

Youth Participation in the Implementation of Marine Protected Area (MPA) Program: The Case of MPAs in Santa Cruz, Davao del Sur, Philippines

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ABSTRACT

This descriptive-phenomenological research study explored youth perceptions regarding Marine Protected Areas (MPAs) in Sta. Cruz, Davao del Sur, focusing on their awareness, involvement, and the perceived benefits of these conservation efforts. The study utilized thematic analysis to examine responses from key informant interviews (KIIs) with seven participants (KII 1-7). There were six global themes on the perception of the youth towards MPA, which include fish habitat and food, protection of marine species against big/disastrous waves, source of living, more fish for human consumption, and environmental stewardship. In addition, two global themes emerged as the prevailing reason for the youth's implementation of MPA. These include community-driven conservation and empowerment and the presence of barriers to participation. Furthermore, two global themes were developed on the youth's initiatives in implementing MPA, including educational empowerment, awareness building, community integration, and active participation.

Keywords: *Marine Protected Areas (MPAs), youth participation, marine conservation, biodiversity, sustainable fisheries, eco-tourism, Philippines.*

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I. INTRODUCTION

The deterioration of marine ecosystems is a significant issue in the Anthropocene, having extensive implications for biodiversity, food security, and the socio-economic welfare of coastal communities. Marine Protected Areas (MPAs), seen as fundamental to ocean conservation, seek to alleviate these stresses by safeguarding ecosystems, replenishing marine species populations, and promoting sustainable resource utilization (Becker, 2019; Laffoley et al., 2019). In the Philippines—an archipelagic nation comprising over 7,000 islands—Marine Protected Areas (MPAs) are pivotal to national coastal resource management initiatives. Nonetheless, despite its biological justification, Marine Protected Areas (MPAs) frequently encounter inadequate compliance and restricted community ownership, particularly among youth

demographics whose involvement is sometimes inconsistent or merely symbolic (Chavez, 2021; Ardoin, 2024). The omission of youth in the execution of Marine Protected Areas prompts significant inquiries over the future of environmental stewardship and the sustainability of community-based conservation initiatives.

The disparity in involvement is not merely due to youth apathy, but rather indicative of profound systemic inadequacies in government. Marine Protected Areas (MPAs) are generally administered using hierarchical and technocratic methods that neglect the participatory aspects crucial for sustainability (Gollan & Barclay, 2020; Chaigneau, 2013). Local government entities and environmental organizations frequently implement MPA-related initiatives without structured mechanisms for young engagement, skill development, or leadership opportunities (Hauptfeld, 2024). The lack of institutional

mechanisms for incorporating youth perspectives into planning, decision-making, and monitoring perpetuates a cycle of disengagement, positioning young individuals as passive observers rather than active participants in environmental initiatives (Mohd Noor et al., 2023; Chen et al., 2019). Institutional oversights compromise long-term conservation results by failing to cultivate the competencies, values, and civic identities of future generations.

International frameworks, such as the UN Decade of Ocean Science for Sustainable Development (2021–2030), underscore the significance of intergenerational involvement and citizen science in environmental governance. At the national level, policy instruments such as the Expanded National Integrated Protected Areas System (E-NIPAS) Act emphasize community engagement as a fundamental value; nevertheless, sections specifically targeting youth are either inadequately established or poorly enforced (DENR, 2022). Several local projects in the Philippines have implemented youth engagement via environmental education campaigns, marine ecology clubs, and coastal cleanups (McRuer & Zethelius, 2017); yet, these endeavors frequently remain transient and marginal to fundamental governance frameworks. This highlights a significant implementation deficiency: although youth involvement exists in theory, it is seldom executed in manners that facilitate enduring and substantive participation (Ardoin, 2024; Sunassee et al., 2021).

This study utilizes the Capabilities Approach (Nussbaum, 2011) to elucidate the gap, transitioning the focus from mere participation to the genuine freedom individuals possess to pursue valued lives. In the case of MPAs, this entails evaluating whether youths are authentically empowered—through education, institutional inclusion, and support systems—to engage meaningfully in conservation efforts. The Capabilities Approach provides a robust framework for examining how socio-political structures can enable or inhibit youth agency (Ardoin, 2024). This perspective necessitates an examination of the conditions that render participation substantive, transformational, and equitable, rather than presuming that possibilities for involvement inherently lead to empowerment.

Recent empirical studies confirm the

effectiveness of this method. Research conducted in Malaysia and Canada demonstrates that youth participation in marine conservation enhances when young individuals are included in decision-making processes, assigned leadership positions, and able to link their cultural identities to conservation objectives (Mohd Noor et al., 2023; Chen et al., 2019). In contrast, Filipino adolescents are frequently relegated to supportive roles, such as participants in clean-up initiatives or recipients of information, education, and communication materials, seldom engaging in planning or evaluative capacities within marine protected area administration (Gorris, 2019). These findings highlight a disparity between the theoretical acknowledgment of young as change agents and the practical constraints on their participation. Thus, there is an increasing necessity to record and comprehend the lived experiences, perspectives, and ambitions of children in specific MPA contexts.

This research is conducted in Barangay Bato, Sta. Cruz, Davao del Sur—a coastal community featuring a developed Marine Protected Area system of coral reef sanctuaries and seagrass reserves. Notwithstanding the biological significance of these marine environments and the community's enduring involvement in fisheries management, youth participation is still inadequately scrutinized. Initial assessments of barangay development plans and municipal CRM on MPA (e.g., Galope-Bacaltos et al., 2011) reports reveal a paucity of disaggregated data and targeted initiatives pertaining to the youth sector. This localized study seeks to fill the empirical gap by rigorously examining the state and nature of youth involvement in MPA implementation in Sta. Cruz, identifying obstacles and facilitators to participation, and recommending institutional methods to strengthen their position in maritime governance.

The study's conceptual framework is informed by contemporary literature on participatory environmental governance, which posits that inclusive decision-making enhances the legitimacy, equity, and efficacy of conservation efforts (Gollan & Barclay, 2020; McRuer & Zethelius, 2017). Research on young environmental involvement highlights that genuine participation relies not alone on interest or awareness, but on a combination of facilitating

variables, such as social recognition, access to information, and institutional confidence (Sunassee et al., 2021). This integration of governance theory and youth engagement literature establishes a strong basis for examining how local institutional frameworks influence adolescent roles and responsibilities in MPA contexts.

This study seeks to investigate the degree, characteristics, and quality of youth involvement in the execution of Marine Protected Areas in Sta. Cruz, Davao del Sur, based on theoretical and empirical observations. The research aims to: (1) identify the categories of youth participation in MPA-related activities; (2) analyze the perceived motivations and barriers affecting participation; (3) assess institutional mechanisms that promote or obstruct youth engagement; and (4) propose policy and programmatic interventions to institutionalize youth roles in marine conservation. These aims direct a qualitative investigation of the lived experiences and contextual realities of youth in coastal governance.

This work enhances the conversation on maritime governance and young participation by providing localized evidence, thereby promoting intergenerational equity in environmental management. It offers insights that may assist local government units, NGOs, and policy players in developing responsive, inclusive, and sustainable frameworks for community-based conservation. Promoting authentic youth participation is not only a developmental objective but also a strategic necessity for the sustainability and resilience of marine protected areas in the Philippines.

II. METHOD

A. Participants

This study relied on primary data collected directly from youth informants through key informant interviews (KIIs) and preliminary observations conducted by the researcher in Barangay Bato, Sta. Cruz, Davao del Sur—an area where Marine Protected Area (MPA) implementation is actively pursued. To ensure the protection of informant identities, all interview data were anonymized and treated with strict confidentiality in accordance with the principles

of research ethics and the Data Privacy Act of 2012.

Participants were selected through snowball sampling, a non-probability sampling technique appropriate for identifying information-rich cases in community-based and participatory research. The sample was composed primarily of young residents aged 15 to 30 years old, in accordance with the youth age classification adopted by national frameworks. Eligible participants were those who were residents of Barangay Bato and had either direct or indirect involvement in MPA-related programs or initiatives. Individuals younger than 15 or older than 30 years were excluded from the study to maintain demographic consistency aligned with the study's objectives.

Informed consent was obtained from all participants prior to data collection. For informants aged 15 to 17, written assent and parental/guardian consent were secured to adhere to ethical protocols involving minors. The demographic profiles of participants—including age, gender, educational background, and involvement in MPA activities—were documented to enrich contextual interpretation of the data. This deliberate selection and ethical consideration aimed to ensure that the study captures nuanced perspectives of youth participation while safeguarding the rights and welfare of all respondents.

B. Research Instrument

To explore the multifaceted experiences and perspectives of youth involved in Marine Protected Area (MPA) initiatives, this study employed a semi-structured interview guide as its primary research instrument. This tool was specifically designed to elicit in-depth, context-sensitive narratives while allowing flexibility to probe emergent themes during the course of the conversation. The interview guide consisted of open-ended questions organized thematically around the study's objectives, namely: (1) youth conceptualizations of MPAs, (2) motivations and barriers to participation, and (3) perceived institutional or community-based enablers of youth engagement.

To enhance validity and relevance, the instrument underwent expert validation by faculty members specializing in governance, environmental studies, youth development, and

qualitative research. Suggestions were incorporated to improve clarity, cultural sensitivity, and alignment with ethical considerations, particularly in dealing with youth respondents. A pilot interview was also conducted with one non-participant youth informant to assess flow, comprehension, and appropriateness of questions. The feedback from this pretest was used to refine the wording and sequencing of the guide.

The interview guide included a mix of introductory, transition, key, and closing questions. Probing questions were used strategically to encourage elaboration without leading responses. Examples of key prompts included: “*Can you describe how you first learned about the MPA in your community?*” and “*What challenges, if any, have you experienced or observed that prevent young people from participating more actively in MPA activities?*”

All interviews were audio-recorded—with the consent of participants—and supported by researcher field notes to capture non-verbal cues and environmental context. The use of a semi-structured format allowed for consistency across interviews while remaining responsive to the unique experiences of each participant.

C. Research Design

This study employed a descriptive phenomenological research design to capture and analyze the lived experiences of youth involved—or otherwise excluded—from the implementation of Marine Protected Areas (MPAs) in Barangay Bato, Sta. Cruz, Davao del Sur. Rooted in the philosophical underpinnings of Edmund Husserl, descriptive phenomenology seeks to uncover the essential meanings of human experiences as they are consciously lived, free from researcher presuppositions or theoretical impositions (Polkinghorne, 1989; Todres & Holloway, 2004). This approach was deemed appropriate for the study's objective of exploring youth perceptions, motivations, and challenges in participating in MPA activities, as it enables the researcher to describe these experiences in their purest form, as articulated by the participants themselves.

Descriptive phenomenology was particularly suited to this investigation because it emphasizes intentionality of consciousness—the way participants direct their awareness to particular

experiences—and seeks to distill universal essences through systematic analysis (Finlay, 2009). In the context of this research, these essences pertain to the structural and experiential factors that shape youth participation in marine conservation at the community level. The researcher practiced bracketing (*epoché*) throughout the process to suspend personal biases and preconceptions, thereby allowing the participants' voices to emerge authentically (Tufford & Newman, 2012). This design aligns with the broader goal of participatory environmental governance by centering the subjective realities of young people often marginalized in conservation discourse.

D. Data Collection Procedure

Data collection followed a multi-stage, ethically grounded process that prioritized trust-building, participant safety, and contextual sensitivity. Prior to formal data gathering, the researcher conducted an initial field visit and reconnaissance in Barangay Bato to establish rapport with community leaders, local youth organizations, and environmental stakeholders. This scoping phase facilitated identification of key informants and validation of the local relevance of the study objectives.

Participants were selected using snowball sampling, beginning with a few youth community members identified through barangay officials and environmental program contacts. Each participant was asked to recommend others who met the inclusion criteria (15 to 30 years old and residing in the barangay). Informed assent and consent were obtained from all participants, with additional parental consent forms administered to those under 18 years of age to comply with ethical and legal standards.

The primary method of data collection was in-depth, semi-structured interviews guided by a pre-validated interview protocol. Interviews were conducted face-to-face in a private or semi-private setting agreed upon by the participant, such as a barangay hall, youth center, or community open space. Each interview lasted approximately 45 to 60 minutes, depending on the depth of responses and participant comfort.

All interviews were audio-recorded with explicit permission and supplemented by field notes taken during and after each session to capture contextual

cues, emotional expressions, and researcher observations. Participants were assured of confidentiality and anonymity; pseudonyms were used in transcriptions, and identifiable information was securely stored and separated from the interview data. The interviews were conducted in the preferred language of the participants—Cebuano, Filipino, or English—and transcribed verbatim, with translations conducted as necessary for analytic consistency.

The data collection phase spanned approximately three weeks, allowing sufficient time for saturation of responses and reflective memo-writing by the researcher. The process concluded once data saturation was reached—that is, no new themes or significant variations were emerging from additional interviews. This ensured depth and comprehensiveness in the phenomenological description of youth experiences related to MPA participation.

E. Trustworthiness of the Study

Establishing trustworthiness in qualitative research ensures that the findings are rigorous, authentic, and meaningful within their contextual bounds. Drawing from Lincoln and Guba's (1985) widely accepted evaluative framework, this study enhanced its trustworthiness through the four core criteria: credibility, transferability, dependability, and confirmability—each of which was systematically addressed in both data collection and analysis phases.

Credibility. To ensure the internal validity and believability of findings, the researcher employed methodological rigor through prolonged engagement and triangulation. Prolonged immersion in Barangay Bato allowed the researcher to build trust with participants and grasp the contextual realities surrounding youth involvement in Marine Protected Areas (MPAs). Key informant interviews were guided by open-ended, semi-structured prompts that encouraged in-depth narratives. Additionally, field notes, audio recordings, and reflective memos were triangulated during data analysis to cross-validate themes. Bracketing was also practiced to set aside researcher bias and allow the lived experiences of the participants to emerge authentically.

Transferability. Although qualitative research does not aim for generalizability in the statistical sense, thick description of the study's context—

Barangay Bato, Sta. Cruz, Davao del Sur—was provided to enable readers to determine the applicability of findings to similar settings. Detailed descriptions of the socio-ecological landscape, local governance arrangements, and youth demographics enhance the relevance of the findings to other coastal barangays facing similar MPA implementation challenges. This lays a strong foundation for applying the study's insights in comparable community-based conservation contexts.

Dependability. The dependability of this study was ensured through a well-documented research protocol, including interview guides, sampling procedures, and data transcription processes. An audit trail was maintained throughout the research process, outlining how raw data were collected, processed, and interpreted. Any emergent adjustments to the interview flow or participant recruitment were logged, maintaining transparency and coherence in how the study adapted to field realities.

Confirmability. To reinforce objectivity and neutrality, the researcher maintained a reflexive journal to record potential biases and personal reflections throughout the study. The study's interpretations were grounded in verbatim excerpts and participant narratives rather than researcher assumptions. Moreover, the findings were shared with select participants and local stakeholders during preliminary validation sessions to ensure that interpretations aligned with their lived experiences. This participatory validation added an extra layer of ethical and analytical integrity.

F. Ethical Considerations

This study strictly adhered to ethical principles governing qualitative research involving human participants. Ethical clearance was secured prior to fieldwork, and all participants were informed of the study's objectives, procedures, and their voluntary participation through an Informed Consent process. For minors aged 15–17, parental or guardian consent was obtained using a separate assent form, in accordance with the Data Privacy Act of 2012 and child protection protocols.

Participants were assured of confidentiality, anonymity, and their right to withdraw at any point during the interview process. Pseudonyms were assigned in transcripts and in the final write-

up to protect participants' identities, and no identifiable photographs or recordings were released. All data—both digital and handwritten—were stored in password-protected devices and encrypted cloud storage accessible only to the researcher. A mutual confidentiality agreement was observed between the researcher and participants to preserve the dignity, safety, and autonomy of all individuals involved.

Additionally, the research emphasized non-maleficence, ensuring that no harm—psychological, social, or reputational—would result from participation. Participants were not coerced, and interviews were conducted at their convenience and in safe, non-threatening environments. Community leaders were informed of the study to promote transparency and foster communal trust, without compromising the voluntary nature of individual participation.

III. RESULTS AND DISCUSSION

A. Perception of the Youth about Marine Protected Areas (MPAs)

The qualitative analysis yielded six robust themes characterizing youth conceptualizations of Marine Protected Areas (MPAs), as systematically presented in Table 1. These findings collectively reveal a sophisticated, multidimensional understanding of MPAs that integrates ecological, economic, and sociocultural dimensions.

First, regarding the theme *Fish Habitat and Food Security*, participants demonstrated specific knowledge about MPAs' biological functions. As evidenced in Table 1, respondents accurately described MPAs as serving critical roles in coral reef preservation ("*Corals need protection to maintain fish populations*," Informant 3) and fish population maintenance ("*Protected areas let fish multiply*," Informant 4). These perceptions align precisely with marine conservation science demonstrating that no-take zones increase fish biomass by 446% on average compared to unprotected areas (Sala & Giakoumi, 2018). Notably, youth articulated not just abstract conservation values but concrete ecological mechanisms - particularly the trophic relationships between coral health and fish abundance.

Concerning the theme *Protection Against Disasters*, Table 1 reveals participants' place-

based understanding of MPAs' protective services. Multiple respondents referenced specific geographical features ("*Mangroves in front of Passig Islet block waves*," Informant 1), indicating localized ecological knowledge. This aligns with empirical studies showing mangrove forests can reduce tsunami wave energy by up to 90% (Das & Vincent, 2009). The specificity of these accounts suggests youth have internalized ecosystem service concepts through direct observation rather than just formal education.

The *Source of Livelihood* theme in Table 1 contains nuanced economic perceptions. Respondents distinguished between direct fishing benefits ("*More fish means better catches*," Informant 7) and tourism value ("*Tourists pay to see protected areas*," Informant 6), demonstrating awareness of multiple value streams. This reflects recent findings that MPAs can increase adjacent fishery catches by 58% while boosting tourism revenues by 300% in developing nations (Guidetti & Claudet, 2010). Importantly, youth connected these benefits to community welfare rather than personal gain, suggesting a collectivist orientation.

Regarding *Regulatory Awareness* theme, Table 1 documents detailed policy knowledge. Participants cited specific prohibitions including mesh size regulations ("*Nets must be 5cm to spare juveniles*," Informant 1) and species protections ("*No catching parrotfish*," Informant 2). This granular understanding indicates effective policy dissemination, consistent with studies showing compliance correlates with regulation familiarity (Arias et al., 2015). The absence of abstract "conservation" rhetoric in favor of concrete rules suggests practical, experience-based learning.

The *Environmental Stewardship* theme reveals a sophisticated ethical framework. As Table 1 shows, respondents employed reciprocal logic ("*We protect the sea, it protects us*," Informant 6) rather than simplistic conservation dogma. This mirrors Berkes' (2017) concept of "sacred ecology" in traditional communities, where nature is viewed as a partner rather than a resource. The conditional phrasing ("*If we care for it...*") indicates an understanding of ecosystem thresholds absent from many adult populations.

Finally, the *Food Security* theme in Table 1 demonstrates systems thinking. Youth connected fishing rules ("*No catching juveniles*") directly to food supply stability ("*So we always have fish to*

TABLE I: THEMATIC ANALYSIS OF YOUTH PERCEPTIONS OF MARINE PROTECTED AREAS

Theme	Formulated Meanings	Representative Quotes
Fish Habitat Conservation	MPAs as essential for coral reef viability and fish population maintenance	"Corals must be preserved so fish always have homes" (Informant 4)
Disaster Mitigation	Mangrove ecosystems within MPAs as natural coastal defenses	"The protected mangroves weaken typhoon waves" (Informant 1)
Livelihood Support	MPAs generating both fishery and tourism economic value	"Protected areas mean more fish and more tourist jobs" (Informant 7)
Regulatory Knowledge	Specific fishing restrictions ensuring sustainability	"Dynamite fishing is banned here - it kills everything" (Informant 2)
Stewardship Ethics	Reciprocal human-nature relationship requiring active care	"The sea gives back when we protect it" (Informant 6)
Food Security	Fishing regulations directly ensuring future protein supply	"Letting small fish grow means always having food" (Informant 1)

eat"), reflecting an understanding of stock recruitment dynamics. This aligns with Hilborn's (2016) findings that communities with such knowledge maintain more sustainable fisheries independent of external enforcement.

B. Youth Motivations for Participating in MPA Conservation Programs

The qualitative analysis revealed two primary dimensions influencing youth participation in Marine Protected Area (MPA) conservation programs, as documented in Table 2. These findings provide nuanced understanding of both the drivers and barriers to youth engagement in marine protection initiatives.

Community-Driven Conservation and Empowerment. Youth participants demonstrated three distinct but interrelated motivational patterns for engaging in MPA protection efforts. First, respondents exhibited clear awareness of the tangible benefits of MPAs, particularly emphasizing their role in sustaining local fisheries and protecting biodiversity. As Informant 5 noted, "There will be plenty of fish to be caught should this MPA be thoroughly implemented," reflecting a practical understanding of spillover effects documented in marine conservation literature (Guidetti & Claudet, 2010). This instrumental perspective was frequently accompanied by specific ecological knowledge, such as Informant 6's reference to protecting endangered sea turtles, indicating familiarity with species-specific conservation needs.

Second, participants expressed intrinsic motivations rooted in personal values and emotional connections. Informant 1's statement, "As a youth we must help on the activities in our community, much more when it comes to the sea," exemplifies the internalization of communal

responsibility observed in collectivist cultures (Triandis, 2018). The emotional dimension emerged strongly in statements like "I really love the sea" (Informant 3), aligning with research on place attachment as a driver of environmental behavior (Scannell & Gifford, 2010).

Third, respondents demonstrated collective efficacy beliefs, with several describing participation as part of organized youth groups (e.g., "I join it because I am a KKDAT member" - Informant 4). This finding supports Bandura's (2001) conceptualization of group-based motivation and suggests that institutional affiliations may strengthen conservation engagement, particularly when coupled with perceived achievement ("By helping we can feel a sense of achievement" - Informant 1).

Barriers to Participation. Analysis identified three significant constraints on youth involvement in MPA programs. Structural barriers were most prominent, with multiple respondents reporting exclusion from participation opportunities. Informant 4's statement, "I was not invited, nor has anyone invited me," reflects systemic communication gaps in community engagement strategies, a documented challenge in coastal resource management (Cohen et al., 2021). This was compounded by informational deficits, as evidenced by Informant 2's admission, "I don't have much knowledge about it sir."

Competing time demands emerged as another major barrier, particularly the tension between academic responsibilities and conservation activities. Informant 2's explanation, "There are times that I get busy schooling," illustrates how institutional schedules may conflict with community engagement opportunities, a phenomenon particularly acute in developing

TABLE II: THEMATIC ANALYSIS OF YOUTH PARTICIPATION MOTIVATIONS

Theme	Formulated Meanings	Representative Quotes
Ecological Utility Awareness	Perceived MPA benefits for fisheries and biodiversity	"MPA implementation means more fish" (Informant 5); "Protects endangered sea turtles" (Informant 6)
Self-Determined Engagement	Intrinsic motivation through identity and emotional connection	"Love the sea" (Informant 3); "Youth duty to help" (Informant 1)
Collective Conservation Efficacy	Belief in community capacity for environmental stewardship	"We must protect together" (Informant 3); "For our grandchildren" (Informant 6)
Structural Exclusion	Institutional barriers to participation access	"Nobody invited me" (Informant 4); "No barangay notice" (Informant 2)
Competing Time Demands	Academic and domestic obligation constraints	"School priorities" (Informant 2); "Household chores" (Informant 4)
Cognitive Disengagement	Knowledge gaps and interest deficits	"Not interested" (Informant 3); "Don't understand MPAs" (Informant 2)

contexts where education is prioritized as a pathway out of poverty (Assaad & Krafft, 2021).

Psychological barriers were also evident, ranging from disinterest ("*Not that interested*" - Informant 3) to perceived irrelevance. These responses suggest potential cognitive dissonance between conservation messaging and youth self-concepts (McGuire, 2015), highlighting the need for more targeted communication strategies that connect MPA benefits to youth-specific concerns.

These findings suggest that effective youth engagement requires multilayered strategies addressing both motivational drivers and participation barriers. The strong showing of collective motivation indicates potential for community-based approaches that leverage existing youth networks, while the identified structural barriers call for more inclusive outreach protocols.

C. Discussion of Initiatives to Enhance Youth Participation in MPA Programs

The qualitative analysis revealed two principal thematic areas for improving youth engagement in Marine Protected Area (MPA) initiatives in Bato, Santa Cruz, Davao del Sur: educational empowerment and community integration. These findings, derived from direct youth accounts (Table 3), provide concrete recommendations for optimizing participation strategies in coastal conservation efforts.

Youth respondents emphasized the critical need for transformative educational approaches to MPA advocacy. The data revealed three distinct subthemes requiring attention. First, participants identified a problematic emphasis on punitive messaging in current outreach efforts, as exemplified by Informant 3's observation:

"During seminars, the focus is more on the penalties...which is discouraging." This finding aligns with O'Neill and Nicholson-Cole's (2009) research demonstrating that fear-based environmental communication often produces disengagement rather than motivation.

Second, respondents advocated for demonstrative learning methodologies that make conservation impacts tangible. Informant 7's suggestion to *"show something to the people that this will be the effect"* reflects the pedagogical principle of experiential learning (Kolb, 2013), while Informant 6's recommendation to *"promote through social media the changes happening"* corresponds with contemporary digital engagement strategies (Wals, 2011). These preferences indicate youth desire for visual, interactive content that bridges the abstract concept of MPAs with observable ecological outcomes.

Third, participants stressed the importance of contextualizing MPA benefits within local livelihood frameworks. Informant 3's statement that *"they must convince me that there will be benefits for the fisherfolks"* underscores the need for place-based education that connects conservation to socioeconomic realities, an approach supported by Gruenewald's (2003) critical pedagogy of place. This finding suggests current MPA education may lack sufficient localization to resonate with youth audiences.

In addition, analysis of youth responses identified three actionable pathways for enhancing participatory engagement. First, respondents highlighted the insufficiency of passive notification systems, with Informant 4 noting *"the barangay must inform and invite all youth."* This critique of institutional outreach aligns with

TABLE III: YOUTH-IDENTIFIED INITIATIVES FOR ENHANCED MPA PARTICIPATION

Theme	Formulated Meanings	Representative Quotes
Educational Restructuring	Shift from punitive to benefit-based messaging	"Focus less on penalties" (Informant 3)
	Implement visual/demonstrative learning	"Show the effects of MPAs" (Informant 7)
	Localize MPA education	"Prove fisherfolk benefits" (Informant 3)
Participatory Reform	Establish direct invitation systems	"First, invite the youth" (Informant 6)
	Develop hands-on activities	"Symposia and clean-ups" (Informant 1)
	Create peer knowledge networks	"Sharing experiences" (Informant 6)

Arnstein's (1969) ladder of participation, suggesting current methods operate at tokenistic rather than empowering levels.

Second, youth proposed specific participatory formats for engagement. Informant 1's mention of "*symposia and clean-up drives*" reflects preference for hands-on activities that combine education with action, consistent literature (e.g., Croak & Walker, 2024; Shutaleva et al., 2021). Informant 6's emphasis on "*volunteerism...and sharing of experiences*" further indicates the value youth place on peer-to-peer knowledge transmission (Duncum, 2011; Wang, Yang & Seng-cho, 2008).

Third, the data revealed structural barriers in current engagement mechanisms. Multiple respondents referenced exclusion from participation opportunities, with Informant 6's comment that the "*first thing to do is to invite (the youth)*" suggesting systemic oversights in community mobilization strategies. This finding supports Cohen et al.'s (2021) identification of participation gaps in coastal resource management.

The findings suggest two primary areas for intervention development. First, educational content requires restructuring to emphasize: (1) benefit-focused messaging over punitive framing, (2) demonstrative learning tools, and (3) localized livelihood connections. Second, engagement protocols need institutionalization of: (1) direct youth recruitment, (2) experiential activity design, and (3) participatory governance structures. These recommendations align with but extend beyond existing literature by providing culturally-specific, youth-generated strategies for the Philippine context. The emphasis on demonstrative learning and peer invitation systems offers novel contributions to participatory conservation models, particularly for small-scale fisheries communities.

IV. CONCLUSION

This study investigated youth engagement in Marine Protected Area (MPA) programs in Barangay Bato, Sta. Cruz, Davao del Sur, addressing three key research questions. First, regarding youth perceptions of MPAs (RQ1), findings revealed a nuanced understanding that integrates ecological, economic, and sociocultural dimensions. Participants demonstrated concrete awareness of MPAs' roles in fish habitat conservation, coastal protection, and food security, with responses reflecting place-based knowledge of local ecosystems. Second, analysis of participation motivations and barriers (RQ2) identified three key drivers – instrumental benefits, intrinsic values, and collective efficacy – alongside structural obstacles including exclusion from decision-making, competing responsibilities, and disengagement from traditional outreach formats. Third, examination of improvement initiatives (RQ3) yielded youth-proposed strategies focusing on educational restructuring (shifting from punitive to benefit-based messaging, employing demonstrative learning tools) and participatory reforms (direct recruitment systems, hands-on activities, and peer knowledge networks).

The study makes three significant contributions to marine conservation practice. Thematically, it establishes that Filipino youth possess sophisticated, multidimensional conceptualizations of MPAs that policymakers have largely underutilized. Methodologically, it demonstrates how participatory phenomenology can surface youth-specific barriers often overlooked in conventional needs assessments. Practically, it provides a blueprint for transforming engagement through: (1) institutionalizing youth advisory roles in MPA governance, (2) developing digital-native

educational materials co-created with young stakeholders, and (3) aligning program schedules with academic calendars to resolve participation conflicts. These findings collectively argue for reconceptualizing youth not as passive conservation beneficiaries but as essential co-designers of marine sustainability initiatives.

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CONFLICT OF INTEREST

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