

## Analysis of the Relationship between the Level of Community Participation and the Effectiveness of Adaptive Governance in the Coastal Area of Cebu

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### ARTICLE INFO

**Received:** 21 August 2024  
**Revised:** 26 October 2024  
**Accepted:** 06 December 2024  
**Available online:** 24 December 2024

### Keywords:

Community Participation  
Capacity Building  
Sustainable Outcomes

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### ABSTRACT

**Purpose:** This study aims to analyze the relationship between community participation and the effectiveness of adaptive governance in the coastal areas of Cebu, Philippines, with a focus on socio-demographic, institutional, and socio-economic factors influencing engagement.

**Subjects and Methods:** A mixed-methods approach was employed, combining survey data from 200 coastal households with semi-structured interviews involving key stakeholders. Quantitative data were analyzed using descriptive statistics, cross-tabulation, and logistic regression, while qualitative data were examined through thematic analysis.

**Results:** The findings show that awareness of coastal policies is relatively high, but participation and decision-making involvement remain moderate. Education, fishing dependency, and policy awareness significantly influence participation, with awareness emerging as the strongest predictor.

**Conclusions:** Governance is perceived as moderately effective, with positive environmental outcomes but limitations in inclusiveness and responsiveness. Adaptive governance is shaped by both structural factors and social dynamics, indicating the need for more inclusive, participatory, and responsive governance systems.

### INTRODUCTION

The concept of adaptive governance has gained significant attention in recent decades, particularly as a framework for managing complex environmental and social challenges (Koontz et al., 2015). According to Van et al. (2020) One of the key areas where adaptive governance has shown promise is in the coastal areas, where human activities and environmental changes frequently intersect, creating a dynamic and sometimes fragile ecosystem. The coastal region of Cebu, Philippines, known for its rich biodiversity, marine resources, and high population density, is an area that exemplifies both the potential and challenges of applying adaptive governance in a highly vulnerable and rapidly developing context.

The Philippine archipelago is home to some of the most diverse and ecologically significant coastal ecosystems in the world (Gajardo et al., 2023; Ohno et al., 2022). These ecosystems provide critical resources such as fish, mangroves, coral reefs, and coastal wetlands that sustain the livelihoods of millions of Filipinos. However, overexploitation of resources, pollution, climate change, and increasing urbanization have put immense pressure on these coastal areas, threatening not only the environment but also the social and economic well-being of coastal

communities (Al-Awadhi et al., 2022). In such contexts, governance systems need to be flexible, responsive, and inclusive, ensuring that all stakeholders, particularly local communities, have a voice in decision-making processes.

Day (2022) said that, community participation is often regarded as a cornerstone of effective adaptive governance. Engaging local communities in environmental management helps ensure that governance systems are grounded in local knowledge, needs, and values. Community participation also fosters a sense of ownership and responsibility, leading to more sustainable and effective outcomes (Uzorka et al., 2024; Aldegeiy et al., 2024). In coastal areas, where livelihoods are directly tied to the health of the environment, community involvement is particularly crucial. However, despite its importance, the level of community participation in governance processes can vary greatly depending on various factors such as political will, community capacity, and the socio-economic context.

The relationship between community participation and adaptive governance effectiveness in coastal areas, such as in Cebu, is an area that warrants further exploration. Research has shown that when communities are actively involved in decision-making, the effectiveness of governance structures increases, particularly in terms of environmental sustainability, resource management, and social resilience. However, challenges remain in translating this relationship into meaningful action. Factors such as power dynamics, unequal access to decision-making, and resource limitations often hinder the full engagement of local communities.

One of the challenges in implementing effective adaptive governance in the coastal areas of Cebu is the diversity of stakeholders. These stakeholders include local residents, local government units, non-governmental organizations, and private sector actors, all of whom may have different priorities, values, and levels of influence (Harangozó & Zilahy, 2015). This diversity can complicate governance processes, making it difficult to reach consensus and implement policies that are both effective and equitable. Therefore, understanding how community participation influences governance effectiveness in such a complex context is crucial.

The theory of adaptive governance emphasizes the need for flexible, inclusive, and collaborative decision-making processes that can adapt to changing conditions (Janssen, M., & Van, 2016; Wang et al., 2018). In practice, however, implementing such systems is often fraught with difficulties, particularly in areas where power imbalances, limited resources, and conflicting interests exist. Community participation is often seen as a way to mitigate these challenges by democratizing decision-making and ensuring that governance systems are responsive to local needs and conditions.

In the case of Cebu, community participation has been integrated into various environmental management efforts, including marine protected areas (MPAs), coastal resource management (CRM), and disaster risk reduction strategies. These initiatives, however, have had varying degrees of success, with some areas showing strong community engagement and others struggling with low levels of participation. The effectiveness of these governance mechanisms in achieving sustainable outcomes is closely linked to the level of community involvement, but the factors influencing this relationship are complex and multifaceted (Wright & Reames, 2020).

One key factor in determining the level of community participation is the access to information. Communities that are well-informed about the issues at hand, such as the state of local ecosystems or the impacts of climate change, are more likely to engage in governance processes (Howes, 2018). Additionally, the capacity of local communities in terms of education, skills, and resources plays a significant role in their ability to participate meaningfully in decision-making. In the coastal areas of Cebu, many communities face challenges related to limited access to education, resources, and training, which can hinder their ability to engage in governance processes effectively.

Institutional support is another critical factor that affects community participation. Local government units (LGUs) and other institutions play an essential role in facilitating or hindering community engagement. The willingness of these institutions to empower local communities, provide necessary resources, and create platforms for participation is crucial in ensuring the success of adaptive governance initiatives (Ansell & Gash, 2018). In Cebu, the role of LGUs in

fostering an enabling environment for community participation has been a subject of study, with some areas benefiting from strong institutional support while others face challenges of weak governance structures.

The socio-cultural context of coastal communities in Cebu cannot be overlooked. Cultural values, social norms, and community dynamics significantly influence how individuals and groups perceive their role in governance processes. For instance, the traditional practices and collective decision-making structures of indigenous communities in Cebu may support adaptive governance in ways that are distinct from more Westernized approaches. Understanding these cultural dimensions is vital for tailoring governance systems that are culturally appropriate and more likely to succeed.

In light of these complexities, this research aims to explore the relationship between the level of community participation and the effectiveness of adaptive governance in the coastal areas of Cebu. By examining the factors that influence community participation, including information access, institutional support, and socio-cultural factors, the study seeks to provide a deeper understanding of how adaptive governance can be implemented effectively in such contexts. The research will also examine how different levels of community engagement impact the success of governance initiatives in achieving environmental sustainability, social resilience, and economic prosperity in coastal areas (Handoko et al., 2023; Lin, 2019).

This study aims to contribute to the growing body of knowledge on adaptive governance by providing empirical insights into how community participation can enhance governance outcomes in coastal areas. By understanding the dynamics between these two factors, policymakers, practitioners, and communities can work together to build more effective and sustainable governance systems that can respond to the challenges facing coastal areas like Cebu. The findings of this research have the potential to inform future governance strategies in other coastal regions of the Philippines and beyond, offering valuable lessons for achieving sustainable development in coastal and marine environments.

## **METHODOLOGY**

### **Research Design**

This study adopts a mixed-methods research design to examine the relationship between community participation and the effectiveness of adaptive governance in coastal areas of Cebu, Philippines. The use of a mixed-method approach allows for the integration of quantitative and qualitative data to provide a comprehensive understanding of both measurable trends and underlying social dynamics. The quantitative component focuses on identifying statistical patterns and relationships between socio-demographic factors, awareness, and participation in governance processes, while the qualitative component explores the lived experiences, perceptions, and contextual factors influencing community engagement. This design ensures that the analysis captures not only structural determinants but also relational and experiential aspects of adaptive governance.

### **Study Area, Population, and Sampling**

The study was conducted in selected coastal barangays in Cebu, Philippines, where communities are highly dependent on marine resources and are directly affected by environmental changes. These areas were chosen due to their vulnerability to coastal degradation and their relevance in studying adaptive governance practices. The target population consists of coastal households engaged in fishing and related livelihoods, as their participation is critical in managing coastal resources. A stratified random sampling technique was employed to ensure representation across different socio-economic groups, particularly based on variations in fishing dependency and demographic characteristics. A total of 200 households were selected as respondents, providing sufficient data for both descriptive and inferential statistical analysis while maintaining representativeness of the study population.

## Data Collection Methods

Data collection involved both quantitative and qualitative techniques to ensure a comprehensive analysis. Quantitative data were collected through structured questionnaires administered to respondents, covering socio-demographic characteristics, awareness of coastal resource management policies, levels of participation in governance activities, involvement in decision-making processes, and perceptions of governance effectiveness. The survey utilized Likert-scale measurements to enable statistical analysis of responses. In parallel, qualitative data were gathered through semi-structured interviews with key stakeholders, including community members, local leaders, government representatives, and non-governmental organizations. These interviews were designed to capture deeper insights into the motivations, challenges, and experiences that shape community participation and governance outcomes, thereby complementing the quantitative findings with contextual explanations.

## Data Analysis Techniques and Integration

The data analysis process combined descriptive and inferential statistical methods with qualitative thematic analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondent characteristics and key variables such as awareness, participation, and governance effectiveness. Cross-tabulation analysis was conducted to examine variations in participation across socio-economic groups, particularly in relation to education and fishing dependency. Logistic regression analysis was applied to identify significant predictors of community participation, with variables such as age, education level, fishing dependency, and policy awareness included in the model. Qualitative data were analyzed using thematic analysis to identify recurring patterns related to participation, trust, leadership, knowledge, and institutional constraints. The integration of quantitative and qualitative findings was carried out through a complementary approach, where statistical results were interpreted alongside qualitative insights to provide a more holistic understanding of adaptive governance. This integration enhances the validity of the study by linking empirical patterns with real-world experiences and social dynamics.

## RESULTS AND DISCUSSION

### Socio-Demographic Characteristics of Respondents

To understand the structure of community participation in adaptive governance, descriptive statistics were used to examine the socio-demographic profile of respondents. These characteristics are critical in shaping both access to resources and engagement in coastal management.

Table 1. Socio-Demographic Profile of Respondents (n = 200)

| Variable           | Category   | Frequency | Percentage (%) |
|--------------------|------------|-----------|----------------|
| Gender             | Male       | 140       | 70.0           |
|                    | Female     | 60        | 30.0           |
| Age                | 21–30      | 42        | 21.0           |
|                    | 31–40      | 46        | 23.0           |
|                    | 41–50      | 49        | 24.5           |
|                    | >50        | 63        | 31.5           |
|                    | Education  | ≤6 years  | 23             |
|                    | 7–12 years | 118       | 59.0           |
|                    | >12 years  | 59        | 29.5           |
| Fishing Dependency | High       | 112       | 56.0           |
|                    | Moderate   | 58        | 29.0           |
|                    | Low        | 30        | 15.0           |

The findings indicate that respondents are predominantly male and actively involved in fishing-related livelihoods, reflecting the gendered structure of coastal economies in Cebu. A large proportion of respondents fall within productive age groups, suggesting that participants are actively engaged in both economic and governance-related activities. High levels of fishing

dependency further highlight the direct connection between livelihood and environmental management. Individuals who rely heavily on marine resources are more exposed to environmental risks, which increases their incentive to participate in governance processes. Two interview excerpts provide deeper insight into how socio-demographic characteristics shape community participation in adaptive governance. A fisher from a coastal barangay in Cebu explained:

*“Fishing is not just our job, it is our main source of living. Every day we go out to the sea, so when there are changes in the weather or the fish become harder to find, we feel it immediately. Because of that, we try to attend community meetings and discussions about fishing rules, because those decisions directly affect our income and our future.”* (Fisher, Cebu)

Another respondent highlighted the role of age and experience in shaping engagement:

*“I have been fishing for more than twenty years, and I have seen many changes in the sea. Younger people sometimes do not pay attention yet, but those of us who have more experience understand how important it is to be involved in community decisions. We share what we know so others can also understand the situation.”* (Senior Fisher, Cebu)

These statements reinforce the demographic patterns presented in Table 1. The dominance of male respondents (70%) and the high level of fishing dependency (56%) indicate that participation is closely tied to livelihood exposure. Individuals who rely directly on marine resources demonstrate a stronger motivation to engage in governance processes, as their economic survival depends on environmental conditions. The age distribution, particularly the significant proportion of respondents over 40 years old, helps explain the role of experience in participation. The second quote illustrates how accumulated knowledge and long-term interaction with the environment shape awareness and engagement in governance activities. This suggests that participation is not only influenced by economic dependency but also by experiential knowledge developed over time. The convergence between the quantitative data and interview narratives highlights that socio-demographic characteristics especially gender roles, livelihood dependency, and age play a crucial role in shaping community participation in adaptive governance.

### **Descriptive Analysis of Awareness, Participation, and Governance Effectiveness**

Descriptive statistics were used to assess the levels of awareness, participation, and perceived governance effectiveness among respondents.

Table 2. Descriptive Statistics of Key Variables

| <b>Variable</b>               | <b>Mean</b> | <b>Std. Deviation</b> | <b>Interpretation</b> |
|-------------------------------|-------------|-----------------------|-----------------------|
| Awareness of Coastal Policies | 3.82        | 0.67                  | High                  |
| Community Participation       | 3.44        | 0.72                  | Moderate              |
| Decision-Making Involvement   | 3.28        | 0.70                  | Moderate              |
| Governance Effectiveness      | 3.36        | 0.73                  | Moderate              |

The results indicate that awareness of coastal governance policies is relatively high, suggesting effective dissemination of information. However, participation and involvement in decision-making remain moderate, indicating that awareness does not automatically translate into active engagement. This gap suggests the presence of structural or institutional barriers that limit community involvement. While governance mechanisms are present, their effectiveness is perceived as only moderate, reflecting challenges in implementation and inclusiveness. Three interview excerpts provide deeper insight into the relationship between awareness, participation, and perceived governance effectiveness. A community member from Cebu stated:

*“We are aware of the rules about fishing and coastal protection because they are often explained during barangay meetings. We hear about marine sanctuaries and restrictions, but not everyone is involved in deciding those rules. Sometimes we are only informed after decisions have already been made.”* (Community Member, Cebu).

Another respondent emphasized the gap between awareness and participation:

*“Even though we know about the programs, joining meetings is not always easy. Some people are busy with work, and others feel that their opinions will not really change anything. so they prefer to just follow what is decided by the leaders.” (Fisher, Cebu)*

A local stakeholder also highlighted challenges in governance implementation:

*“The policies are there, and information is shared with the community, but implementation is not always consistent. Sometimes there are delays, or the support from the government does not reach everyone. This makes people feel that governance is not fully effective.” (Local Official, Cebu)*

These narratives strongly reinforce the patterns observed in Table 2. The high level of awareness reflected in the quantitative data is supported by respondents’ statements indicating that information about coastal policies is widely disseminated through community meetings and local communication channels. This suggests that knowledge dissemination mechanisms are functioning relatively well. The moderate levels of participation and decision-making involvement are clearly explained by the qualitative evidence. Respondents point to structural barriers such as limited inclusion in decision-making, time constraints, and perceptions that individual contributions have little impact. These factors help explain why awareness does not automatically translate into active engagement. The moderate perception of governance effectiveness is consistent with the challenges described in the interviews. Issues such as delayed implementation, uneven distribution of support, and limited responsiveness reduce community confidence in governance outcomes. The alignment between statistical findings and participant narratives highlights that adaptive governance effectiveness is influenced not only by the existence of policies but also by inclusiveness, responsiveness, and the quality of implementation.

### **Cross-Tabulation: Participation by Socio-Economic Characteristics**

To further explore participation patterns, cross-tabulation analysis was conducted to examine how participation varies across key socio-economic groups.

Table 3. Participation Level by Education and Fishing Dependency (%)

| <b>Variable</b>         | <b>High Participation</b> | <b>Moderate</b> | <b>Low</b> |
|-------------------------|---------------------------|-----------------|------------|
| Education ≤6 years      | 18                        | 52              | 30         |
| Education 7–12 years    | 36                        | 48              | 16         |
| Education >12 years     | 52                        | 38              | 10         |
| High Fishing Dependency | 58                        | 32              | 10         |
| Moderate Dependency     | 34                        | 46              | 20         |
| Low Dependency          | 21                        | 49              | 30         |

The cross-tabulation results show that higher education levels are associated with increased participation in governance activities. Respondents with more than 12 years of education demonstrate significantly higher engagement compared to those with lower educational attainment. Fishing dependency also plays a crucial role. Individuals with high dependency on marine resources show the highest levels of participation, indicating that direct livelihood risks drive engagement in governance processes. These findings suggest that participation is influenced by both capacity (education) and necessity (livelihood dependency). An interview with a community member highlights how both education and livelihood dependency shape participation in governance activities:

*“Those of us who depend fully on fishing cannot ignore what is happening in the sea. If the fish are fewer or the rules change, it directly affects our income. That is why we try to attend meetings and understand the policies. Some people who have other sources of income are less involved. Also, those who have more education tend to speak more during discussions because they understand the issues better, while others prefer to listen or stay quiet.” (Community Member, Cebu)*

This statement reinforces the patterns observed in Table 3. The higher levels of participation among individuals with greater educational attainment are reflected in the respondent’s observation that more educated community members are more confident and active in

governance discussions. At the same time, the strong influence of fishing dependency is clearly illustrated, as those who rely heavily on marine resources demonstrate greater motivation to engage in governance processes due to direct economic risks. The quote also helps explain why individuals with lower education or lower dependency tend to exhibit lower participation levels. Limited confidence in engaging with governance discussions and reduced exposure to environmental risks can decrease motivation to participate. This alignment between quantitative data and qualitative evidence confirms that participation is shaped by both capacity factors, such as education, and necessity factors, such as livelihood dependency, reinforcing the multidimensional nature of community engagement in adaptive governance.

### Logistic Regression Analysis of Participation Determinants

To identify the most significant predictors of participation, logistic regression analysis was conducted.

Table 4. Logistic Regression Results (Dependent Variable: Participation)

| Variable           | Odds Ratio | Std. Error | Sig.  |
|--------------------|------------|------------|-------|
| Age                | 1.10       | 0.05       | 0.028 |
| Education Level    | 1.32       | 0.07       | 0.000 |
| Fishing Dependency | 1.45       | 0.08       | 0.000 |
| Policy Awareness   | 1.51       | 0.09       | 0.000 |

The results indicate that policy awareness is the strongest predictor of participation, followed by fishing dependency and education level. This suggests that individuals who are both informed and economically dependent on coastal resources are more likely to engage in governance. Age shows a smaller but significant effect, indicating that experience contributes to participation. These findings highlight the multidimensional nature of participation, which is shaped by knowledge, economic factors, and demographic characteristics.

### Governance Outcomes and Community Perceptions

To further examine how community participation is reflected in governance outcomes, it is important to assess how respondents perceive the effectiveness of existing governance practices. Perception-based evaluation provides insight not only into the tangible impacts of policies but also into how these policies are experienced by the community in terms of inclusiveness, responsiveness, and transparency. In this study, respondents were asked to evaluate several key indicators of governance outcomes, including sustainability of resources, adequacy of community involvement, timeliness of government response, and transparency in decision-making. These indicators capture both the performance of governance systems and the quality of interaction between institutions and the community. The results are presented in Table 5 below.

Table 5. Perceived Governance Outcomes (%)

| Indicator                                | Agree (%) | Neutral (%) | Disagree (%) |
|--|-----------|-------------|--------------|
| Policies improve resource sustainability | 62        | 24          | 14           |
| Community involvement is adequate        | 48        | 30          | 22           |
| Government response is timely            | 44        | 28          | 28           |
| Governance is transparent                | 51        | 26          | 23           |

Two interview excerpts provide deeper insight into how communities perceive governance outcomes in relation to participation and effectiveness. A fisher from Cebu explained:

*“We can see that some policies, like the marine protected areas, really help improve the fish stocks over time. There are more fish now compared to before, so we know the rules are useful. But sometimes, not everyone is involved in making those decisions, so some people feel left out even if the results are good.”* (Fisher, Cebu)

Another respondent highlighted concerns about responsiveness and transparency:

*“The government shares information, but sometimes the response is slow when problems happen, like illegal fishing or damage to coastal areas. We also don’t always know how decisions are made, so people question whether everything is transparent.”*

*That makes some community members less active in participating.” (Community Member, Cebu)*

The relatively high level of agreement that policies improve resource sustainability is reflected in the first quote, where respondents acknowledge tangible environmental benefits from governance interventions. This supports the quantitative finding that policy outcomes are generally viewed positively. The moderate scores related to community involvement, responsiveness, and transparency are clearly explained by the qualitative evidence. Respondents highlight limited inclusion in decision-making processes, delays in government response, and uncertainty regarding transparency. These concerns align with the lower agreement percentages in these indicators, indicating that governance effectiveness is perceived not only in terms of outcomes but also in terms of process quality. The convergence between statistical data and interview narratives demonstrates that while governance policies may produce positive environmental results, their overall effectiveness is shaped by how inclusive, responsive, and transparent they are perceived to be by the community. The results indicate that while a majority of respondents recognize the positive impact of governance on resource sustainability, perceptions of inclusiveness and responsiveness remain relatively lower. This suggests that governance effectiveness is not only about policy outcomes but also about how inclusive and responsive the process is perceived to be.

### **Integration of Quantitative and Qualitative Findings**

The integration of findings demonstrates that community participation in adaptive governance is shaped by the interaction between socio-economic factors, institutional structures, and social dynamics. Quantitative results highlight the importance of awareness, education, and livelihood dependency, while qualitative findings explain how these factors influence behavior in real-world contexts. Participation emerges not only as a function of capacity but also as a response to environmental risk and institutional trust. The moderate level of governance effectiveness is explained by gaps in inclusiveness and responsiveness, as identified in both quantitative and qualitative data. Communities often compensate for these limitations through informal collaboration and self-organization. These findings confirm that adaptive governance in Cebu is a socially embedded process, where effective outcomes depend on the alignment between institutional frameworks and community engagement.

## **Discussion**

### ***Socio-Demographic Factors and Participation in Adaptive Governance***

The findings demonstrate that socio-demographic characteristics play a fundamental role in shaping community participation in adaptive governance (Mwadzigeni et al., 2022; Julia, 2024; Nixon et al., 2022). The dominance of male respondents and the high level of fishing dependency indicate that participation is closely linked to livelihood structures in coastal communities. Individuals who rely heavily on marine resources are more directly exposed to environmental risks, which increases their motivation to engage in governance processes. This supports the argument that participation is often driven by necessity, particularly in resource-dependent communities. Age also emerges as an important factor influencing participation. The significant proportion of respondents within older age groups suggests that experience contributes to awareness and engagement in governance activities. Individuals with longer exposure to environmental changes tend to possess deeper ecological knowledge, which enhances their involvement in decision-making processes (Dewulf et al., 2020; Colombo et al., 2023; Wheeler et al., 2020). This aligns with the qualitative findings, where experienced fishers emphasized their role in sharing knowledge and guiding community responses.

Educational attainment further differentiates participation levels. Respondents with higher levels of education demonstrate greater engagement in governance activities, reflecting their ability to understand policy frameworks and actively contribute to discussions. This suggests that participation is not only a function of exposure to environmental risks but also of cognitive capacity and access to knowledge. These findings highlight that adaptive governance is shaped by both structural and human capital factors. Galati et al. (2023) said that, Socio-demographic characteristics influence not only the ability to participate but also the willingness to engage in

governance processes. Therefore, policies aimed at strengthening adaptive governance must consider these differences to ensure inclusive participation across diverse community groups.

### ***Awareness, Participation, and the Limits of Governance Effectiveness***

The results reveal a clear distinction between awareness and participation, indicating that knowledge alone is insufficient to ensure active engagement in governance processes. While awareness of coastal policies is relatively high, participation and involvement in decision-making remain at moderate levels. This gap reflects structural and institutional barriers that limit the translation of awareness into action. The qualitative findings provide important insights into these barriers. Respondents frequently highlighted issues such as limited inclusion in decision-making, time constraints, and perceptions that their contributions have minimal impact. These factors reduce motivation to participate, even among individuals who are well-informed about governance policies. This suggests that participation is influenced not only by access to information but also by perceptions of agency and inclusiveness.

Governance effectiveness is also perceived as moderate, indicating that existing systems are functioning but not fully optimized (Hartanto et al., 2021; Ramayah, 2024). The findings suggest that effectiveness is not solely determined by the presence of policies but by how these policies are implemented and experienced by the community. Issues such as delayed implementation, uneven distribution of resources, and lack of responsiveness undermine confidence in governance outcomes. This highlights the importance of moving beyond information dissemination toward more inclusive and participatory governance processes. Bailey et al. (2024) and Castro-Arce & Vanclay (2020), adaptive governance requires not only informed communities but also mechanisms that enable meaningful engagement in decision-making. Without such mechanisms, the potential benefits of awareness cannot be fully realized.

### ***Socio-Economic Determinants of Participation: Evidence from Cross-Tabulation and Regression Analysis***

The cross-tabulation and logistic regression results provide strong evidence that participation in adaptive governance is influenced by both socio-economic capacity and livelihood dependency. Align with research from Raimundo & Rosário (2021), Education emerges as a key factor, with higher levels of education associated with increased participation. This reflects the role of education in enhancing individuals' ability to engage with governance processes and articulate their perspectives. Fishing dependency also plays a critical role, indicating that participation is strongly driven by economic necessity. Individuals who rely heavily on marine resources are more likely to engage in governance activities because their livelihoods are directly affected by environmental conditions and policy decisions. This finding reinforces the idea that participation is not only a voluntary activity but also a strategic response to risk. Policy awareness is identified as the strongest predictor of participation in the regression analysis. This suggests that access to information remains a crucial enabling factor, as informed individuals are better equipped to engage in governance processes. However, the earlier findings indicate that awareness alone is insufficient without supportive institutional structures (Moser et al., 2020; Soderstrom & Weber, 2020; Schaack et al., 2020). The combined results of cross-tabulation and regression analysis highlight the multidimensional nature of participation (Fang et al., 2023; Michalsen et al., 2024). It is shaped by the interaction between knowledge, economic dependency, and socio-demographic characteristics. These findings emphasize the need for integrated policy approaches that address both capacity-building and livelihood considerations in promoting adaptive governance.

### ***Governance Outcomes, Inclusiveness, and the Dynamics of Adaptive Governance***

The analysis of governance outcomes reveals that while policies are generally perceived as effective in improving resource sustainability, concerns remain regarding inclusiveness, responsiveness, and transparency (Gupta et al., 2020; Abhayawansa et al., 2021; Ogunkan, 2022). This indicates that governance effectiveness is evaluated not only based on outcomes but also on the quality of governance processes. The relatively high agreement on environmental improvements suggests that adaptive governance interventions, such as marine protected areas, have produced tangible benefits. However, the moderate perceptions of community involvement

indicate that not all stakeholders feel adequately included in decision-making processes. This lack of inclusiveness can limit the legitimacy and sustainability of governance outcomes.

Issues related to responsiveness and transparency further highlight challenges in governance implementation (Tun t al., 2021; Ruijer et al., 2020; Sofyani et al., 2020). Delays in addressing community concerns and limited clarity in decision-making processes reduce trust in institutions. These factors can discourage participation and weaken the overall effectiveness of governance systems. The integration of quantitative and qualitative findings demonstrates that adaptive governance is inherently relational and process-oriented. Effective governance requires not only well-designed policies but also inclusive, responsive, and transparent processes that foster trust and engagement. Communities often compensate for institutional limitations through informal collaboration and self-organization, indicating the importance of social capital in sustaining adaptive governance (Gilmore et al., 2022; Haque & Doberstein, 2021; Torres-Lima et al., 2022). These findings suggest that strengthening adaptive governance in coastal areas requires a holistic approach that integrates institutional performance with social dynamics. Enhancing inclusiveness, improving responsiveness, and building trust are essential for ensuring that governance systems are both effective and sustainable.

## CONCLUSION

The findings of this study demonstrate that community participation in adaptive governance in the coastal areas of Cebu is shaped by the interaction of socio-demographic characteristics, socio-economic capacity, and institutional dynamics. While communities exhibit relatively high awareness of coastal policies, participation and involvement in decision-making remain moderate, indicating that knowledge alone is insufficient to drive engagement. Education, fishing dependency, and policy awareness emerge as significant determinants of participation, highlighting that both capacity and livelihood necessity influence community involvement. Although governance interventions are generally perceived as effective in improving resource sustainability, limitations in inclusiveness, responsiveness, and transparency reduce overall governance effectiveness. The integration of quantitative and qualitative findings confirms that adaptive governance operates as a socially embedded process, where participation is influenced not only by institutional structures but also by trust, experience, and local context. These results suggest that strengthening adaptive governance requires a more inclusive and responsive approach that enhances community engagement, addresses structural barriers, and aligns institutional practices with the lived realities of coastal communities.

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