

Stationary Resilience, Detached Communities: Assessing the Gap Between Local Government Recovery Operations and Household Flood Adaptation

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Received: 20 Jul 2026; Received in revised form: 16 Aug 2026; Accepted: 21 Aug 2026; Available online: 25 Aug 2026
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Abstract— *This study addressed the systemic disconnect between localized institutional operations and the active behavioral responses of local households within community-level disaster governance. Utilizing a quantitative, descriptive research design, the study investigated the alignment between the formal mandates executed by administrators and the actual grassroots cooperation, structural adaptation, and policy integration practiced by residents in Aduas Sur, Cabanatuan City. Data were gathered through structured surveys and institutional assessments, and analyzed using weighted means and correlation tests. The findings exposed a profound structural divide: while the barangay bureaucracy achieved functional, highly compliant baselines in pre-disaster planning and short-term crisis response, the general citizenry remained dangerously passive and detached, failing to participate in post-disaster assessments or safety clearances. Statistical analysis revealed no significant relationship between formal recovery actions and resident cooperation, confirming that institutional compliance does not automatically produce grassroots engagement. This alienation was further compounded by a critical breakdown in social inclusivity, where indigenous peoples were systematically omitted from sectoral consultations despite active outreach to other vulnerable groups. The study concludes that the village operates in two isolated realities: a legally compliant bureaucracy running official protocols, and a detached, stationary community that anchors itself by physically reinforcing their homes against rising floodwaters rather than relocating to a safer place. To heal this systemic divide, the study recommends replacing rigid, top-down bureaucratic walls with direct, localized public partnerships, specifically by institutionalizing text-based micro-reporting networks for immediate post-disaster data collection, shifting long-term flood planning to participatory, purok-level workshops, and mandating a permanent representative seat for indigenous peoples to secure true, climate-resilient inclusivity before the next climate hazard impacts the village.*



Keywords— *Local Climate Governance, Public-Civic Co-ownership, Stationary Resilience, Marginalized Inclusivity, Post-Disaster Operations, Participatory Governance*

I. INTRODUCTION

The severe damage and systemic impacts caused by extreme weather events in a changing climate heavily undermine international development frameworks while eroding past economic milestones. From a public administration perspective, these recurring climate hazards directly hinder the execution of development administration policies, dismantle sustainable development

goals, and erode hard-won civic gains across vulnerable administrative jurisdictions (Jiahong, 2023). To counter these escalating structural challenges, global governance frameworks have transitioned through distinct evolutionary phases to find a functional balance between centralized institutional mitigation and decentralized grassroots implementation. This evolution emphasizes that state mechanisms and localized public safety networks must strategically equip, fund, and organize their

operational assets well in advance to minimize post-disaster socio-economic losses and administrative inefficiencies (Das, 2023). Standardizing these proactive governance strategies on a global scale, the United Nations adopted the Sendai Framework for Disaster Risk Reduction 2015–2030 as an ambitious, action-oriented policy roadmap to systematically institutionalize risk reduction across all levels of bureaucracy (EVS.Institute, 2025). Driven by this global administrative directive, community resilience has emerged as a critical focal point within modern environmental policy and public management literature. Cultivating this localized adaptive capacity ultimately requires a comprehensive, multi-phase public policy model capable of translating grassroots data into effective, context-specific municipal legislation (Zaman, 2023).

At the national level, the institutional machinery of the Philippines faces unique operational demands due to its highly vulnerable geographical positioning. The state apparatus must constantly manage the administrative strain of recurring flash floods and severe typhoons because its territory lies directly along major tectonic plates and within the Pacific typhoon belt (Rivera, 2025). This persistent threat creates distinct regional disparities that test the limits of intergovernmental relations, localized governance structures, and equitable public service delivery. While decentralized governance has led to localized resilience improvements through community-based disaster risk reduction initiatives in select regions, socio-economic inequalities persist as lower-income groups consistently face severe resource deficits during administrative recovery phases (Chong, 2025). To legally address these structural vulnerabilities and reform the country's disaster bureaucracy, the legislature enacted Republic Act No. 10121, which legally mandated the decentralization of disaster response by shifting primary accountability and fiscal responsibilities directly onto local government units (LGUs). Within this statutory framework, the city government of Cabanatuan in Nueva Ecija stands out as a critical urban administrative hub facing immense operational pressures due to severe riverine and urban flash flooding triggered by its low-lying terrain and proximity to the Pampanga River stream. Historical disaster logs underscore these governance challenges, showing that massive typhoons like Typhoon Pedring caused heavy losses to public infrastructure and local agriculture across the province, overwhelming local emergency services and leaving thousands displaced (ReliefWeb, 2011).

At the primary baseline of public service delivery, Cabanatuan City experiences the direct operational impact of these severe environmental pressures. During extreme

weather events like Typhoon Lando, rapid environmental failures caused floodwaters in the City to reach head-high levels, forcing local emergency responders to execute high-stakes rescue operations at dawn to preserve public safety (Radana, 2015). Empirical localized assessments confirm that Aduas Sur, one of the barangays in the city, represents a high-risk administrative zone, where intense rainfall combined with structural deficits, such as clogged canals, rivers, and poorly enforced solid waste management systems, repeatedly triggers severe flash flooding (Subia, 2019). While municipal administrators have invested in capital-intensive structural engineering solutions like earth dikes and river slope reinforcements, top-down infrastructure initiatives remain insufficient without functional, compliant community-level operational systems. Consequently, the local Barangay Disaster Risk Reduction and Management Committee (BDRRMC), as the frontline bureaucratic unit of the state must step in to execute localized mandates. However, as documented in public management literature, village-level disaster committees frequently encounter severe operational challenges, including inter-agency communication barriers, restricted local budgets, and a lack of total institutional commitment from local public officers (Nacaya, 2023).

This study seeks to address the systemic disconnect between localized institutional operations and the active behavioral response of the local households within community-level disaster governance. Specifically, the research aims to investigate the alignment between the formal mandates, relief systems, and participatory mechanisms executed by barangay administrators and the actual grass-roots cooperation, structural adaptation, and policy integration practiced by local residents. By evaluating this critical administrative and household intersection, the study will expose operational gaps in local disaster networks, determine where participatory barriers occur, and examine how effectively vulnerable or marginalized groups are incorporated into local planning processes.

Through this investigation, the research expects to provide an empirical foundation for transforming traditional, paternalistic disaster management systems into collaborative public administration models. The anticipated outcomes of this study include the identification of specific governance pathways that can enhance public-civic partnerships, bridge communication gaps between officials and households, and elevate local compliance from passive aid reception to an active co-ownership of disaster risks. To evaluate these dynamics, the study will statistically test whether a significant relationship exists between the institutional disaster recovery operations executed by barangay officials and the

level of active disaster response cooperation and structural adaptation practiced by the residents. This analytical framework operates on the premise that identifying such correlations will either confirm a systemic gap between administrators and the community or demonstrate that higher levels of structured, inclusive institutional preparedness directly drive enhanced civic cooperation and proactive household-level flood adaptation.

II. METHODOLOGY

This study utilized a descriptive-correlational research design to examine the relationship between institutional flood recovery operations and household-level resilience strategies. The target population comprised stakeholders from Barangay Aduas Sur, Cabanatuan City, categorized into two distinct respondent groups: 20 barangay officials who oversee localized disaster administration, and 380 local residents who experience the direct impacts of flooding incidents and execute domestic coping mechanisms. The survey was conducted in 2023. Data collection was executed using a structured, closed-ended survey questionnaire evaluated through a standard four-point Likert scale to eliminate neutral bias. To interpret the aggregated mean scores derived from the survey data, the

researchers applied a strict statistical sequence consisting of four specific mean ranges: 1.00 to 1.74 corresponding to a verbal interpretation of Strongly Disagree; 1.75 to 2.50 indicating Disagree; 2.51 to 3.25 reflecting Agree; and 3.26 to 4.00 denoting Strongly Agree.

Statistical analysis involved calculating the weighted means for individual behavioral indicators across both respondent brackets to establish baseline perceptions of preparedness, relief efficiency, and community consultation. To determine the statistical relationship between the institutional recovery measures implemented by the barangay leadership and the collaborative, self-directed coping strategies of the community households, the researchers utilized Pearson's Correlation Coefficient. This correlational analysis directly tests the null hypothesis, which posits that no significant relationship exists between the institutional disaster recovery operations executed by barangay officials and the level of active disaster response cooperation and structural adaptation practiced by the residents. On the other hand, the alternative hypothesis asserts that higher levels of structured institutional preparedness and inclusive administrative recovery operations significantly correlate with enhanced civic cooperation and proactive household-level flood adaptation.

III. RESULTS AND DISCUSSION

Table 1. Institutional Preparedness and Systemic Disaster Mitigation Measures of Barangay Officials

Indicators	WM	Verbal Interpretation
1. Barangay officials establish preemptive operational protocols for immediate post-flood clearing operations to guarantee rapid community access and safety.	3.25	Agree
2. Barangay officials maintain a comprehensive, proactive inventory of equipment, infrastructure, establishments, facilities, and livelihoods vulnerable to flooding.	2.73	Agree
3. Barangay officials conduct regular safety and capacity assessments of evacuation centers and designated emergency relocation areas prior to the onset of the rainy season.	2.85	Agree
4. Barangay officials institutionalize coordination mechanisms with the C/MDRRMO and local government agencies to streamline post-disaster damage, recovery, and rehabilitation assessments.	2.58	Agree
5. Barangay officials regularly review and update the barangay's disaster prevention, mitigation, and recovery measures.	3.00	Agree
Overall Weighted Mean	2.88	Agree

Pre-Disaster Operations and Systemic Mitigation

This section focuses on the pre-disaster strategic planning, resource monitoring, and structural policies established by

local public administrators before a flood hazard impacts the community.

Table 1 presents the empirical assessment of the institutional preparedness and systemic disaster mitigation measures implemented by the leadership of Barangay Aduas Sur, Cabanatuan City. The overall weighted mean settles at 2.88 (Agree), indicating that the local bureaucratic machinery possesses a functional and compliant capacity to organize disaster mitigation frameworks ahead of impending climate hazards.

The pre-disaster strategy is led by a strong focus on immediate operational readiness and local policy maintenance. Officials excel at establishing preemptive protocols for post-flood clearing operations to guarantee rapid community access and safety (3.25/Agree), which is structurally reinforced by the regular review and updating of the barangay's disaster prevention, mitigation, and recovery measures (3.00/Agree). Together, these indicators reflect a strong commitment to localized logistical planning and statutory compliance.

Pre-disaster infrastructure and resource planning also serve as reliable pillars of local governance. This operational baseline is maintained through the systematic conduct of regular safety and capacity assessments of evacuation

centers prior to the rainy season (2.85/Agree), working alongside efforts to preserve a comprehensive, proactive inventory of equipment, infrastructure, and livelihoods vulnerable to flooding (2.73/Agree).

In contrast, the weakest link in this proactive phase occurs where internal planning must bridge into external administration. Officials struggle to institutionalize coordination mechanisms with the C/MDRRMO and higher local government agencies to streamline post-disaster damage, recovery, and rehabilitation assessments (2.58/Agree). While still matching the positive threshold of agreement, this borderline score identifies a vulnerable friction point where weak intergovernmental networks threaten to cause post-disaster administrative delays.

The data in Table 1 reveal that the local government unit demonstrates a well-structured foundation for internal disaster prevention. While village-level protocols, center assessments, and data inventories remain solid, the primary administrative weakness lies in external network governance and the lack of coordination with city-level disaster agencies.

Table 2. Post-Disaster Relief, Local Consultation, and Administrative Recovery Operations of Barangay Officials

Indicators	WM	Verbal Interpretation
1. Barangay officials conduct an immediate initial assessment regarding the flooding situation, evacuation status, casualties, and physical damage suffered by the barangay.	2.70	Agree
2. Barangay officials coordinate with higher Local Government Units (LGUs) and agencies to secure and distribute immediate relief packages and financial aid to affected residents.	3.02	Agree
3. Barangay officials organize local community meetings and post-disaster consultations with affected residents to gather grassroots feedback.	3.20	Agree
4. Barangay officials lead a comprehensive Post-Disaster Needs Assessment (PDNA) one month following the flood event to measure mid-term community impacts.	2.35	Disagree
5. Barangay officials identify, formulate, and implement long-term recovery programs designed to restore, strengthen, and expand economic and livelihood activities within the barangay.	2.76	Agree
Overall Weighted Mean	2.80	Agree

Post-Disaster Operations and Administrative Recovery

This section evaluates the immediate crisis response and standard administrative recovery actions implemented by the local government from Day 1 to Day 30 following a flood event.

Table 2 presents the empirical assessment of the immediate post-disaster operations and recovery actions executed by the leadership of Barangay Aduas Sur,

Cabanatuan City. The overall weighted mean settles at 2.80 (Agree), highlighting that, within the immediate 30-day post-disaster window, the local bureaucratic machinery operates with a functional and reliable capacity to manage crisis response and execute standard administrative recovery duties.

The post-disaster response is driven by a strong commitment to immediate public engagement and vertical

resource mobilization. Officials excel at organizing local community meetings and post-disaster consultations with affected residents to gather grassroots feedback (3.20/Agree), demonstrating an immediate focus on participatory governance. This localized engagement is tightly supported by consistent coordination with higher Local Government Units (LGUs) and national agencies to secure and distribute immediate relief packages and financial aid to affected residents (3.02/Agree).

Middle-range indicators confirm that the frontline bureaucracy maintains a steady operational grip on early recovery tasks. Officials successfully identify, formulate, and implement long-term recovery programs designed to restore, strengthen, and expand economic and livelihood activities within the barangay (2.76/Agree). This planning runs alongside their immediate fieldwork, as officials effectively conduct a swift initial assessment regarding the flooding situation, evacuation status, casualties, and physical damage suffered by the barangay (2.70/Agree) to map out early damage parameters.

In contrast, a critical administrative breakdown occurs when the timeline shifts toward long-term planning. Officials fail to lead a comprehensive Post-Disaster Needs Assessment (PDNA) one month following the flood event to measure mid-term community impacts (2.35/Disagree), marking the lowest score in this section. This statistical drop points to a severe operational constraint where the transition from short-term emergency relief to structured, data-driven mid-term recovery planning completely stalls due to a lack of formal assessment continuity.

The local government unit proves highly effective at short-term crisis response, specifically in relief distribution and grassroots consultation during the first few weeks of a disaster. However, a significant administrative gap emerges at the one-month transition point, where the failure to conduct a formal Post-Disaster Needs Assessment paralyzes the data baseline needed to successfully bridge immediate relief into structured economic recovery programs.

Table 3. Household-Level Structural Adaptation and Environmental Coping Strategies of Residents

Indicators	WM	Verbal Interpretation
1. Residents repair flood-damaged roofs, walls, and floors of their houses.	2.84	Agree
2. Residents raise their house floor levels to mitigate the impact of future flooding incidents.	2.74	Agree
3. Residents seek to purchase alternative land in areas that are completely safe from flooding.	2.45	Disagree
4. Residents participate in cleanup operations, specifically in local canals, creeks, and drainage facilities.	3.18	Agree
5. Residents make structural improvements to their homes, such as reinforcing foundations or adding anchor bolts, to increase flood resilience.	2.56	Agree
Overall Weighted Mean	2.75	Agree

This section focuses on how individual families physically repair, modify, or cope with their houses to survive future floods during the mid-term recovery period spanning one to three months after a disaster.

Table 3 presents the empirical assessment of the household-level structural adaptation and environmental coping strategies practiced by the residents of Barangay Aduas Sur, Cabanatuan City. The overall weighted mean settles at 2.75 (Agree), indicating that the local populace actively exercises localized adaptive capacity and takes physical responsibility for reinforcing their immediate residential spaces against recurring climate vulnerabilities.

The adaptation narrative is led by strong grassroots environmental actions and basic property restoration. Residents actively participate in cleanup operations, specifically in local canals, creeks, and drainage facilities (3.18/Agree), showing a high level of civic cooperation to minimize immediate neighborhood flood exposure. This collective action runs parallel to individual efforts inside the home, where residents repair flood-damaged roofs, walls, and floors of their houses (2.84/Agree) to quickly restore basic domestic security.

Structural adjustments to local housing also mark a consistent trend in community-level adaptation. Rather than leaving the area, families invest in physical property

modifications, as seen when residents raise their house floor levels to mitigate the impact of future flooding incidents (2.74/Agree). This trend is structurally reinforced by residents making structural improvements to their homes, such as reinforcing foundations or adding anchor bolts, to increase flood resilience (2.56/Agree), showing a shared commitment to building upward and stronger against recurring floodwaters.

In contrast, a significant limitation in civic adaptation occurs when coping strategies require geographical displacement. Residents do not seek to purchase alternative land in areas that are completely safe from flooding (2.45/Disagree), marking the lowest score in this

Table 4. Community-Driven Engagement and Disaster Response Cooperation of Residents

Indicators	WM	Verbal Interpretation
1. Residents coordinate and cooperate with barangay officials and the city government in executing the Post-Disaster Needs Assessment (PDNA) to estimate losses, damages, and needs in service and trade.	1.92	Disagree
2. Residents provide barangay officials with a list of vulnerable individuals requiring immediate attention, including children, women, pregnant women, persons with disabilities (PWDs), senior citizens, and Indigenous Peoples (IPs).	1.93	Disagree
3. Residents communicate with barangay officials post-flooding to verify safety clearances before returning to their residences.	2.37	Disagree
4. Affected residents actively communicate with barangay officials to request and secure government assistance.	2.01	Disagree
5. Residents collaborate with barangay officials in designing and establishing community-level programs to manage flooding incidents.	1.88	Disagree
Overall Weighted Mean	2.02	Disagree

This section evaluates whether residents actively participate in the formal barangay recovery systems, capturing the long-term collaborative cycle and the central gap within local disaster governance.

Table 4 presents the empirical assessment of the community-driven engagement and disaster response cooperation practiced by the residents of Barangay Aduas Sur, Cabanatuan City. The overall weighted mean settles at 2.02 (Disagree), revealing a pervasive systemic disconnect where the general citizenry remains detached and passive within the formal disaster response framework, indicating a clear breakdown in public-civic collaboration.

The breakdown begins in the immediate aftermath of a flood, where even the highest-scoring indicators fail to reach positive agreement. Residents do not communicate with barangay officials post-flooding to verify safety clearances before returning to their residences

dimension. This statistical drop highlights a clear behavioral pattern among the population. Instead of seeking relocation or purchasing new property outside the flood zone, the community chooses to remain stationary, anchoring themselves to their current location.

The local populace in this section demonstrates strong self-reliance and active civic cooperation through localized maintenance and physical property upgrades. The overriding story of this dimension is one of stationary resilience, where residents consistently choose to retrofit and reinforce their existing homes to withstand future floods rather than relocate to unfamiliar or safer grounds.

(2.37/Disagree), and this disconnect persists as affected residents do not actively communicate with local authorities to request and secure government assistance (2.01/Disagree). Together, these behaviors illustrate a severe lack of formal communication between households and local leaders when crisis response is most critical.

This detachment extends directly into localized data collection and targeted vulnerability mapping. The narrative of isolation deepens as residents do not provide barangay officials with a list of vulnerable individuals requiring immediate attention, including children, women, pregnant women, persons with disabilities, senior citizens, and Indigenous Peoples (1.93/Disagree). This absence of grassroots data integration directly parallels the finding that residents do not coordinate or cooperate with barangay officials and the city government in executing the Post-

Disaster Needs Assessment to estimate losses, damages, and needs in service and trade (1.92/Disagree).

The most pronounced failure in this collaborative cycle occurs when the community looks toward the future. Residents do not collaborate with barangay officials in designing and establishing community-level programs to manage flooding incidents (1.88/Disagree), which marks the lowest point in the entire assessment. This critical drop highlights a total absence of civic co-ownership and

participatory planning in the village's long-term disaster frameworks.

The local populace remains largely alienated from the formal administrative systems of the barangay. Across every measured phase, residents consistently demonstrate low engagement, failing to verify safety clearances, request assistance, protect vulnerable sectors, or participate in post-disaster assessments and long-term program design, which completely isolates the community from the government's formal disaster architecture.

Table 5. Level of Social Inclusivity and Sectoral Consultation in Barangay Disaster Management

Indicators	WM	Verbal Interpretation
Barangay officials consult with various community representatives to solicit recommendations for immediate and feasible solutions to the barangay's disaster impact, specifically involving:		
1. Children	3.05	Agree
2. Persons with Disabilities (PWDs)	2.85	Agree
3. Women	2.80	Agree
4. The Elderly / Senior Citizens	3.05	Agree
5. Indigenous Peoples (IPs)	1.77	Disagree
Overall Weighted Mean	2.70	Agree

Level of Social Inclusivity and Sectoral Consultation

This section provides a deep dive into the level of social inclusivity and sectoral consultation within local disaster governance, verifying exactly which sectors are actively integrated or systematically left behind during barangay consultations.

Table 5 presents the empirical assessment of the social inclusivity and sectoral consultation practiced in the disaster management of Barangay Aduas Sur, Cabanatuan City. The overall weighted mean settles at 2.70 (Agree), indicating that, on an aggregate level, the local bureaucratic machinery maintains a functional framework for sectoral representation during the planning and implementation of local disaster interventions.

The consultations are anchored by solid engagement with specific demographic sectors. Barangay officials successfully consult with representatives from the elderly and senior citizens sector (3.05/Agree) as well as representatives for children (3.05/Agree) to solicit recommendations for immediate and feasible solutions to the barangay's disaster impact. This inclusion is closely matched by active consultation with persons with disabilities (2.85/Agree) and women (2.80/Agree), proving

that the core localized vulnerable groups are routinely given a platform within the barangay's standard administrative planning cycles.

However, a critical exclusion emerges within this policy check. Barangay officials do not consult with representatives of Indigenous Peoples (1.77/Disagree) when soliciting recommendations for immediate and feasible solutions to the barangay's disaster impact, marking the lowest score in the entire assessment. This sharp statistical drop exposes a severe gap in the local governance framework, showing that while mainstream sectoral consultations are well-established, the indigenous sector is systematically omitted from participatory disaster planning.

The data show in this section that the local government unit establishes a consultative foundation that successfully captures the voices of most vulnerable sectors, including children, senior citizens, women, and persons with disabilities. Yet, the overall narrative of inclusivity remains incomplete, as the absolute breakdown in consultation with Indigenous Peoples isolates this specific group from the formal disaster management architecture of the barangay.

Statistical Relationship between Institutional Governance and Civic Cooperation

The table below presents the correlational analysis measuring the strength and direction of the relationship

between local institutional actions and household disaster response behaviors.

Variable A (Institutional Baseline)	Variable B (Household Responses)	Pearson's r	p-value	Statistical Significance
Institutional Recovery Operations (Mean: 2.80 / Agree)	Disaster Response Cooperation (Mean: 2.02 / Disagree)	0.215	0.084	Not Significant ($p > 0.05$)
Institutional Recovery Operations (Mean: 2.80 / Agree)	Household-Level Adaptation (Mean: 2.75 / Agree)	0.188	0.122	Not Significant ($p > 0.05$)

The correlational analysis reveals a weak, positive relationship that fails to achieve statistical significance. This means the null hypothesis cannot be rejected: the structured recovery operations and policies executed by the barangay leadership do not statistically translate into or drive the disaster cooperation and adaptation strategies of the residents.

This statistical insignificance highlights a deep structural wall between governance and the community. While the barangay operates effectively within its own official systems, the households adapt independently and remain detached from the formal government architecture, confirming that institutional compliance does not automatically produce grassroots civic engagement.

IV. CONCLUSION AND RECOMMENDATIONS

Conclusion

The disaster governance framework of Barangay Aduas Sur operates in two completely separate worlds. On one side, the institutional machinery functions with compliant baseline preparedness and effective short-term crisis management. On the other side, the community exists in a state of stationary, self-reliant resilience, physically retrofitting their homes to survive floods while remaining completely alienated from the formal administrative systems. The statistical insignificance of the correlation confirms this deep structural divide: the barangay's top-down compliance fails to trigger grassroots civic cooperation. This disconnect leaves a critical gap in data integration, vulnerability mapping, and participatory long-term planning, leaving the local disaster response architecture highly vulnerable to systemic delays when a major crisis hits.

Recommendations

To bridge this deep structural divide, the local government unit must first transition away from complex formal paper assessments and implement localized, text-based micro-reporting networks that allow residents to easily submit household damage and vulnerability listings during recovery phases. Furthermore, long-term disaster program designs must be moved directly into the community zones by institutionalizing participatory workshops at the purok level, giving residents a direct hand in co-authoring localized flood protocols to establish real civic co-ownership. Finally, the barangay must immediately correct the systematic exclusion of Indigenous Peoples from the governance framework by mandating a permanent, dedicated seat for indigenous representatives during all formal pre-disaster consultations, ensuring true administrative inclusivity before the next climate hazard impacts the village.

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