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THE INDIGENOUS COMMUNITY'S PERCEPTIONS OF GARBAGE POLLUTION IN THE CAMERON HIGHLANDS, MALAYSIA

Khasturi Ramalingam

SJK(T) Masai, Johor, Malaysia

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***Corresponding author:** Khasturi Ramalingam

SJK(T) Masai, Johor, Malaysia

Abstract

This abstract summarizes a study conducted to explore the perceptions of the Indigenous community in the Cameron Highlands, Malaysia, regarding garbage pollution. The Indigenous community has a deep connection to their land and relies on natural resources for their livelihoods, making them particularly sensitive to environmental issues. This study aimed to understand their perceptions of garbage pollution and its impact on their lives. The research employed qualitative methods, including interviews and focus group discussions, to gather data from community members. The findings revealed several key perceptions. Firstly, the Indigenous community viewed garbage pollution as a significant environmental degradation issue, affecting the quality of water, soil, and air. Secondly, they expressed concerns about the health hazards associated with improper waste disposal, including the spread of diseases. Thirdly, garbage pollution was seen as a threat to their cultural practices and spiritual connection to the land, raising concerns about the preservation of their cultural identity. Additionally, the economic implications of garbage pollution, such as decreased tourism and agricultural productivity, were highlighted. The lack of waste management infrastructure and community involvement were identified as factors contributing to the problem. The study concludes by emphasizing the need for effective waste management solutions that respect the cultural values and rights of the Indigenous community. The findings can inform policymakers, local authorities, and stakeholders in developing strategies to address garbage pollution in the Cameron Highlands while promoting sustainable practices and community empowerment.

Keywords: Indigenous community, Tourism development, Garbage Pollution, Cameron Highlands

INTRODUCTION

The Cameron Highlands, located in Malaysia, is a popular tourist destination known for its natural beauty and unique cultural heritage (Omar et al., 2024). However, the increasing number of visitors has led to the growing problem of garbage pollution in the area. The indigenous community living in the Cameron Highlands has expressed concerns about the impact of garbage pollution on their environment and health, as well as the potential loss of their cultural identity (Mohd Salleh et al., 2012). In this article, we will explore the perceptions of the indigenous community towards garbage pollution in the Cameron Highlands and its impact on their lives and culture.

Understanding the perspectives of the indigenous community is crucial in addressing environmental issues like garbage pollution in the Cameron Highlands. The indigenous people have a unique relationship with the land and the environment, shaped by their cultural practices and beliefs. Their perspectives provide valuable insights into how environmental issues affect their daily lives, their health, and their cultural heritage (Ismail et al., 2021). Failing to take into account their perspectives and concerns can lead to the implementation of solutions that do not align with their values and priorities, ultimately leading to ineffective and unsustainable outcomes. Therefore, it is essential to consider the indigenous community's perceptions and involve them in decision-making processes to develop sustainable solutions that are respectful and inclusive of their perspectives and interests.

LITERATURE REVIEW

Background

The Cameron Highlands is a highland region located in the state of Pahang, Malaysia. It is known for its cool climate, scenic landscapes, and unique cultural heritage. The area is home to several indigenous communities, including the Orang Asli, who are the original inhabitants of the region (Barrow et al., 2005). The Orang Asli community is made up of several sub-ethnic groups, each with their own distinct language, culture, and way of life. They have a deep connection with the land and the environment, and their traditional practices and beliefs reflect their close relationship with nature.

Over the years, the Cameron Highlands has experienced significant development and has become a popular tourist destination. The influx of visitors has put pressure on the natural resources and ecosystems in the area, leading to a range of environmental issues, including garbage pollution (Chan & Barrow, 2010). The indigenous community has expressed concerns about the impact of environmental degradation on their daily lives, cultural heritage, and well-being. They play a vital role in protecting the environment and preserving the cultural heritage of the region. Understanding their perspectives and incorporating them into decision-making processes is crucial in developing sustainable solutions that are respectful and inclusive of their values and interests.

The Causes and Impacts of Garbage Pollution in the Area

- (i) The increasing number of visitors to the Cameron Highlands has resulted in a rise in garbage pollution in the area. The primary causes of garbage pollution include (Barrow et al., 2009):
 - a) Poor waste management: The lack of proper waste management systems in the area has contributed to the

accumulation of garbage in public spaces, rivers, and other natural areas.

- b) Littering: Visitors to the Cameron Highlands often litter in public spaces, contributing to the build-up of garbage in the area.
 - c) Overconsumption: The increase in tourism has led to a rise in consumption, resulting in more waste being generated.
- (ii) The impacts of garbage pollution in the Cameron Highlands are significant and affect both the environment and the indigenous community. Some of the impacts include (Chan, 2010):
 - a) Environmental degradation: Garbage pollution can cause damage to the natural environment, including soil, water, and air pollution, and can harm local flora and fauna.
 - b) Health risks: Garbage pollution can pose health risks to the indigenous community, including the spread of diseases and contamination of food sources.
 - c) Cultural impact: Garbage pollution can also have a cultural impact on the indigenous community, as it can affect their ability to perform traditional practices and ceremonies that are tied to the natural environment.
 - d) Economic impact: The increase in garbage pollution can also have a negative impact on the local economy, as it can deter visitors and harm the tourism industry.

It is important to address the issue of garbage pollution in the Cameron Highlands to prevent further environmental degradation and to protect the well-being of the indigenous community and the local economy.

Previous Research

Previous research has examined the issue of garbage pollution in the Cameron Highlands and its impact on the environment and the indigenous community. A study by Mariam et al. (2024) explored the perceptions of local residents and tourists on environmental degradation in the area, including garbage pollution. The study found that both locals and tourists perceived garbage pollution as a significant environmental issue in the area.

Another study by Senekane et al. (2022) assessed the knowledge, attitudes, and practices of the indigenous community towards waste management. The study found that while the indigenous community had a good understanding of the importance of waste management, they faced significant challenges in implementing effective waste management practices due to limited resources and infrastructure.

Furthermore, a study by Ramli (2014) examined the impact of tourism on the environment in the Cameron Highlands, including the issue of garbage pollution. The study found that the increase in tourism activities in the area has resulted in an increase in waste generation, and that the lack of effective waste management practices has contributed to the accumulation of garbage in public spaces.

Overall, previous research has highlighted the significance of the issue of garbage pollution in the Cameron Highlands and its impact on the environment and the indigenous community. The research

suggests that addressing the issue of garbage pollution requires a multi-faceted approach that involves the participation of all stakeholders, including the indigenous community, local government, tourism operators, and visitors.

METHODOLOGY

The qualitative methods used to collect data on the indigenous community's perceptions of garbage pollution in the Cameron Highlands were in-depth interviews, focus group discussions, and observations.

In-depth interviews: In-depth interviews were conducted with members of the indigenous community, including community leaders, elders, and other key informants. These interviews were conducted face-to-face and were designed to be open-ended to allow the participants to express their opinions freely. The interviews focused on exploring the community's perspectives on the issue of garbage pollution, its causes, impacts, and potential solutions. The interviews were recorded and transcribed for analysis.

Focus group discussions: Focus group discussions were held with members of the indigenous community to explore their perceptions of the impact of garbage pollution on their daily lives and cultural practices. The discussions were moderated by a trained facilitator and were held in a group setting to encourage interaction and discussion among the participants. The discussions were recorded and transcribed for analysis.

Observations: Observations were conducted in the community to gain insights into the community's waste management practices and the extent of garbage pollution in the area. The observations were conducted by trained researchers who observed and recorded the community's waste management practices and the extent of garbage pollution in the area. The observations were documented and used to provide context to the qualitative data collected from the interviews and focus group discussions.

The qualitative data collected from these methods were analyzed using a thematic approach, where key themes were identified and analyzed for patterns and relationships. The findings from the analysis were used to develop a comprehensive understanding of the community's perceptions of garbage pollution and to develop recommendations for addressing the issue.

Sample Selection and Data Analysis Method

Sample selection process:

In qualitative research, sample selection is typically purposeful rather than random (Suri, 2011). In this study, the sample selection process involved identifying and selecting members of the indigenous community who were knowledgeable about or impacted by garbage pollution in the Cameron Highlands. The researchers used a combination of convenience and snowball sampling to identify potential participants. Community leaders and key informants were initially identified and approached, and they were asked to recommend other individuals who would be suitable for the study. The researchers also used a variety of methods, including door-to-door visits, community meetings, and social media to recruit participants.

Data analysis methods:

In qualitative research, data analysis is an iterative process that involves identifying patterns, themes, and relationships in the data

(Ravindran, 2019). In this study, the data collected through in-depth interviews, focus group discussions, and observations were analyzed using a thematic analysis approach. The data analysis process involved the following steps:

Data familiarization: The researchers reviewed the data collected through the various methods to become familiar with the content and identify any patterns or themes that emerged.

Coding: The data were then systematically coded, with each code representing a specific concept or idea in the data.

Theme development: The researchers then developed themes based on the coded data. Themes were developed by grouping similar codes together and identifying overarching patterns and relationships.

Refining themes: The themes were then refined and validated through multiple rounds of analysis and discussion among the research team.

Report writing: Finally, the themes were used to develop a comprehensive report that summarized the findings of the study.

The data analysis process was iterative, and the researchers continually refined and validated the themes as they progressed through the analysis. The findings from the analysis were used to develop recommendations for addressing garbage pollution in the Cameron Highlands from the perspective of the indigenous community.

Limitations:

One limitation of this study is its reliance on qualitative methods, which may limit the generalizability of the findings to other Indigenous communities beyond the Cameron Highlands. The perspectives gathered through interviews and focus group discussions reflect subjective experiences that may not capture the full diversity of opinions within the community (Nyumba et al., 2018). Additionally, the sample size and selection criteria of participants were not mentioned, which could lead to potential biases in the data. The study also lacks quantitative analysis, such as statistical data on the extent of garbage pollution and its measurable impact on health, the environment, or local economies. Furthermore, while the study highlights the absence of waste management infrastructure, it does not delve deeply into potential systemic barriers or government policies that may exacerbate the problem. Future research could address these limitations by incorporating larger, more diverse samples and quantitative data to provide a more comprehensive understanding of garbage pollution's impact on Indigenous communities.

RESULTS

The findings of the study revealed that the indigenous community in the Cameron Highlands has a strong awareness of the issue of garbage pollution in the area and its impacts on their daily lives and cultural practices. The community members identified several causes of garbage pollution, including inadequate waste management infrastructure, lack of education and awareness about waste management, and tourism-related activities.

The study found that garbage pollution has significant negative impacts on the community, including health hazards, environmental degradation, and impacts on their cultural practices. The community members reported that the pollution affects their daily lives, such as making it difficult to access clean water sources and affecting their agricultural practices.

The indigenous community's perceptions of garbage pollution in the area were influenced by their cultural beliefs and practices, which emphasize the importance of maintaining a harmonious relationship with nature. The community members expressed a strong desire to address the issue of garbage pollution and proposed several solutions, including increasing awareness and education about waste management, improving waste management infrastructure, and promoting responsible tourism practices.

Overall, the study highlighted the importance of involving the indigenous community in developing solutions to address garbage pollution in the Cameron Highlands. The community's perspectives and knowledge are essential for developing effective and sustainable waste management strategies that align with their cultural values and practices.

DISCUSSION

Summary

This study explored the perceptions of the indigenous community in the Cameron Highlands, Malaysia, regarding garbage pollution in their environment. Qualitative data was collected through in-depth interviews and focus group discussions. The findings revealed that the indigenous community had a strong awareness and concern for the impact of garbage pollution on their health, environment, and culture. They highlighted specific concerns, such as the accumulation of garbage in public spaces and the contamination of water sources. The study emphasizes the importance of listening to the perspectives of the indigenous community and implementing solutions that prioritize their needs and concerns to address environmental issues effectively.

Implication

The study's findings have several implications for policymakers, local communities, and other stakeholders involved in addressing garbage pollution in the Cameron Highlands.

Firstly, the study highlights the importance of understanding the perspectives of the indigenous community and their unique concerns and impacts related to garbage pollution. Policymakers and stakeholders should engage with the community and involve them in decision-making processes related to waste management.

Secondly, the study highlights the need for improved waste management infrastructure in the Cameron Highlands. This could include the establishment of waste collection and disposal systems, recycling initiatives, and the enforcement of littering laws to prevent further pollution.

Thirdly, the study emphasizes the need for education and awareness-raising campaigns to inform both tourists and the local community about the impacts of garbage pollution. This could include providing information on proper waste disposal methods, the environmental and health impacts of pollution, and the importance of protecting the natural environment.

Finally, the study highlights the need for a more holistic approach to addressing garbage pollution in the Cameron Highlands that considers both environmental and cultural factors. This could involve promoting sustainable tourism practices that respect the cultural heritage and natural environment of the indigenous community while minimizing the negative impacts of tourism on the area.

Overall, the study's findings underscore the importance of addressing garbage pollution in a way that takes into account the

perspectives and concerns of the indigenous community in the Cameron Highlands. By doing so, policymakers and stakeholders can work towards sustainable and equitable solutions that protect the environment, cultural heritage, and livelihoods of the community.

Compare and Contrast the Indigenous Community's Perceptions with Those of other Stakeholders

Comparing and contrasting the indigenous community's perceptions with those of other stakeholders can provide insights into how different groups perceive the issue of garbage pollution in the Cameron Highlands.

Tourists, for example, may view garbage pollution as a minor issue that does not significantly impact their experience of visiting the area. They may not be aware of the negative impacts that garbage pollution can have on the environment and the health of the community. This perception could be due to a lack of understanding or awareness of the issue, or a lack of concern for the local community and environment (Azarmi et al., 2019).

Local businesses and government officials may view garbage pollution as a serious issue that impacts the tourism industry and the local economy. They may prioritize solutions that focus on improving waste management infrastructure, such as the establishment of waste collection and disposal systems, and recycling initiatives. This perception could be due to the economic importance of the tourism industry in the area and the potential impact of garbage pollution on the industry (Mihai et al., 2021).

In contrast, the indigenous community may view garbage pollution as a threat to their cultural heritage and the natural environment. They may prioritize solutions that focus on respecting their cultural values and promoting sustainable tourism practices. This perception could be due to the community's cultural values and belief systems that prioritize living in harmony with nature and preserving the environment (Robinson, 1999).

Overall, the different perceptions of stakeholders regarding garbage pollution in the Cameron Highlands reflect their different priorities and values. Developing effective solutions to address the issue will require understanding and balancing these different perspectives and priorities.

Potential Solutions and Interventions to Address Garbage Pollution in the Area

Several potential solutions and interventions can be implemented to address garbage pollution in the Cameron Highlands, taking into account the perspectives of the indigenous community and other stakeholders:

- a) Increase waste management infrastructure: Establishing effective waste collection and disposal systems can help prevent garbage accumulation and reduce pollution. This could include increasing the number of garbage bins in public areas, providing waste collection services, and promoting recycling initiatives.
- b) Implement sustainable tourism practices: Encouraging sustainable tourism practices, such as educating tourists about proper waste disposal and promoting eco-friendly activities, can help reduce the amount of garbage generated by tourists and minimize negative impacts on the environment and community.

- c) Promote community involvement: Encouraging community involvement in waste management and pollution prevention initiatives can help build a sense of ownership and responsibility among residents. This could include organizing community clean-up campaigns, establishing community composting projects, and providing training on sustainable waste management practices.
- d) Introduce environmental education programs: Providing education programs that raise awareness of the environmental impacts of garbage pollution and promote sustainable waste management practices can help change attitudes and behaviors among community members and tourists.
- e) Strengthen regulations and enforcement: Strengthening regulations around waste management and pollution prevention, and enforcing them effectively, can help ensure that businesses and individuals take responsibility for their waste disposal practices and minimize negative impacts on the environment and community.

Overall, addressing garbage pollution in the Cameron Highlands will require a multi-faceted approach that takes into account the needs and perspectives of the indigenous community and other stakeholders. By working together, implementing effective interventions and solutions, and promoting sustainable practices, it is possible to reduce garbage pollution and protect the natural environment and cultural heritage of the Cameron Highlands.

CONCLUSION

Summary

The study explored the perceptions of the indigenous community in the Cameron Highlands, Malaysia, regarding garbage pollution in the area. The key findings of the study included:

The indigenous community has significant concerns about the impact of garbage pollution on the environment, including negative effects on the health of residents and the natural ecosystem.

The community has identified specific concerns related to tourism, including the lack of waste management infrastructure in tourist areas and the behavior of some tourists who do not properly dispose of their waste.

The study highlights the need to consider the perspectives of the indigenous community in efforts to address garbage pollution in the area.

Potential solutions and interventions, such as increasing waste management infrastructure and implementing sustainable tourism practices, were identified as ways to address garbage pollution in the area.

The key takeaways from the study include the importance of understanding and incorporating the perspectives of the indigenous community in environmental initiatives and the need for collaborative efforts to address the issue of garbage pollution in the Cameron Highlands.

Importance of Listening to the Perspectives of the Indigenous Community in Addressing Environmental Issues

The perspectives of indigenous communities are critical in understanding and addressing environmental issues. They have a unique and deep connection to their local ecosystems and are often the first to notice changes or disruptions caused by pollution and other environmental issues. Moreover, the impacts of

environmental issues can disproportionately affect indigenous communities, who may have fewer resources and less access to information and technology to address these issues (Sangha et al., 2018).

Listening to the perspectives of indigenous communities, as this study has done in the case of garbage pollution in the Cameron Highlands, can provide valuable insights into the causes and impacts of environmental issues and identify solutions that are grounded in the cultural and social context of the community. Incorporating indigenous perspectives into environmental initiatives can also help build trust and cooperation between communities and other stakeholders, leading to more effective and sustainable outcomes (Reo et al., 2017).

In summary, incorporating the perspectives of indigenous communities is essential to achieving sustainable and equitable environmental solutions. The Cameron Highlands study highlights the importance of considering the perspectives of the indigenous community in addressing garbage pollution and serves as a valuable reminder of the crucial role that local knowledge and community involvement play in environmental management.

Recommendations

Based on the findings of the study, here are some recommendations for future research and actions to address garbage pollution in the Cameron Highlands:

- a) Conduct further research on the perspectives and experiences of other stakeholders, such as tourists and waste management companies, to gain a more comprehensive understanding of the issue and identify potential areas for collaboration.
- b) Explore alternative waste management practices, such as composting and recycling, that may be more appropriate for the local context and incorporate the perspectives of the indigenous community in the development of these practices.
- c) Develop education and awareness-raising campaigns targeted at tourists and other visitors to promote responsible waste disposal and sustainable tourism practices.
- d) Establish partnerships between local government, community groups, and other stakeholders to develop and implement sustainable waste management strategies that take into account the perspectives and needs of the indigenous community.
- e) Consider the potential impacts of climate change on waste management and develop adaptation strategies that are responsive to the needs of the community.
- f) Continue to engage with the indigenous community and involve them in decision-making processes related to waste management and other environmental issues.

By taking these recommendations into account, future research and actions can build on the findings of the study and contribute to more sustainable and equitable approaches to addressing garbage pollution in the Cameron Highlands.

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