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Level of Capabilities of Public School Managers in Isabela to Respond to Disaster Risk Management Programs

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Abstract

This study assessed the status of implementation and level of capabilities of the Disaster Risk Reduction and Management (DRRM) Program in the public schools of Isabela. Anchored on the four-phase disaster management model covering mitigation, preparedness, response, and recovery, the study used a descriptive-correlational research design. Data were gathered through a structured questionnaire administered to 137 school heads and 480 teachers from elementary and secondary public schools in Alicia, Angadanan, Cabatuan, Ramon, and San Mateo. The instrument measured respondent profile, DRRM implementation, and DRRM capabilities, and was validated by experts with an S-CVI of 1.00 and reliability coefficients of 0.94 and 0.91. Findings showed that DRRM implementation was rated high in disaster prevention and mitigation, preparedness, response, and rehabilitation and recovery. The schools' capabilities were also rated high in human resources, material facilities, knowledge, innovation and education, policies, plans and procedures, and capacities and mechanisms. However, limited DRRM training participation among school personnel remained a key concern. The results further revealed significant but very weak to weak relationships between respondent profile and DRRM implementation and capabilities, while implementation status and capability level showed significant moderate to strong associations. The study recommends stronger school-LDRRMC collaboration, mandatory DRRM training, improved financial and logistical support, enhanced curriculum integration, and community-based preparedness activities. The study supports SDG 4, SDG 11, SDG 13, SDG 16, and SDG 17 by promoting safe schools, resilient communities, climate preparedness, effective governance, and institutional partnerships. Its sustainability impact lies in strengthening educational, community, institutional, and disaster governance systems for safer and more resilient public schools.

Keywords: Capacities and Mechanisms; Disaster Preparedness; Disaster Prevention and Mitigation; Disaster Response; Disaster Risk Reduction and Management; DRRM Capabilities; Public Schools; School Heads; Teachers

1. Introduction

Disaster Risk Reduction and Management (DRRM) remains a critical concern in the Philippine basic education system because schools serve not only as learning institutions but also as community-based platforms for disaster awareness, preparedness, response, and recovery. The Department of Education (DepEd), as one of the largest government agencies in the country and a member of the National Disaster Risk Reduction and Management Council under Republic Act No. 10121, plays a central role in educating learners, school personnel, and communities on disaster preparedness, risk awareness, simulation exercises, emergency response, and continuity of education. In the context of increasing climate-related hazards and recurring disasters, this study assessed the implementation and capabilities of the DRRM Program in the public schools of Isabela, particularly in relation to prevention and mitigation, preparedness, response, recovery and rehabilitation, human resources, material facilities, knowledge and innovation, policies and plans, and operational mechanisms.

The Philippines is highly exposed to natural hazards due to its location along the Pacific Ring of Fire and typhoon belt. Climate change has further intensified the frequency and severity of disasters such as typhoons, floods, earthquakes, and volcanic eruptions, making disaster preparedness a continuing challenge for schools and communities. UNICEF (2020) emphasized that children are among the most vulnerable groups during disasters and that child-centered DRR policies are essential because a large portion of the population is under 18. This aligns with the National Disaster Risk Reduction and Management Plan (NDRRMP), which promotes community awareness, local preparedness, and multisectoral collaboration for resilience. The need for proactive DRRM is evident in the impacts of major disasters in the country. Super Typhoon Rolly (Goni) in 2020 affected millions and displaced over 390,000 individuals, while Typhoon Ulysses (Vamco) caused severe flooding in Metro Manila and Cagayan Valley. Earlier events such as Typhoon Haima (Lawin), which caused more than ₱657 million in damages and affected more than 29,000 families in northern Luzon (RDRRMC Cagayan Valley Website), Typhoon Yolanda (Haiyan), which caused massive casualties and affected over 4 million people, Typhoons

Pedring and Quiel, and Tropical Storm Ondoy, which affected more than 319,000 families, demonstrate the persistent vulnerability of communities and the importance of coordinated disaster preparedness and response (NRDDMC Website).

The literature highlights that effective DRRM requires strong policy implementation, community participation, coordination, and sustained capacity building. Republic Act No. 10121 or the Philippine Disaster Risk Reduction and Management Act of 2010 shifted the national framework from disaster response toward risk reduction and preparedness. It mandates the establishment of DRRM offices in local government units and promotes multi-stakeholder involvement. Carcellar, Co, and Hipolito (2011) noted that RA 10121 requires LGUs to allocate at least five percent of their annual budget for DRRM activities, including training, rescue equipment, and preparedness programs, rather than focusing only on post-disaster rehabilitation. Governance and coordination are also central to DRRM effectiveness. Gaillard and Mercer (2012) argued that bottom-up, community-based DRR strengthens local participation by integrating indigenous knowledge and community practices. Gerber and Robinson (2009) emphasized the importance of vertical and horizontal coordination among national agencies, local governments, and sectors, while UNISDR (2011) linked poor disaster outcomes to governance weaknesses and social inequity. The HFA Guidance and Indicator Package (2008) likewise stressed two-way information sharing and collaborative networks to prevent operational gaps during emergencies. Cox (2012) emphasized resilience thinking through flexible contingency planning, while Miller, Adam, and Moore (2013) found that gaps between government communication and public perception reduce household-level disaster preparedness.

At the national level, disaster risk reduction in schools is anchored on laws, plans, and policy mechanisms that require preparedness, awareness, and coordinated response. In the education sector, DepEd is mandated to integrate disaster risk management into the curriculum, conduct disaster awareness campaigns, and implement simulation exercises for earthquakes and other hazards. This makes schools important sites for developing disaster-literate and resilient communities. Related studies support this school-based DRRM focus. Mercado, Dela Cruz, and Santiago (2023) found that while public schools recognize the value of DRRM integration in basic education, challenges remain in teacher training, resource availability, and community support systems. Ramos and Javier (2022) showed that localized DRRM plans, community-based risk mapping, and regular drills improve readiness and responsiveness, although gaps persist in inter-agency coordination and data-sharing protocols. Juanzona and Oreta (2018) also found substantial achievement in disaster preparedness and response but identified continuing weaknesses in operational capacity and financial support. International and comparative studies further reinforce the role of education and institutional participation. Hoffmann and Muttarak (2018) found that formal education enhances disaster readiness, although context-specific strategies remain necessary. Goddard, Sheppard, and Thompson (2018) emphasized that students' disaster preparedness is associated with self-efficacy, emergency training, and perceived risk, showing that academic institutions can strengthen preparedness through partnerships with emergency services and curricular integration.

The study is conceptually grounded in the four-phase model of disaster management: mitigation, preparedness, response, and recovery. Mitigation refers to long-term actions that reduce disaster risks and impacts; preparedness involves planning, drills, training, and resource readiness; response focuses on immediate actions during and after disasters; and recovery concerns the restoration of normal conditions and rebuilding of affected communities. This model is supported by Stanhope and Lancaster (2008), Bradt and Drummond (2007), and Ciottone (2006). The World Health Organization (2007) and the Joint Commission on Accreditation of Healthcare Organizations (2003) also emphasized preparedness as essential in reducing disaster consequences and ensuring coordinated response. The conceptual structure of the study links the profile of respondents, the status of implementation of the DRRM Program, and the level of DRRM capabilities. Respondent profile includes age, sex, civil status, educational attainment, length of service, attendance to disaster training, and rank or position. The status of implementation covers disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery. The level of capabilities covers human resources, material facilities, knowledge, innovation and education, policies, plans and procedures, and capacities and mechanisms. The study therefore examines not only the extent of DRRM implementation but also how personnel characteristics and institutional capabilities relate to school-based disaster readiness.

Previous studies consistently show that DRRM cannot rely solely on legislation or institutional plans; it requires education, stakeholder collaboration, local adaptation, and continuous capacity development. Cuya-Antonio and Antonio (2017) found that regular evaluation and compliance with RA 10121 improved community participation and disaster response effectiveness. Villanueva and Villanueva Jr. (2017) also concluded that prioritizing prevention and mitigation under RA 10121 strengthened barangay-level resilience. Carpenter and Grünewald (2015) emphasized adaptive and network-based approaches in managing complex urban disaster risks, while Musimba and Stephen (2014) highlighted community participation in drought risk management and adaptive capacity-building. However, several studies also identify recurring barriers. Stolks (2013) pointed to logistical difficulties caused by insufficient equipment, while Obong (2010) identified training, communication, and personnel motivation as areas needing improvement. Omeje and Mwanngi (2010), together with Gachago and Beethoven (2010), documented administrative delays, insufficient training, and political interference as barriers to effective response. Ripley (2011) and Weisner (2004) further emphasized that DRRM must address

environmental, economic, and social vulnerabilities. The Hyogo Framework for Action (2008) and the Philippine National Disaster Risk Reduction and Management Plan (2011) reinforce coordination, contingency planning, and community awareness as essential to preparedness and resilience. In this context, the present study is justified by the need to assess how DRRM is implemented in the public schools of Isabela and how capable these schools are in carrying out DRRM functions. It specifically addresses the need to examine school heads' and teachers' assessments of DRRM implementation and capabilities, determine possible differences in their assessments, and analyze the relationships among respondent profile, implementation status, and capability level.

The study aligns strongly with SDG 4 – Quality Education because it focuses on strengthening DRRM in schools, protecting learners, and supporting continuity of education during and after disasters. By assessing preparedness, response, recovery, and the integration of DRRM in school practices, the study contributes to safer and more resilient learning environments. It also supports SDG 11 – Sustainable Cities and Communities because school-based DRRM contributes to community resilience, local preparedness, risk reduction, and coordinated response systems. Since schools often serve as information centers, evacuation-related support spaces, and community partners during disasters, strengthening their DRRM capacity helps build safer and more adaptive communities. The study is also connected to SDG 13 – Climate Action because it addresses the increasing risks associated with climate-related hazards and promotes preparedness and adaptation in the education sector. It further relates to SDG 16 – Peace, Justice, and Strong Institutions because it examines institutional systems, policies, plans, and mechanisms that support effective disaster governance. Finally, the study supports SDG 17 – Partnerships for the Goals because DRRM implementation requires collaboration among schools, DepEd, local government units, barangay councils, disaster response teams, and community stakeholders.

This study contributes to educational sustainability by emphasizing the role of schools in disaster awareness, preparedness, and learning continuity. When school heads and teachers are equipped with DRRM knowledge, plans, and response capabilities, schools become safer institutions capable of protecting learners and sustaining education despite disaster risks. The study also contributes to community sustainability because public schools are closely linked with barangays, local disaster councils, parents, and community stakeholders. Strong school-based DRRM can support community preparedness, emergency coordination, and shared responsibility in reducing disaster impacts. It likewise contributes to public health sustainability by addressing response, evacuation, psychosocial support, safety measures, and continuity of basic services during emergencies. From a governance perspective, the study supports institutional sustainability by assessing the effectiveness of DRRM policies, plans, procedures, human resources, material facilities, and operational mechanisms. Its findings can help guide school administrators, local disaster risk reduction and management councils, barangay officials, and future researchers in improving disaster preparedness, strengthening school-community partnerships, and developing more responsive DRRM programs for public schools.

2. Material and methods

2.1 Research Design

The study employed a descriptive-correlational research design. This design was used to determine and analyze the status of implementation and level of capability of the Disaster Risk Reduction Management (DRRM) Program in the Public Schools of Isabela based on the responses gathered through a survey questionnaire. The descriptive component examined the profile of the respondents and their assessments of DRRM implementation and capability, while the correlational component determined the relationships among respondent profile, implementation status, and level of capabilities.

2.2 Locale of the Study

The study was conducted in the public schools of Isabela, particularly in five municipalities covered by the study. These municipalities included Alicia, Angadanan, Cabatuan, Ramon, and San Mateo. The respondents were drawn from both elementary and secondary public schools, allowing the study to examine DRRM implementation and capability across different school levels within the Schools Division of Isabela.

2.3 Respondents of the Study

The respondents of the study were school heads and teachers who were directly involved in the implementation of the Disaster Risk Reduction Management (DRRM) Program in the public schools of Isabela. They included principals, head teachers, teachers-in-charge, school DRRM coordinators, and teachers. The manuscript reports that the respondents consisted of 137 school heads and 480 teachers from elementary and secondary schools.

2.4 Sample and Sampling Procedure

The study covered respondents from the five municipalities of Isabela and included school personnel from both elementary and secondary levels. The allocation of respondents included school heads and teachers from Alicia, Angadanan, Cabatuan, Ramon, and San Mateo. The sample was structured to represent different respondent groups involved in DRRM

implementation, particularly school heads and teachers, so that their assessments of the status of implementation and level of capabilities of the DRRM Program could be compared and analyzed.

2.5 Research Instrument

The researcher used a structured questionnaire to determine the implementation of the Public Schools' Disaster Risk Reduction Management Program and the level of capabilities to respond. The first part of the questionnaire gathered the profile of the respondents in terms of age, sex, civil status, educational attainment, length of service, attendance to disaster training, and rank or position. The second part measured the status of implementation of DRRM programs, while the third part assessed the level of capabilities of the Disaster Risk Reduction Management (DRRM) Program in the Public Schools of Isabela based on the stipulations in RA 10120. The questionnaire was subjected to content validation by seven experts, resulting in a Content Validity for Scales (S-CVI) of 1.00. Pretesting was also conducted with 30 respondents who were not included in the actual study, and the results showed that Parts II and III of the questionnaire were excellent, with Cronbach's Alpha values of 0.94 and 0.91, respectively. The responses in Parts II and III were measured using a 5-point Likert scale, where 5 represented the highest rating and 1 represented the lowest rating. The scale was interpreted as follows: 4.20–5.00 as Very High, 3.40–4.19 as High, 2.61–3.39 as Fair, 1.80–2.60 as Low, and 1.00–1.79 as Very Low.

2.6 Data Gathering Procedure

The researcher first sought approval from the Office of the Schools Division Superintendent to administer the survey instruments. After approval was granted, copies of the research instruments were distributed to the different school administrators representing the SDRRM core group and team. The collected responses served as the basis for assessing the status of implementation and level of capabilities of the DRRM Program in the public schools of Isabela.

2.7 Data Analysis Techniques

The gathered data were tabulated, tallied, and analyzed using the Statistical Package for Sciences (SPSS). Descriptive statistics, including frequency, percentage, and mean, were used to describe the profile of the respondents and their assessment of the status of implementation and level of capabilities of the Disaster Risk Reduction Management (DRRM) Program in the Public Schools of Isabela. The Mann-Whitney U-Test using Z-score results was applied to determine differences in the assessments of the two respondent groups. Kendall's Tau b was used to analyze the relationships between respondent profile and the status of DRRM implementation, between respondent profile and the level of DRRM capabilities, and between the status of implementation and the level of capabilities of the DRRM Program. The correlation values were interpreted based on Salkind N. J. (2009), ranging from very weak to perfect correlation.

3. Results and Discussion

3.1 Demographic and Professional Profile of the Respondents

3.1.1 Overall Profile of Respondents

The respondents were composed of school heads and teachers, with teachers forming the larger proportion of the sample. Most respondents were 41–50 years old, followed by those aged 31–40 years old. The sample was predominantly female and married. In terms of educational attainment, most respondents had a bachelor's degree with master's units, while a notable portion had completed a master's degree. Many respondents had served for 21 years and above, although there was also representation from those with shorter years of service. The largest occupational group consisted of teachers, followed by principals and master teachers. A major finding was that most respondents had not attended formal DRRM training. These results show that the public schools of Isabela have a mature, experienced, and academically prepared workforce, but the low participation in DRRM training indicates a critical professional development gap. While experience and educational attainment may support school-based program implementation, DRRM requires specific technical preparation, regular simulation, and updated knowledge. This reinforces the importance of systematic, mandatory, and accessible DRRM training for school personnel, consistent with DepEd Order No. 33, s. 2021 and the Philippine Disaster Risk Reduction and Management Act (RA 10121).

3.1.2 Profile of School Heads

Among school heads, most were 41–50 years old, female, married, and had bachelor's degrees with master's units. A considerable number also held doctorate degrees. Many had served for 21 years and above, indicating a leadership group with long institutional experience. However, the number of school heads who had not attended DRRM training was higher than those who had attended. The profile suggests that school leadership in Isabela is largely experienced, female-led, and academically qualified. This can support stable implementation of DRRM policies and school-based initiatives. However, the low training attendance among school heads indicates that leadership experience alone may not be sufficient for disaster governance. Continuous DRRM training is necessary to ensure that school leaders can effectively supervise preparedness, response, recovery, and coordination mechanisms.

3.1.3 Profile of Teachers

Among teachers, the largest age groups were 31–40 and 41–50 years old. Most were female, married, and had bachelor's degrees with master's units. The teaching group included both newer teachers and veteran personnel, with many having 1–5 years of service and another large group having 21 years and above. Similar to school heads, most teachers had not attended DRRM training. These findings indicate that teachers in the public schools of Isabela are professionally prepared and represent both early-career and long-serving personnel. However, the limited participation in DRRM training is a concern because teachers play a direct role in drills, evacuation, learner protection, and continuity of learning. Strengthening teacher training is essential because disaster preparedness depends not only on institutional plans but also on the readiness of personnel who implement these plans at the classroom and school-community levels.

3.2 Status of Implementation of the DRRM Program

3.2.1 Disaster Prevention and Mitigation

The implementation of DRRM in terms of disaster prevention and mitigation was rated high by both school heads and teachers. Strong areas included the implementation of DepEd guidelines, posting of safety and preparedness measures, maintenance of updated emergency hotlines, hazard mapping, and conduct of disaster preparedness measures such as multi-hazard drills. Lower but still high-rated areas included DRRM budget allocation, risk financing options, procurement of early warning equipment, and development of advocacy plans for risk financing. The findings suggest that schools have already institutionalized several prevention and mitigation practices, particularly those related to policies, safety information, and risk awareness. However, the relatively lower ratings in budget-related and financing-related indicators imply that resource support remains an area for improvement. As Cresencio and Yabut (2023) noted, schools may sustain DRR activities when implementation is consistent, but resource limitations can still affect the depth and effectiveness of disaster mitigation efforts.

3.2.2 Disaster Preparedness

The status of disaster preparedness was also rated high. The strongest indicators included integrating DRRM into the school curriculum, conducting training and simulation exercises, developing contingency plans, preparing school DRRM plans, and establishing guidelines for emergency response teams. Lower but still high-rated indicators included stockpiling and prepositioning of resources, establishing DRRM operation centers, and formulating coordination mechanisms with stakeholders. These findings show that public schools in Isabela perceive themselves as prepared for disaster-related events, particularly in planning, drills, curriculum integration, and emergency coordination. In Kidapawan City, according to the study of Fuentes (2023), teachers also emphasized the importance of administrative support, training, and information dissemination in sustaining DRRM implementation. The results therefore suggest that preparedness activities should be sustained and updated regularly, especially through drills, stakeholder coordination, and training for newly assigned personnel.

3.2.3 Disaster Response

The disaster response component was rated high across indicators. Strong areas included active information and coordination systems, communication of public advisories, evacuation procedures, access to water supply, access to hospitals and clinics, assessment of needs and damages, and preparation of hazard-related reports. Lower but still high-rated areas included available rescue vehicles, psychological programs, traumatic and psychological debriefing plans, and early recovery activities. The findings indicate that the schools have functional response mechanisms, particularly in communication, coordination, evacuation, and basic service access. The study of Lumapenet and Esrael (2024) found that better hazard preparedness directly increases the level of school safety, which supports the importance of maintaining effective disaster response systems. However, the comparatively lower ratings on psychosocial support and rescue logistics suggest the need to strengthen mental health response, transport readiness, and recovery-oriented support services.

3.2.4 Disaster Rehabilitation and Recovery

The implementation of disaster rehabilitation and recovery was rated high by both respondent groups. Strong areas included preparing reports on the effects of hazards, monitoring hazards including the use of schools as evacuation centers, conducting rapid damage assessment, identifying needed assistance, and mobilizing funding resources. Lower but still high-rated areas included social preparation for relocation, appropriate safety codes, implementation of building codes and green technology, and formulation of livelihood-related programs. These findings indicate that schools have established mechanisms for post-disaster assessment, reporting, and recovery coordination. According to Salazar (2024), rehabilitation and recovery in schools may be well implemented but can still be slightly weaker than preparedness and response when resources are limited. The results therefore imply that public schools in Isabela should continue strengthening post-disaster recovery through infrastructure continuity, psychosocial support, learning recovery, and closer coordination with local government and community partners.

3.3 Level of DRRM Capabilities

3.3.1 Human Resources

The level of DRRM capability in terms of human resources was rated high overall. Schools were rated high in organizing DRRM teams, crafting training plans, allocating personnel responsibilities, maintaining coordination with local DRRM councils, developing communication systems, and preparing response guidelines. However, the item on providing capacity-building activities received a lower rating, with teachers rating it only as fair. This finding shows that formal human resource structures for DRRM are present, but training and capacity-building remain insufficient. The presence of teams and plans does not automatically guarantee effective implementation unless personnel are adequately trained and regularly updated. This supports the need to institutionalize DRRM training among teachers, non-teaching personnel, learners, and school leaders so that assigned roles are translated into actual competence during emergencies.

3.3.2 Material Facilities

The level of capability in terms of material facilities was rated high. Strong areas included annual hazard identification and mapping, inventory and risk assessment of facilities, posting of emergency hotlines, establishment of early warning systems, posting of evacuation sites, development of contingency plans, and conduct of training and simulation exercises. Temporary learning spaces received a comparatively lower but still high rating. These results suggest that schools have the basic physical and communication resources needed for DRRM. The high ratings for early warning systems, emergency hotlines, contingency planning, and safety postings show that schools have visible and operational preparedness mechanisms. However, the lower rating for temporary learning spaces indicates that continuity of education after disasters should be further strengthened through clearer space identification, resource planning, and coordination with local authorities.

3.3.3 Knowledge, Innovation, and Education

The capability of schools in knowledge, innovation, and education was rated high. Strong areas included inclusion of DRRM in school curricula, hazard mapping and assessment, conduct of multi-hazard drills, institutionalization of protection measures, community-based training initiatives, and development of methods for predictive multi-risk assessment and cost-benefit analysis. These findings indicate that DRRM in Isabela public schools is not limited to compliance and response but is also connected to education, awareness, and knowledge-building. The high rating for curriculum inclusion suggests that schools recognize the importance of shaping disaster-aware learners. Sustaining this capability requires continuous teacher training, updated instructional materials, student participation in drills, and stronger links between disaster education and community resilience.

3.3.4 Policies, Plans, and Procedures

The level of capability in terms of policies, plans, and procedures was rated high. Schools were rated positively in integrating risk reduction measures into school planning, promoting environmental management, supporting social development policies, protecting critical facilities and infrastructure, incorporating DRRM measures into recovery and rehabilitation processes, promoting partnerships, identifying relocation areas, and establishing recovery mechanisms. The findings show that schools have embedded DRRM into institutional planning and policy-related processes. According to Sadiq et al. (2021), integrating DRR into local policies and educational frameworks enhances community resilience and promotes risk-informed development planning. In this study, the strong ratings imply that schools are not treating DRRM as an isolated activity but as part of school governance, environmental management, infrastructure protection, and community development.

3.3.5 Capacities and Mechanisms

The capability of schools in terms of capacities and mechanisms was rated high. Strong areas included organizing DRRM management teams, developing DRRM procedures, preparing contingency policies, maintaining functional contingency plans, communicating contingency plans to stakeholders, conducting simulation exercises, allocating funds for DRRM activities, maintaining close contact with local DRRM councils, developing coordination procedures, and conducting rapid damage assessment. These results indicate that schools have operational systems that support disaster readiness and response. The highest rating was given to simulation exercises, showing that drills and practical preparedness activities are emphasized. This finding aligns with Ahmed et al. (2022), which stressed that schools with functional contingency plans, regular drills, and strong external partnerships are more capable of minimizing disaster impacts. Continuous updating of plans and regular simulation activities remain necessary to keep these mechanisms functional and responsive.

3.4 Differences in the Assessments of School Heads and Teachers

The assessments of school heads and teachers on the status of DRRM implementation were generally similar. Both groups rated disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery as high. Their assessments of DRRM capabilities were also similarly high across human resources, material facilities, knowledge, innovation and education, policies, plans and procedures, and capacities and mechanisms. The similarity in assessment suggests a shared perception between school leaders and teachers regarding the implementation and capability

level of DRRM programs. This may indicate common exposure to school-based DRRM practices and a shared institutional understanding of disaster preparedness and response. However, the lower ratings in training-related, budget-related, psychosocial, logistical, and temporary learning space indicators show that both groups also recognize areas that need strengthening.

3.5 Relationship Between Respondent Profile and DRRM Implementation and Capabilities

The results showed that respondent profile variables such as age, sex, civil status, highest educational attainment, length of service, and attendance to DRRM training were significantly but very weakly associated with some aspects of DRRM implementation and capability. Attendance to DRRM training showed notable positive relationships with several policy and planning indicators, while length of service showed no significant relationship with most indicators. Civil status showed some significant negative correlations in selected policy and planning areas, while highest educational attainment was not significantly related to some indicators. These findings indicate that demographic and professional characteristics have limited influence on perceptions of DRRM implementation and capability. However, DRRM training appears to matter more than length of service because trained personnel may have better awareness of policies, procedures, and hazard governance. This observation is aligned with the findings of Kanbara and Shaw (2021), who emphasized that DRRM training improves technical knowledge and understanding of policy frameworks and hazard governance mechanisms. The results also support the need for inclusive and gender-responsive DRRM planning, consistent with MacGregor and Collins (2021), who asserted that DRRM systems that ignore gendered vulnerabilities and perceptions risk creating blind spots in risk reduction and rehabilitation planning.

3.6 Relationship Between DRRM Implementation and Capability Level

The findings revealed significant and mostly moderate to strong relationships between the status of DRRM implementation and the level of DRRM capabilities. Strong associations were observed between implementation practices and operational capacities, early warning systems, information management, contingency planning, coordination procedures, social development policies, economic and productive sector policies, psychosocial support, temporary learning spaces, and recovery mechanisms. The strongest relationships were noted in early warning and information management systems and operational capacities and mechanisms. These results suggest that schools with stronger DRRM implementation are also more capable of sustaining functional disaster preparedness, response, and recovery systems. Effective implementation appears to reinforce institutional capability, while strong capability supports better implementation. The findings therefore emphasize that DRRM should be strengthened as an integrated system involving planning, personnel training, material readiness, information management, stakeholder coordination, and recovery support. This strategic clarity aligns with the findings of Gomez and De Jesus (2021), who noted that role clarity and structured engagement significantly enhance the effectiveness of school-based DRRM initiatives.

4. Conclusion & Recommendations

The study concludes that the profile of the respondents had a significant but very weak to weak relationship with their assessment of the status of implementation of the Disaster Risk Reduction Management (DRRM) Program in the Public Schools of Isabela, and a significant but weak to very weak relationship with their assessment of the program's level of capabilities. It further concludes that the status of implementation and level of capabilities of the DRRM Program were significantly related, with most aspects of Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, Disaster Recovery and Rehabilitation, Human Resources, Material Facilities, Knowledge, Innovation and Education, Policies, Plans and Procedures, and Capacities and Mechanisms showing moderate to strong associations.

Based on the findings and conclusions, Local Disaster Risk Reduction and Management Councils should strengthen collaboration with schools by supporting capacity-building programs and providing financial and logistical support for DRRM equipment and simulation exercises. Schools and school managers should institutionalize mandatory DRRM training for newly hired and tenured teachers and staff and establish succession planning for disaster leadership roles. Barangay Councils should encourage community-wide preparedness activities with schools through joint drills, mapping, and awareness campaigns. The Department of Education should enhance DRR curriculum integration, strengthen the implementation of DepEd Order No. 43, s. 2012, and regularly review and revise DRRM plans based on post-disaster assessments and feedback mechanisms. Future researchers should conduct qualitative follow-up studies on barriers to training access and examine real-life disaster responses to validate self-assessments.

The study was limited to the assessment of school heads and teachers directly involved in the Disaster Risk Reduction Management (DRRM) Program in the public schools of Isabela, particularly in relation to the status of implementation and level of capabilities of the program. Thus, the findings are confined to the respondents, locale, variables, and assessment areas covered by the study.

Compliance with ethical standards

The study was conducted in accordance with institutional ethical standards, with necessary permission and ethical approval secured prior to data gathering. Participation was voluntary, informed consent was obtained, and all respondent information was treated with strict confidentiality and used solely for research purposes. The author declares no conflict of interest, acknowledges all individuals and institutions that contributed to the study, and assumes full responsibility for the accuracy, originality, and copyright compliance of the manuscript.

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