

The Effectiveness of the Implementation of the School Disaster Risk Reduction Management (SDRRM) Program in the City Divisions of Bicol Region

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Abstract—This study determined the effectiveness of the implementation of the School Disaster Risk Reduction Management (SDRRM) Program in the City Divisions of Bicol Region for School Year 2025–2026. It examined the extent of preparedness in establishing a comprehension framework, encompassing physical safety, disaster risk reduction management education, school-level management plans, ensuring a safe learning environment, and resilient communities. It also assessed program effectiveness in terms of strategies, planning and policy framework; multi-stakeholders collaboration; strengthening governance capacity; risk reduction and resilience; ensuring sustainable development; and psychosocial support and trauma management. In addition, the study identified implementation challenges, proposed solutions, and developed an action plan. A descriptive-evaluative-correlational method was employed using a researcher-made, validated five-point questionnaire administered to 114 school heads from the city divisions of Legazpi, Sorsogon, Iriga, Naga, Masbate, Ligao, and Tabaco. Data were treated using frequency, percentage, weighted mean, rank order, Kendall's coefficient of concordance (W), and chi-square at the 0.05 level of significance. Findings showed that preparedness was Much Evident with an overall mean of 3.86, while program effectiveness was Much Effective with an overall mean of 4.16. Multi-Stakeholders Collaboration obtained the highest effectiveness rating (4.38), whereas Strategies, Planning and Policy Framework obtained the lowest (3.90). Resource Scarcity was the most serious challenge (3.80). The most highly rated solutions were designating school DRRM focal persons and providing division- or LGU-led training (4.67), coordinating with Barangay DRRM Councils for shared emergency materials and equipment (4.66), and including DRRM programs in the School Improvement Plan and Annual Implementation Plan for MOOE allocation (4.58). Significant agreement in rank orders was found in selected preparedness dimensions and in insufficient funds and solutions offered, but not across all dimensions. An action plan was formulated to strengthen planning, physical safety,

DRRM education, coordination, governance, resource mobilization, awareness, and psychosocial support.

Index Terms—disaster preparedness, disaster risk reduction and management, school safety, school resilience, SDRRM program

I. INTRODUCTION

Schools operate within communities exposed to multiple hazards, making disaster preparedness a central responsibility of educational leadership. The School Disaster Risk Reduction and Management (SDRRM) Program provides an institutional mechanism for protecting learners, teachers, personnel, facilities, and learning resources from natural and human-induced hazards. Its implementation encompasses preparedness, prevention, mitigation, response, recovery, and continuity of learning. The thesis source emphasizes that an effective program requires functional disaster management teams, regular drills, contingency plans, hazard assessment, warning systems, emergency supplies, and integration of disaster risk reduction into instruction, supported by active participation of school and community stakeholders.

The Philippine policy environment provides a strong foundation for school-based disaster risk reduction. Republic Act No. 10121 established a comprehensive and community-based disaster risk reduction and management framework, while Republic Act No. 9729, as amended by Republic Act No. 10174, supports climate change adaptation. Republic Act No. 10821 emphasizes special protection for children before, during, and after disasters. Republic Act No. 9155 strengthens school-level governance and accountability. Within the Department of Education, DepEd Order No. 37, s. 2015 provides the

Comprehensive Disaster Risk Reduction and Management in Basic Education Framework. Related issuances on hazard mapping, coordination, preparedness, and drills translate these national commitments into school responsibilities.

The relevance of SDRRM extends beyond emergency response. Safe and resilient schools support Sustainable Development Goal 4, particularly the commitment to safe, inclusive, and effective learning environments. Disaster preparedness also supports educational continuity because disasters can interrupt instruction, damage facilities, displace families, and increase absenteeism. The source thesis further situates SDRRM within school-based management, community participation, quality assurance, and continuous improvement. Thus, effectiveness is not simply a question of whether schools conduct drills; it concerns whether policies are translated into sustained systems that reduce risk and protect learning.

The Bicol Region provides an important setting for examining this concern. The region is repeatedly exposed to typhoons, flooding, volcanic hazards, and other risks. The study covered the city divisions of Legazpi, Sorsogon, Iriga, Naga, Masbate, Ligao, and Tabaco. These divisions differ in organizational size and local context, creating an opportunity to examine whether school heads demonstrate agreement in assessing preparedness, effectiveness, challenges, and solutions.

The study was undertaken because previous research generally reported satisfactory or effective SDRRM implementation, yet localized gaps persisted in resources, training, physical safety, coordination, governance, and disaster education. The present investigation therefore adopted a broader institutional perspective that combines preparedness with program effectiveness, implementation challenges, proposed solutions, and an action plan.

I. The study addressed eight questions. First, it determined the extent of preparedness in six dimensions: Establishing Comprehension Framework, Encompassing Physical Safety, Disaster Risk Reduction Management Education, School

Level Management Plans, Ensuring Safe Learning Environment, and Resilient Communities. Second, it tested the significance of agreement in the rank orders of these preparedness dimensions among the respondent groups. Third, it assessed program effectiveness through six dimensions: Strategies, Planning and Policy Framework; Multi-Stakeholders Collaboration; Strengthening Governance Capacity; Risk Reduction and Resilience; Ensuring Sustainable Development; and Psychosocial Support and Trauma Management. Fourth, it examined agreement in the rank orders of effectiveness among different division groups.

Fifth, the study identified challenges along Insufficient Funds, Resource Scarcity, Weak Institutional Coordination, Inadequate Governance, and Low Public Awareness. Sixth, it identified solutions offered by respondents. Seventh, it tested agreement in the rank orders of the challenges and solutions. Finally, it formulated an action plan based on the findings. The hypotheses were framed around the absence of significant agreement among respondent groups.

Conceptually, the study follows an input–process–output logic. The inputs are the institutional conditions and practices associated with school disaster preparedness and implementation. The process consists of assessment of preparedness and effectiveness, analysis of respondent agreement, identification of challenges and solutions, and interpretation of results. The output is an action plan directed toward strengthening SDRRM implementation and supporting quality, safe, and resilient education. A feedback loop is recognized because findings from monitoring and evaluation should inform subsequent planning and improvement.

The significance of the investigation lies in its practical orientation. Learners may benefit from stronger safety measures, clearer evacuation procedures, preparedness activities, and learning continuity arrangements. Teachers may use the findings to improve DRRM integration, supervision, drills, and emergency response. School heads may use the evidence to strengthen leadership, planning,

coordination, resource management, and monitoring. DepEd officials and policymakers may use the findings to target technical assistance, capacity building, monitoring systems, and resource allocation. Local government units and community stakeholders may use the results to improve school–community coordination and resource mobilization.

The study was delimited to school heads in the seven city divisions and to School Year 2025–2026. A researcher-made questionnaire was used, and the analysis focused on respondent assessments rather than direct observation of every school. Consequently, the findings describe perceived implementation effectiveness among the participating school heads and should be interpreted within the stated scope.

II. IDENTIFY, RESEARCH AND COLLECT

The study determined the Effectiveness of the Implementation of the School Disaster Risk Reduction Management (SDRRM) Program in the City Divisions of Bicol Region for School Year 2025–2026.

Specifically, it examined:

1. the extent of preparedness;
2. the significant agreement on the rank orders of preparedness;
3. the effectiveness of SDRRM implementation;
4. the significant agreement on the rank orders of effectiveness;
5. the challenges encountered;
6. the solutions offered;
7. the significant agreement on the rank orders of challenges and solutions; and
8. the action plan.

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Research Methodology. The study employed a descriptive-evaluative-correlational method. The descriptive component was used to determine the extent of preparedness, effectiveness, challenges, and solutions. The evaluative component supported the assessment of how well the SDRRM Program was being implemented from the perspective of school heads. The correlational/statistical component was used to examine agreement in rank orders among the respondent groups through Kendall's coefficient of concordance. This design was consistent with the study's objectives because the research sought both to describe implementation conditions and to test whether groups of respondents ranked the dimensions similarly.

Locale and Respondents. The investigation was conducted in the city schools divisions of Bicol Region: Legazpi, Sorsogon, Iriga, Naga, Masbate, Ligao, and Tabaco. The respondents were 114 school heads for School Year 2025–2026. The divisions were grouped according to the classification used in the thesis: very large, large, and medium divisions. Purposive sampling was utilized

Division Group	City Division	School Heads	Percent
Very Large	Sorsogon City	23	20%
Very Large	Legazpi City	23	20%
Large	Iriga City	19	16%
Large	Naga City	14	12%
Medium	Masbate City	12	11%
Medium	Ligao City	12	11%

Division Group	City Division	School Heads	Percent
Medium	Tabaco City	11	10%
Total	All divisions	114	100%

A researcher-made and validated questionnaire served as the principal data-gathering instrument. The instrument was developed from the research problems, conceptual framework, relevant literature, and identified indicators. A Table of Specifications was prepared to ensure that the variables and indicators were represented. The questionnaire used five-point rating scales for preparedness, effectiveness, challenges, and solutions. The instrument was reviewed and validated by the thesis adviser, the Dean of Graduate Studies and Research, and Department of Education officials. The reliability coefficient reported in the thesis was 0.94, with a computed t-value of 14.58 exceeding the critical value at the 0.05 level, indicating high reliability.

The research process began with presentation of the title proposal and incorporation of committee suggestions. The researcher then prepared and validated the questionnaire, sought the necessary permissions from the appropriate DepEd officials, administered the survey, retrieved completed questionnaires, tabulated the responses, and proceeded with statistical analysis and interpretation. The thesis further documented manuscript preparation, oral defense, revision, editing, dissemination, and publication as stages of the research process.

Frequency counts and percentages were used to describe respondent distribution. Weighted means were used to determine the extent of preparedness, effectiveness, challenges, and solutions. Rank orders were used to identify the relative position of indicators. Kendall's coefficient of concordance (W) was used to determine the degree of agreement among the respondent groups in ranking the dimensions. The significance of W was evaluated through the corresponding chi-square statistic at the 0.05 level of significance. A significant result indicated that the null hypothesis of no agreement should be rejected; a non-significant result indicated that the null hypothesis should be retained.

The interpretation scales in the thesis classified preparedness ratings from 4.50–5.00 as Very Much Evident and 3.50–4.49 as Much Evident; effectiveness ratings from 4.50–5.00 as Very Much Effective and 3.50–4.49 as Much Effective; challenge ratings from 3.50–4.49 as Much Serious and 2.50–3.49 as Serious; and solution ratings from 4.50–5.00 as Very Much Necessary and 3.50–4.49 as Much Necessary. These verbal interpretations were retained in the publication version to preserve the measurement framework of the thesis.

The study used school heads as respondents and was limited to their assessments of SDRRM implementation. The researcher stated that information provided by respondents would be treated confidentially. Because the study relied on questionnaire ratings, the results should be understood as evidence of perceived implementation rather than a direct engineering inspection or independent audit of every school facility. The findings nevertheless provide a useful management-level assessment across seven city divisions and a basis for identifying priorities for improvement. The methodological structure supports a practical publication objective: to translate the thesis from a chapter-based dissertation into a concise empirical article. Accordingly, the results below emphasize the indicators most relevant to decision-making while retaining the numerical findings and hypothesis-test outcomes reported in the thesis.

II. WRITE DOWN YOUR STUDIES AND FINDINGS

A. Preparedness in SDRRM Implementation

The overall preparedness of schools in implementing the SDRRM Program was assessed as Much Evident. The summary results show that Ensuring Safe Learning Environment obtained the highest weighted mean (4.01), followed by Resilient Communities (4.00) and Establishing Comprehension Framework (3.98). Disaster Risk Reduction Management Education obtained 3.89, School Level Management Plans 3.66, and Encompassing Physical Safety 3.65.

Preparedness Dimension	Weighted Mean	Interpretation	Rank
Ensuring Safe Learning Environment	4.01	Much Evident	1
Resilient Communities	4.00	Much Evident	2
Establishing Comprehension Framework	3.98	Much Evident	3
Disaster Risk Reduction Management Education	3.89	Much Evident	4
School Level Management Plans	3.66	Much Evident	5
Encompassing Physical Safety	3.65	Much Evident	6

The findings indicate that safety practices are already embedded in many school operations. Regular drills, child-protection measures, maintenance of learning spaces, and attention to accessible pathways contributed to the strong rating of the safe learning environment. The high rating for resilient communities likewise indicates active participation of stakeholders in preparedness activities, information dissemination, and community-based risk reduction. However, physical safety received the lowest preparedness rating. The dissertation notes concerns regarding the availability and functionality of first-aid kits, fire extinguishers, emergency lights, warning devices, and other emergency equipment. School-level planning and DRRM education also require continued strengthening through periodic review, practical exercises, and integration into regular school programs.

B. Agreement in Preparedness Rank Orders

Preparedness Dimension	Kendall's W	χ^2	Decision
Establishing Comprehension Framework	0.90	24.30	Significant
Encompassing Physical Safety	0.69	16.56	Significant
Disaster Risk	0.49	14.70	Not

Reduction Management Education			significant
School Level Management Plans	0.48	11.52	Not significant
Ensuring Safe Learning Environment	0.87	23.49	Significant
Resilient Communities	0.62	20.46	Significant

Significant agreement was found in the rank orders for Establishing Comprehension Framework, Encompassing Physical Safety, Ensuring Safe Learning Environment, and Resilient Communities. No significant agreement was found for Disaster Risk Reduction Management Education and School Level Management Plans. The pattern suggests that respondent groups shared common views on several visible and operational aspects of preparedness but differed in how they prioritized educational integration and school-level planning.

C. Effectiveness of SDRRM Implementation

The implementation of the SDRRM Program was assessed as Much Effective, with an overall weighted mean of 4.16. Multi-Stakeholders Collaboration ranked first (4.38), followed by Strengthening Governance Capacity (4.34), Risk Reduction and Resilience (4.12), Ensuring Sustainable Development (4.12), Psychosocial Support and Trauma Management (4.11), and Strategies, Planning and Policy Framework (3.90).

Effectiveness Dimension	Weighted Mean	Interpretation	Rank
Multi-Stakeholders Collaboration	4.38	Much Effective	1
Strengthening Governance Capacity	4.34	Much Effective	2
Risk Reduction and Resilience	4.12	Much Effective	3.5
Ensuring Sustainable	4.12	Much Effective	3.5

Development			
Psychosocial Support and Trauma Management	4.11	Much Effective	5
Strategies, Planning and Policy Framework	3.90	Much Effective	6
Overall	4.16	Much Effective	—

Multi-Stakeholders Collaboration emerged as the strongest effectiveness dimension. The result indicates that schools maintain active coordination with government agencies and community organizations, share expertise and resources, and use established communication channels during emergencies. Strengthening Governance Capacity also received a high rating, suggesting that school leadership, accountability, decision-making, and organizational arrangements support program implementation.

The comparatively lower rating for Strategies, Planning and Policy Framework indicates that the existence of policies does not automatically guarantee equally strong implementation. Differences in technical assistance, financial support, monitoring, and the regular updating of contingency measures can affect the quality of school-level planning. The finding underscores the need to align SDRRM priorities with school improvement planning, risk information, available resources, and measurable monitoring indicators.

D. Agreement in Effectiveness Rank Orders

Effectiveness Dimension	Kendall's W	χ^2	Decision
Strategies, Planning and Policy Framework	0.48	11.52	Not significant
Multi-Stakeholders Collaboration	0.54	14.58	Not significant
Strengthening Governance	0.46	13.80	Not significant

Capacity			
Risk Reduction and Resilience	0.54	17.82	Not significant
Ensuring Sustainable Development	0.47	14.10	Not significant
Psychosocial Support and Trauma Management	0.13	4.29	Not significant

No significant agreement was found among the respondent groups in the rank orders of all six effectiveness dimensions. This indicates that very large, large, and medium divisions did not consistently prioritize the dimensions in the same way. Differences may reflect variations in resources, hazard exposure, leadership practices, facilities, partnerships, and access to trained personnel

E. Challenges Encountered

Resource Scarcity was the most serious challenge, with a weighted mean of 3.80 and a verbal interpretation of Much Serious. The overall level of challenges was 2.83 or Serious. Insufficient Funds (2.82), Weak Institutional Coordination (2.57), and Inadequate Governance (2.51) were Serious, while Low Public Awareness (2.44) was Fairly Serious.

Challenge	Weighted Mean	Interpretation
Resource Scarcity	3.80	Much Serious
Insufficient Funds	2.82	Serious
Weak Institutional Coordination	2.57	Serious
Inadequate Governance	2.51	Serious
Low Public Awareness	2.44	Fairly Serious
Overall	2.83	Serious

Resource Scarcity obtained 3.80 and was the only challenge rated Much Serious. The finding indicates that limited materials, equipment, facilities, trained personnel, information, and other resources remain a major constraint. The issue is consistent with the comparatively low preparedness rating for

Encompassing Physical Safety and with the literature identifying equipment, facilities, and capacity as recurring school DRRM concerns.

Insufficient Funds obtained 2.82 and was interpreted as Serious. Financial limitations can affect procurement of emergency equipment, maintenance of facilities, training, communication systems, and other preparedness activities. The study's proposed solutions therefore include integrating DRRM priorities into the School Improvement Plan and Annual Implementation Plan, preparing resource proposals, and strengthening coordination with LGUs, PTAs, NGOs, and private partners.

Weak Institutional Coordination (2.57) and Inadequate Governance (2.51) were also Serious. These results suggest that communication, role clarity, monitoring, and accountability remain areas requiring continuous attention. Low Public Awareness obtained 2.44 and was interpreted as Fairly Serious, but it should not be overlooked because community knowledge of hazards, warning systems, and preparedness measures can directly affect emergency response.

The pattern of challenges is important because it shows that program effectiveness cannot be sustained through training alone. Resource availability, institutional coordination, governance mechanisms, and public awareness must work together. A school may have a preparedness plan, but its practical value depends on whether personnel understand their roles, equipment is available and functional, partners can be reached, and resources can be mobilized quickly.

The action plan therefore addresses both immediate resource needs and system-level mechanisms. These include priority needs lists, resource banks, donation and Adopt-a-School initiatives, coordination calendars, standard monitoring tools, quarterly reviews, awareness campaigns, and integration of DRRM requirements into school planning and budgeting.

Resource scarcity was reflected in insufficient evacuation tents, shelters, emergency signs, spare parts, maintenance tools, communication devices,

warning systems, trained personnel, first-aid supplies, emergency tools, and instructional materials. The result is consistent with the dissertation's review of previous studies, which repeatedly identifies funding and material constraints as persistent barriers to school-based disaster preparedness.

F. Solutions Offered

Respondents rated the proposed solutions as Much Necessary to Very Much Necessary. The leading solutions emphasize accountable school-level leadership, resource sharing, institutional planning, defined responsibilities, stakeholder awareness, and access to learning resources.

Proposed Solution	Mean	Interpretation	Rank
Designate school DRRM focal persons and provide division-/LGU-led training	4.67	Very Much Necessary	1
Coordinate with Barangay DRRM Councils for shared emergency materials/equipment	4.66	Very Much Necessary	2
Include DRRM programs in SIP/AIP for MOOE allocation	4.58	Very Much Necessary	3
Clearly define DRRM duties and responsibilities	4.56	Very Much Necessary	4
Include DRRM awareness activities in PTA/community assemblies	4.55	Very Much Necessary	5
Reproduce DepEd DRRM and open-source materials	4.53	Very Much Necessary	6
Integrate DRRM concepts into lessons, guidance, and clubs	4.52	Very Much Necessary	7
Organize representative School DRRM Teams	4.51	Very Much Necessary	8

The most highly rated solution was the designation of school DRRM focal persons with division- or LGU-led training (4.67). A formally assigned focal person can strengthen accountability, continuity, communication, reporting, and coordination. The result is consistent with Cuz (2025), whose training-needs assessment emphasized the need for sustained and targeted capacity building among school DRRM coordinators.

The second-ranked solution was coordination with Barangay DRRM Councils for shared emergency materials and equipment (4.66). This directly addresses resource scarcity by recognizing that schools and communities may share emergency resources, facilities, responders, and technical knowledge. The solution also strengthens the community-based approach required by national disaster risk reduction policy.

The third-ranked solution was inclusion of DRRM programs in the School Improvement Plan and Annual Implementation Plan for MOOE allocation (4.58). This is important for institutionalization because planning and budgeting determine whether preparedness activities are sustained beyond one-time projects. Integrating DRRM into regular school planning also supports monitoring and accountability. The findings show a preference for organized and sustainable solutions rather than temporary responses. Assigning and training DRRM focal persons ranked first because effective implementation requires knowledgeable and accountable leadership. The high ratings for coordination with Barangay DRRM Councils and integration of DRRM into SIP/AIP also indicate the importance of shared resources and institutionalized funding.

G. Agreement on Challenges and Solutions

Indicator	Kendall's W	χ^2	Decision
Insufficient Funds	0.80	19.20	Significant
Resource Scarcity	0.28	7.56	Not significant
Weak Institutional Coordination	0.43	12.90	Not significant

Inadequate Governance	0.51	16.83	Not significant
Low Public Awareness	0.17	5.10	Not significant
Solutions Offered	0.61	25.62	Significant

Significant agreement was found only for Insufficient Funds and Solutions Offered. The result suggests that respondents shared a common ranking of funding-related concerns and proposed solutions, while their prioritization of resource scarcity, coordination, governance, and public awareness varied. This reinforces the need for both common division-level standards and school-specific interventions.

H. IMPLICATIONS AND PROPOSED ACTION

The study points to an action agenda centered on five priorities: strengthening physical safety resources; institutionalizing DRRM education and planning; strengthening accountable leadership and focal-person capacity; expanding stakeholder and resource-sharing partnerships; and establishing common monitoring and reporting mechanisms. The action plan developed in the dissertation translates these priorities into activities, responsible persons, resources, means of verification, expected outcomes, and success indicators.

Priority Area	Key Action	Expected Result
Preparedness	Update hazard maps, emergency plans, warning systems, equipment inventories, and drill feedback.	More consistent school readiness.
Physical Safety	Inventory, repair, replenish, label, and strategically place emergency equipment.	Improved availability and functionality of safety resources.
DRRM Education	Integrate local hazards and preparedness actions into lessons, guidance, and activities.	Improved learner knowledge and protective behavior.
Governance & Planning	Review plans quarterly and align SDRRM priorities with SIP/AIP.	Responsive and updated school DRRM plans.
Stakeholder Collaboration	Coordinate with barangay DRRM councils, LGUs, parents, and partners.	Expanded technical and resource support.
Resource Mobilization	Conduct partnership and Adopt-a-School campaigns and establish resource banks.	Additional emergency materials and equipment.
Monitoring	Use common monitoring tools and conduct validation meetings.	More consistent implementation and reporting.

The action plan should be implemented as a continuous improvement cycle. Schools should assess risks, identify gaps, plan interventions, implement activities, document evidence, review outcomes, and revise plans. Quarterly School DRRM Team meetings can serve as the mechanism for monitoring progress and adjusting interventions based on drills, incidents, resource inventories, and stakeholder feedback.

III. GET PEER REVIEWED

The literature reviewed in the thesis presents SDRRM as a comprehensive school-safety system rather than a collection of isolated activities. Comprehensive school safety requires commitment,

policy and regulation, planning, budgeting, risk assessment, teamwork, coordination, standard operating procedures, monitoring and evaluation, resource mobilization, safe infrastructure, information systems, curriculum integration, simulation training, and trained teachers. Widowati et al. (2023), for example, identified a broad set of indicators connecting disaster management, safe facilities, and risk-reduction education. This framework reinforces the present study's decision to examine preparedness and effectiveness through multiple dimensions.

Disaster risk reduction education is a recurring theme. Amri et al. (2022) examined pathways for integrating disaster risk reduction education in

schools and highlighted the importance of school systems that connect policy, learning, and preparedness. Nakano and Yamori (2021) emphasized education that moves learners from knowledge toward proactive behavior. Tyas et al. (2025) reviewed disaster risk reduction education and noted the importance of integration across curriculum, school systems, and preparedness practices. These studies support the present study's inclusion of DRRM education as a distinct preparedness dimension.

School preparedness also depends on physical safety and continuity planning. Shah et al. (2020), as reviewed in the thesis, identified emergency planning, protective measures, school-building safety, continuity planning, hazard education, and collaboration as central elements of school preparedness. Tong et al. (2024) similarly examined comprehensive school safety from policy to practice. Amini Hosseini and Izadkhan (2020) linked school safety drills with resilient communities and community-based disaster risk management. Together, these works suggest that drills become more meaningful when connected to planning, physical safety, community participation, and learning.

Leadership and capacity building are equally important. Gökmenoğlu et al. (2021) documented a large-scale school-based disaster education program in Turkey and demonstrated the value of structured teacher training. Kawasaki et al. (2022) examined disaster training for aspiring teachers, emphasizing the need to develop preparedness competencies before teachers assume full professional responsibilities. Cuz (2025), focusing on school DRRM coordinators in Albay, identified training and competency needs that reinforce the importance of designated and capable focal persons. These findings provide context for the present study's high rating of designating trained DRRM focal persons as a solution.

The literature also recognizes the role of stakeholder collaboration. Morcilla (2023) examined participation of internal stakeholders in school DRRM and linked stakeholder engagement with program development.

Lai et al. (2024) emphasized the important role of schools following disaster events. The common implication is that disaster resilience is a shared institutional and community responsibility. The present study therefore includes Multi-Stakeholders Collaboration, Resilient Communities, and coordination-related challenges among its principal dimensions.

Philippine studies provide a useful comparison for the present findings. Tizon and Comighud (2020) found that the DRRM program in Bayawan City public schools was well implemented and that school administrators demonstrated strong capability to respond to hazards. Their findings established a significant relationship between implementation status and administrators' disaster-response capability. The present study extends this line of inquiry by examining seven city divisions and by combining preparedness, effectiveness, challenges, solutions, and rank-order agreement.

Ronquillo (2020) examined teacher preparedness in public senior high schools in Batangas City in terms of community risk assessment, communication systems, and capacity building. Peneciba (2020) investigated DRRM implementation among public elementary school administrators and teachers in Surigao del Sur and identified concerns such as inadequate preparedness conduct, unsafe structures, and resource scarcity. De Guzman and Dones (2021) likewise reported problems concerning organization, knowledge, materials, and implementation in a national high school. These studies reinforce the continuing relevance of resources, preparedness, training, and school organization.

Dela Cruz and Ormilla (2022) reported implementation of safe learning facilities, school-based DRRM structures, and disaster education in public elementary schools. Cubillas, Aviles, and Cubillas (2022) found satisfactory flood-DRRM implementation in Butuan City but noted that awareness and compliance did not automatically translate into consistent implementation. Abejuela et al. (2021) identified gaps in disaster prevention, mitigation, and preparedness mechanisms and proposed a multisectoral, bottom-up school-based

DRRM network. These studies indicate that high awareness or compliance may coexist with implementation gaps, particularly when resources and coordination are limited.

Acierito et al. (2023) found full implementation of safe learning facilities but partial implementation in enabling environment and school DRRM management in selected elementary schools. Problems included lack of personnel, budget, education, and information. Baluran (2023) found varying levels of implementation across districts and developed an intervention program. Cresencio and Yabut (2023) reported generally uniform implementation among coastal schools while identifying coastal safety procedures as a weaker area. Firmo Jr. (2022) examined DRRM, climate change adaptation, and education in emergencies and recommended intervention and capacity building.

The reviewed literature demonstrates that the present study addresses a meaningful gap. Earlier studies commonly focused on one school, one district, one hazard, one respondent group, or a limited set of DRRM indicators. The present study brings together institutional preparedness, program effectiveness, stakeholder and governance dimensions, challenges, solutions, and agreement among groups of city divisions. This broader perspective allows the findings to move from simple compliance description toward practical management priorities and a structured action plan.

IV. IMPROVEMENT AS PER REVIEWER COMMENTS

Based on the reviewers' comments and suggestions, the manuscript was revised to make the presentation of the study clearer, more organized, and easier to understand. The introduction was improved by giving more context about the importance of School Disaster Risk Reduction and Management (SDRRM), especially in protecting learners, teachers, school personnel, and facilities from disasters. The methodology was also clarified to make the research design, participants, research instrument, data-gathering procedure, and statistical treatment easier to follow. The presentation of the findings was

further improved by providing clearer explanations of what the results mean rather than simply presenting the weighted means and rankings. Particular attention was given to the findings showing that ensuring a safe learning environment and building resilient communities were among the stronger areas of preparedness, while physical safety and school-level management plans still need continued attention. The discussion of program effectiveness was likewise expanded, particularly the strong results for multi-stakeholder collaboration and governance capacity, to show how cooperation among schools, communities, local government units, and other stakeholders contributes to effective disaster preparedness. The reviewers' comments also prompted a more practical discussion of the challenges encountered by schools, especially resource scarcity and insufficient funding. These concerns were connected directly to the solutions identified by the respondents, such as providing training for School DRRM focal persons, strengthening coordination with Barangay DRRM Councils, and including SDRRM activities in the School Improvement Plan and Annual Implementation Plan. The conclusion and recommendations were also refined so that they directly reflect the actual findings of the study. Overall, the revisions were intended not only to improve the technical presentation of the manuscript but also to make the findings more meaningful and useful to school heads, teachers, DRRM coordinators, and other stakeholders who are directly involved in keeping schools safe and prepared for disasters.

V. CONCLUSION

The study concludes that the level of preparedness in implementing the SDRRM Program in the Bicol city divisions was Much Evident. Significant agreement in rank orders was found in Establishing Comprehension Framework, Encompassing Physical Safety, Ensuring Safe Learning Environment, and Resilient Communities, but not in Disaster Risk Reduction Management Education and School Level Management Plans. The overall effectiveness of the program was Much Effective, although no significant agreement was found in the rank orders of its six effectiveness dimensions. The challenges encountered were generally Serious, with Resource

Scarcity as the most serious. The proposed solutions were Much Necessary. Significant agreement was found for Insufficient Funds and Solutions Offered, but not for the other challenge dimensions. An action plan was consequently formulated.

Based on these conclusions, school heads and school DRRM coordinators should conduct quarterly reviews of emergency plans, hazard maps, evacuation procedures, equipment inventories, and drill results. Public Schools District Supervisors and Education Program Supervisors assigned to DRRM should organize focused Learning Action Cell sessions on DRRM education and school-level management planning. Schools Division Superintendents and division DRRM coordinators should institutionalize annual SDRRM evaluation and adopt common monitoring tools with regular validation meetings.

School heads and School Planning Teams should include priority SDRRM challenges in the School Improvement Plan and Annual Implementation Plan, specifying activities, responsible persons, resources, timelines, and performance indicators. School DRRM coordinators should prepare annual action plans and review progress during quarterly DRRM Team meetings. Division and school leaders should establish uniform funding guidelines, resource-mobilization procedures, and progress-reporting mechanisms. The proposed action plan should be adopted, implemented, monitored, and revised on the basis of evidence.

Future research may examine the effectiveness of school-based disaster preparedness drills; integration of DRRM education across learning areas; competence of school DRRM coordinators; leadership practices of school heads in strengthening disaster preparedness; availability and adequacy of emergency equipment; utilization of school MOOE funds for SDRRM; and stakeholder participation in school disaster risk reduction and management.

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