

Cultivation of green environmental awareness towards cleanliness city in Malaysia

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CITATION

Vasudevan A, Rusuli MSC, Rahman AAA, et al. (2024). Cultivation of green environmental awareness towards cleanliness city in Malaysia. *Journal of Infrastructure, Policy and Development*. 8(12): 6213.
<https://doi.org/10.24294/jipd.v8i12.6213>

ARTICLE INFO

Received: 5 May 2024

Accepted: 29 August 2024

Available online: 31 October 2024

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Abstract: This paper aims to understand the local authorities' reaction to green environment activities towards clean cities in Malaysia and how they respond to cleanliness awareness among the community. Four (4) cities, such as Melaka, Ipoh, and Muar dan Kuala Terengganu, were selected, and this study embarks on a qualitative research approach involving a semi-structured interview with top personnel from four local authorities. From the reaction point of view, some local authorities reacted positively towards the green environment and cleanliness of the city. Four (4) themes have been produced, such as awareness, which focuses on the daily routine of local authorities. Secondly, enforcement from the local government, with some warning and advice, really contributes to the changes in society's attitude. Thirdly, support by local authority efforts, including awareness campaigns from electronic and printed media, does have a good impact. Lastly, active involvement from the local authorities regulated many communities in residential areas and had direct links with local communities and NGOs that annually organized green program activities. This study urged the Local Government Act 1976, which the local authorities are responsible for the enforcement activities such as the 3Rs (Reduce, Reuse, Recycle) activities and so on. Local authorities, state governments, and local communities should also help monitor and maintain environmental issues towards a clean city in Malaysia.

Keywords: green initiatives; clean city; 3Rs; local authorities; green program; green product

1. Introduction

The Earth has faced numerous environmental sustainability challenges and crises throughout its history, and even our ancient ancestors recognized the importance of maintaining ecological balance. Environmental issues are now central to global discussions, highlighting the need for widespread awareness. The "Go Green" movement aims to promote environmentally friendly behaviors in society to maintain a clean and healthy environment, free from pollution and disease (Che Rusuli, et al., 2016; Rahmat et al., 2023). Obviously, pollution originates from various sources and has severe impacts on our planet. Different types of pollution, such as air, water, soil, noise, radioactive, thermal, light, and visual, affect our lives in distinct ways as depicted in **Figure 1**. For example, air pollution from open burning can cause severe haze, increasing the air pollution index (API), disrupting air travel, and causing respiratory issues in humans. Also, prolonged exposure can lead to fatal diseases by reducing lung capacity, decreasing lung function, and shortening lifespans. Similarly,

water pollution can cause diarrhea, malaria, hepatitis A, lead poisoning, and other health issues. Local authorities understand that different types of pollution result in various diseases. Despite numerous campaigns and programs, if the community does not adopt a go-green lifestyle, these efforts will be ineffective and unsustainable. Basic practices include properly disposing of trash, using recycled items, reducing plastic bag usage, stopping open burning, preventing deforestation, and participating in activities like Earth Hour, Earth Day, World Environment Day, and related programs (Teoh et al., 2022).



Figure 1. Go green issues.

However, there is a gap in this study whereby the culture of Go Green progresses slowly, often perceived as less critical or merely an optional task. Generally, we still see people don't care about public cleanliness, especially in the city. However, we can still see the dumped waste at the side of the road, which sometimes floats in the middle of the road. It motivated the researcher to discover more about the recent phenomena happening worldwide, especially in Malaysia.

Green consumers are aware of and concerned about environmental issues (Afonso et al., 2018). While people might not perfectly incorporate green practices into their daily lives, it is crucial to recognize the importance of using eco-friendly products. For example, if rebound effects are ignored when assessing 'green' consumption, environmental benefits are overstated by about 20% for reduced vehicle use and 7% for reduced electricity use (Murray, 2013). Many industries strive to produce products that meet green standards. Essentially, "green" refers to initiatives to maintain a clean environment free from pollution by reusing items, recycling, or purchasing eco-friendly products (Wolfe and Shanklin, 2001).

"Go Green" consumption can vary in meaning among people (Coleman et al., 2011). In this context, it involves efforts to protect natural resources for future generations, safeguard human health through proper environmental management, and adopt eco-friendly lifestyles. Higher education plays a crucial role in educating the next generation to ensure the sustainability of a green environment while fostering

social and economic growth (Xiong et al., 2013). However, the culture of going green progresses slowly and is often seen as less critical or merely optional. It is essential to recognize the impact of campaigns, talks, and programs designed to raise environmental awareness and question how many of us are genuinely engaged by these initiatives.

Previous studies have emphasized effectively communicating best green practices through pamphlets, bulletins, and social media (Geng et al., 2013). Additionally, research indicates that women tend to exhibit more environmentally friendly behaviors than men (Hosseinpour et al., 2015; Han et al., 2009; Laroche et al., 2001). Thus, green environmental issues require ongoing study and exploration (Mohamed et al., 2020; Nejati and Nejati, 2013; Yadav and Ramaswamy, 2020). This study also aims to understand local authorities' responses to green practices promoting city cleanliness.

2. Materials and methods

This qualitative study aimed to understand informants' reactions regarding green environmental practices in achieving a clean city. Utilizing an interpretive paradigm, the study sought to derive meaning from real-world experiences to construct a realistic understanding. Ontologically, it emphasized the importance of awareness, beliefs, perceptions, interpretations, experiences, and interactions (Mason, 2002). Epistemologically, it assumed that interactive discussions provide meaningful data. Purposive sampling was used to select informants, targeting top personnel from local authorities to gain insights into their experiences and practices related to green environmental concepts. Four senior officials from different local authorities were chosen for interviews: a) Yang Dipertua Perbandaran, b) Plan Development and Landscape Department, and c) Corporate and Communication Department. The cities involved were Muar Johor, Melaka, Kuala Terengganu, and Ipoh Perak, all recognized for their green environment initiatives. To maintain confidentiality, only initials of the informants' names were used.

Data was collected through semi-structured interviews, guided by a protocol designed to capture local authorities' reactions to green environment practices and their impact on city cleanliness. To build rapport and adhere to qualitative research ethics, the researcher sent interview confirmation letters to the informants, expressing gratitude for their participation. Interviews were conducted in the informants' offices, lasting about two hours and using both Malay and English. Permission to record the interviews was obtained to facilitate the process and accurately capture the content. The recordings were manually transcribed for analysis, with personal details anonymized and replaced with identification codes (Creswell and Clark, 2007).

The data was organized into themes that emerged during the first cycle of coding, which involved thematic conceptual coding. These conceptual codes reflected the reactions of local authorities to green environmental practices, and the second coding cycle distilled the main themes, which formed the basis of the research findings.

3. Results and discussion

From the reaction point of view, the finding indicated that some local authorities reacted positively towards the green environment and cleanliness of the city. Four themes have been produced such as below:

3.1. Awareness: Daily routine

There has been some improvement by local authorities in understanding green environmental practices in urban sanitation. Although the changes take time to adjust, some reactions may be negative, with some slowly accepting the initiative by city governments as well as local governments. Therefore, support from the community such as comments and advice are expressed as follows:

“In fact, we received letters from the community requesting more trash cans for their house. I believed that some of the impact and changes in the society’(MRH). Before... I saw most of them just throw their rubbish improperly outside the trash can. But now it seems like most of them really place the rubbish inside the trash can...(MRH)”.

As highlighted, to deal with the environmental damage and changes, the cultural approach was expected to make the local authorities aware of having a clean and healthy lifestyle, to maintain and preserve nature and the environment more seriously based on individual and collective awareness (Retnowati et al., 2020). Through this approach, they will easily accept the values and appeals from the message to care about environmental preservation. According to previous researchers, the definition of “sense of cleanliness” as what the local authorities and community perceive, feel and experience on their surroundings concerning waste and its impacts on cleanliness is suitable until today (Permana et al., 2015). Furthermore, this sustainable program is expected to increase citizens’ awareness of the clean and comfortable environment (Maulina and Atika, 2019).

3.2. Enforcement: Local government effort

Based on the interview, the respondents, which is local authorities’ awareness alone, do not provide a good response; thus, enforcement with fines sometimes really helps society in following the rules. Although they do not implement, some warnings and advice contribute to the changes in society’s attitude. Some of the comments supporting this were stated as follows:

‘... actually, we City council collaborate with MPKK (Village Representative Council) in monitoring community not to simply throwing rubbish improperly. We do enforce a fine of RM50.00 if caught. So far, we have tolerated this by giving the community a warning and advice, but the community still follows the rules. (MH).

“... if we continue to catch those are not following the rules, we usually will advise them and not fine them as what we have stated in our enforcement... Alhamdulillah they really follow the rules and cooperate to us... unless the foreigner. (MRH).

“The community is aware of this matter but just ignores it. However, it seems like 42% of them recycle plastic waste, 38% not insulate the plastic waste and other

waste, and finally 20% they burn the plastic waste or just throw it away out from their house area. (MRS).

Compared to statements from interviewers, it is evident that there was substantial support for enforcement efforts to ensure Singapore's cleanliness. The enforcement aspect is far-reaching (Traughan, 2019). Based on the interview, the cleanliness and advertisement board issues are now under control. The Prohibition against Spitting (Federal Territory of Kuala Lumpur) By-Laws 2017 were passed on 15 March 2017 to give power to the local authority to penalize anyone who spits in the area (Sulaiman et al., 2020).

3.3. Supporting: Local authority effort

The effort from the local authority seems to have a good response from the public, although it will take quite some time to follow. Probably awareness campaigns from electronic and printed media have a good impact since society needs to cooperate in taking care of green environment practices towards the cleanliness of the city.

'... There is reducing cases of burning trash cans in the community compared to 2015 due to the increasing population and job opportunities. It shows that the community is aware of the cleanliness issues of dumping and waste disposal. (MRH).

"... Based on a survey done by IPSOS between 2018–2019 showed that 64% of Malaysian are aware of the government's effort to the plastic straw ban, and 54% are concern about plastic waste. Meaning to say that majority of Malaysian are aware on plastic waste issues...although they are hoping government will handle and settle this problem. (MRS).

This study has provided new insights on how the local government can implement e-government after adopting a smart city policy in the context of public participation (Boon et al., 2020). In order to obtain a satisfactory result in reducing the use of waste, an increase in the consumers' awareness is important through education (Abd Hamid and Yahaya, 2020). Moreover, the lack of support for the existing regulations could be one of the reasons for low participation in recycling and waste separation behavior among households (Razali and Wai, 2019).

3.4. Active involvement: Implementing the program effectively

Local Authorities that regulate a large number of communities in residential areas have direct links with local communities and NGOs that annually organize green program activities. The green community is one of the programs that aims to channel information directly to local authorities. The Green Community Initiative, organized by the local authority, also aims to inform and educate the community on the value of environmental and sustainable green practices towards clean cities. Through this initiative, it is hoped that the participating groups will recognize the ideas and values of sustainability in the future, i.e., human, environmental, and economic, which will positively impact clean cities. Some comments from respondents in support of this statement are as follows.

"... Good support from local authorities such as through programs such as village programs and housing gardens. City councils like Petaling Jaya, Subang Jaya, and Damansara are also involved through their CSR program; one of them is encouraging

of using electric cars to prove that it is an effort to support an awareness program... (MRS)

“... We collaborate with Majlis Perwakilan Kampung (MPKK) within their community. This joint venture program is helping us in monitoring the area for any possible vandalism or not following the rules by throwing their rubbish in not systematic... (MRH).

“... there are some cases people burning their trash can kinda protest on the effort of municipal council encouraging people to place their rubbish inside rubbish bin., that was 2015... but a few years later seems like there no cases anymore reporting on people burning rubbish bin... I can assure that people start realizing the importance of our effort towards this... (MRH).

Thus, improving waste management in a country requires local authorities to educate and encourage the community to practice waste separation and recycling (Razali and Wai, 2019). Additionally, under the Local Government Act of 1976, local authorities enforce waste management regulations. State governments are tasked with promoting the 3Rs (Reduce, Reuse, Recycle) and providing related facilities to the community (Razali and Wai, 2019). This study evaluates the effectiveness of the Clean Cities program by examining performance measures such as air quality, the number of alternatives fueling stations, private vehicle occupancy, and transit ridership. The results show that counties participating in the program perform better on all these measures compared to those that did not participate (Qiu and Kaza, 2017).

4. Conclusion

In conclusion, Malaysians produce approximately 30,000 tons of waste daily, but only 5% is recycled. The volume of waste is rapidly increasing, with an average of 22,000 tons per day in 2012, overwhelming the waste management system. Overflowing deposits often lead to waste being dumped into rivers or on hillsides. The government and local authorities have responded with numerous programs and projects promoting environmental values, but these efforts have struggled against Malaysia's fast-paced lifestyle and culture. Despite various activities, campaigns, rules, and regulations, educational programs are recommended as a platform to raise awareness, especially among the younger generation. Educational institutions are encouraged to integrate and enhance curricula related to green living, incorporating these values into syllabus content, activities, and assessments to instill early awareness in young people.

This study, within its limitations, utilized qualitative data gathered through face-to-face interviews with four top officials from selected cities in Malaysia. The findings revealed that public awareness activities are a routine part of local authorities' duties, supported by enforcement measures. These initiatives are gaining support from the community, with local authorities actively engaging in awareness programs and collaborating on joint campaigns with other cities. The study's findings may serve as a reference for developing a better framework for promoting a green environment and achieving clean cities.

The study's findings theoretically provide a new proposed framework for clean cities, the Green Performance Monitoring System (GrePMS), as depicted in **Figure 2**.

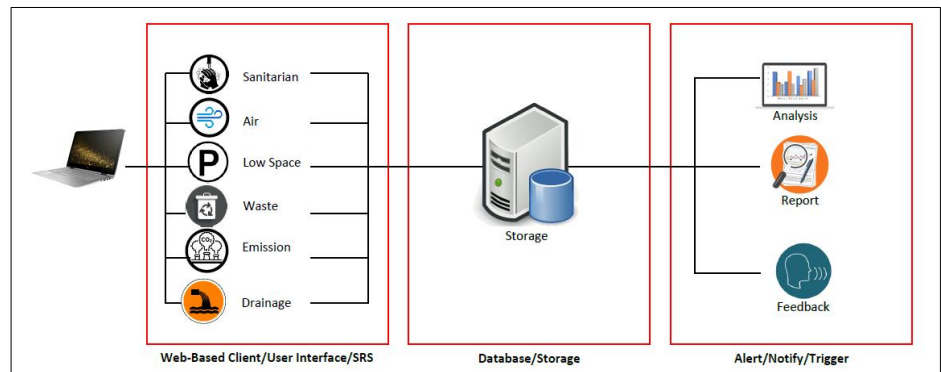


Figure 2. Green Performance Monitoring System (GrePMS).

This system was proposed to become a monitoring measure for a targeted area referring to the Swachh Bharat Campaign. It also helps store all relevant data for tracking the area’s progress over time. Practically, these findings can inform the development of new public policies, policies to improve the implementation of programs, and programs related to the green environment should be made. For example, the clean city policy needs to be streamlined from time to time so that each state in Malaysia especially understands the concept and implementation. The local authority act also needs to be reviewed and streamlined so that the clean city implementation in the target area is successfully implemented. Future researchers are encouraged to explore community resistance to green initiatives to understand the causes of such resistance. This is particularly important for cities not covered in the current study, as some community members may oppose local authority efforts.

Author contributions: Conceptualization, methodology, software, validation, formal analysis, investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, supervision, project administration, funding acquisition, AV, MSCR, AAAR, WMNWMN, NI, JKA and XH. All authors have read and agreed to the published version of the manuscript.

Acknowledgments: The authors offer special gratitude to INTI International University for the opportunity to conduct research and publish the research work. In particular, the authors would like to thank INTI International University for funding the publication of this research work. Also, we extend our heartfelt gratitude to all research participants for their valuable contributions, which have been integral to the success of this study.

Conflict of interest: The authors declare no conflict of interest.

References

- Abd Hamid, Izzah, and Wan Asrina Wan Yahaya. Zero-Waste campaign: Assessment on university student’s behaviour, awareness, and impact on plastic products. *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 5, no. 3 (2020): 24-29.
- Abdelfattah, A. F. “Sustainable development practices and its effect on green buildings.” In *IOP conference series: earth and environmental science*, vol. 410, no. 1, p. 012065. IOP Publishing, 2020.
- Abdullah, Dr Iskandar Hasan Tan. “Teknologi Hijau Tingkat Kualiti Hidup, Pacu Ekonomi Negara.” *BH Online*, March 13, 2015. <https://www.bharian.com.my/taxonomy/term/61/2015/03/40615/teknologi-hijau-tingkat-kualiti-hidup-pacu-ekonomi-negara>.

- Abisuga, Abiodun Olatunji, and Tope Femi Okuntade. "The current state of green building development in Nigerian construction industry: policy and implications." *Green Building in Developing Countries: Policy, Strategy and Technology* (2020): 129-146.
- Coleman, Linda Jane, Nisreen Bahnan, Mayuresh Kelkar, and Nicole Curry. "Walking the walk: How the theory of reasoned action explains adult and student intentions to go green." *Journal of Applied Business Research (JABR)* 27, no. 3 (2011): 107-116.
- Creswell, John W., and Vicky Plano Clark. *Mixed methods research*. SAGE Publications., 2007.
- Geng, Yong, Kebin Liu, Bing Xue, and Tsuyoshi Fujita. "Creating a "green university" in China: a case of Shenyang University." *Journal of Cleaner Production* 61 (2013): 13-19.
- Han, Heesup, Li-Tzang Jane Hsu, and Jin-Soo Lee. "Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco-friendly decision-making process." *International journal of hospitality management* 28, no. 4 (2009): 519-528.
- Hosseinpou, Masoumeh, Zainalabidin Mohamed, Golnaz Rezaei, Mad Nasir Shamsudin, and Ismail AbdLatif. "How go green campaign effects on Malaysian intention towards green behaviour." *Journal of applied sciences* 15, no. 6 (2015): 929-933.
- Laroche, Michel, Jasmin Bergeron, and Guido Barbaro-Forleo. "Targeting consumers who are willing to pay more for environmentally friendly products." *Journal of consumer marketing* 18, no. 6 (2001): 503-520.
- Lim, Seng Boon, Jalaluddin Abdul Malek, Mohd Yusof Hussain, and Zurinah Tahir. "Participation in e-government services and smart city programs: A case study of Malaysian local authority." *Planning Malaysia* 18 (2020): 300-312.
- Mason, Oliver J. "Teaching Qualitative Research Methods: Some Innovations and Reflections on Practice." *Psychology Teaching Review* 10, no. 1 (2002): 68-75.
- Maulina, Novaria, and Atika Atika. "Strategy of Forming Banjarmasin City Branding as Clean and Comfortable (Barasih wan Nyaman) River City." In *1st Aceh Global Conference (AGC 2018)*, pp. 28-35. Atlantis Press, 2019.
- Mohamed, Nurul Hana, Zainura Zainon Noor, and Cindy Lee Ik Sing. "Environmental sustainability of universities: critical review of best initiatives and operational practices." *Green engineering for campus sustainability* (2020): 5-17.
- Nejati, Mostafa, and Mehran Nejati. "Assessment of sustainable university factors from the perspective of university students." *Journal of Cleaner production* 48 (2013): 101-107.
- Permana, Ariva Sugandi, Sherly Towoloe, Norsiah Abd Aziz, and Chin Siong Ho. "Sustainable solid waste management practices and perceived cleanliness in a low-income city." *Habitat International* 49 (2015): 197-205.
- Pettinger, Tejvan. "Environmental Kuznets Curve." *Economics Help*, November 18, 2019. <https://www.economicshelp.org/blog/14337/environment/environmental-kuznets-curve/>.
- Phuah, Kit Teng, Hon Fai Wong, Chai Gim Lai, Siti Intan Nurdiana Wong Abdullah, and Bernard Jit Heng Lim. "Driving the Green Vehicles Shift: An Evaluation of Malaysian Consumers' Acceptance." *International Journal of Business and Society* 23, no. 3 (2022): 1771-1791.
- Ponraj, P. and Rajan, K. "A study on Awareness towards Clean India and Green India Relation to their Health Habits among B.Ed.students.", *Studies in Indian Place Names*, 40, No. 3, (2020): 642-648.
- Qiu, Shiyong, and Nikhil Kaza. "Evaluating the impacts of the clean cities program." *Science of The Total Environment* 579 (2017): 254-262.
- Quaas, Martin F., and Sjak Smulders. "Brown growth, green growth, and the efficiency of urbanization." *Environmental and Resource Economics* 71 (2018): 529-549.
- Rahmat, Abdul Khabir, Irwan Ibrahim, Abdul Rahman S. Senathirajah, and Ahmad Danial Zainudin. "The Determinant Factors of Green Office Layout Towards Employee Workplace Productivity." *International Journal of Professional Business Review*. 8, no. 4 (2023): 8.
- Rajendran, Salini Devi, Siti Norida Wahab, and Minder Kaur Parthaman Singh. "Malaysian consumers' preference for green packaging." *International Journal of Society Systems Science* 11, no. 4 (2019): 312-331.
- Razali, Fitriyah, and Choong Weng Wai. "A review of Malaysia solid waste management policies to improve recycling practice and waste separation among households." *International Journal of Built Environment and Sustainability* 6, no. 1-2 (2019): 39-45.
- Retnowati, Retnowati, Purwanto Purwanto, and Hari Suryanto. "The empowerment of Rawa Pening communities in enhancing cleanliness and environmental sustainability." In *Journal of International Conference Proceedings*, vol. 3, no. 1, pp. 206-220. 2020.

- Rezai, Golnaz, Phuah Kit Teng, Zainalabidin Mohamed, and Mad Nasir Shamsudin. "Going green: Survey of perceptions and intentions among Malaysian consumers." *International Business and Management* 6, no. 1 (2013): 104-112.
- Rusuli, Che, Q. Fitriani, N. Syahida, and M. Hakim. "The effectiveness of go green implementation among society in Kota Bharu, Kelantan." *European Journal of Multidisciplinary Studies* 1, no. 1 (2016): 10-14.
- Saleh Omar, Bashammakh, Farzana Quoquab, and Jihad Mohammad. "'No Plastic Bag' Campaign of Malaysia." In *Green behavior and corporate social responsibility in Asia*, pp. 113-119. Emerald Publishing Limited, 2019.
- Sulaiman, Siti Sarah, Nur Ezan Rahmat, and Najwa Azizun. "Legal Issues and Challenges in Managing Kuala Lumpur as a Tourism Destination: A case study of the Silang Street." *Environment-Behaviour Proceedings Journal* 5, no. SI1 (2020): 205-210.
- Teoh, Chen Wei, Kok Chin Khor, and Walton Wider. "Factors Influencing Consumers' Purchase Intention Towards Green Home Appliances." *Frontiers in Psychology* 13 (2022): 927327.
- Traughan, P. T. (2019). *Public Cleanliness Satisfaction Survey: Executive Summary Research Collection School of Social Sciences* (pp. 1-16).
- Xiong, Huabin, Denggao Fu, Changqun Duan, Liu Chang'E, Xueqing Yang, and Renqing Wang. "Current status of green curriculum in higher education of Mainland China." *Journal of Cleaner Production* 61 (2013): 100-105.
- Yadav, M., and S. Ramaswamy. "A study of green HRM activities as a part of initiative towards sustainable development in the contemporary business environment." *Studies in Indian Place Names* 40, no. 27 (2020): 275-284.