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Systematic Review of Schools Readiness and Preparedness in the Implementation of Disaster and Risk Reduction Management (DRRM)

Maricel M. Vicencio, LPT, MAT-Science*, John Rey B. Quiñones, PhD**
*(Cabiao Senior High School, Nueva Ecija, Philippines)
** (Nueva Ecija University of Science and Technology, Cabanatuan City, Philippines)

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Abstract:

The Philippines is highly prone to natural disasters because of its geographic location. Because of this, it requires educational institutions to effectively establish an extensive Disaster Risk Reduction Management (DRRM) program with four stages, which are mitigation, readiness, response, and recovery. Schools serve as relevant i□stitutio□s for buildi□g commu□ity resilie□cy; thus, effective impleme□tatio□ of programs is crucial for ensuring the safety and educational sustainability. However, the multiple applications and effectiveness of these programs require a thorough evaluation and assessment. This systematic analysis will synthesize accessible local literature to evaluate Philippine schools' current levels of readiness and capacity in implementing DRRM, demonstrating continuous strengths, substantial shortcomings, and affecting different aspects. This review was conducted through a thorough literature search and thematic synthesis on school-based DRRM implementation and assessment. The synthesis consistently demonstrates that schools exhibit high levels of compliance and capability in preparedness and response. Nonetheless, there is a significant and continuous gap in recovery and in prevention demonstrated by limited social assistance, insufficient distribution of resources, and a lack of preparedness. Leadership dedication was indicated as the facilitator, whereas limited resources were the main hindrance. While schools are efficient at immediate disaster response, their overall resilience is limited by insufficient recovery approaches and unequal resource distribution. This review establishes an analytical foundation for enhancing Disaster Risk Reduction and Management (DRRM) guidelines. It supports the creation of structured intervention initiatives that emphasize comprehensive readiness, ensuring schools and institutions are better prepared to respond effectively to emergencies while promoting resiliency and sustainable disaster management practices.

Keywords — **Disaster Risk Reduction Management (DRRM), Implementation, School Readiness, Preparedness**

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I. INTRODUCTION

Disaster causes communities being destroyed, countless people die, and people's livelihood. Disasters have a lasting impact on both people's mental and physical situations. In terms of development, natural disasters may cause substantial adverse financial consequences on countries, communities, and individuals. Since the Philippines are exposed to disasters both natural and man-made due to its geographical location in Pacific Ring of Fire and Typhoon Belt. Because of this, the government developed Disaster Risk Reduction Management (DRRM) as approach that design to prevent much worser impact to humanity and environment, and is crucial for enhancing community resilience to natural hazards in the Philippines.

Disaster Risk Reduction and Management (DRRM) is a structured and ongoing process which involves the use of all available personnel, institutional capacity, and financial resources to

prepare for, reduce, and address the risks caused by different hazards. There are four main components of this broad plan that extends beyond basic emergency response: Disaster Prevention and Mitigation, which focuses on reducing the harmful effects of hazards; Disaster Preparedness, which involves initiatives such as early warning systems and training; Disaster Response, which is the immediate action after or throughout a disaster; and Disaster Rehabilitation and Recovery, which aims to restore what has been damaged. are the four main components of this broad plan that extends beyond basic emergency response. DRRM's objective is to effectively minimize vulnerability and exposure to potential risks, which reduces the chance of a disaster and lessens the community's total economic and environmental effects.

According to DepEd Order No. 21, s. 2015., each institution in the Department of Education has specific responsibilities and obligation in the implementation of DRRM. It states that schools will be the main source of knowledge since they are DepEd's biggest source of information to those students who are the primary beneficiaries. It was stated that, under the guidance of the SDRRM Coordinators and school administrators, schools ought to work toward establishing an Early Warning System, such as a bulletin board for weather advisories, IEC materials, or an alarm or siren emergency signal; organize annual student-driven disaster evaluation and mapping within and around the school; offer mental health, psychosocial support, or counseling services for teachers, non-teaching staff, and students on DRRM; maintain, disseminate, and provide appropriate and updated emergency hotlines in locations throughout the school and other prominent locations in the community; post safety and preparedness announcements; and create a team of DRRM experts to support the implementation of preparedness and response measures (Dela Cruz & Ormilla, 2022).

The purpose of Disaster Risk Reduction and Management (DRRM) in schools is to establish a community of safety and resilience across every aspect of the educational environment. It is an essential comprehensive institutional approach. It goes beyond standard emergency response by implementing effective approaches over four phases which are prevention and mitigation, preparedness, response, and rehabilitation and recovery. The primary objective is to minimize students' and faculty's vulnerability to both natural and man-made hazards, protecting people and property and ensuring that educational activities continue even after a disaster. This will enable the entire school community to take part in in efficient hazard management.

II. THEORETICAL FRAMEWORK

The findings on schools' readiness and preparedness in Disaster Risk Reduction and Management (DRRM) are grounded in several interrelated theoretical perspectives that collectively strengthen its analytical foundation. First, DRRM Theory underscores the importance of reducing vulnerability through proactive preparedness and mitigation strategies. It emphasizes that disasters are not merely natural phenomena but are shaped by the degree of exposure and resilience of communities and institutions, including schools, thereby highlighting the necessity of structured interventions to minimize risks (Bela-o, 2025). Additionally, the study draws upon Protection Motivation Theory (PMT), which provides a behavioral lens for understanding how individuals and institutions adopt protective measures. PMT posits that the perception of threat severity, coupled with confidence in coping mechanisms, motivates stakeholders—such as teachers, students, and administrators—to engage in preparedness activities, including drills, training, and the establishment of emergency protocols (Masocha et al., 2025). Moreover, Resilience Theory offers a broader perspective by focusing on the adaptive capacity of schools to withstand, recover, and continue functioning in the aftermath of disasters. This theory highlights that resilience is not only about immediate response but also about long-term adaptability, ensuring that educational continuity is maintained despite disruptions (Sanguyu, 2025). Lastly, Systems Theory frames DRRM implementation within schools as a dynamic interaction of inputs, processes, and outputs. It views schools as complex systems where resources, policies, and training (inputs) are transformed through preparedness activities and organizational mechanisms (processes) to produce measurable

outcomes such as improved readiness, safety, and resilience. This systems perspective ensures that the study captures the holistic nature of DRRM implementation rather than treating its components in isolation (Bela-o, 2025). These theoretical foundations provide a comprehensive framework for systematically reviewing how schools anticipate, prepare for, and respond to hazards. Ultimately, they establish the rationale for examining readiness and preparedness not only as structural and behavioral phenomena but also as systemic and adaptive processes that contribute to safer and more resilient educational environments.

III. METHODOLOGY OF THE REVIEW

The study employs a data mining approach by systematically gathering relevant literature, government reports, and community-based documents on local government DRRM practices in the Philippines, cleaning the data to remove duplicates and inconsistencies, classifying information into thematic categories such as preparedness, response, and recovery strategies, and applying text mining and frequency analysis to identify recurring concepts, patterns, and gaps. Through this process, the research synthesizes evidence on the effectiveness of local government interventions, highlights strengths and weaknesses in climate-induced disaster management, and generates recommendations for enhancing resilience and policy implementation (Tabao, 2025).

DRRM program implementation across prevention, preparedness, response, and recovery dimensions in three districts of Polomolok, South Cotabato. The data set, derived from survey responses of 40 school district coordinators, is cleaned by categorizing results according to district performance levels (high, moderate, low) and standardized into thematic indicators. The data is then classified into four major DRRM components—prevention/mitigation, preparedness, response, and recovery/rehabilitation—allowing for comparative analysis across districts. Through frequency and trend analysis, recurring strengths (e.g., high levels of prevention and response) and gaps (e.g., uneven preparedness and recovery implementation) are identified. Finally, the mined data is synthesized to provide the empirical foundation for the proposed "Our School, Our Safe Zone" program, which addresses deficiencies and enhances school safety and resilience (Balura, 2023).

Identify the main variables, including the school managers' profiles, their level of practice across the five thematic areas of the School Disaster Risk Reduction and Management (SDRRM) program, the problems encountered, and the suggested solutions. The data set, derived from 30 respondents through stratified random sampling, is cleaned by categorizing demographic details such as age, gender, marital status, educational attainment, and management experience, alongside their SDRRM practices. Additionally, the data is then classified into thematic categories—preparedness, management/mitigation, response, and recovery—allowing for comparative analysis between elementary and secondary school managers. Using frequency counts and correlation analysis, recurring strengths (e.g., highly practiced preparedness and mitigation), gaps (e.g., limited resources and funding), and significant relationships (e.g., age affecting SDRRM practices) are identified. Finally, the mined data is synthesized to highlight the overall practiced level of SDRRM implementation and to emphasize the need for targeted solutions such as the provision of appropriate and relevant training to strengthen school managers' disaster risk reduction practices (Tolentino, 2021).

Furthermore, another study applies a data mining approach by extracting key variables from the title and abstract, including the level of school readiness in DRRM implementation, the types of hazards addressed (floods, typhoons, earthquakes, and pandemics), and the extent of DRRM services across prevention, mitigation, preparedness, response, recovery, and rehabilitation. The data set, derived from 191 respondents composed of school heads, department heads, teaching and non-teaching personnel, parents, and students, is cleaned by categorizing responses according to hazard-specific preparedness levels and standardized into thematic indicators. The data is then classified into DRRM components, allowing comparative analysis of strengths (e.g., readiness during floods and typhoons, implementation of recovery and rehabilitation) and weaknesses (e.g., limited

preparedness for earthquakes and pandemics, insufficient prevention and mitigation). Through frequency and trend analysis, recurring challenges such as lack of funds and resource constraints are identified, while text mining highlights consistent practices like disaster drills, annual building inspections, and rehabilitation efforts. Finally, the mined data is synthesized to provide evidence of the school's overall readiness, pinpoint gaps in DRRM implementation, and emphasize the need for resource support to strengthen preparedness and resilience (Malgapo & Dela Cruz, 2024).

In the extent of SDRRM program implementation, administrative support, staff training, and resource availability in elementary and secondary schools in Motiong District, Samar. The data set, derived from survey responses, is cleaned by categorizing results into thematic indicators such as preparedness, response, and overall readiness. The data is then classified into school-level practices, leadership commitment, and resource allocation, allowing comparative analysis of schools with strong versus weak SDRRM systems. Through frequency and trend analysis, recurring strengths (e.g., schools with strong SDRRM systems showing higher preparedness) and gaps (e.g., limited resources and training needs) are identified. Finally, the mined data is synthesized to highlight the critical role of leadership, adequate resources, and staff training in ensuring effective DRRM implementation, providing evidence-based recommendations for strengthening school safety and continuity of education during disasters (Gabuya, 2024).

Moreover, the level of SDRRM implementation in coastal schools, the assessment of safe learning facilities, school disaster management, risk reduction and resilience education, and coastal school safety procedures. The dataset, derived from 74 public school teachers in Cluster VII of Pampanga during SY 2020–2021, is cleaned by categorizing responses into thematic indicators and standardizing scores across schools. The data is then classified into four major components—facilities, management, education, and safety procedures—allowing comparative analysis of strengths (e.g., safe learning facilities and disaster management practices) and weaknesses (e.g., low scores in coastal school safety procedures). Through frequency and trend analysis, recurring patterns such as uniformity in SDRRM implementation across schools are identified, while text mining highlights consistent practices and gaps. Finally, the mined data is synthesized to emphasize the need for maintaining uniformity in DRR policy implementation while addressing deficiencies in coastal school safety procedures, forming the basis for a proposed plan of action (Cresencio & Yabut,2023).

However, School heads' practices, compliance levels, demographic influences, and the thematic components of DRRM such as prevention, mitigation, rehabilitation, monitoring, curriculum integration, infrastructure, relief, and psychosocial support. The dataset, derived from 80 SDRRM coordinators (50 elementary and 30 secondary), is cleaned by categorizing responses into high, moderate, and low implementation levels, ensuring consistency across indicators. The data is then classified into two major dimensions—practices (drills, risk assessments, post-disaster evaluations) and compliance (adherence to technical preparedness and emotional recovery measures)—allowing comparative analysis of strengths (e.g., strong prevention, mitigation, and monitoring) and weaknesses (e.g., moderate curriculum integration, infrastructure improvements, and psychosocial support). Through frequency and trend analysis, recurring gaps such as limited emotional recovery measures and insufficient immediate relief are identified, while demographic variables like age and educational attainment are analyzed for their influence on motivation and job security. Finally, the mined data is synthesized to highlight that while DRRM implementation is generally strong, psychosocial recovery and emergency relief remain critical areas for improvement, providing the empirical foundation for a proposed Public Service Continuity Plan (PSCP) that emphasizes continuous training, enhanced monitoring, integrated psychosocial support, and inter-agency collaboration (Cañonera et al., 2025).

Thus, the implementation status, and the comparative perceptions of school heads, DRRM coordinators, and DRRM committee members. The data set, derived from descriptive quantitative survey results, is cleaned by categorizing responses into thematic indicators such as human resources,

logistics, knowledge and innovation, education and training, and mechanisms. The data is then classified into DRRM components—prevention and mitigation, preparedness, response, and recovery/rehabilitation—allowing comparative analysis of strengths (e.g., very capable human resources, logistics, and widely practiced preparedness) and weaknesses (e.g., lower ratings in recovery and rehabilitation). Through frequency and statistical analysis, recurring patterns such as uniformly high capability scores and the absence of significant differences among respondent groups are identified. Finally, the mined data is synthesized to highlight that while DRRM implementation in Sariaya East District is strong and consistent across stakeholders, recovery and rehabilitation remain the least emphasized, providing the empirical foundation for a proposed enhancement program to balance all DRRM components (Capala, 2024)

With regards to teachers' and administrators' awareness of natural and man-made disasters, their level of preparation, and the implementation status of the DRRM program. The dataset, derived from 96 respondents through questionnaires, is cleaned by categorizing responses into awareness, preparation, and implementation indicators, ensuring consistency across measures. The data is then classified into thematic components—disaster awareness, preparedness activities, and program implementation—allowing comparative analysis of strengths (e.g., high awareness and preparedness) and weaknesses (e.g., areas needing stronger program integration). Through statistical analysis using weighted mean and Pearson correlation, recurring patterns such as significant relationships between awareness and preparation, and between preparation and implementation, are identified. Finally, the mined data is synthesized to highlight that while DRRM awareness and preparedness are strong, continuous improvement in program implementation is necessary, providing the empirical foundation for schools to enhance readiness through sustained awareness campaigns and preparedness training (Lavilles & Hordista, 2023).

In addition, teachers' preparedness in terms of community risk assessment, communication systems, and capacity building. The data set, derived from 138 public senior high school teachers, is cleaned by categorizing responses into preparedness indicators such as risk assessment practices, communication protocols, and training activities. The data is then classified into thematic components—community risk assessment, communication systems, and capacity building—allowing comparative analysis of strengths (e.g., teachers familiarizing students with standard procedures, conducting fire and earthquake drills, and encouraging preparedness) and weaknesses (e.g., limited scope restricted to senior high schools and exclusion of junior high teachers). Through frequency and trend analysis, recurring patterns such as consistent preparedness practices and proactive teacher involvement in drills are identified. Finally, the mined data is synthesized to highlight that teachers play a critical role in sustaining DRRM readiness, with findings serving as the empirical foundation for developing a comprehensive DRRM Guide and contingency plan to empower teachers and enhance school-wide disaster preparedness (Ronquillo, 2020).

IV. THEMATIC SYNTHESIS

A. DRRM Implementation in Public Elementary Schools: Strengths and Gaps in Preparedness and Recovery

The studies conducted in Polomolok, South Cotabato and Sariaya East District, Quezon collectively highlight the strengths and limitations of Disaster Risk Reduction and Management (DRRM) program implementation in public elementary schools. In Polomolok, survey results from district coordinators revealed high levels of performance in prevention and response, demonstrating schools' capacity to anticipate and act during disasters. However, preparedness and recovery were unevenly implemented across districts, indicating gaps in sustaining readiness and post-disaster rehabilitation.

These findings provided the basis for the proposed "Our School, Our Safe Zone" program, which aims to address deficiencies and enhance resilience through a more balanced approach across all DRRM components (Balura, 2023).

Similarly, in Sariaya East District, quantitative assessments of school heads, DRRM coordinators, and committee members showed uniformly high ratings in human resources, logistics, and

preparedness practices, reflecting strong stakeholder involvement and consistent implementation.

Recovery and rehabilitation were rated lowest, underscoring the limited emphasis on long-term resilience and post-disaster support. The absence of significant differences among respondent groups further suggests that while DRRM practices are consistently applied, recovery remains underdeveloped.

This gap informed the proposal of an enhancement program designed to strengthen recovery and rehabilitation while maintaining the effectiveness of prevention, preparedness, and response (Capala, 2024).

These studies reveal a recurring pattern: schools are highly capable in prevention, preparedness, and immediate response, supported by strong human resources and logistical systems, but they consistently underperform in recovery and rehabilitation.

B. School Readiness and Extent of DRRM Implementation

The studies collectively highlight that schools in the Philippines demonstrate varying levels of readiness in the implementation of Disaster Risk Reduction and Management (DRRM), with strengths concentrated in preparedness and recovery but persistent gaps in prevention, mitigation, and resource support.

In the study of Malgapo and Dela Cruz (2024), schools showed strong readiness in addressing hazards such as floods and typhoons, with effective practices in recovery and rehabilitation, including disaster drills, annual building inspections, and rehabilitation efforts. However, preparedness for earthquakes and pandemics was limited, and insufficient prevention and mitigation measures were noted, largely due to recurring challenges such as lack of funds and resource constraints.

According to Gabuya (2024), found that the extent of SDRRM implementation in Monitoring District, Samar, was strongly influenced by administrative support, staff training, and resource availability. Schools with robust SDRRM systems demonstrated higher levels of preparedness and response, while those with weaker systems struggled due to limited resources and training gaps.

Leadership commitment and adequate resource allocation emerged as critical factors in ensuring effective DRRM implementation and sustaining school safety and continuity of education during disasters.

These findings emphasize that while schools are generally prepared to respond to common hazards and have established recovery mechanisms, their overall resilience is constrained by resource limitations, uneven preparedness for less frequent but high-impact hazards, and gaps in training and prevention.

The need for stronger leadership, sustained capacity building, and increased resource support to balance preparedness with prevention and mitigation, thereby ensuring comprehensive school readiness and resilience in the face of disasters.

C. School Managers' Practices, Coastal Preparedness and Compliance in SDRRM Implementation

The reviewed studies collectively underscore that the implementation of School Disaster Risk Reduction and Management (SDRRM) programs in the Philippines is generally strong, particularly in the areas of preparedness, prevention, and mitigation, but persistent gaps remain in recovery, psychosocial support, and specialized safety procedures.

According to Tolentino (2021) revealed that school managers across elementary and secondary levels highly practiced preparedness and mitigation, with demographic factors such as age influencing the extent of SDRRM practices. However, limited resources and funding were recurring challenges, highlighting the need for targeted training and capacity-building initiatives to strengthen managerial practices.

Additionally, in coastal schools of Pampanga, Cresencio and Yabut (2023) found that safe learning facilities and disaster management practices were consistently implemented, with uniformity observed across schools. Coastal school safety procedures scored lowest, pointing to deficiencies in context-specific preparedness.

This gap emphasized the importance of maintaining policy uniformity while tailoring interventions to address localized risks, forming the basis for a proposed plan of action.

According to Cañonera et al. (2025) examined school heads' practices and compliance, identifying strong performance in prevention, mitigation, and monitoring, supported by drills, risk assessments, and post-disaster evaluations. Nonetheless, moderate ratings in curriculum integration, infrastructure improvements, and psychosocial support revealed weaknesses in holistic resilience.

Limited emotional recovery measures and insufficient immediate relief were recurring gaps, underscoring the need for enhanced psychosocial interventions and inter-agency collaboration.

Ultimately, findings reveal a consistent pattern: schools are highly capable in preparedness, prevention, and technical compliance, supported by strong leadership and uniform implementation of policies. However, weaknesses in recovery, psychosocial support, resource allocation, and specialized safety procedures constrain the full effectiveness of SDRRM programs.

The need for comprehensive strategies that integrate targeted training for school managers, localized safety measures for vulnerable contexts such as coastal schools, and strengthened psychosocial recovery and relief mechanism-improvements will ensure that schools not only maintain readiness but also achieve holistic resilience and continuity of education during disasters.

D. Local Government and School-Based Preparedness in DRRM Implementation

The reviewed studies collectively highlight the effectiveness and limitations of Disaster Risk Reduction and Management (DRRM) implementation across different levels of governance and education in the Philippines.

At the local government level, Tabao (2025) emphasized that preparedness, response, and recovery strategies for climate-induced disasters are systematically implemented, with evidence drawn from government reports and community-based practices.

Strengths were observed in proactive interventions and structured recovery programs, recurring gaps such as uneven resource allocation and policy inconsistencies constrained overall resilience. These findings underscore the need for enhanced coordination and policy integration to strengthen climate disaster management at the community level.

Within the education sector, Lavilles and Hordista (2023) found that teachers and administrators in Region XII demonstrated high awareness and preparedness for both natural and man-made disasters. Statistical analysis revealed significant correlations between awareness, preparedness, and program implementation, indicating that knowledge strongly influences readiness.

Program integration remained moderate, suggesting that while awareness campaigns and preparedness training are effective, continuous improvement in implementation is necessary to sustain resilience in schools.

According to Ronquillo (2020) highlighted the critical role of teachers in Batangas City senior high schools, particularly in community risk assessment, communication systems, and capacity building. Teachers actively familiarized students with standard procedures, conducted fire and earthquake drills, and encouraged preparedness among school personnel and learners. Despite these strengths, the study was limited in scope to senior high schools, excluding junior high levels, which points to the need for broader inclusion in DRRM initiatives.

These studies reveal a consistent pattern: preparedness and awareness are strong across both local government and school-based DRRM programs, supported by proactive leadership and teacher involvement. However, program integration, resource allocation, and inclusivity remain critical gaps, particularly in recovery strategies, policy consistency, and coverage across all educational levels. The comprehensive resilience requires not only sustained preparedness and awareness campaigns but also strengthened recovery mechanisms, broader program integration, and inclusive policies that empower both local

governments and schools to effectively manage disasters.

V.ANALYSIS

The findings from study conducted in Polomolok, South Cotabato, and Sariaya East District, Quezon, shows that the implementation of Disaster Risk Reduction and Management (DRRM) programs in public elementary schools have both beneficial and shortcomings. The data emphasizes the schools' capacity to prevent injuries, prepare, and respond immediately which supported by efficient resources, financial assistance, and community cooperation while recognizing the remaining weaknesses in recovery and rehabilitation. Polomolok's insufficient implementation of adaptability and readiness measures, as well as the Sariaya East's ongoing lack of recovery assessments. These finding indicates an ongoing gap which promotes immediate disaster readiness. This development implies while schools are capable in preventing higher risk and handling the immediate effects of disasters. The school do not have long-term plans for recovery and post-disaster renovation. These shortcomings affect the school communities' resilience and limiting the effectiveness of DRRM approach. As a result, programs like "Our School, Our Safe Zone," which demand interventions aims to involved with DRRM initiatives, ensuring that recovery and rehabilitation are given equal attention, promoting an improved and effective approach to disaster management in all educational institutions.

In addition, the gathered findings from these studies show that the implementation of Disaster Risk Reduction and Management (DRRM) programs in educational institutions is improving but there are continuing limitations. According to research conducted by Malgapo and Dela Cruz (2024), schools have developed efficient recovery and rehabilitation processes, especially when it comes to managing disasters like floods and typhoons through training, evaluations, and rehabilitation programs. However, their weak readiness against fewer but devastating disasters like earthquakes and pandemics highlights a shortage in risk reduction standards, In the same way, Gabuya (2024) emphasizes the importance of having staff training, administrative support, and use of resources contributes in determining the efficacy of DRRM systems, with supplied schools possessing improved readiness and response capabilities compared to institutions with limited resources. These gathered results show that despite schools are resilient in their immediate response and recovery, limited precautionary, mitigation, and financial assistance compromise their long-term sustainability. The ongoing gaps emphasize the demand ensuring a balanced distribution of resources strengthen institutional activities, and enhance leadership commitment. Without these steps, DRRM implementation carries the risk of being responsive rather than preventive, which might restrict schools' capacity to develop comprehensive resilience and protect educational continuation in the face of several disasters.

Moreover, an overview of both advantages and disadvantages of School Disaster Risk Reduction and Management (SDRRM) programs was presented through the reviewed research study. The findings demonstrate ongoing shortcomings in safety process, emotional support, and recovery. Prevention, mitigation, and readiness are consistently effective that are strengthened by proper implementation, risk assessments, and training. Tolentino (2021) emphasizes the importance for training and building capacity to maintain leadership effectiveness, highlighting on how managing processes can be productive despite being limited by financing and resources. Cresencio and Yabut (2023) added when coastal schools show a consistent commitment to disaster prevention protocols, weaknesses in local safety measures reveal weaknesses in localized risk adaptation. Also, Cañonera et al. (2025) reveal weaknesses overall resilience through recognizing good technical support but low effectiveness in educational inclusion, infrastructure improvements, and emotional assistance. The ongoing lack of immediate solutions and efficient ways to promote mental wellness illustrates a systemic neglect of psychosocial dimensions, which are critical for sustaining educational continuity after disasters. Taken together, these findings suggest that while schools are institutionally capable of managing immediate risks, their resilience is undermined by resource constraints and insufficient attention to

recovery and psychosocial well-being. Addressing these gaps requires comprehensive strategies that balance uniform policy enforcement with localized interventions, strengthen managerial capacity, and institutionalize psychosocial recovery mechanisms, thereby ensuring that schools move beyond readiness toward achieving holistic resilience and long-term sustainability in disaster contexts.

Furthermore, in study conducted by Tabao (2025) demonstrates how preparedness, response, and recovery preparations for disasters caused by climate change are thoroughly implemented at the local government level, strengthened through early intervention and planned recovery initiatives. However, the sustainability of these programs is at risk with inconsistent regulations and unequal resource distribution, indicating the need for improved coordination and policy integration. Teachers and administrators in Region XII possess improved awareness and readiness within the educational field, according to Lavilles and Hordista (2023). data show that understanding has a substantial impact on capability.

Nevertheless, awareness campaigns and training are effective, every individual is required to have a constant support to promote resiliency. Although, this research's particular topic emphasizes the urgency to expand DRRM initiatives to junior high schools for greater accessibility, Ronquillo (2020) states the essential part that teachers contribute in Batangas City senior high schools, particularly in risk evaluation, communication, and drills. When gathered, these findings reveal a consistent pattern involving the whole resiliency is restricted with limitations in recovery plans, resource distribution, and accessibility, but preparedness and awareness are effective, driven by leadership and teacher involvement.

VI. RESEARCH GAP

The reviewed studies collectively highlight research gaps on the implementation of Disaster Risk Reduction and Management (DRRM) programs in schools and local government. While preparedness, prevention, and immediate response are consistently strong which is supported by drills, educational campaigns, and community collaboration, long-term resilience remains limited by several shortcomings. The lack of organized recovery plans, recovery procedure, and social assistance process may cause the situation tougher for schools to continue operating successfully after calamities. In this process of recovery and restoration, it becomes a vulnerability. Also, a gap in the high-impact capacity shows that certain safety protocols and risk-reduction standards are insufficient.

Financial and resource limitations also hinder program sustainability. Inconsistent guidelines and uneven distributions of resources at the local government level further highlight the necessity to strengthen cooperation and integration of DRRM guidelines. The lack of engagement of junior high schools in DRRM programs, insufficient physical developments, and the disregard for psychological aspects illustrate institutional deficiencies. In order to contribute to schools and communities build strong resilience against multiple kinds of disasters, these gaps express the need of comprehensive solutions that maintain a balance between temporary prevention and sustained restoration, strengthen management and building capacity, promote equal access to resources, and establish psychological services.

VII. FUTURE DIRECTIONS

The development of Disaster Risk Reduction and Management (DRRM) programs towards a broader and sustainable foundation which reaches beyond immediate preparedness and response must be its potential purpose. Future research must focus on incorporating sustained recovery strategies, social resources, and mitigation efforts for devastating risks, considering that schools and local governments currently demonstrate strong capacities in prevention, awareness, and readiness. To ensure consistency among different levels of education, particularly high schools and vulnerable environments like coastal communities, greater efforts should be made on balanced resource distribution, strengthening the dedication of leaders, and establishing development initiatives. Future studies ought to look in improving the localized safety precautions, educational participation, and collaboration among institution to minimize resilience and inclusion barriers. Through focusing

on those gaps, future research may contribute to develop comprehensive DRRM approach that incorporate immediate disaster preparedness with sustained recovery, ensuring a continued educational activity and increasing school communities' overall resilience to different types of disasters.

VIII. IMPLICATIONS AND CONCLUSIONS

The studies that were examined analyze that Disaster Risk Reduction and Management (DRRM) programs in schools have made an impact in making schools and local governments prepared and lessening the effects of disasters, and responding quickly. These efforts, as well as effective management, training, and working together in communities, have helped institutions deal with floods and typhoons, which happen most of the time. But ongoing problems with planning for rehabilitation, psychological help, and being ready for destructive disasters remain affecting the capacity for resilience over time. Resource limitations, administrative discrepancies, and insufficient engagement at various educational levels substantially impact the continuing efficacy of Disaster Risk Reduction and Management (DRRM) strategies, demonstrating the necessity for equitable distribution of resources, enhanced leadership dedication, and responses that are flexible.

Therefore, the findings show that schools and communities have the capacity to deal with sudden disaster risks, but they can't be highly resistant without wide recovery processes, mental health services, and programs that include everybody. For it to move beyond response techniques, DRRM must include sustained rehabilitation, emotional support communities, and partnerships between institutions to make sure that both education and the community are thriving. "Our School, Our Safe Zone" and other programs show that recovery and rehabilitation should come first, but readiness and response should also be taken into consideration. Finally, building comprehensive resilience requires a disaster risk reduction plan that is ready, well-funded, and easy access to. This plan should help schools and local governments survive, adapt, and recover from a range of

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