



Public Awareness of Climate Change among Community Members: A Quantitative Assessment in Chow Kit, Kuala Lumpur

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Abstract

Public awareness plays a pivotal role in addressing the global climate crisis by promoting sustainable behaviors, enhancing community resilience, and supporting national adaptation strategies. This study assesses the level of public awareness and community engagement concerning climate change among residents of Chow Kit, Kuala Lumpur. A quantitative, cross-sectional design was employed using convenience sampling involving 75 respondents from urban and semi-urban backgrounds. Data were collected through a structured questionnaire and analyzed using descriptive statistics and reliability analysis. The results revealed a high level of climate change awareness and engagement, with a mean score of 4.205 and a Cronbach's alpha value of 0.942, indicating excellent internal consistency. The findings suggest that respondents are well-informed and actively engaged in climate-related initiatives. This study underscores the critical importance of strengthening public awareness and community participation to support effective climate action and ensure long-term environmental sustainability in Malaysia.

INTRODUCTION

The climate crisis represents one of the most pressing global challenges of the twenty-first century, demanding immediate and coordinated action across all levels of society. Climate change refers to long-term alterations in temperature and weather patterns, largely driven by anthropogenic activities since the Industrial Revolution, particularly the burning of fossil fuels. Its consequences are increasingly evident—global sea levels have risen by approximately 8–9 inches since 1880 (Cermak, 2024), while the frequency and intensity of extreme weather events such as heatwaves, floods, droughts, and cyclones continue to escalate. The World Health Organization (2023)

estimates that between 2030 and 2050, climate-related impacts on undernutrition, malaria, diarrhoeal diseases, and heat stress could cause an additional 250,000 deaths annually, particularly in developing countries.

Global responses have been framed through multilateral agreements such as the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, and the Sustainable Development Goals (Duncanson et al., 2023). These frameworks emphasize the need to reduce greenhouse gas emissions, strengthen adaptive capacity, and promote sustainable economic transitions. Transitioning to renewable energy sources, such as solar and wind, is central to these efforts (Lotzof, 2022). However, the effectiveness of such strategies depends significantly on public understanding and awareness. Without adequate awareness of climate change and its local impacts, communities are unlikely to engage in meaningful mitigation or adaptation efforts. Awareness serves as a catalyst for behavioral change, fostering environmentally responsible choices and preparedness for extreme weather events (Sofia & Pavlis-Korres, 2021).

Local community participation plays a pivotal role in achieving inclusive and sustainable climate action. Grassroots initiatives—such as tree planting, community gardens, and the adoption of eco-friendly transportation—contribute to emission reduction and resilience building (Javier, 2024). Collaboration among residents, local authorities, non-governmental organizations, and private entities strengthens collective capacity to design and implement effective climate strategies (Filho et al., 2023). Engaged and informed citizens, supported by robust environmental governance, are essential for translating policy commitments into tangible outcomes at both local and national levels.

Despite growing global attention, empirical studies examining public awareness and community engagement on climate change in Malaysia remain limited, particularly within urban settings. Therefore, this study aims to assess the level of public awareness and community engagement regarding climate change among residents of Chow Kit, Kuala Lumpur. Understanding local perceptions and behaviors is crucial for informing effective climate communication strategies and advancing Malaysia's progress toward environmental sustainability.

LITERATURE REVIEW

Climate change awareness and community-driven action are rooted in an understanding of environmental fragility and the necessity of preserving ecological balance. In Malaysia, the manifestations of climate change—including rising temperatures, erratic rainfall, flooding, and coastal erosion—have become increasingly evident. The Malaysian Meteorological Department (2023) reports a consistent increase in average temperature since the 1980s, with direct implications for biodiversity, agriculture, and public health. These climatic shifts underline the urgency of fostering public awareness and mobilizing community participation as central strategies for national climate resilience (Hickman et al., 2021).

Public awareness has long been recognized as a critical determinant of effective climate action, influencing both individual behavior and institutional policy decisions. In Malaysia, however, levels of public understanding remain uneven, often shaped by media exposure, educational attainment, and personal experience with environmental hazards (Yaacob, So, & Iizuka, 2022). Studies have shown that integrating climate literacy into formal education and social communication campaigns significantly enhances adaptive behavior and policy support (Wamsler & Brink, 2020). Evidence from Germany and South Korea indicates that embedding climate communication into public policy and educational systems fosters citizen participation and informed environmental choices (Kim et al., 2021). These findings highlight the need for context-specific, culturally grounded awareness strategies in Malaysia that align with global frameworks while reflecting local realities.

Social capital—comprising networks, trust, and shared norms—plays a pivotal role in shaping collective responses to climate threats. Communities with strong social capital can mobilize resources, exchange knowledge, and coordinate effective adaptation strategies (Shaikh Khatibi, 2021). In Malaysia's multiethnic context, social cohesion and trust are essential in overcoming social fragmentation that often weakens community-based responses. Research indicates that social capital contributes not only to practical problem-solving but also to psychological resilience, offering emotional support and collective efficacy that mitigate anxiety and distress related to climate change (Carmen et al., 2021; Lawrence, 2022). Consequently, enhancing social capital remains a key enabler for sustained community adaptation and resilience-building efforts (Hügel & Davies, 2020).

Community-Based Adaptation (CBA) has emerged as a strategic framework for strengthening local resilience, particularly in vulnerable regions affected by floods, sea-level rise, and agricultural disruption. Empowering communities through participatory planning and local ownership enhances both the sustainability and cultural

appropriateness of adaptation measures. For instance, in Bangladesh, coastal communities adopting CBA approaches have reduced vulnerability and strengthened social resilience (Ahmed & Neelormi, 2020). These examples demonstrate that inclusive governance and participatory decision-making are critical determinants of adaptation success. For Malaysia, where rural and urban populations face diverse vulnerabilities, the implementation of CBA offers significant potential for developing equitable and place-specific responses to climate risks.

The integration of Traditional Ecological Knowledge (TEK) with scientific approaches represents another important dimension of adaptive climate strategies. TEK encapsulates indigenous communities' accumulated environmental understanding, offering nuanced insights into local ecological systems (Hosen, 2020). In Malaysia, where indigenous peoples play a central role in cultural and environmental stewardship, combining TEK with scientific methods can enhance adaptive capacity and sustainability. However, this integration must be grounded in mutual respect and inclusivity; otherwise, epistemological conflicts and the marginalization of indigenous knowledge may hinder effective collaboration (Owen, 2020). Ensuring equitable engagement between scientific experts and local knowledge holders is therefore crucial to formulating hybrid, culturally sensitive climate adaptation frameworks.

Education remains a cornerstone of public awareness and long-term resilience. Climate education not only informs but also empowers individuals to view themselves as agents of change. Participatory and experiential learning has been shown to sustain motivation for pro-environmental behavior (Hickman et al., 2021). In Malaysia, engaging youth in climate education is vital for intergenerational continuity of environmental stewardship. Educational strategies that connect formal learning with community-based experiences increase relevance and foster stronger emotional and behavioral commitment to sustainability (Rousell & Cutter-Mackenzie-Knowles, 2019; Costa, 2022). Informed citizens are more likely to adopt sustainable practices, support policy implementation, and participate in collective mitigation efforts (Ballew et al., 2020; Clayton, 2020).

The literature consistently emphasizes that effective climate action depends on public awareness, social cohesion, and participatory community engagement. Integrating social capital, traditional knowledge, and education within climate strategies enhances adaptive capacity and long-term sustainability. However, despite increasing attention to these factors globally, empirical evidence in the Malaysian urban context remains limited. Few studies have examined the intersection between public awareness and community engagement at the local level, particularly in diverse urban communities such as Chow Kit, Kuala Lumpur. Addressing this gap, the present study investigates the levels of climate change awareness and community participation among Chow Kit residents, offering insights to inform future climate communication and community resilience initiatives in Malaysia.

METHODOLOGY

This study employed a quantitative cross-sectional research design to examine public awareness of climate action among Malaysians, focusing on residents of Chow Kit, Kuala Lumpur. A total of 75 respondents representing diverse demographic backgrounds from an urban area were selected using a convenience sampling method. Data were collected through a structured questionnaire administered both face-to-face and online, encompassing four sections: socio-demographic characteristics, climate change knowledge, environmental practices, and community engagement. Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Descriptive statistics, including means and standard deviations, were employed to analyze the data, while Cronbach's alpha coefficient was used to assess the internal consistency of the instrument, with values exceeding 0.60 considered acceptable for reliability. Ethical considerations were rigorously observed throughout the study, ensuring participants' anonymity, informed consent, voluntary participation, and the confidentiality of all collected data.

RESULT AND DISCUSSION

Profile of Respondents

The demographic profile of respondents (Table 1.0) provides important insights into the characteristics of individuals residing in Chow Kit, Kuala Lumpur, who participated in this study. A total of 75 respondents were surveyed. The age distribution indicates that the majority of participants were between 23 and 24 years old (48.0%), followed by those aged 21 to 22 years (25.3%) and above 25 years (25.3%), while only a small proportion (1.4%) were between 18 and 20 years old. In terms of gender composition, female respondents constituted the majority (60%), with males representing 40% of the sample. Regarding employment status, more than half of the respondents were students (56.0%), followed by employed individuals (34.7%) and unemployed participants (9.3%). In relation to educational attainment, a substantial majority (84.0%) possessed tertiary-level qualifications, 14.7% had

completed secondary education, and only 1.4% indicated “other” as their highest level of education. Overall, these findings suggest that the sample predominantly comprised young, educated individuals, many of whom were either pursuing or had recently completed higher education, reflecting the urban and youth-oriented demographic composition of the Chow Kit area.

TABLE 1.0
PROFILE OF RESPONDENTS (N=75)

Profile	Category	Frequency	Percentage (%)
Gender	Male	30	40.0
	Female	45	60.0
Age	18-20 years old	1	1.4
	21 – 22 years old	19	25.3
	23 – 24 years old	36	48.0
	> 25 years old	19	25.3
Occupation	Student	42	56.0
	Employed	26	34.7
	Unemployed	7	9.3
Education	Secondary	11	14.7
	Tertiary	63	84.0
	Other	1	1.4

Cronbach’s alpha was employed to assess the internal consistency and reliability of the measurement items used in this study. As noted by Pallant (2016), a Cronbach’s alpha value of 0.60 or higher indicates acceptable reliability, while values between 0.80 and 1.00 demonstrate excellent internal consistency. As presented in Table 1.2, the Cronbach’s alpha coefficient for the variable “*Climate Crisis: Awareness and Action Across Communities*” was 0.942, indicating an excellent level of reliability. This result confirms that the scale items used to measure climate crisis awareness were highly consistent and dependable among respondents from Chow Kit, Kuala Lumpur.

Table 1.2
RELIABILITY TEST

Variable	Number of Items	Cronbach’s Alpha	Reliability Assumed
Public Awareness of Climate Change among Community in Chow Kit, Kuala Lumpur	14	0.942	Excellent

Mean and Standard Deviation

The mean and standard deviation analysis provides valuable insights into the respondents’ overall awareness and engagement regarding the climate crisis. Participants assessed their understanding and involvement in climate-related issues across communities using a five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). As presented in Table 1.4, the overall mean score was 4.205, which falls within the high range (3.58–5.00) as outlined in Table 1.3, with a standard deviation of 1.10. These results suggest that respondents generally demonstrate a strong awareness of climate issues and actively participate in community-based climate actions, reflecting a high level of climate-conscious engagement among residents of Chow Kit, Kuala Lumpur.

The findings from this study conducted in Chow Kit indicate a notably high level of awareness and concern regarding climate change among respondents. However, the results also reveal a discernible gap between awareness and actionable behavior, suggesting that knowledge alone does not necessarily translate into sustained climate action. To bridge this gap, policy interventions should emphasize comprehensive climate education, the creation of accessible community participation platforms, and the implementation of localized strategies that empower residents to adopt and maintain sustainable lifestyles.

Table 1.3
LEVEL OF MEAN SCORE RANGE

Mean Score Range	Level
1.00 – 2.33	Low
2.34 – 3.67	Medium
3.58 – 5.00	High

Table 1.4
MEAN AND STANDARD DEVIATION

Variable	Mean	Standard Deviation	N
Public Awareness of Climate Change among Community in Chow Kit, Kuala Lumpur	4.205	0.802	75

CONCLUSION

This study underscores the pivotal role of community-based initiatives and locally driven awareness in addressing the climate change crisis in Malaysia. The findings demonstrate that the community's willingness to engage in meaningful climate action reflects a strong level of environmental consciousness. However, sustainable and impactful climate action can only be realized when communities are not only aware but also adequately supported, motivated, and equipped to respond. Beyond awareness, the development of community resilience requires the integration of supportive government policies, sufficient financial resources, and comprehensive climate education. Policies informed by this research should therefore prioritize social participation and local empowerment to address climate-related risks while promoting environmentally and socioeconomically sustainable development opportunities across Malaysia. Strengthening collaboration among government bodies, communities, and stakeholders is essential to building national climate resilience and achieving inclusive growth. Ultimately, this study reinforces that combating climate change is a collective responsibility—one that demands empowered communities, informed policymaking, and coordinated efforts to ensure a sustainable and resilient future for Malaysia in alignment with global climate goals.

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