social entrepreneurship for public value creation and the protection of cultural assets during recovery from disasters.
    - **Socio-Economic Links:** The results show that there is a strong, complicated link between natural disasters and the poverty rate. This means that being able to handle disasters is necessary for long-term economic progress.
3. **Community and Local Governance Dynamics**
    - **The Power of CBDRM:** Community-Based Disaster Risk Management (CBDRM) is a high-impact method because it gives power to local people and creates capacity from the ground up.
    - **LGU Autonomy:** The Local Government Code gives disaster programs important freedom and options to get money, but it is still hard for the NDRRMC to keep an eye on them at the national level.
4. **Critical Research Gaps**
    - **Socio-Ecological Systems:** There is a notable deficiency in studies regarding the impact of climate change on environmental and social systems for vulnerable populations, especially informal settlers.
    - **Information Silos:** During active crisis reactions, technical and organizational problems still make it hard to share information and work together.
    - **Long-term Resilience:** The existing literature predominantly emphasizes immediate or short-term readiness, resulting in a deficiency of comprehension

regarding the long-term effects of climate change on the vulnerability of the Philippines.

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Declaration of Generative AI Utilization

In this manuscript, AI tools such as Gemini and Quill Bot were utilized solely for language editing and to improve sentence and paragraph structure. No part of the actual content or data was generated by these tools. The authors reviewed and revised the output as necessary and take full responsibility for the content of the manuscript.

Funding

No funding was received for this study.

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