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Community Participation in Low Carbon Lifestyle Programs in Kuala Lumpur

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Abstract

This paper explores community engagement in Kuala Lumpur's Low Carbon Lifestyle (LCL) programs, led by Local Agenda 21 Kuala Lumpur (LA21KL). It focuses on how community participation can advance the city's goal of achieving zero carbon emissions by 2050. Through qualitative research and in-depth interviews, the study highlights three themes: Empowering Community Participation, Strengthening Engagement in Low Carbon Programs, and Green Urban Governance. It emphasises the need for increased awareness of the benefits of LCL programs to strengthen community involvement. Strategies like developing local champions are essential for successfully implementing these initiatives.

Keywords: Community Participation; Low Carbon Lifestyle; Green Urban Governance; Community Empowerment.

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1.0 Introduction

International forums are now paying attention to the alarming rise in worldwide temperatures. Chu (2023) cited that Southeast Asian countries, including Malaysia, have vowed to reduce greenhouse gas emissions considerably by 2030 and achieve net-zero emissions by 2050. The Malaysian government has called on organisations and individuals to combat global warming, urging all parties to contribute to improving knowledge about this phenomenon and the healing of this worldwide crisis (KPMG, 2022). To reach the net-zero goal, the government aims to decrease carbon intensity by 45 per cent by 2030 compared to the gross domestic product levels in 2005 (Climate Governance Malaysia, 2021).

Malaysia has initiated a climate change blueprint to ensure climate-resilient development for sustainability. To comply with the obligation, Kuala Lumpur has taken steps and released the Kuala Lumpur Low Carbon Society Blueprint 2030 (KL LCSBP 2030) with 10 Actions and 245 Programs to guarantee climate-resilient development (UTM-Low Carbon Asia Research Centre, 2018). To achieve the goal of being a low-carbon city, Kuala Lumpur City Hall (KLCH), in collaboration with Local Agenda 21 Kuala Lumpur (LA21KL), has planned to engage and educate the community on how the city can reach the target by introducing community participation in Low Carbon Lifestyle (LCL) programs. PLANMalaysia introduced the Green Neighborhood Guideline in 2012. The guideline includes LCL community programs such as urban farming, rainwater harvesting, composting, recycling, and the 3Rs (recycle, reuse, and reduce). Kozhikov et al. (2024) noted that these programs are regularly practised within the community, fostering community engagement with

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minimal time commitment. Cheng et al. (2020) discovered that LCL modifications frequently manifest as individual, practical government efforts. This is because policy target populations and policymakers are often divided. The problem arises from insufficient participation in LCL programs, as individuals can only be compelled to engage with community empowerment. Learning capacity and environmental culture significantly impact low-carbon behaviours, shaping individuals' ability to adopt sustainable practices. Empowerment involves systemic changes and institutional support to facilitate sustainable transitions (Cheng et al., 2022). Based on Clarabut (2020), it enables people to connect on a personal level and promote one another's continuous growth. This research will determine the gap-related barriers among green behaviour enablers by promoting a green and low-carbon society to increase community participation in low-carbon programs.

This paper explores community participation in adopting LCL programs in daily life. Specifically, it addresses the research question: How does the community experience the low-carbon lifestyle? The research objective (RO) is to understand the process of adopting a low-carbon lifestyle. The study will examine how communities share knowledge, influence, support, connect, learn, and address their weaknesses, strengths, and challenges to achieve this. Additionally, it will investigate collaboration with agencies and subject matter experts (SMEs) to enhance LCL programs, establish benchmarks for initiating such programs in other communities, and evaluate the government's role in facilitating successful implementation by the community.

2.0 Literature Review

2.1 Community Participation

Community participation incorporates practical and theoretical aspects related to the direct involvement of populations or citizen action groups. It involves those affected by decisions and combines practical and theoretical approaches to empower citizens through education and awareness of climate change efforts (Chitsa et al., 2022). Various fields and disciplines, such as public policy, public administration, political science, and sociology, are essential to community participation. By the Paris Agreement, community participation is vital for addressing climate change and encouraging more bottom-up initiatives targeted at keeping the worldwide average temperature below 2°C above pre-industrial levels, and ideally below 1.5°C. Restrepo-Mieth et al. (2023) concur that community participation is essential for addressing climate change. They emphasize the need for widespread awareness and individual responsibility through participatory approaches to develop effective mitigation and adaptation strategies. Previous studies have demonstrated that Iskandar Malaysia has successfully engaged the community through ongoing dedication and efficient collaboration among various stakeholders (Wu et al., 2022; Ramli, 2020). Recent research highlights the importance of stakeholder engagement in low-carbon initiatives, emphasizing transparency, systemic participation, and inclusive decision-making as key components for successful transitions (Glanz and Schönauer, 2021; Yang et al., 2023). In Putrajaya, Azalia (2017) identified the need to explore significant predictors of low-carbon lifestyle adoption, revealing how personal criteria and perceptions about resource utilization and energy use influence this process. Shazwani Ani (2017) underlined the need for developing a low-carbon capability behavior framework to mitigate climate change, suggesting that local authorities should lead these initiatives to enhance residents' understanding and improve existing programs. These studies provide valuable insights into the LCS concept adapted in Iskandar Malaysia, Putrajaya, and Kuala Lumpur. Although specific studies in Kuala Lumpur are less prevalent, this research is essential for advancing LCS implementation among Kuala Lumpur communities, particularly those involved in LA21KL and KL LCSBP 2030 programs or community-driven initiatives.

Despite the challenge of connecting personal behavior to broader issues like pollution, public health, and climate change, the created ecosystem offers the right tools to enhance the quality of life, promote healthier or greener living, and contribute to more sustainable local surroundings (Ottaviano et al., 2019). Many scholars argue that community participation is crucial for low-carbon cities (Wu et al., 2022). For example, in China, there appears to be insufficient research on community participation. Leknoi et al. (2022) also noted that the concept calls for community engagement, yet fostering their involvement is a significant challenge, particularly in low to middle-income nations. Finland highlights the importance of community participation for individual behavior change, examining how cultural contexts reframe situations and influence support for low-carbon communities by evaluating the benefits and drawbacks of community-based solutions (Sovacool and Griffiths, 2020).

Kuala Lumpur must take proactive steps to encourage community participation by providing initiatives and programs that attract involvement and drive the city towards a low-carbon future by 2030. Research shows that environmental regulation stimulates green innovation, which in turn promotes economic growth in industries (Yang and Zhao, 2023). The Federal Territory (Planning) Act 1982 (Act 267) allows for community participation in strategic and operational planning. By incorporating the community's practical experience into the planning process, community participation assists decision-makers in reaching appropriate decisions. According to Zanudin et al. (2022), community interest and involvement are highly influenced by useful variables, specifically the stakeholders' collaboration, intergovernmental relationships in planning activities, and community access to information. Hence, the government's role is crucial in encouraging collaboration on LCL programs by fostering community partnerships, as stated in KL LCSBP 2030.

2.2 Theory of community of practice (CoP)

The theory of Community of Practice (CoP) investigates how people are trained in a social environment (Bandura, 1977). In this study, the community participation concept will be linked to CoP theory to encourage interaction in low-carbon programs, focusing on the exchange of best practices and the development of new knowledge. Lave and Wenger (1991) described CoP as a group of people who share a similar interest and are committed to learning and sharing their diverse experiences.

Communities involved in low-carbon initiatives share mutual interests and customs. This includes tacit knowledge, defined by the Cambridge Dictionary as knowledge gained from personal experience rather than formal education or books. To form CoPs in Kuala Lumpur, individuals with shared interests or areas of expertise can come together and establish a community. However, the lack of consistent definitions and frameworks for CoPs has resulted in significant variations in their function and structure, making it difficult to assess their effectiveness and overall impact on community development and sustainability (Yu, 2022).

Hence, Wenger (1998) proposed that learning occurs 'in situ' through engaged social involvement within CoPs, where learners connect their past knowledge with new perspectives in real-world physical and social circumstances. This includes engaging local authorities, fostering communities with shared interests or expertise, and ensuring LCL programs are consistently monitored by community leaders (Irusta, 2023). Finally, the theory of CoP will provide a community participation strategy framework organized by the local authority. This framework will focus on creating and nurturing communities of individuals with similar interests or areas of expertise to ensure that LCL programs are continuously monitored by community leaders.

3.0 Research Methodology

The phenomenological research methodology was used in this study to capture the lived experiences of participants and the phenomenon's essence under investigation (Husserl, 2017). This study will examine the everyday lives of the community and stakeholders about LCL experiences that may decrease carbon dioxide emissions. Using a qualitative approach, transcendental phenomenology adds depth to the study of human experiences. Informants will share their experiences through in-depth interviews, which will be transcribed precisely and analyzed using a constructive approach.

Data collection took place from April to October 2021. Interviews were carried out using an online application (Zoom) and through face-to-face interactions. The interview sessions continued until data saturation was achieved. At the same time, a fieldwork study was performed to observe the informants' activities. Seven informants who met the criteria were selected as study participants. These informants consisted of community members who were actively involved in LA21KL programs promoting a low-carbon lifestyle, such as the chairman and committee members. The criteria for informant selection are as follows:

1) The informant regularly engages in LA21KL programs and represents the community in low-carbon initiatives in Kuala Lumpur.
2) The informant was selected due to his/her personal experiences with LCL activities.
3) The informant is willing to discuss his/her adoption of LCL programs and life experiences.

The interview method is one of the most frequently used approaches for data collection in qualitative research (Merriam, 1998). Interviews provide researchers with insights into participants' experiences and perceptions. Taylor and Bogdan (2016) concur that phenomenologists should examine human behaviors and communications as reflections of how people interpret their world. Therefore, the meaning derived from these experiences contains realities formed through social interactions. To grasp the essence of the phenomenon, the researcher must consider the philosophical, sociological, and psychological aspects of life experience (Othman, 2017). Table 1 shows an overview of the informants' demographics.

Table 1: Demographics of informants

Informant	Age	Involvement in Community	Position	Notes
Informant 1	52	More than 10 years	Former Chairman	Community
Informant 2	55	5-10 years	Former Chairman	Community
Informant 3	32	Less than 5 years	Town Planning Officer	LA21KL Coordinator
Informant 4	47	11- 20 years	Founder and President	NGO
Informant 5	48	5-10 years	Senior Deputy Director	Government Officer
Informant 6	50	More than 10 years	Director	Government Officer
Informant 7	42	Less than 5 years	Town Planning Officer	Government Officer

4.0 Analysis and Finding

The data are examined using a constant comparative technique, as mentioned by Merriam (1998). This technique is applied to analyse the interview data during the data collection phase. The initial interview is used to analyse data, develop create categories, and identify themes. This is followed by additional interviews until the study reaches completion. Patterns, recurring issues, and useful themes are discovered through this technique. Numerous categories and themes are created and refined throughout the research. The findings of this study are used to address the research question and achieve the research objective:

Research question (RQ): How does the community experience the low-carbon lifestyle?
Research objective (RO): To explore the experience of adopting a low-carbon lifestyle.

The study's findings revealed three themes with twelve categories, derived from participant observations during interview sessions and document analysis. The themes identified are Empowering Community Participation, Strengthening Engagement in Low Carbon Programs, and Green Urban Governance. These themes have been further organized to provide a detailed explanation. Table 2 shows themes and categories based on the research questions.

Table 2: List of themes and categories based on research questions.

Research Question (RQ)	Theme	Category

How does the community experience the low-carbon lifestyle?	1. Empowering Community Participation	1) Encouraging community participation 2) Raising awareness in the community 3) Strengthening family inclusion 4) Community creativity work 5) The community successfully implemented a program
	2. Strengthening Engagement in Low Carbon Programs	6) Corporate social responsibility (CSR) 7) Government engagement 8) Non-Governmental Organisations (NGOs)
	3. Green Urban Governance	9) Acting as good governance 10) The role of government 11) Smart systems 12) Utilising effective energy

4.1 Empowering community participation in low-carbon programs

This theme encompasses five categories, namely encouraging community participation, raising awareness in the community, strengthening family inclusion, community creativity work, and community successfully implementing a program. Initially, the LA21KL team provided an overview of the program and the benefits of LCL programs to encourage community participation. As mentioned by Informant 1, community-involved programs are very beneficial, creating awareness, especially among the younger generations. However, Informant 5 highlighted that LA21KL must consider the shortcomings of any issue during the program's introduction. This is because it is challenging to fulfill community needs. Distinct strategies for low-income group (B40), middle-income group (M40), and high-income group (T20) are required.

Thus, LA21KL is essential in assisting the community (Zanudin et al., 2022). Methods to spread and raise awareness among communities and understanding the diverse awareness levels and mindsets of different individuals are critical for providing services that can mediate the pressures of a competitive society. This includes examining how cultural contexts reframe situations and influence support for low-carbon communities by evaluating the benefits and drawbacks of community-based solutions (Sovacool and Griffiths, 2020).

The LA21KL team advises the community regarding the program by their existing issues. For instance, while some individuals may dispose of their trash primarily for sanitary reasons, participating in the recycling program adds economic value. According to Yang and Zhao (2023), such programs stimulate green innovation, which promotes economic growth in industries and can potentially generate revenue. Although the impact may not be seen directly, strengthening family inclusion can encourage more community engagement in these activities.

> "We had a recycling program every week. Not only did it help recycle their belongings, but it also served as bonding time. In terms of the social aspect, the three main races cooperate and get along well." (Informant 2)

The community has a lot of remarkable and innovative ideas in community creativity work, such as Eco Brick, which turns plastic bottles into handicrafts and teaches people how to build them. This is one of the best green lifestyle examples that can be promoted in other communities. Additionally, the community has engaged in numerous initiatives with the corporate sector, such as Maybank, which funded the Eco Bricks workshop. This community has also been exposed to composting and organic farming activities. They can grow their food and generate income from successfully implemented programs. Lastly, communities become more knowledgeable and capable of spreading awareness. Programs that involve the community are very profitable, as they help understand various mindsets and awareness levels. Empowerment requires systemic changes and institutional support to enable sustainable transitions (Cheng et al., 2022).

> "They gained knowledge from the Local Agenda program, now they are experts or trainers. Besides, some of them empower their community.'" (Informant 3)

4.2 Strengthening engagement in low-carbon programs

Three categories have been established around the idea of strengthening engagement in low-carbon programs, namely corporate social responsibility (CSR), government engagement, and NGOs. In terms of CSR, Informant 2 informed that SWCorp was pleasantly surprised to learn that PPR Kepong had successfully implemented a recycling program while also imparting gardening knowledge to the Wangsa Sari community. Inspired by this example, SWCorp initiated the 'anak angkat' (adopted) program and provided donations to the community leader. In return, the program contributes income to the community. This statement is supported by Leknoi et al. (2022), who emphasized the importance of community engagement and fostering within the community.

Informant 4 mentioned that there is a gap in implementation when it comes to government engagement. The government prepares the guidelines, and the related parties enforce them. Cheng et al. (2020) discovered that LCL modifications frequently manifest as individual, effective government efforts. However, there is a gap between these efforts and their reach to the community. Informant 3 noted that differentiating between implementation and fulfilling requirements is subjective because not all criteria can be easily measured and applied. This led to the idea of identifying community weaknesses and strengths through a 'Strengths, Weaknesses, Opportunities, and Threats' (SWOT) analysis.

> "If you want to solve something, you have to find out the issue, right? So, it is good for us to look at the pros and cons of the situation. I think it works in every part of life." (Informant 3)

Some NGOs collaborate with LA21KL and SMEs, receiving funding for their initiatives. Nowadays, many NGOs support community green initiatives and provide opportunities for social learning and exploration.

4.3 Green Urban Governance

Kuala Lumpur must set an example for the other local authorities by practicing green urban governance. There are four categories to explicate: acting as good governance, the role of government, smart systems, and utilizing effective energy. Informant 6 explained that there are three key communities, the public community in the municipality, the industrial and commercial sectors, and city administrators. In terms of acting as good governance, it is essential to learn and understand the program before educating the community on low-carbon farming. This activity plays a vital role in reducing costs, especially by addressing the issue of middlemen who gain the most profit in urban farming, easing the farmers' lives.

As a government entity, KLCH must quickly transform the mindsets of the community and leaders to understand what needs to be achieved, as low-carbon programs work best when everyone contributes to a better environment. Kuala Lumpur also aspires to be a smart city and develop smart systems, such as systematic data management for recycling goods managed by the Socio-Economic and Environmental Association (PERSEAS), which organizes and records the items. KLCH plans to introduce a rental reduction system for the PPR community by exchanging recyclable items for a rental reduction or rebate. This initiative poses a challenge because it involves several aspects of a system that need to be prepared, developed, and consistently monitored by community leaders (Irusta, 2023).

Finally, in terms of the utilization of effective energy, there is a need for energy management, energy saving, energy efficiency, awareness, energy efficiency, and renewable energy. KLCH recently received recognition from the Global Covenant of Mayors for Climate Change and Energy (GCoM), Southeast Asia, for its efforts in reducing carbon emissions in Kuala Lumpur.

> "This program is pioneered by the government, it should start with the government, whether the federal, state, or local authority. It must show leadership by example (top-down) element because the public and industry will refer to them, especially new initiatives." (Informant 6)

5.0 Conclusion

To conclude, a new approach to strengthening the community participation strategy framework is organized by the local authority to ensure that the LCL program is continuously monitored, as shown in Figure 1. Increasing community participation involves informing participants about the program objectives and sharing successful best practices within the community. Additionally, SMEs can be introduced as program partners alongside industry players, academia, government agencies, and NGOs. Besides the government, everyone plays a crucial role in promoting public participation. This approach will lead to a win-win situation where policymakers provide detailed guidance on managing LCL programs, while community leaders are selected to oversee the implementation of successful programs under the supervision of government agencies. Support from other parties, including community members, can facilitate this process. To ensure sustainable implementation, various measures will be introduced, such as providing relevant courses, conducting site visits to best practices, offering seed funds as a token of serious community involvement, and sharing proposal documentation regarding SME collaborations. Building a sustainable environment and society requires empowering people with a comprehensive understanding of low-carbon practices and fostering awareness of their benefits, responsibilities, and implications, as well as financial, legal, environmental, and social aspects. The limitation of this program is that it focuses on community participation and awareness regarding low-carbon activities, rather than the amount of carbon reduction achieved.

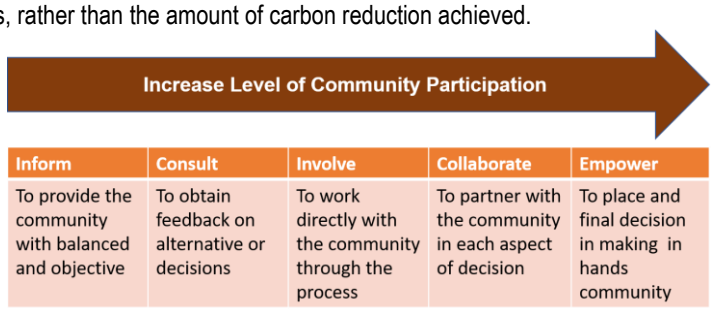

Figure 1: A new approach to strengthening community participation adapted from the Government of New South Wales (2023)

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Paper Contribution to Related Field of Study

This paper investigates Kuala Lumpur's adoption of a Low Carbon Lifestyle, emphasizing the importance of community collaboration through the Community of Practice as a key to sustainable urban development. It stresses the critical role of empowering and deeply involving locals to achieve zero emissions by 2050. The study provides practical recommendations for local authorities and communities to enhance participation, thereby significantly improving urban planning and environmental strategies in the city.

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