

*A Correlational Study of Political Accountability of Sangguniang Barangay and
Barangay Readiness for Climate Change*

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Abstract

Climate change is a worldwide phenomenon having far-reaching consequences in numerous areas of society, including the economy, government, and living conditions. To effectively mitigate these effects, the national government needs to develop and employ policies and directives that can fulfill the safety and protection requirements of its people through development efforts, therefore improving the overall quality of life for all citizens. This research endeavor intends to assess the political accountability of the Malabon Barangay Councilors, especially in the context of their readiness for climate change. It digs into the notion of decentralization, in which national policies addressing climate change are operationalized at the grassroots level through municipal rules, with the Barangay Councilors in charge of implementation, supervision, and reporting. Furthermore, this study delves into crucial concerns related to the administrative responsibility of the Sangguniang Barangay, which substantially impacts the level of readiness for climate change. These considerations extend to their degree of accountability, which often surpasses their prescribed responsibilities as delineated by the local government code. Moreover, the research evaluates the legislative powers vested in the Barangay Councilors, the nature of their priorities when enacting laws, and the extent of engagement they foster among diverse stakeholders, including sectoral leaders and residents. The active participation of these stakeholders serves to foster heightened community awareness, thus enhancing the effectiveness of climate change adaptation efforts.

Keywords: Climate Change, Barangay Readiness, Political Accountability

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Introduction

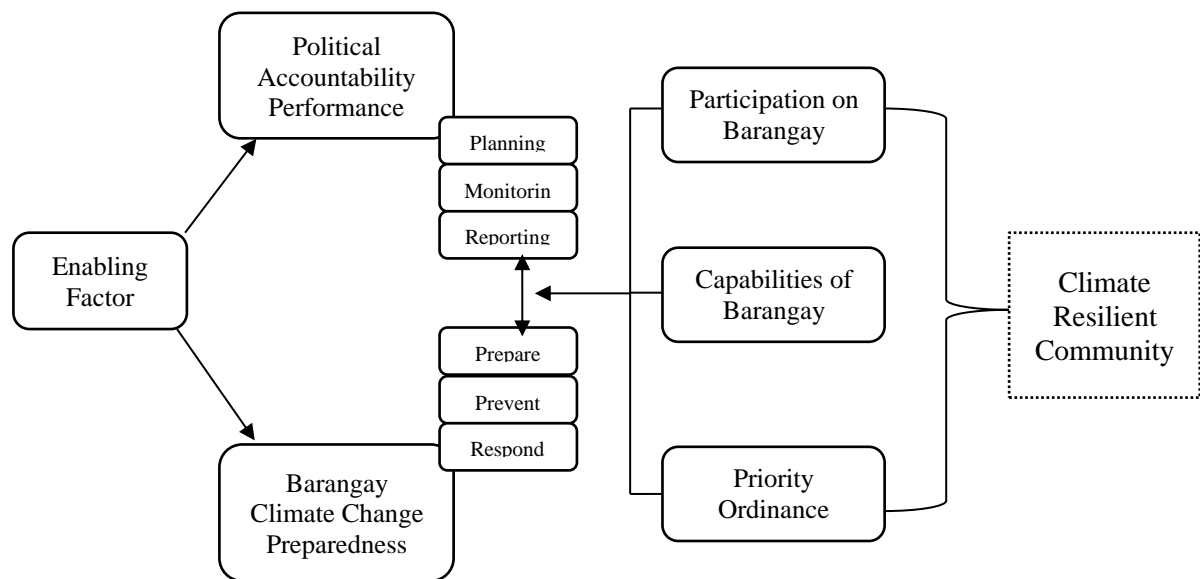
The Philippines is identified as one of the Asian countries most vulnerable to climate-related difficulties by the Climate Change Vulnerability Index (Global Adaptation Initiative, 2013), owing to its geographical position (Yusuf et al., 2010) and status as a developing nation (Fisher, 2013). According to research conducted by the Centre for International Sustainable Development Law in collaboration with the Climate and Development Knowledge Network (CDKN), the Philippines is vulnerable to rising sea levels, which can cause devastating floods and severe tropical storms in various areas (Alliance Development Works, 2012; World Bank, 2013). In response, the Philippine government passed Republic Act 9729, popularly known as The Climate Change Act, to encourage long-term environmental initiatives. Furthermore, the Climate Change Commission was established to further research and implement climate change solutions (World Bank, 2013). Despite these attempts, the national government's policy failed to successfully oversee the local government climate change agenda (Perez et al., 1999). As a result, barangays, the Philippines' smallest administrative division, confront problems connected to climate change preparation, including concerns of priority and information transmission as a result of variables impacting barangay officials' responsibility (Canares, 2009; Polark, 2011). Furthermore, Canares (2009) of the HNU Center for Research and Local Governance identifies two key reasons for local government complexities in addressing climate change challenges: a limited understanding of the causes, effects, and local solutions to climate change and a pessimistic view of the ability of global solutions to be effectively addressed at the local level. These findings highlight the Philippines' Local Government Units' poor responsiveness to climate change challenges. The following therefore are the research questions of the study:

1. Is there significant relationship between Political Accountability Performance of Sanguniang Barangay in legislating barangay ordinances for climate change and the Barangay Readiness for climate change?
2. What are the enabling policy factors for political accountability of Sanguniang Barangay in legislating barangay ordinances which are related to climate change?

Sub-questions:

- What are the public participatory mechanisms which were employed by the barangay in performing their political accountability to improve citizen's awareness for climate change readiness?
- What are the capabilities of the barangay ordinances for climate change legislated by the sanguniang barangay?
- What are the priority ordinances which are enacted by the Sanguniang Barangay in the exercise of their political accountability that serve as the basis of the barangay readiness for climate change?

The Conceptual Framework of the Study



Research Methods

The Study aims to assess the observed political accountability performance of barangay councils in comparison to the expected performance based on the regulations outlined in republic acts (Giventer, 2008). It employs deductive questioning and inductive textual analysis to examine the influence of enabling policy factors, capabilities of barangay ordinances, and public participation mechanisms in their execution of responsibilities related to local ordinance legislation and its connection to barangay readiness for climate change. The research adopts a mixed-method approach, specifically the convergent parallel design, where both quantitative and qualitative data are collected concurrently but analyzed separately. This mixed-method approach combines various research methods, incorporating both qualitative and quantitative measures, to gain a comprehensive understanding of the research problem through data triangulation, enhancing the validity of the findings (David, 2011; Denzin, 1978).

Results and Analysis

What are the enabling factors of the political accountability performance of the Sangguniang Barangay in legislating barangay ordinances which are related to climate change?

National Government Policy for Climate Change.

The Philippine Constitution guarantees the full protection of life, liberty, and property, and it emphasizes the promotion of the general welfare for all citizens. Through this principle, the national government has planned and implemented various activities to address climate change vulnerabilities, emphasizing the importance of decentralization to cater to the needs of grassroots levels through local government units. The Local Government Code defines the structure and responsibilities of local governments, with the barangay as the smallest unit of the state. It serves as the primary planning and implementing unit for government policies, programs, and activities in the community. The Sangguniang Barangay, as the legislative body, holds the responsibility, answerability, and obligation in accordance with its powers

and duties as stated in the Code. National policies such as the Climate Change Act of 2009 and the Philippine Disaster Risk Reduction and Management Act of 2010 recognize the interrelatedness of climate change and disaster risk reduction, highlighting the importance of local government units' participation in planning and implementing climate change readiness programs through ordinances. To ensure consistency, barangay ordinances are subject to review by the Sangguniang Panlungsod or Sangguniang Bayan, and suggestions or recommendations can be submitted to improve the barangay's welfare. Cooperation between local government units is crucial, not only through ordinances but also in coordinating activities for climate change mitigation and adaptation. The aforementioned rules serve as legal foundations for the political accountability of the Sangguniang Barangay in legislating climate change-related ordinances.

Local Government Policy for Climate Change.

Malabon, often referred to as the "Local Venice," is susceptible to severe flooding, particularly during heavy rains. The main factor contributing to high tides is the improper waste disposal by informal settlers. Data from the local government of Malabon reveals that approximately 26% of its population (400,317) falls under the urban poor category, and one-third of its residents reside in depressed settlements. To combat this issue, the Malabon government has enacted various ordinances aimed at addressing climate change-related challenges. Below are some of the existing ordinances pertaining to this matter:

- 01-2011 – City Ordinance Creating the Malabon City Disaster Risk Reduction Management Office and the Malabon City Disaster Risk Reduction Council as Mandated by Republic Act 10121 otherwise known as Disaster Risk Reduction and Management Act 2010
- 09-2011 – Kautusang Panlungsod na nagtatakda sa Panata ng Kalikasan ditto sa Lungsod ng Malabon
- 14-2011 – An Ordinance prohibiting dumping, placing, throwing cigarette butts and the like in any place in the streets or public building or property including waterways, riverbanks not otherwise designated as garbage dumping place and providing penalties thereof
- 04-2012 – City Ordinance amending City Ordinance No. 14-2011 otherwise known as the Anti-littering Ordinance of Malabon City
- 11-2012 – An Ordinance mandating the use the pre-emptive measures during emergency situations such as forced evacuation during manmade or natural disasters and providing guidelines thereof
- 13-2012 An Ordinance creating the City Environmental and Natural Resources Office (CENTRO), providing personnel positions and functions thereof
- A01-2013 – An Ordinance amending Section 8 of City Ordinance No. 01-2013 otherwise known as an Ordinance Prohibiting the use of Plastic Bags on Dry Goods, regulating its Utilization on Wet Goods and Prohibiting the Use of Styrofoam/Styrofoam in the City of Malabon and Prescribing the Penalties thereof

The mapping process of the City of Malabon ordinances focused solely on ordinances passed between August 2010 and October 2013. Within this period, only seven ordinances were identified as the city's specific measures in response to preventing and preparing for the effects of climate change.

Table 1 – Represents the number of ordinances legislated in the city of Malabon from 2010-2013

YEAR	ORDINANCE LEGISLATED	ORDINANCE FOR CLIMATE CHANGE
August 2010 – November 2010	5	0
February 2011 – November 2011	15	3
February 2012 – December 2012	17	3
October 2013 – December 2013	6	1
Total	43	7

Is there a significant relationship between Political Accountability Performance of the Sangguniang Barangay in legislating barangay ordinances for climate change and the Barangay Readiness for climate change?

Political Accountability and Barangay Readiness are underlying concepts requiring indicators for quantification. As per the study's operational definition, political accountability pertains to the responsibility, obligation, and answerability of the Sangguniang Barangay in enacting local ordinances to promote climate change readiness. The concept of responsibility, obligation, and answerability of the Sangguniang Barangay is reflected in the enabling factor, which is operationally defined as the policies serving as the foundation for exercising political accountability among the Sangguniang Barangay members. Consequently, the results yield three semantic roles: planning, monitoring, and reporting. The variables utilized to gauge political accountability performance are anchored in these components. On the other hand, barangay readiness for climate change is measured by the presence of the three elements, namely Prevent, Prepare, and Responds, in the ordinances and climate change programs. These elements are derived from Stern's (2007) study titled "The Economics of Climate Change."

Table 2 – Significant relationship between climate change readiness and political accountability performance

<i>Variables</i>	<i>Prevent</i>	<i>Prepare</i>	<i>Respond</i>	<i>Reporting</i>	<i>Monitoring</i>
<i>Prepare</i>	.478**				
<i>Respond</i>	.205*	.564**			
<i>Reporting</i>	.221*	.137	.134		
<i>Monitoring</i>	.127	.156	.086	.850**	
<i>Planning</i>	.184	.206	.157	.881**	.919**
* Significant at 0.05 level					
** Significant at 0.01 level					

The table illustrates the significant correlation between climate change and political accountability performance. Notably, there is a strong relationship between prevent and prepare ($r=0.48$), prepare and respond ($r=0.56$), reporting and monitoring ($r=0.85$), reporting and planning ($r=0.88$), and monitoring and planning ($r=0.92$), all of which are statistically significant at the 0.01 level. Additionally, prevent and respond ($r=0.21$) and prevent and reporting ($r=0.22$) show a significant relationship at the 0.05 level. On the other hand, prepare and reporting ($r=0.14$), respond and reporting ($r=0.13$), prevent and monitoring ($r=0.13$), prepare and monitoring ($r=0.16$), respond and monitoring ($r=0.09$), prevent and planning ($r=0.18$), prepare and planning ($r=0.21$), and respond and planning ($r=0.16$) indicate positive relationships, but no statistically significant level of correlation. Therefore it indicate that while there was no overall collective relationship between political accountability performance and barangay readiness, positive relationships were observed at the component level, showing a direct proportionality. The low positive level of association between the individual components of political accountability and barangay readiness suggests the presence of potential moderating factors that could influence their relationship, which aligns with the findings of the UNDP study (2008). As the research is evaluative in nature, it explores three potential moderating variables: participation, capabilities of ordinance, and the nature of prioritization. The simulation of these moderating variables could be the key determining factor behind this intriguing result. As highlighted in the studies by Brillantes et al. (2011), UN-ISDR (2005), Twigg (2007), and Tanner et al. (2010), governance mechanisms possess the capacity to respond and adapt to complexities related to climate change readiness (Birkbeck, 2009). Thus, the low level of relationship between political accountability performance and barangay readiness points to a moderate level of commitment between participation, prioritization, and the capabilities of the ordinance.

What are the public participatory mechanism which were employed by the barangay in performing their political accountability to improve citizen’s awareness for climate change readiness?

The Malabon city government has taken proactive steps to address climate change by enacting and implementing various adaptation and mitigation programs. They have allocated

funds to support these initiatives and have also introduced new projects in response to climate change challenges. However, certain programs require crucial participation from the citizens to be successful.

Table 3 – Mean and standard deviation of citizen participation to the city programs for climate change

	Mean	Std. Deviation	Verbal Interpretation
Anti-cigarette smoking campaign	2.94	1.08	Partial Participation
Proper waste disposal	2.93	1.25	Partial Participation
Urban gardening	2.87	1.11	Partial Participation
Walkable and Bike-friendly program	2.68	1.16	Partial Participation
Control of smoke belching vehicle	2.52	1.13	Partial Participation
TOTAL	2.79		Partial Participation

The table presents the mean scores for various programs: anti-cigarette smoking campaign (M=2.94, S.D.=1.08), proper waste disposal (M=2.93, S.D.=1.25), urban gardening (M=2.87, S.D.=1.11), walkable and bike-friendly program (M=2.68, S.D.=1.16), and control of smoke-belching vehicles (M=2.52, S.D.=1.13). The overall interpretation indicates a moderate level of participation with an average mean score of 2.79. The standard deviation reflects the variability of responses among the respondents.

Table 4 – Percentage of times of participation in barangay per year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a year	4	3.8	4.2	4.2
	Twice a year	23	21.9	24.2	28.4
	Three times a year	35	33.3	36.8	65.3
	Four times a year	10	9.5	10.5	75.8
	Five times a year	22	21.0	23.2	98.9
	Six times a year	1	1.0	1.1	100.0
	Total	95	90.5	100.0	
Missing	System	10	9.5		
Total		105	100.0		

Table 5 – Percentage of participation conducted in Barangay to improve awareness in climate change impacts

	Percent	Valid Percent	Cumulative Percent
Orientation	54.3	100.0	100.0
Dialogue	28.6	100.0	100.0
Seminar	34.3	100.0	100.0
Symposium	28.6	100.0	100.0
Forum	25.7	100.0	100.0

The Table 4 and 5 indicate that the barangay has implemented various strategies to raise awareness among the residents about the implications of climate change on their lives. A significant percentage of respondents stated that they were encouraged to participate in climate change activities three times a year (33.3%), twice a year (21.9%), and five times a year (21.0%), demonstrating that orientations, dialogues, seminars, symposiums, and forums were organized by their barangay for climate change readiness. However, the data below presents the actual number of citizens who participated in these specific barangay programs for climate change. The findings indicate that citizen participation in government activities for climate change readiness is not fully voluntary, and this lack of participation affects the relationship between political accountability and climate change readiness. The study supports the Theory of Citizens Participation, as proposed by Patrick et al. (2011), which emphasizes the positive outcome of citizen participation in governance, leading to greater political satisfaction and successful governance systems.

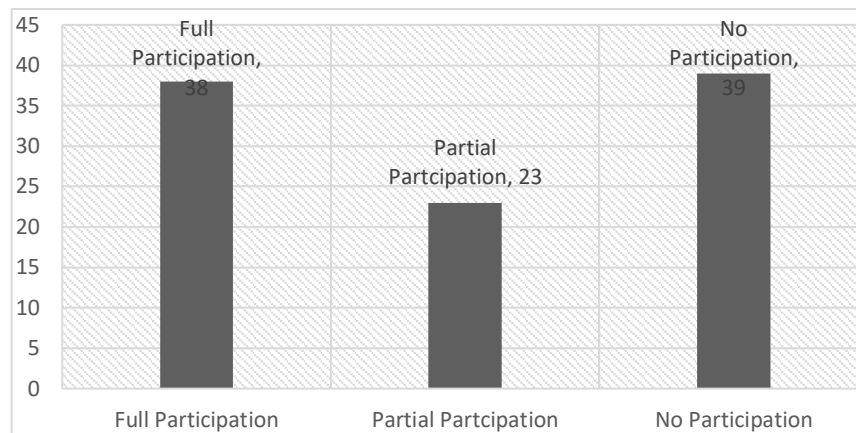


Figure 1 – Represents the percentage number of participants in barangay

The data presented illustrates the percentage of citizens who participated in barangay activities for climate change. The results show that 38 percent of the citizens participated fully in all barangay activities, while 23 percent participated partially as occasional participants, and 39 percent never participated in any of the programs or activities conducted by the barangay. The unexpected findings from the survey results were further supported by the documented data obtained from each barangay. These data indicate that not all citizens are fully committed to participating in the barangay's climate change programs. The partial participation of some citizens highlights the importance of not solely relying on the government's efforts, but also on the cooperation and involvement of citizens in achieving a climate resilient community, as emphasized in the study by Johnson et al. (2011).

What are the capabilities of barangay ordinances for climate change legislated by the Sangguniang Barangay?

Based on the operational definition employed in this research, capabilities pertain to the effectiveness and significance of the ordinances enacted by the Sangguniang Barangay for addressing climate change. The barangay has been granted the specific legal authority to adopt and implement existing ordinances from the city related to climate change.

Figure 2 – Percentage of ordinance adoption in barangay

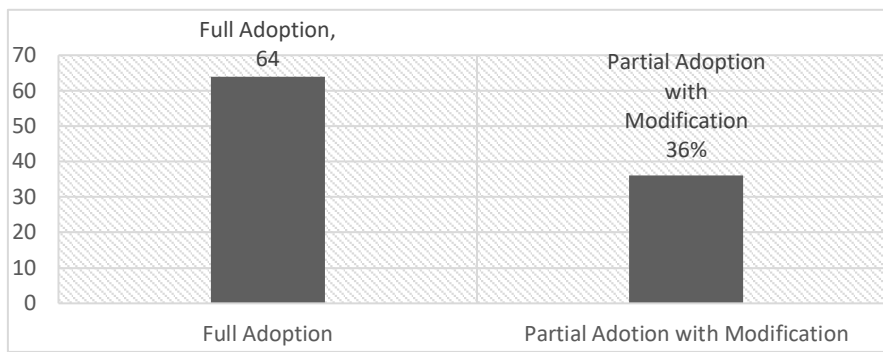


Figure 2 illustrates the percentage of ordinance adoption in each barangay. It shows that 64 percent of the Sangguniang Barangay respondents fully adopted their barangay ordinance from the city, while the remaining 36 percent partially adopted the city ordinance.

Figure 3 – Percentage of enacted activities for climate change

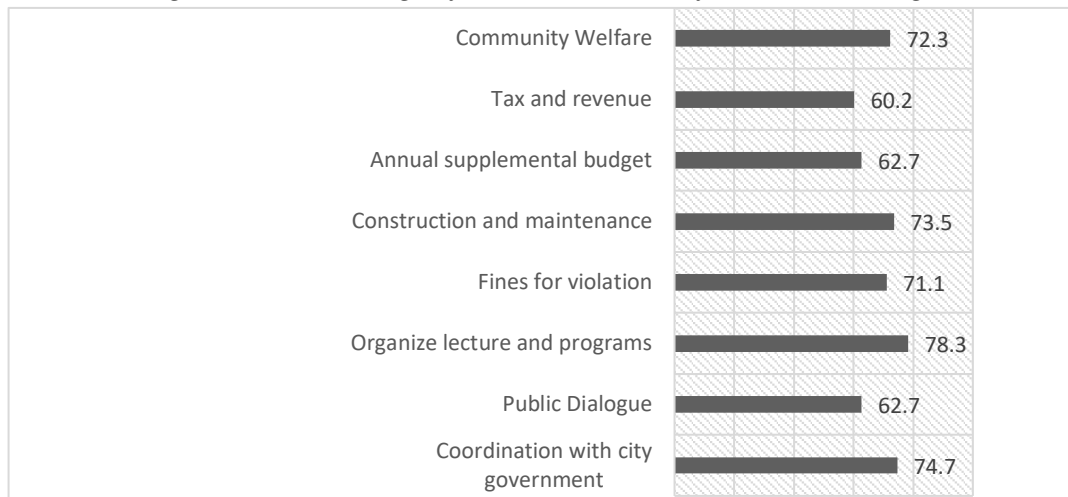


Figure 3 depicts the percentage of enacted activities by the barangay, which includes regular lectures, programs or fora on community problems related to climate change (78.3%), coordination with the City Government on matters relating to climate change (74.7%), promotion of community welfare relative to climate change (72.3%), construction and maintenance of barangay facilities for climate resilience (73.5%), prescribing fines for violation of climate change ordinances (71.1%), conducting public dialogues on climate change (62.7%), allocation of annual and supplemental budgets for climate resilience (62.7%), and enactment of tax and revenue ordinances (60.2%). The barangay's actions in coordinating with the city government on climate change matters (74.4%) and ensuring the construction and maintenance of facilities for climate resilience (73.5%) reflect their commitment to comply with R.A. 10121 sec. 12 par. (a), which emphasizes the direction, development, implementation, and coordination of disaster risk management programs to prepare for climate change impacts. Additionally, the barangay's responsibilities in imposing fines for climate change ordinance violations (71.1%), allocating budgets for climate resilience (62.7%), and enacting tax and revenue ordinances (60.2%) are in accordance with the local government code. These activities play a vital role in supporting the needs of individuals affected by natural disasters and act as authoritative strategies to monitor pollution caused by businesses or establishments in Malabon. Therefore, the capabilities of

barangay ordinances are divided into two dimensions: (a) Ordinance through Adoption and (b) Ordinance through Enactment.

Ordinance Through Adoption:

As per the provisions of the local government code, barangay ordinances must align with the principles and content of city ordinances. R.A. 7160 sec. 57 and sec. 391 (5) outline the role of the Sangguniang Panlungsod or Sangguniang Bayan in reviewing the ordinances drafted by the Sangguniang Barangay. Table 7 clearly indicates that most barangays in Malabon adopt the city's ordinance for climate change. The high percentage of total adoption from city ordinances reflects the varying nature of prioritization among the Sangguniang Barangay.

Ordinance Through Enactments:

Under R.A. 7160, sec. 391 paragraph (a), the Sangguniang Barangay is granted the authority to enact ordinances and is regarded as the legislative body of the barangay. Table 8 showcases the range of activities for climate change that are enacted by the Sangguniang Barangay. The significance of these barangay ordinances is based on the principles outlined in the Climate Change Act (R.A. 9729), Philippine DRRMC Act (R.A. 10121), and the city ordinances for climate change. These enacted activities represent the authoritative strategies employed by the barangay in fulfilling their political accountability.

What are the priority ordinances enacted by the Sangguniang Barangay in the exercise of their political accountability that serve as the basis of the barangay readiness for climate change?

The typical and pragmatic matters that commonly arise within the barangay, along with the problematic areas that require resolution, form the spheres of prioritization for the barangay ordinances enacted by the Sangguniang Barangay.

Table 6 – Mean and Standard Deviation of subjected area of concern which should be prioritized in barangay ordinances.

	Mean	Std. Deviation	Verbal Interpretation
Maintaining peace and order	3.90	.24	Strongly Agree
Communication and advocacy program	3.77	.66	Strongly Agree
Educational program	3.76	.58	Strongly Agree
Solid waste disposal	3.73	.70	Strongly Agree
Youth development	3.65	.57	Strongly Agree
Health and sanitation	3.62	.58	Strongly Agree
Disaster and risk preparedness	3.59	.78	Strongly Agree

Pollution control	3.57	.74	Strongly Agree
Infrastructure projects	3.55	.79	Strongly Agree
Livelihood project	3.54	.70	Strongly Agree
Poverty alleviation	3.06	1.11	Agree

The data presented in the table represents the mean scores for the areas of concern that should be given priority in the barangay ordinance. The areas include maintaining peace and order (M=3.90, S.D.=0.24), communication and advocacy program (M=3.77, S.D.=0.66), educational program (M=3.76, S.D.=0.58), solid waste disposal (M=3.73, S.D.=0.70), youth development (M=3.65, S.D.=0.57), health and sanitation (M=3.62, S.D.=0.58), disaster and risk preparedness (M=3.59, S.D.=0.78), pollution control (M=3.57, S.D.=0.74), infrastructure projects (M=3.55, S.D.=0.79), and poverty alleviation (M=3.06, S.D.=1.11). The results suggest that the Sangguniang Barangay respondents are highly attentive to their areas of priority, indicating that their subjective assessment is based on what they consider essential for their constituents. This premise is supported by the research of Canares (2009) and Polark (2011), which emphasize the challenges of prioritization in climate change initiatives. However, the surprising mean score of 3.06 for poverty alleviation, with a verbal interpretation of "Agree" and a standard deviation of 1.11, reveals that there is a diversity of perspectives among the Sangguniang Barangay respondents regarding poverty alleviation in their barangay, as indicated by the wide dispersion of responses.

Conclusion

The study's low positive correlation between political accountability performance and climate change readiness indicates the presence of intervening factors, as supported by UNDP (2008). Challenges in prioritization and participatory approaches between the government and citizens, as mentioned by Canares (2009) and Polark (2011), may have influenced this relationship. These factors are considered as moderating variables affecting the association between political accountability and climate change readiness. The study confirms that decentralization, citizen's participation, and accountability are interconnected elements for climate change readiness. Additionally, the findings indicate that citizen participation in government activities for climate change readiness is not fully voluntary, and this lack of participation affects the relationship between political accountability and climate change readiness. The study supports the Theory of Citizens Participation, as proposed by Patrick et al. (2011), which emphasizes the positive outcome of citizen participation in governance, leading to greater political satisfaction and successful governance systems. The capabilities and substantiality of barangay ordinances are influenced by the prioritization of specific areas of concern. Decentralization empowers the Sangguniang Barangay as the legislative body, but their personal beliefs and interests can shape their participation. The nature of prioritization in ordinances for climate change presents challenges to the political accountability of Sangguniang Barangay in legislating effective policies for climate change readiness. This affects the government's ability to respond adequately to the impact of climate change, especially when political interests of officials come into play. Given the nature of prioritization and varying political advocacies among public officials, there is a need for stricter implementation of important programs. The Sangguniang Barangay should enact

policies that align with the national campaign for a climate-resilient community. Sustainability of programs for climate change is crucial, and legislators must be mindful of ways to ensure program continuity. Some city ordinances have existed through different mayoral terms but lack strong enforcement. To achieve sustainability, follow-up measures must be put in place.

Recommendation

Malabon, located in Metro Manila, is known to be susceptible to severe flooding. According to the study conducted by Pornasodoro et al. (2014), each barangay in Metro Manila was categorized into different flood vulnerability layers, ranging from VERY HIGH to VERY LOW. Malabon falls under the HIGH flood vulnerability layer, indicating a significant risk of flooding by the years 2020 and 2030. The following is the list of barangays in Malabon that are considered to be at high risk of flooding.

CITY/MUNICIPALITY	BARANGAYS	
	HIGH RISK	VERY HIGH RISK
Malabon City	Dampalit, Catmon, Muzon, Conception, San Agustin, Niugan, Longos, Potrero	Tonsuya
***Pornasodoro et., al., Journal in Urban and Regional Planning (2014)		

The study conducted by Pornasodoro et al. (2014) emphasized the crucial importance of strong coordination and political commitment at the local level in prioritizing climate change efforts. The findings of this study revealed a significant aspect that challenges the relationship between political accountability performance and climate change readiness. Despite the government's provision of programs for climate change readiness, there are weak strategies in place that may be subject to alteration, especially with changes in public office terms. Therefore, the Sangguniang Barangay should focus on the following key areas:

1. Strong Coordination with the City Government: The Barangay needs to establish effective and robust coordination with the city government. This includes being aware of and aligning with prioritized projects of government agencies such as the Department of Public Works and Highways (DPWH) and Metropolitan Manila Development Authority (MMDA) in addressing recurring issues in Metro Manila.
2. Sustainability of Programs: The Sangguniang Barangay must develop a framework for monitoring and evaluating the effectiveness and efficiency of climate change programs. Ensuring the long-term sustainability of these initiatives is vital to their success.
3. Strengthening Citizen's Participation: Encouraging active citizen participation is a common challenge faced by every barangay. The Sangguniang Barangay must implement practical measures that strategically encourage people to participate. Raising citizen awareness can be achieved by distributing pamphlets or paraphernalia containing essential and experience-based information about the impacts of climate change.

4. **Rigorous Implementation of Climate Change Programs:** The study highlighted that current barangay ordinances primarily focus on peace and order and reflect the Sangguniang Barangay's own perspectives for their constituents. To support the city's goal of becoming a climate resilient community, the Sangguniang Barangay must ensure that their policies are rigorous and well-aligned with the impacts of climate change on citizens' lives. An open-minded approach to understanding the complexities of climate change is essential in this regard.

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