

EFFECTIVENESS AND SATISFACTION WITH THE PERFORMANCE OF THE MUNICIPAL DISASTER RISK REDUCTION MANAGEMENT LOBOC, BOHOL

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ABSTRACT

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In the context of disaster response and preparedness, local government entities act as the institutions that are at the forefront of operations. A significant amount of information regarding the efficiency of local disaster governance can be gained by gaining an understanding of how communities evaluate these efforts. With the objective to assess the citizens' impressions of the performance and efficacy of the Municipal Disaster Risk Reduction and Management (MDRRM) Office in Loboc, Bohol, this study utilized a quantitative descriptive cross-sectional



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survey research approach. A total of 354 respondents from seven barangays that are prone to natural disasters took part in the survey. Statistical analysis was performed on the data by getting the following: frequency and percentage analysis, weighted means and standard deviations, the Chi-square test of independence, and Spearman's rank-order correlation. The level of significance was established at $\alpha = .05$. Using Cronbach's alpha, reliability testing was able to demonstrate that there was a high level of internal consistency. Based on the findings, it appears that the MDRRM Office is widely regarded as being quite effective, particularly in the areas of early warning systems, preparedness education, and emergency communication. Only age was shown to have a significant association with perceived efficacy and satisfaction, but neither gender nor years of residency was found to have any such association. It was shown that there was a significant positive association between perceived effectiveness and satisfaction, which highlights the connection between operational performance and public confidence.

INTRODUCTION

Disaster risk management (DRM) has progressively been a focal point in conversations about sustainable development, especially as communities around the world face more frequent and severe climate-related catastrophes. The United Nations Office for Disaster Risk Reduction (UNDRR) reports that in recent decades, natural disasters have not only resulted in the loss of lives and property but also created long-term disruptions to social and economic systems (UNDRR, 2019). In addition to immediate effects, disasters usually disrupt livelihoods, strain public resources, and worsen existing disparities, thereby impeding development. The repercussions of natural disasters vary from country to country. In general, countries with lower incomes have higher fatality rates, which is frequently the result of inadequate preparatory processes and infrastructure. On the other hand, high-income countries can suffer greater economic losses due to the concentration of their assets and investments (Hallegatte et al., 2018).

These discrepancies emphasize the significance of governance quality, institutional capacity, and sustained investment in risk reduction. The Philippines is acknowledged as one of the most disaster-prone nations globally, due to its position inside the Pacific typhoon belt and the Ring of Fire. It has been consistently ranked among the most vulnerable countries to natural catastrophe risks by the World Risk Report (Bündnis Entwicklung Hilft & IFHV, 2023). According to previous assessments by the Global Facility for Disaster Reduction and Recovery (GFDRR, 2016), approximately 74% of the Philippine population is vulnerable to various hazards.

These hazards include typhoons, floods, earthquakes, and landslides. This level of exposure underscores the need to strengthen disaster risk reduction and management (DRRM) systems, especially at the local level.

Being well-prepared is one of the most important aspects of effective disaster management systems. The United Nations Office for Disaster Risk Reduction (2015) stated that the Sendai Framework for Disaster Risk Reduction 2015–2030 emphasizes the need to enhance local governance, institutional coordination, and community involvement. When it comes to responding to emergencies, the major obligation lies with local governments. These same governments are also accountable for carrying out actions related to prevention, readiness, response, and recovery. Wilkinson (2012) noted that DRM efficiency is closely linked to the participation of institutions, coordination frameworks, and accountability systems at the local level. The strong correlation between perceived effectiveness and community satisfaction underscores the importance of continually incorporating feedback to improve disaster management practices.

Specifically, the study aims to:

1. Assess the level of performance of MDRRM officers;
2. Identify key factors influencing MDRRM effectiveness during emergencies; and
3. Examine variables affecting the personal and professional conditions of MDRRM personnel.

By drawing on empirical data from disaster-prone barangays in Loboc, this research aims to offer context-specific insights that can directly inform policy improvements and community engagement strategies, while acknowledging the need for adaptation in different socio-economic or geographic contexts.

Local Government Compliance and Institutional Capacity. Local disaster governance is significantly enhanced by adhering to national DRRM regulations. As revealed by research conducted on local government units (LGUs) in the Philippines, rehabilitation and recovery procedures generally lack optimal strength, despite the efficient execution of preventive, mitigation, and readiness activities (Yusay & Caelian, 2022). The full implementation of DRRM mandates may be impeded by workforce, funding, and administrative procedural obstacles.

The Philippine setting is not the only one that faces issues in the realm of institutions. Shah et al. (2019) found that poor coordination among agencies, insufficient training, and limited funding made institutions in Pakistan less prepared for emergencies. Their research findings indicate the need to establish institutional linkages and governance frameworks to improve disaster preparedness.

Community participation is an important aspect of disaster preparedness. Residents' perceived danger and trust in local institutions can influence their willingness to participate in preparedness actions. Risk communication also influences behavioral reactions. Xue et al. (2022) demonstrated how disaster-risk communication can influence both risk

perception and relocation decisions, sometimes through individuals' sense of self-efficacy. These findings indicate that effective communication tactics can boost community resilience.

Governance, NGOs, and Community-Based DRR. Indonesia's post-tsunami experience further illustrates how major disasters can catalyze governance reforms. Djalante et al. (2017) documented institutional transformations following the 2004 Indian Ocean tsunami, noting the strengthening of DRR frameworks aligned with global standards, such as the Sendai Framework.

Climate Action and SDG Localization. Integrating DRRM into broader development agendas, including the Sustainable Development Goals (SDGs), has gained increasing attention. SDG 13 (Climate Action) calls for mainstreaming climate adaptation into local planning processes. However, as Mortimer et al. (2023) noted, practical guidance for local governments on SDG localization remains limited, particularly at the municipal level. This gap highlights the value of localized empirical studies that examine how DRRM policies are implemented in specific contexts.

Disaster Risk Managers and Resource Allocation. Resource allocation also shapes preparedness outcomes. Brucal et al. (2020) found notable regional variations in preparedness across the Philippines and observed that funding often prioritized post-disaster relief rather than pre-disaster planning. Their findings suggest that greater investment in preparedness measures could strengthen long-term resilience.

RESEARCH METHODOLOGY

Research Design. This study employed a quantitative descriptive survey design to assess residents' perceptions of the effectiveness and satisfaction with the Municipal Disaster Risk Reduction and Management (MDRRM) Office's performance in Loboc, Bohol. A descriptive approach was appropriate because the study aimed to systematically measure and summarize community evaluations of local DRRM performance without manipulating variables (Creswell & Creswell, 2018).

Environment. The study was conducted in seven barangays of Loboc—Canlasid, Jimilian, Poblacion Ondol, Poblacion Sawang, Valladolid, Ugpong, and Villaflores—communities situated near the Loboc River and historically affected by flooding and related hazards. According to the 2020 Census of Population and Housing, these barangays had a combined population of 4,517, representing 25.93% of the municipality's total population (Philippine Statistics Authority [PSA], 2020).

Respondents. Using a 95% confidence level and 5% margin of error, a sample size of 354 respondents was determined. Random sampling was applied to enhance representativeness. Eligible participants were residents of legal age who provided informed consent. Individuals residing outside

the municipality during data collection were excluded to ensure contextual relevance of responses.

Instrumentation. Data were collected through a structured questionnaire developed by the researchers. The instrument consisted of three sections: (1) demographic profile, (2) perceived effectiveness of MDRRM performance, and (3) satisfaction with MDRRM services. To ensure contextual clarity, the questionnaire was translated into Sugboanon Visayan.

Perceptions were measured using a four-point Likert scale. Effectiveness responses ranged from “Not Observed” (1) to “Strongly Observed” (4), while satisfaction responses ranged from “Strongly Disagree” (1) to “Strongly Agree” (4). A four-point scale was used to encourage definitive responses and reduce neutrality.

Reliability and Validity. The instrument was pilot-tested among ten individuals with comparable demographic characteristics. Cronbach’s alpha coefficients were .847 for the effectiveness scale and .906 for the satisfaction scale, indicating strong internal consistency (Taber, 2018). These values exceed the recommended threshold of .70 for acceptable reliability. Content validity was established through alignment of questionnaire items with DRRM performance domains identified in relevant literature and policy frameworks.

Data Collection Procedure. Ethical clearance was obtained from the University of Bohol Research Ethics Committee (UBREC). Institutional permissions were secured from the Vice President for Academic Affairs, the Dean of the College of Criminal Justice, and the Municipal Mayor of Loboc. Participants were informed of the study’s purpose, voluntary participation, and confidentiality safeguards prior to data collection.

Survey responses were encoded and analyzed using SPSS. Data were stored in password-protected digital files accessible only to the researchers.

Statistical Analysis. Descriptive statistics—including frequencies, percentages, weighted means, and standard deviations—were computed to summarize demographic characteristics and perception scores. Where appropriate, inferential analysis was conducted to examine relationships between selected demographic variables and perception measures, with significance set at $\alpha = .05$ (Field, 2018).

Ethical Considerations. The study adhered to ethical standards in social research. Participants provided informed consent and were assured of anonymity and confidentiality. Data were used solely for academic purposes and handled in accordance with institutional ethical guidelines.

RESULTS AND DISCUSSION

Profile of Respondents. The majority were aged 26–32 years (52.8%), followed by other age brackets, with the 33–40 group representing the smallest proportion (12.7%). Female respondents comprised 61.9% of the sample, while males accounted for 38.1%. In terms of residency, 33.1% had lived in

their barangays for 21–30 years, whereas only 9% had resided there for five years or less.

Long-term residency suggests sustained exposure to local hazard events, which may influence perceptions of disaster governance. Prior studies indicate that repeated exposure to disasters can shape risk awareness and trust in institutions (Paton, 2003). The higher participation of women aligns with research showing that women often assume central roles in household-level preparedness and community-based risk reduction activities (Enarson & Chakrabarti, 2009).

Perceived Effectiveness of MDRRM. The MDRRM Office was deemed to be in a high overall effectiveness position. The factors with the highest scores were early warning systems (WM = 3.9096), community preparation education (WM = 3.8870), and appropriate personnel during emergencies (WM = 3.8588). These findings emphasize the role of communication and readiness functions in shaping community evaluations.

Early warning systems, which provide timely alarms, are widely recognized as critical components of catastrophe risk reduction. This is because timely alerts help to avoid casualties and economic losses. In a similar vein, Norris et al. (2008) discovered that community education improves adaptive ability and proactive response behavior. Based on the high ratings in these categories, it appears that the MDRRM Office in Loboc does a good job of implementing preventive and preparatory measures.

Lower, but still positive, ratings were recorded for equipment serviceability (WM = 3.4520), attention to community issues (WM = 3.5282), and reaction time (WM = 3.7514). These characteristics affect operational preparedness and participatory governance. Research highlights institutional capacity as a critical component of efficient local governance of catastrophes (Shah et al., 2019; Tierney, 2012). This competency includes everything from equipment reliability to stakeholder participation.

While the performance as a whole continues to be outstanding, these particular areas may indicate chances for even more incremental progress.

Level of Satisfaction with MDRRM. Residents expressed high satisfaction with their MDRRM services. The top satisfaction indicators were familiarity with emergency procedures (WM = 3.9011), preparedness due to timely warnings (WM = 3.8955), and improved communication facilitated by the response team (WM = 3.8559).

These results strengthen the link between programs that help people prepare for emergencies and their satisfaction with their government. According to the public administration literature, how well people think the service is and how quickly it responds have a significant impact on how happy and trusting people are of local government (Van de Walle & Bouckaert, 2003). When people in a community feel they know what is going on and that they are being helped, the legitimacy of institutions grows.

The lower-ranked satisfaction items were the same as those found under

effectiveness, namely optimizing equipment and responding to ideas. These dimensions may affect long-term public trust, even though they remain at the “highly satisfied” level.

Table 1. *Profile Variables and Perceived Effectiveness of MDRRM*

Profile Variable	χ^2 Value	df	p-value	Interpretation
Age	12.167	3	.007	Significant
Sex	.571	1	.450	Not Significant
Years of Residency	4.021	4	.403	Not Significant

The analysis indicates a statistically significant relationship between age and perceived effectiveness ($p = .007$). This suggests that perceptions of MDRRM performance vary across age groups. Research shows that age influences risk perception, institutional trust, and evaluation of public services (Wachinger et al., 2013). Younger or middle-aged adults may differ in their expectations from those of older residents, potentially explaining the observed variation.

In contrast, sex and years of residency were not significantly associated with perceived effectiveness. This consistency suggests that MDRRM services are viewed similarly across gender groups and among both long-term and newer residents.

Table 2. *Profile Variables and Level of Satisfaction with MDRRM*

Profile Variable	χ^2 Value	df	p-value	Interpretation
Age	15.980	3	.001	Significant
Sex	.211	1	.646	Not Significant
Years of Residency	8.625	4	.071	Not Significant

Similar to effectiveness, age was significantly related to satisfaction ($p = .001$), indicating that age groups differ in their satisfaction levels. However, sex and years of residency did not significantly influence satisfaction.

The near-significant association between years of residency and disaster exposure ($p = .071$) suggests a possible trend worth exploring in future research, particularly given that longer exposure to disasters may shape expectations and evaluation standards.

Correlation Between Effectiveness and Satisfaction. The results show a strong and statistically significant positive correlation ($\rho = .919, p < .001$) between effectiveness and satisfaction. This indicates that higher perceptions of effectiveness are closely associated with higher satisfaction levels (See Table

3 below).

Table 3. *Correlation Between Effectiveness and Satisfaction*

Variable Pair	Spearman's rho	p-value	Interpretation
Effectiveness & Satisfaction	.919**	p < .001	Strong Positive Correlation

This strong correlation is consistent with existing public service evaluation models, which indicate that perceived performance is a key predictor of citizen happiness (Van de Walle & Bouckaert, 2003). In disaster governance environments, good communication, preparedness, and coordinated action contribute not only to operational effectiveness but also to public and institutional trust (Tierney, 2012).

The findings show that people in Loboc like the MDRRM Office as a whole, especially its early warning systems, disaster preparedness training, and communication efforts. These characteristics are quite similar to worldwide policies for reducing disaster risk, which put prevention, preparedness, and community involvement first (UNDRR, 2019). Operational elements like equipment readiness and responsiveness to ideas obtained lower scores, but they are still in the acceptable range and give useful input for improvement. Age is significantly associated with both efficacy and satisfaction, indicating that demographic factors may modify expectations and risk perception. However, the lack of large disparities between the sexes and the amount of time spent living there suggest that people in both groups have similar views on how well services are delivered.

In general, the strong link between effectiveness and satisfaction underscores the importance of high standards in communication, readiness, and operational competence to maintain public trust and community resilience.

CONCLUSION

This study investigated people's perceptions of the effectiveness and satisfaction with the Municipal Disaster Risk Reduction and Management (MDRRM) Office's performance in Loboc, Bohol. Overall, the findings show that the MDRRM Office is well-regarded by the community, particularly for its early warning systems, preparedness education, and communications.

These dimensions received consistently high ratings and appear to play a central role in shaping public trust and confidence.

The findings indicated a strong correlation between age and both perceived efficacy and satisfaction, suggesting that generational disparities may affect assessments of disaster governance. In contrast, sex and length of residency were not significantly associated with attitudes, suggesting that these demographic groups made similar decisions.

The robust positive correlation between effectiveness and satisfaction

underscores the close relationship between public trust and operational performance. Residents' satisfaction increases when they perceive catastrophic risk-reduction measures as timely, systematic, and considerate. This finding aligns with the comprehensive governance literature, which underscores the significance of service quality and institutional expertise in sustaining trust in local governments.

The MDRRM Office did well overall, but somewhat lower grades in equipment serviceability and reaction to community feedback indicate possible areas for incremental development to build institutional competency.

These findings align with international principles for reducing catastrophe risk, which emphasize ongoing institutional learning, community engagement, and resource efficiency. The study emphasizes that effective municipal disaster governance depends not just on institutional mandates but also on communication, a culture of preparedness, and ongoing community engagement.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are respectfully proposed:

- 1. Enhance Equipment Maintenance and Optimize Resources.** Notwithstanding positive scores, equipment serviceability received comparatively lower evaluations. The MDRRM Office should consider instituting frequent technical audits, preventive maintenance programs, and inventory assessments to ensure ongoing operational readiness. Enhancing logistical preparedness can improve the efficacy of disaster response.
- 2. Improve Participatory Feedback Mechanisms.** To enhance participatory venues for residents' viewpoints on addressing community issues on the barangay level, a suggestion system and a post-disaster evaluation are proposed. The MDRRM Office should improve community involvement by establishing regular barangay-level participatory governance, as it has proven its ability to enhance resilience and institutional legitimacy.
- 3. Formulate Communication Strategies Tailored to Age Sensitivity.** To customize communication tactics to account for the substantial correlation between age and both efficacy and satisfaction could prove advantageous. The MDRRM Office may explore varied communication channels—such as digital platforms for younger people and community assemblies for older populations—to guarantee equitable information distribution.
- 4. Maintain and Enhance Preparedness Education Initiatives.** To sustain community education and early warning systems, as it ranked among the most highly evaluated indicators. These projects should

be maintained and, if feasible, augmented. Ongoing drills, simulation exercises, and public awareness initiatives can enhance the culture of readiness and augment adaptive capacity.

5. **Establish Continuous Performance Evaluation as a Standard Practice.** To uphold elevated performance standards, the MDRRM Office may implement regular citizen satisfaction surveys and performance evaluations. Evidence-based assessment facilitates ongoing enhancement and responsibility in local administration.
6. **Prospective Research Avenues.** To employ mixed-method approaches in future research, such as qualitative interviews or focus group discussions, to enhance understanding of community expectations and institutional obstacles. Comparative analyses among municipalities may yield comprehensive insights into optimal approaches in local catastrophe governance.

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