Towards A New Institutional Model of Disaster Risk Management and Coastal Resilience: Evidence from Nasugbu, Batangas

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Abstract

This study examined the impact of Disaster Risk Management (DRM) practices on the resilience of coastal communities in Nasugbu, Batangas, Philippines, a municipality frequently exposed to natural hazards such as typhoons, storm surges, flooding, and coastal erosion. The research aimed to determine the effectiveness of key DRM practices—including comprehensive risk assessment, disaster preparedness and response planning, early warning systems, and community-based disaster education—and assess their influence on community resilience in terms of disaster response capacity, recovery efficiency, social cohesion, and economic resilience.A descriptive-correlational research design utilizing a mixed-methods approach was employed. Data were gathered from 384 respondents composed of local government officials, community leaders, disaster response personnel, and coastal residents selected through stratified sampling to ensure adequate representation of vulnerable sectors. Quantitative data were analyzed using descriptive statistics and correlation analysis, while qualitative data from interviews and open-ended responses were used to validate and enrich the statistical findings. Results revealed that DRM practices in Nasugbu are generally effective and are consistently implemented across coastal communities. Among the assessed dimensions, disaster preparedness and response planning, together with early warning systems, received the highest ratings due to their reliability and perceived usefulness during hazard events. Findings further indicated a significant positive relationship between DRM practices and community resilience indicators. Stronger associations were observed in disaster response capacity and social cohesion, highlighting the critical role of coordinated community action and institutional preparedness. However, weaker relationships were noted in economic resilience, suggesting the need for more sustainable livelihood diversification and post-disaster economic recovery programs. Challenges were also identified in maintaining long-term community participation in disaster preparedness initiatives. The study concludes that resilient coastal communities are built through an integrated DRM framework that combines proactive governance, technology-driven early warning mechanisms, stakeholder collaboration, and active community engagement. It recommends strengthening local DRM policies, expanding disaster education programs, promoting livelihood diversification, and enhancing multi-sector partnerships to reduce vulnerability and foster long-term resilience in hazard-prone coastal areas.

Keywords: Disaster Risk Management, Community Resilience, Coastal Communities, Early Warning Systems, Disaster Preparedness