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## Research Article

### Island School Leaders' Experiences of Resilience in Disaster-Prone Areas: A Development of a Disaster Risk Reduction Management Program Model

Jay-ar F. Capio\*

Departement of Mathematics, Burdeos National High School, Burdeos, Quezon 4340, Philippines

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#### \*Corresponding author:

E-mail:

[jayarcapio20@gmail.com](mailto:jayarcapio20@gmail.com)

#### ABSTRACT

Disasters continue to disrupt education worldwide, but geographically isolated, disaster-prone island schools face challenges from recurring hazards, limited resources, and delayed external assistance. This study explored the experiences of school leaders in the island municipalities of Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig (POGI) in managing disasters and sustaining educational continuity. Specifically, it examined the hazards and disruptions experienced by island schools, the preparedness and disaster response mechanisms employed by school heads, the strategies used to resume classes and support recovery, and the ways resilience is enacted and sustained before, during, and after disasters. The study employed a qualitative research design using interpretive phenomenology. Data were gathered through semi-structured interviews with ten purposively selected public elementary and secondary school heads and analyzed using Colaizzi's descriptive phenomenological method. The findings revealed that recurring typhoons, flooding, storm surges, earthquakes, and other environmental hazards disrupt school operations and learning continuity, particularly where outside assistance is delayed. School heads demonstrated proactive leadership through preparedness planning, communication systems, stakeholder coordination, adaptive learning strategies, and recovery initiatives. Resilience emerged through emotional regulation, accountability, leadership presence, empathy, adaptability, and commitment to service. The participants also highlighted the importance of local community partnerships, resource mobilization, learner support, and flexible educational approaches in sustaining school operations during and after disasters. Based on the findings, the I-HEART Resilience Model was developed as a context-specific Disaster Risk Reduction Management Program Model that may serve as a framework for strengthening disaster preparedness, response, recovery, and educational resilience in disaster-prone island schools.

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## Introduction

Disasters continue to pose significant challenges to educational systems worldwide, particularly in communities that experience recurring exposure to natural hazards. Schools located in vulnerable areas are often among the first institutions affected by typhoons, floods, earthquakes, and other disruptive events, resulting in interrupted learning, damaged infrastructure, and threats to the safety and well-being of learners and school personnel. Beyond their educational function, schools frequently serve as community centers, temporary shelters, and sources of support during emergencies, making their resilience essential not only to education but also to community recovery and stability (King & Suryadarma, 2025; UNESCO, 2024).

Educational resilience has become a major priority in global disaster risk reduction efforts. Resilient schools are expected to maintain learning continuity, protect learners and personnel, and recover effectively from disruptions. This requires proactive planning, adaptive leadership, and coordinated disaster management strategies before, during, and after emergencies. The Comprehensive School Safety Framework highlights the importance of integrating preparedness, response, and recovery systems into school operations to reduce vulnerabilities and strengthen long-term resilience (GADRRRES, 2025). In practice, school leaders are responsible for guiding decisions, coordinating stakeholders, sustaining educational services, and supporting the welfare of school communities during times of crisis (UNESCO, 2024). However, their ability to carry out these responsibilities depends on the resources, infrastructure, and support available in their respective communities.

The need for resilient educational leadership is particularly evident in the Philippines, a country located within the Pacific Ring of Fire and the Pacific typhoon belt. Schools regularly face disruptions caused by typhoons, storm surges, floods, earthquakes, and landslides.

While the Department of Education has implemented various Disaster Risk Reduction and Management (DRRM) initiatives, many geographically isolated and disadvantaged communities continue to experience challenges related to limited resources, inadequate infrastructure, and delayed access to support services (Context News, 2024). These conditions increase the vulnerability of schools and place additional responsibilities on school leaders, who must adapt disaster preparedness and response measures to the resources available while ensuring safety and maintaining the continuity of education.

These challenges are especially pronounced in island schools. Geographic isolation, transportation limitations, communication disruptions, and restricted access to resources create unique challenges that intensify the impact of disasters. In the island municipalities of Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig in Quezon Province, disaster risks are embedded in everyday school operations. School leaders in these communities are expected to manage emergency response, coordinate with local stakeholders, support learners and teachers, and facilitate recovery despite limited external assistance. Previous studies have identified issues related to preparedness, coordination, and resource mobilization in disaster-prone schools, highlighting the need for context-specific approaches to resilience and disaster management (Dela Cruz & Ormilla, 2022; Alpuerto, 2023).

Although resilience has been widely discussed in the fields of educational leadership and disaster risk reduction, limited attention has been given to the lived experiences of school leaders in remote island settings. Existing studies often focus on preparedness programs, school safety initiatives, or disaster management policies, while the experiences, coping strategies, and leadership practices of school heads confronting recurring disasters remain underexplored. Understanding how these leaders navigate uncertainty, sustain

school operations, and support their communities can provide valuable insights into effective resilience practices in geographically isolated environments.

This study explored the experiences of school leaders in the island municipalities of Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig in managing disasters and sustaining educational continuity. By examining how school heads understand, practice, and sustain resilience before, during, and after disasters, the study sought to identify leadership strategies and contextual realities that shape disaster response and recovery in island schools. The findings served as the basis for the development of a Disaster Risk Reduction Management Program Model that reflects the unique conditions, challenges, and resilience practices of school communities in disaster-prone island settings.

### **Statement of the Problem**

This study explored the experiences of school leaders in island schools in Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig (POGI Islands) in managing disasters and sustaining educational continuity. Specifically, it sought to answer the following questions:

1. What types of hazards and disruptions are commonly experienced by island schools in Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig (POGI Islands), and how do these affect daily school operations?
2. How do school heads make critical decisions during the onset of disasters in terms of communication flow, accounting for learners and personnel, evacuation procedures, and coordination with the LGU, MDRRMO, Barangay, and Coast Guard?
3. What strategies are employed to resume classes after disasters, and how are infrastructure repairs and learning recovery prioritized?
4. How do island school leaders enact and sustain resilience before, during, and after disasters within their school contexts?

### **Methods**

This study employed a qualitative research design using interpretive phenomenology to explore the lived experiences of school leaders

in island schools. The approach was selected because it focused on understanding the experiences of school heads, their interpretation of these experiences, and the meanings they derived from them. It provided participants with the opportunity to share their stories in their own words, particularly how they planned, made decisions, and led their schools during times of crisis. Rather than focusing on policies or general descriptions, the study examined the realities of leadership in the Polillo Group of Islands (POGI), highlighting how school leaders balanced safety, learning continuity, and community needs in geographically isolated and disaster-prone settings. The findings served as the basis for the development of a Disaster Risk Reduction Management Program Model grounded in the realities, constraints, strengths, and resilience practices of island schools.

The participants of the study were public elementary and secondary school heads from the Polillo Group of Islands (POGI), specifically from the municipalities of Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig. Purposive sampling was employed to select participants who were directly responsible for disaster preparedness, decision-making during calamities, and post-disaster recovery within their schools. To qualify for inclusion, participants must have served as school heads in island schools for at least five years, managed at least one disaster occurrence in their school, and expressed willingness to participate in the study. A total of ten (10) school heads participated in the study. The number of participants was determined through data saturation, which was reached when no new patterns or themes emerged from the interviews.

The study was conducted in the island municipalities of Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig in Quezon Province, collectively known as the Polillo Group of Islands (POGI). These communities are frequently affected by typhoons, storm surges, flooding, and other environmental hazards that disrupt school operations and community life. Geographic isolation often results in delays in transportation, communication, relief assistance, and resource mobilization during emergencies. In these communities, schools serve

not only as places of learning but also as shelters for evacuees during disasters. These conditions provided an appropriate setting for examining the resilience experiences of school leaders who continually manage disaster-related challenges while sustaining educational services.

Data were gathered through semi-structured interviews with selected school heads from island schools in Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig. An interview guide aligned with the objectives of the study was used to facilitate the interviews. Face-to-face interviews were conducted whenever possible, while online interviews were utilized when travel limitations or weather conditions prevented physical access. With participants' consent, interviews were audio-recorded and transcribed verbatim to ensure accuracy and completeness of the data. This process enabled the collection of detailed narratives regarding disaster preparedness, response, recovery, and resilience among island school leaders.

The data were analyzed using Colaizzi's descriptive phenomenological method. Interview transcripts were read and reread to achieve familiarity with the participants' accounts, after which significant statements relevant to the phenomenon were identified and extracted. Formulated meanings were derived from these statements and organized into clusters of themes that reflected common patterns across participants' experiences. These theme clusters were integrated into an exhaustive description of the phenomenon and synthesized into a fundamental structure representing the resilience experiences of island school leaders.

The study adhered to established ethical principles to protect the rights, dignity, and welfare of all participants. Prior to data collection, informed consent was obtained and participants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any stage without penalty. Confidentiality and anonymity were maintained through the removal of identifying information from transcripts and reports, while audio recordings and research documents were securely stored and accessed only by the researcher. Ethical approval was secured from the appropriate institutional review authorities, and the necessary permissions were obtained from the Department of Education and concerned local synthesized into a fundamental structure representing the resilience experiences of island school leaders. To ensure credibility and government units before the conduct of the study. Throughout the research process, participants were treated with respect and sensitivity, particularly when discussing experiences related to disasters and emergencies.

## Result and Discussion

### *Hazards and Disruptions Experienced by Island Schools*

Island schools in Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig are regularly exposed to environmental hazards that affect school operations and educational continuity. This section presents the hazards and disruptions commonly experienced by island schools and their effects on daily school activities.

*Table 1. Types of Hazards and Disruptions Commonly Experienced by Island Schools Affecting Daily School Operations*

| Participant Code | Significant Statement                                                                                     | Formulated Meaning                                                  | Theme Cluster        | Emerging Theme                           |
|------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------|------------------------------------------|
| P1               | "Classes are suspended whenever there is a strong typhoon."                                               | Disaster leads to class suspension and interruption of instruction. | Natural Hazard       | Suspension of Classes During Disasters   |
| P2               | "With a very lean staff, we struggle to clear debris and secure the school grounds safely after a storm." | Limited workforce affects immediate post-disaster recovery efforts. | Personnel Constraint | Resource and Manpower Scarcity in Crisis |

| <b>Participant Code</b> | <b>Significant Statement</b>                                                                                  | <b>Formulated Meaning</b>                                               | <b>Theme Cluster</b>            | <b>Emerging Theme</b>                           |
|-------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------|-------------------------------------------------|
| <b>P3</b>               | "We rely heavily on Brigada Eskwela volunteers to rebuild our damaged classrooms."                            | Community support is essential for infrastructure recovery.             | Community Mobilization Recovery | Infrastructure Restoration Through Partnerships |
| <b>P4</b>               | "Managing a large school means tracking hundreds of displaced students across different evacuation centers."  | Large student populations complicate accountability during emergencies. | Institutional Scale             | Challenges in Student Accountability            |
| <b>P5</b>               | "We use hazard maps and historical data to predict which classrooms will flood first."                        | Data-based planning supports disaster preparedness.                     | Risk Assessment                 | Evidence-Based Disaster Preparedness            |
| <b>P6</b>               | "Being on an island means we are cut off from the mainland; our local stakeholders are our first responders." | Geographic isolation increases dependence on local networks.            | Geographical Isolation          | Island Isolation During Severe Weather          |
| <b>P7</b>               | "We constantly have to shift our schedules and adapt the modules when the weather changes overnight."         | Flexibility is necessary to sustain learning continuity.                | Operational Agility             | Adaptive Instructional Delivery                 |
| <b>P8</b>               | "Typhoons, heavy rain, extreme heat."                                                                         | Multiple environmental hazards affect school operations.                | Multi-Hazard Exposure           | Multi-Environmental Hazards                     |
| <b>P9</b>               | "Flooding makes it difficult for students to attend school."                                                  | Hazards contribute to learner absenteeism.                              | Attendance Disruption           | Absenteeism Due to Disasters                    |
| <b>P10</b>              | "I focus on keeping teachers motivated and listening to their anxiety when a storm is approaching."           | Emotional support is necessary during emergencies.                      | Psychological Support           | Teacher Well-Being During Disasters             |

The findings revealed that typhoons are the most frequently experienced hazard among island schools in the Polillo Group of Islands (POGI), although flooding, earthquakes, and extreme weather conditions were also identified as recurring threats. The participants described these hazards as regular occurrences that continually influence school operations, planning, and decision-making. For school heads, this means that disaster preparedness cannot be treated as an occasional activity but must be part of their regular decisions concerning school safety, instructional schedules, and learning continuity. This finding supports UNICEF (2025), which emphasized that schools located in hazard-prone areas are repeatedly

affected by climate-related disruptions that threaten educational continuity.

The effects of these hazards are immediately reflected in school operations through class suspensions, interruptions in instructional delivery, and disruptions to academic schedules. Although schools attempt to sustain learning through alternative modalities and adaptive instructional strategies, the participants acknowledged that these approaches are often constrained by limited resources and unstable conditions. This presents a particular challenge for island schools, where maintaining instruction during disasters depends not only on the availability of alternative learning materials but also on whether teachers and learners

can access and use them under difficult conditions. These findings support the observation of Venegas Marin et al. (2024) that extreme weather events continue to disrupt education through school closures, damaged facilities, and interruptions in learning activities.

The participants likewise highlighted learner absenteeism as a persistent consequence of disasters. Flooding, transportation difficulties, and limited accessibility prevent students from attending classes regularly, particularly in geographically isolated communities. Prolonged interruptions may create learning gaps and affect academic progress. For island school leaders, this means that reopening schools does not necessarily guarantee the immediate return of learners, especially when transportation and access to school remain affected. Addressing these barriers is therefore important in ensuring that recovery efforts reach learners who continue to experience difficulties attending classes. This finding is consistent with reports from the Department of Education, which identified weather-related disruptions as continuing barriers to educational participation in vulnerable communities (DepEd, 2024).

The participants emphasized that learning continuity involves more than simply providing learning materials. School leaders described the need to adjust schedules, modify instructional delivery, and address challenges related to communication, resource availability, and learner support. These experiences show that maintaining learning continuity requires school heads to consider the actual conditions of their teachers and learners rather than relying solely on prepared instructional materials or alternative learning arrangements. Such flexibility becomes particularly important in island communities where disruptions to transportation and communication may limit access to educational support. Similar observations were reported by UNICEF EAPRO (2025), which noted that climate-related disruptions often weaken learning continuity through damaged resources, delayed recovery, and limited support mechanisms.

The responses showed that the responsibilities of school heads become broader during

disasters. Beyond routine administrative functions, they assume responsibilities related to safety management, coordination, decision-making, and support for teachers and learners. Emotional support for teachers also emerged as an important aspect of disaster leadership. This highlights how school leadership during emergencies involves responding not only to operational concerns but also to the needs and well-being of the people affected. In island schools, where external assistance may be delayed, the presence and decisions of school heads become particularly important in organizing immediate responses and maintaining confidence within the school community. These findings reinforce the importance of effective leadership and communication in managing school emergencies and maintaining organizational stability during crises, as emphasized by Nielo (2024).

Geographic isolation was also found to intensify the effects of disasters on island schools. Limited transportation, delayed assistance, restricted access to resources, and dependence on local stakeholders often prolong recovery efforts. These conditions show that resilience cannot depend on the efforts of school heads alone. Their ability to respond and recover is closely linked to the support available within the community, particularly when assistance from outside the island is difficult to obtain. This makes local partnerships and resource coordination essential to sustaining school operations during emergencies. This supports the findings of Nietschke et al. (2025), who emphasized that resilience in island schools is influenced by environmental exposure, resource availability, and community support systems.

### ***Preparedness and Disaster Response Mechanisms of the School Heads in the Island Schools***

This section presents how school heads make critical decisions during the onset of disasters in terms of communication flow, accounting for learners and personnel, evacuation procedures, and coordination with the LGU, MDRMO, Barangay, and Coast Guard.

Table 2. Preparedness and Disaster Response Mechanisms of the School Heads in the Island Schools

| Participant Code | Significant Statement                                                          | Formulated Meanings                                                                  | Theme Cluster         | Emerging Theme                              |
|------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------|---------------------------------------------|
| P1               | Giving support and technical assistance to empower and motivate them.          | School heads support teachers to maintain readiness and coordination.                | Leadership Support    | Strengthens Preparedness                    |
| P2               | Constant weather monitoring and proactive coordination with local authorities. | Decision-making begins with early monitoring and proactive planning.                 | Proactive Strategy    | Monitoring and Early Decision-Making        |
| P3               | Communicating with the teachers using online platforms through cellphone.      | Communication is maintained through accessible technology.                           | Communication Tool    | Technology-Enabled Communication            |
| P4               | Serving as the Last Man to leave the compound to ensure everyone is out.       | Roles and responsibilities are clearly communicated and demonstrated.                | Role Clarity          | Clear Roles and Accountability              |
| P5               | Shifting from face-to-face to modular learning modality.                       | School heads adjust strategies and coordinate resources according to emerging needs. | Adaptive Strategy     | Flexible Learning Continuity Strategies     |
| P6               | School heads are the main responsible in school.                               | Leadership requires accountability and visible presence.                             | Accountability        | Responsible and Accountable Leadership      |
| P7               | Communicating with the teachers using online platforms through cellphone.      | Communication is maintained through accessible technology.                           | Communication Tool    | Technology-Enabled Communication            |
| P8               | Ensure the safety of learners, teachers and staff.                             | Safety is prioritized in all decisions and actions.                                  | Safety Focus          | Safety-Centered Decision-Making             |
| P9               | Conducting drills like earthquake drills and WASAR.                            | Training activities strengthen readiness and response capacity.                      | Training Practice     | Disaster Preparedness Through Drills        |
| P10              | We coordinate with external agencies through phone calls and social media.     | Coordination extends beyond the school to external stakeholders.                     | External Coordination | Strengthening Response Through Partnerships |

The participants' responses revealed that disaster preparedness begins before an actual emergency occurs. School heads described regularly monitoring weather conditions, reviewing school preparedness plans, and coordinating with local authorities to ensure that necessary measures are in place before hazards affect the school community. Their experiences show that preparedness is integrated into daily leadership responsibilities rather than being

limited to disaster situations. For island school heads, early preparation is particularly important because transportation difficulties and geographical isolation may delay outside assistance once severe weather conditions develop. This makes timely planning and coordination necessary for protecting the school community before a disaster occurs. These practices support the Department of Education's direction of activating school-based DRRM systems and

ensuring continuity of learning during emergencies (DepEd, 2024).

Communication emerged as one of the most important elements of disaster response. The participants emphasized the use of mobile phones, online platforms, and social media to relay information and coordinate actions among teachers, staff, learners, and external stakeholders. They also highlighted the importance of establishing clear roles and responsibilities before disasters occur so that school personnel can respond in an organized manner. In island communities, where communication services may become unreliable during severe weather, knowing who should communicate important information and coordinate specific actions is just as important as the technology being used. This reduces dependence on a single communication channel and helps school personnel respond even when access to outside assistance is limited. The findings suggest that communication serves not only as a channel for information dissemination but also as a mechanism for coordinating actions and reducing confusion during emergencies. This supports the findings of Kangana et al. (2024), who emphasized that effective communication contributes to coordinated disaster response through timely and accurate information sharing.

The findings also indicate that preparedness is strengthened through regular drills and training activities. Earthquake drills, WASAR exercises, and other preparedness programs help familiarize teachers and staff with emergency procedures and improve their readiness during actual disaster events. These activities allow school personnel to develop confidence and become more capable of responding effectively to emergencies. The participants viewed these preparedness measures as essential components of school safety and disaster readiness. Their importance becomes more evident in island schools, where teachers and school personnel may need to carry out immediate safety measures while waiting for emergency responders. Regular training therefore helps schools develop the capacity to act promptly using the personnel and resources already available within the community.

The responses further showed that school heads constantly adapt their decisions according to emerging situations. The shift from face-to-face classes to modular learning demonstrates how school leaders modify instructional delivery to sustain educational continuity during disruptions. Such decisions require flexibility, resource coordination, and continuous assessment of prevailing conditions. For island school leaders, adaptability involves more than changing the mode of instruction. It also requires considering whether learners can realistically access learning materials and continue their studies when transportation, communication, and household conditions are affected by disasters. The findings highlight the importance of adaptive leadership in ensuring that learning continues despite the challenges brought about by disasters.

Leadership accountability was also evident in the participants' narratives. School heads described themselves as directly responsible for the safety and welfare of learners, teachers, and staff during emergencies. Many emphasized visible leadership, personal involvement, and the responsibility of ensuring that everyone is safe before considering their own welfare. These experiences illustrate how disaster situations expand the leadership role beyond routine administrative functions and require decisive action under uncertain conditions. In isolated school communities, the presence of school heads can provide reassurance and direction when immediate outside support is unavailable. However, their commitment to protecting others must also be supported by clear safety procedures and shared responsibilities to ensure that emergency decisions do not place anyone at unnecessary risk.

The participants also emphasized the importance of collaboration with local government units, MDRRMO personnel, barangay officials, and other community stakeholders. Coordination with external agencies provides access to information, resources, and support that strengthen disaster response efforts. These partnerships are particularly valuable in island schools because local stakeholders may be the first sources of assistance when rough seas, damaged transportation routes, or com-

munication difficulties prevent immediate support from reaching the community. Establishing these relationships before disasters occur can help school heads coordinate available resources and respond more effectively to urgent needs. The findings suggest that effective disaster management in island schools depends not only on school-based preparedness but also on strong partnerships that enable schools and

communities to work together in addressing emergencies.

### ***Strategies for Resuming Classes, Infrastructure Repair, and Learning Recovery***

This section presents the strategies employed by school heads to resume classes after disasters and how infrastructure repairs and learning recovery are prioritized in island schools.

*Table 3. Recovery, Continuity of Learning, and Leadership Strategies of the School Heads in the Island Schools*

| <b>Participant Code</b> | <b>Significant Statement</b>                                                            | <b>Formulated Meanings</b>                                                   | <b>Theme Cluster</b>      | <b>Emerging Theme</b>                       |
|-------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------|---------------------------------------------|
| <b>P1</b>               | Providing emotional support and encouragement to teachers and learners after disasters. | Recovery includes psychosocial support and motivation.                       | Emotional Recovery        | Supporting Well-Being During Recovery       |
| <b>P2</b>               | Assessing damaged facilities and prioritizing repairs based on urgency.                 | Infrastructure restoration follows a needs-based prioritization process.     | Infrastructure Assessment | Prioritized Infrastructure Rehabilitation   |
| <b>P3</b>               | Conducting clean-up drives with the help of community members and volunteers.           | Community participation accelerates school recovery efforts.                 | Community Participation   | Collaborative Recovery Efforts              |
| <b>P4</b>               | Accounting for displaced learners and helping them return to school.                    | Learning recovery begins by reconnecting learners with the school system.    | Learner Reintegration     | Restoring Learner Participation             |
| <b>P5</b>               | Using modular and flexible learning strategies until normal classes resume.             | Alternative learning methods sustain educational continuity during recovery. | Learning Continuity       | Flexible Learning Recovery Approaches       |
| <b>P6</b>               | Coordinating requests for assistance and resources from external agencies.              | Recovery depends on resource mobilization and external support.              | Resource Mobilization     | Strengthening Recovery Through Partnerships |
| <b>P7</b>               | Monitoring learner progress and identifying those needing additional support.           | Academic recovery requires continuous monitoring and intervention.           | Academic Monitoring       | Targeted Learning Recovery                  |
| <b>P8</b>               | Ensuring that school facilities are safe before resuming classes.                       | Safety assessments guide the reopening of schools.                           | Safety Verification       | Safe Resumption of School Operations        |
| <b>P9</b>               | Organizing school-based activities to rebuild normal routines.                          | Re-establishing routines helps restore stability after disasters.            | School Reengagement       | Rebuilding Normalcy and Stability           |
| <b>P10</b>              | Encouraging teachers to remain resilient and committed despite challenges.              | Leadership helps sustain morale during the recovery phase.                   | Leadership Encouragement  | Resilient Leadership During Recovery        |

The findings of the study revealed that the resumption of classes after a disaster rarely begins under fully restored conditions. Instead, recovery often starts with adjustment and adaptation. When face-to-face classes cannot immediately resume, school heads implement alternative learning modalities to sustain educational continuity. Modular learning, home-based activities, and the use of prepared instructional materials were among the strategies employed to ensure that learning continues despite disruptions. These approaches demonstrate that recovery begins with maintaining instruction rather than waiting for complete restoration of normal conditions. For island schools, this means that educational recovery can begin even while damaged facilities, transportation difficulties, and other disruptions remain unresolved. However, the success of these arrangements depends on whether learners can access the materials and support needed to continue their studies. This finding supports Avdiel and Blau (2025), who described flexible learning arrangements as practical approaches for sustaining education during periods of disruption.

The responses also showed that infrastructure recovery is guided by urgency and the actual condition of school facilities. School heads conduct assessments of classrooms and other learning spaces to determine their safety and usability before classes resume. The immediate priority is to restore facilities essential for instruction while addressing damages that may compromise the safety of learners and personnel. Recovery efforts are often influenced by the availability of resources and the timeliness of external assistance. In island schools, prioritizing repairs becomes particularly important because limited resources and delayed assistance may prevent all damaged facilities from being restored immediately. The participants' experiences also highlight the value of community involvement, as local volunteers and stakeholders can help schools address urgent recovery needs while waiting for additional support. This finding is consistent with the goals of the DepEd (2025) Edukahan initiative, which provides temporary learning spaces and essential educational resources to support immediate school recovery.

Another important finding is the need to adapt learning strategies during the recovery period. School leaders modify instructional approaches according to prevailing conditions to ensure that learners continue to receive educational support. These adjustments are particularly important when regular classroom instruction remains unavailable. Despite these efforts, sustaining learning continuity remains challenging, especially for learners who experience prolonged absences or have limited access to learning resources. The participants' accounts further show the importance of identifying displaced learners, monitoring their academic progress, and providing support to those who may have fallen behind. This suggests that learning recovery should not be measured solely by the resumption of classes but also by the ability of affected learners to return, participate, and continue progressing in their studies. This finding supports the study of Roca-Campos et al. (2025), which emphasized that recovery efforts become more effective when schools respond to the specific needs of learners during disruptions.

The findings further revealed that recovery is more difficult in geographically isolated areas where access to resources and external assistance is limited. Delays in transportation, logistical support, and rehabilitation services often slow down recovery efforts. Damaged infrastructure, prolonged class suspensions, and disrupted learning conditions create additional challenges that extend the recovery process. These circumstances place island school heads in a position where they must make recovery decisions based on what is immediately available rather than relying entirely on assistance from outside their communities. The findings therefore point to the importance of strengthening local partnerships and resource mobilization so that recovery efforts can continue even when transportation and external support remain limited. This result is consistent with the findings of Sapiah et al. (2025), who reported that infrastructure limitations and accessibility issues continue to hinder recovery efforts in remote schools.

The responses indicate that recovery in island schools is a gradual process influenced by available resources, the condition of school

facilities, and the adaptability of school leaders. Learning continuity, facility restoration, and instructional adjustments remain central concerns throughout the recovery period. The experiences of the participants show that recovery is not a single event but an ongoing process of rebuilding educational services while restoring the overall functioning of the school community. The importance given to emotional support, learner reintegration, and the restoration of school routines also shows that recovery extends beyond repairing facilities and reopening classrooms. For island

school heads, effective recovery involves balancing the physical, academic, and emotional needs of the school community while gradually restoring a safe and stable learning environment.

### ***Resilience and Leadership Experiences of School Heads in the Island Schools***

This section presents how island school leaders make sense of, enact, and sustain resilience before, during, and after disasters within their school contexts.

*Table 4. Resilience and Leadership Experiences of School Heads in the Island Schools*

| <b>Participant Code</b> | <b>Significant Statement</b>                                     | <b>Formulated Meaning</b>                                                    | <b>Theme Cluster</b>       | <b>Emerging Theme</b>  | <b>Theme</b>                        |
|-------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------|------------------------|-------------------------------------|
| <b>P1</b>               | "Nagdadasal ako... kumakalma muna ako."                          | Leaders regulate their emotions before responding to crises.                 | Emotional Regulation       | Personal Resilience    | Staying Calm During Crises          |
| <b>P2</b>               | "Hindi agad nagre-react... iniisip muna ang dapat gawin."        | Decisions are made after careful reflection and assessment.                  | Reflective Decision-Making | Personal Resilience    | Thoughtful Crisis Response          |
| <b>P3</b>               | "Kailangan mong bumangon ulit kahit mahirap."                    | Resilience involves recovering and moving forward despite difficulties.      | Recovery Orientation       | Personal Resilience    | Bouncing Back from Adversity        |
| <b>P4</b>               | "Nandiyan ka dapat... ikaw ang unang titingin sa sitwasyon."     | Leaders must be physically present and actively involved during emergencies. | Leadership Presence        | Responsible Leadership | Visible Leadership in Crisis        |
| <b>P5</b>               | "Sumusuporta sa teachers... nagbibigay ng tulong."               | Providing assistance and encouragement strengthens school stability.         | Support System             | Supportive Leadership  | Supporting Teachers and Staff       |
| <b>P6</b>               | "Ako yung responsible... ako ang unang titingin."                | Accountability is a central responsibility of school leadership.             | Accountability             | Responsible Leadership | Taking Ownership During Emergencies |
| <b>P7</b>               | "Hindi ka dapat mawala... kailangan nandiyan ka."                | Consistent presence builds confidence and trust during disasters.            | Leadership Commitment      | Responsible Leadership | Commitment and Reliability          |
| <b>P8</b>               | "Ensure the safety of learners, teachers and staff."             | Safety remains the highest priority during emergencies.                      | Safety Focus               | Protective Leadership  | Safety-Centered Leadership          |
| <b>P9</b>               | "I need to consider the situation of our learners and teachers." | Leaders show awareness, empathy, and concern for others.                     | Empathy                    | Supportive Leadership  | Awareness Strengthens Relationships |

| Participant Code | Significant Statement                                              | Formulated Meaning                                         | Theme Cluster | Emerging Theme      | Theme                       |
|------------------|--------------------------------------------------------------------|------------------------------------------------------------|---------------|---------------------|-----------------------------|
| P10              | "Shifted from routine management to crisis response and recovery." | Leaders adapt their roles and priorities during disasters. | Adaptability  | Adaptive Leadership | Role Shift During Disasters |

The participants described resilience as a quality developed through repeated experiences of leading schools in disaster-prone communities. Their accounts showed that resilience is not simply the ability to withstand challenges but the capacity to continue leading, making decisions, and supporting others despite recurring disruptions. For the school heads, resilience is demonstrated through persistence, commitment, and the willingness to move forward even when faced with difficult circumstances. These experiences suggest that resilience develops as school leaders learn from previous disasters and apply those lessons when facing new challenges. In island communities, this practical understanding becomes particularly valuable because leaders often need to make decisions based on their knowledge of local conditions and available resources. This finding supports Ossiannilsson (2022), who emphasized that resilience in educational settings involves the capacity to adapt and sustain learning and leadership functions during periods of disruption.

The responses showed that emotional control plays an important role in resilient leadership. Several participants shared that they remain calm, pray, reflect, and assess situations carefully before making decisions. Rather than reacting immediately, they take time to understand the situation and determine the most appropriate course of action. Their experiences suggest that maintaining composure allows leaders to think clearly and provide reassurance to teachers, learners, and stakeholders during emergencies. This ability becomes especially important when school heads must make urgent decisions despite limited information or delayed assistance. Remaining calm helps them assess immediate concerns, communicate necessary actions, and provide a sense of stability to the school community during uncertain situations. This observation is consistent with Floman et al. (2024), who highlighted the

importance of emotional regulation in maintaining organizational stability during crises.

School heads also emphasized the importance of being present and taking responsibility during disasters. Many participants viewed themselves as the first individuals responsible for assessing conditions, monitoring developments, and guiding response efforts. Their presence provides a sense of security and confidence among teachers and learners, particularly during uncertain situations. The findings suggest that resilience is reflected not only in decision-making but also in the willingness of leaders to remain visible and accountable throughout the disaster cycle. For geographically isolated schools, leadership presence is particularly meaningful because immediate assistance from outside the community may not always be available. Being actively involved allows school heads to guide initial responses, clarify responsibilities, and coordinate available support while ensuring that safety remains the priority. This finding supports Zadok et al. (2024), who reported that leadership presence contributes significantly to organizational resilience and effective crisis management.

The participants likewise highlighted the importance of supporting teachers and learners during challenging times. Providing encouragement, guidance, and practical assistance helps sustain morale and enables the school community to continue functioning despite disruptions. Their responses indicate that resilience is strengthened through empathy, care, and positive relationships. By supporting others, school leaders help create an environment where teachers and learners can continue fulfilling their responsibilities even under difficult conditions. These findings show that resilience is not limited to the ability of school heads to manage emergencies but also involves recognizing the emotional and practical needs of those affected. In island schools, where access to professional support services may be limited

during disasters, the encouragement and assistance provided within the school community become especially important. This finding aligns with Bagdžiūnienė et al. (2022), who found that supportive leadership promotes resilience, collaboration, and well-being within educational institutions.

Resilience was also reflected in the ability of school heads to adapt to changing roles and responsibilities. During disasters, routine administrative tasks often give way to emergency response, safety management, coordination, and recovery activities. The participants described adjusting their priorities according to the demands of the situation while continuing to ensure the delivery of educational services. Their experiences show that resilient leadership requires flexibility, responsiveness, and the ability to function effectively under changing conditions. This flexibility is particularly important in island schools because transportation difficulties, communication disruptions, and limited resources may require leaders to adjust their plans as situations develop. Their ability to respond to these changing circumstances helps ensure that immediate safety concerns are addressed without losing sight of the school's educational responsibilities. This observation is consistent with Durrani and Masocha (2024), who identified adaptability as an essential characteristic of effective leadership during crises.

The experiences of the participants demonstrate that resilience among island school leaders is characterized by calmness, accountability, empathy, adaptability, commitment, and service. These qualities enable them to navigate disruptions, support their school communities, and sustain educational operations despite the challenges associated with disaster-prone island settings. Their narratives illustrate that resilience is not merely about enduring adversity but about continuously leading,

supporting others, and ensuring that education remains accessible before, during, and after disasters. The findings also suggest that these leadership qualities are most effective when supported by clear disaster preparedness procedures, shared responsibilities, and strong community partnerships. Resilience in island schools should therefore be understood not only as a personal quality of school heads but also as a capacity strengthened through cooperation and the support available within their communities.

### ***The I-HEART Resilience Model: A Humanized Program Model for Disaster Risk Reduction in Island Schools***

This section presents the I-HEART Resilience Model developed from the experiences of island school leaders in managing disasters before, during, and after disruptions. The model synthesizes the major themes that emerged from the study and provides a practical framework for disaster risk reduction and resilience-building in island schools.

The findings of the study were synthesized into the I-HEART Resilience Model, a framework that captures how island school leaders manage disaster risks and sustain educational operations before, during, and after emergencies. The model reflects the realities of leadership in disaster-prone island communities and demonstrates how resilience is translated into practical actions that support school safety, learning continuity, and recovery. The framework is composed of six interconnected components: Identify, Human-Centered Leadership, Educate and Empower, Act and Prepare, Respond with Care, and Transform and Thrive. These components emerged directly from the experiences shared by the participants and represent the processes they use in managing disasters within their respective schools.

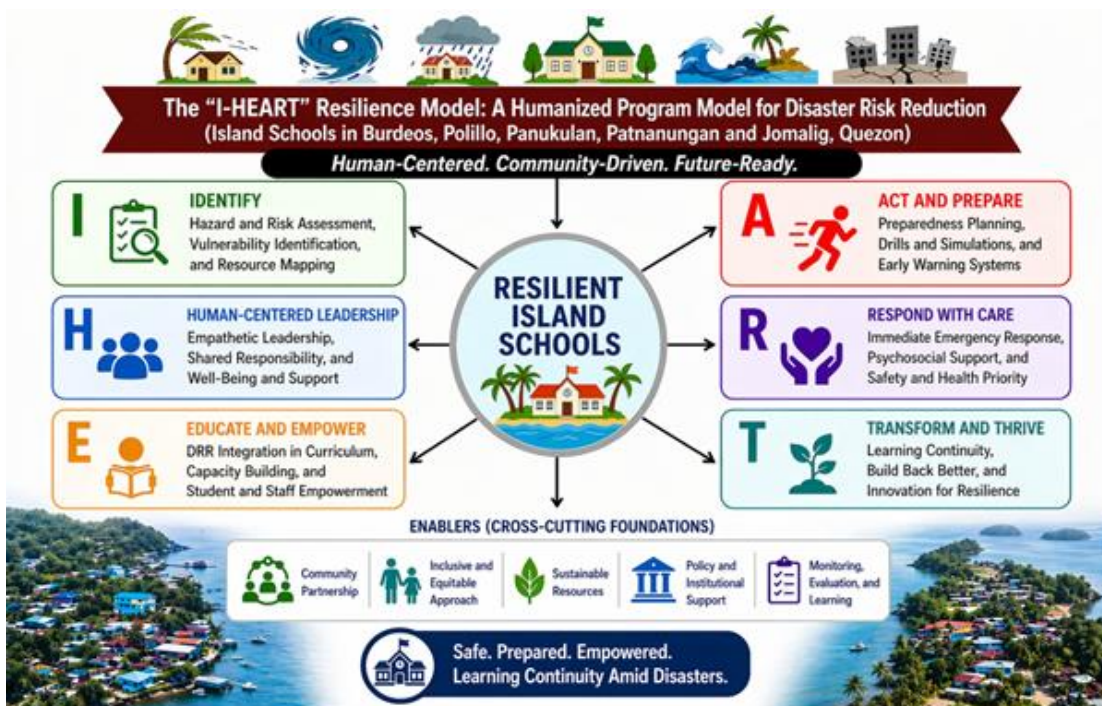


Figure 1. The Proposed Model Based on the Results of the Study

### Identify

The first component emphasizes the importance of recognizing hazards, vulnerabilities, and risks that affect island schools. The participants consistently identified typhoons, flooding, storm surges, and other environmental hazards as recurring challenges that influence school operations. Their experiences showed that disaster preparedness begins with awareness and continuous assessment of conditions that may place learners, teachers, and school facilities at risk. Hazard identification enables school leaders to make informed decisions and implement appropriate preparedness measures before disruptions occur.

### Human-Centered Leadership

The findings showed that resilience is strongly influenced by leadership that prioritizes people. School heads emphasized empathy, emotional support, shared responsibility, and concern for the welfare of teachers and learners. Their experiences revealed that effective leadership during disasters involves remaining calm, being present, listening to concerns, and providing reassurance during uncertain situations. Human-centered leadership

strengthens trust and helps maintain stability within the school community during crises.

### Educate and Empower

The participants highlighted the value of training, disaster awareness activities, drills, and continuous learning opportunities. Through these initiatives, teachers, learners, and stakeholders become more prepared to respond effectively to emergencies. The findings suggest that resilience is strengthened when members of the school community possess the knowledge and skills needed to manage risks and participate actively in preparedness efforts.

### Act and Prepare

Preparedness planning emerged as a critical responsibility of school leaders. The participants described monitoring weather conditions, activating contingency plans, conducting drills, and maintaining communication systems to ensure readiness before disasters occur. These actions allow schools to respond more effectively when disruptions arise and help minimize risks to learners and personnel.

### ***Respond with Care***

The findings revealed that disaster response extends beyond operational procedures. School leaders emphasized prioritizing safety, coordinating with local agencies, accounting for learners and personnel, and providing emotional support during emergencies. Their responses showed that effective disaster management requires both technical actions and compassionate leadership that addresses the immediate needs of the school community.

### ***Transform and Thrive***

The final component focuses on recovery and continuous improvement. The participants described restoring learning, repairing facilities, mobilizing resources, and adapting strategies based on lessons learned from previous disasters. Recovery was viewed not only as returning to normal operations but also as an opportunity to strengthen systems and improve future preparedness. This component reflects the ability of island schools to learn, adapt, and become more resilient following disruptions.

The findings also highlighted the importance of community partnerships, inclusive practices, resource availability, policy support, and continuous improvement. These factors influence all components of the model and contribute to the sustainability of disaster risk reduction efforts in island schools. To put these foundations into practice, DepEd division offices and school heads may strengthen regular coordination with local government units, Municipal Disaster Risk Reduction and Management Offices (MDRRMOs), barangay officials, Coast Guard personnel, and community stakeholders to establish clear communication procedures, emergency responsibilities, and available support during disasters. Inclusive preparedness and recovery measures may also be developed by identifying learners who need additional assistance, providing accessible safety information, and ensuring that alternative learning arrangements consider those affected by displacement, transportation difficulties, or limited connectivity. To address resource limitations, DepEd and local policymakers may include island-specific disaster preparedness needs in school and division plans and budget

proposals, particularly for emergency supplies, communication equipment, and learning continuity materials. The implementation of these measures may be monitored through regular drills, resource assessments, records of class disruptions and resumption, and post-disaster evaluations to identify areas that require improvement. Taken together, the I-HEART Resilience Model provides a context-specific framework that reflects the actual experiences of island school leaders and offers practical guidance for strengthening resilience in disaster-prone educational communities.

### **Conclusion**

The findings revealed that island schools in Burdeos, Polillo, Panukulan, Patnanungan, and Jomalig continuously face hazards such as typhoons, flooding, storm surges, earthquakes, and other environmental disruptions that affect school operations, learning continuity, and access to educational services. In response to these challenges, school heads demonstrate resilience through proactive preparedness, effective communication, collaborative decision-making, adaptive learning strategies, and strong partnerships with stakeholders and local agencies. The recovery process involves ensuring safety, restoring school facilities, supporting learners and teachers, and implementing flexible approaches to sustain education despite difficult conditions. The experiences of the participants showed that resilience is reflected in compassionate leadership, accountability, adaptability, teamwork, and a commitment to learner welfare before, during, and after disasters. These realities led to the development of the I-HEART Resilience Model, which provides a practical and context-based framework for strengthening disaster risk reduction and sustaining educational continuity in disaster-prone island schools. Its implementation may be strengthened through coordinated efforts among DepEd, local government units, school leaders, and community stakeholders, with particular attention to inclusive preparedness, sustainable resource support, and clear institutional responsibilities. Regular monitoring and post-disaster evaluations may also help schools assess the effectiveness of their preparedness and recovery measures and improve

their practices based on the needs of island communities.

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