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Chapter 21

Impact of Waste Dumping on Recreation and Leisure Activities Toward Visitors: Case Study Teluk Batik Lumut Perak

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ABSTRACT

This study investigates the impact of waste dumping on recreational activities at Teluk Batik, Lumut, Perak, Malaysia, where rapid tourism growth has led to increased waste generation and inadequate waste management. These issues result in significant pollution, particularly in beaches, restaurants, and recreational spaces, diminishing the area's natural beauty and affecting visitor experiences. Using a quantitative research approach, data were collected through structured surveys and systematic observations to assess visitors' waste disposal behaviors and the extent to which waste accumulation interferes with activities such as swimming, picnicking, and beach games. The analysis employed descriptive statistics, correlation analysis, and crosstabulation techniques to identify key factors contributing to the issue. Findings highlight three primary causes of improper waste disposal: first, the lack of sufficient waste disposal facilities forces visitors to discard garbage improperly; second, limited public awareness about proper waste management further exacerbates the problem; third, poor maintenance of existing waste infrastructure, including overfilled bins and irregular waste collection, creates an unhealthy environment that reduces visitor satisfaction. The study recommends enhancing waste management strategies through the establishment of additional waste disposal facilities, improved maintenance practices, and public education campaigns to promote responsible waste disposal. By tackling these issues, the study aims to improve visitor experiences, support sustainable tourism, and ensure the long-term conservation of Teluk Batik's environment, ultimately preserving its attractiveness as a popular tourist destination while safeguarding the local economy.

Key Words: Waste dumping, Recreation, Leisure, Environmental, Conservation

1. INTRODUCTION

Coastal municipalities are facing increasing environmental challenges, particularly related to waste management. These issues are compounded in tourism-dependent areas, where the influx of visitors significantly elevates waste production, putting pressure on local ecosystems and affecting the quality of life for both residents and tourists. Teluk Batik, a notable beach town in Lumut, Perak, Malaysia, illustrates this situation well. Known for its pristine beaches, seafood, and recreational activities, Teluk Batik has become a popular destination for both domestic and international travellers. However, the town is grappling with an ever-growing waste management problem that threatens both the environment and the region's tourism industry. Improper waste disposal in Teluk Batik has caused visual and odorous pollution, particularly in areas near beaches, restaurants, and recreational facilities. The rising volume of waste due to the increasing tourist population makes current waste management practices insufficient for effectively tackling the problem. This study aims to investigate the effects of waste dumping on the recreational and leisure activities of visitors to Teluk Batik and to identify viable solutions for improving waste management in the area. The study will focus on identifying the key factors contributing to poor waste disposal and assessing the environmental and economic consequences of the situation.

2. LITERATURE REVIEWS

Waste dumping issues at Teluk Batik are primarily driven by infrastructural deficiencies, such as inadequate waste facilities, insufficient trash bins, limited recycling options, and poor maintenance, and behavioral factors, including a lack of environmental awareness among visitors. These systemic challenges lead to improper garbage disposal and open dumping practices that further exacerbate littering and environmental degradation (Bahri et al., 2020; Nguyen et al., 2023). Environmentally, the accumulation of waste causes severe visual and olfactory pollution that degrades the natural appeal of recreational spaces and deters leisure activities like swimming, picnicking, and beach sports. This pollution not only harms coastal ecosystems by contaminating water bodies and marine life but also increases health risks through air and water pollution, exposing visitors to respiratory illnesses and hazardous wildlife (Siddiqua et al., 2022; Vinti et al., 2021). Economically, the decline in environmental quality results in reduced visitor spending and diminished tourism revenues, negatively impacting local businesses and the broader community. To address these multifaceted issues, there is an urgent need for enhanced waste management infrastructure, comprehensive public education, stricter regulatory enforcement, and collaborative initiatives to mitigate the adverse environmental, social, and economic impacts of waste dumping at Teluk Batik (Chandel et al., 2022; Power, 2022).

3. METHODOLOGY

A quantitative research design was adopted to assess the impact of waste dumping on the leisure and recreational activities at Teluk Batik. Data was collected through a combination of structured surveys and direct field observations. The survey instrument was designed to capture respondents' perceptions of environmental quality, safety, and overall visitor satisfaction. Key variables measured included the prevalence of waste, odor intensity,

perceived health risks, and the frequency of leisure activity engagement. The methodology was structured to ensure a comprehensive understanding of how improper waste disposal influences both the environmental and economic dimensions of tourism in coastal areas.

4. RESULTS AND DISCUSSION

4.1 Factors of Waste Dumping Issues

Table 1 shows the analysis of factors influencing waste disposal issues at Teluk Batik, highlighting that lack of proper signage is the highest score, with a mean of 4.20 . Over half of the respondents strongly agreed that inadequate signage worsens waste dumping due to the lack of clear information on garbage disposal locations. This aligns with studies emphasizing the role of proper signage in guiding tourists and enhancing waste management awareness. Then, the lowest score mean is improper waste management by local businesses, with a score mean of 4.01. These efforts are essential to preserving Teluk Batik's natural environment, improving tourist experiences, and supporting sustainable tourism development.

Table 1: The Analysis Factors of Waste Dumping Issues

Likert Scale	(1)	(2)	(3)	(4)	(5)	Mean
Variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Lack of Proper Waste Management Facilities						
a) Trash bins not located	13 (2.8%)	22 (4.8%)	31 (6.7%)	254 (55.2%)	140 (30.4%)	4.06
b) The lack of proper signage	18 (3.9%)	37 (8.0%)	16 (3.5%)	155 (33.7%)	239 (50.9%)	4.20
c) Overflowing trash	17 (3.7%)	29 (6.3%)	17 (3.7%)	257 (55.9%)	140 (30.4%)	4.03
Open Dumping						
a) Insufficient visitor awareness	14 (3.0%)	20 (4.3%)	32 (7.0%)	259 (56.3%)	135 (29.3%)	4.05
b) Open dumping sites affect the overall recreational experience	18 (3.9%)	26 (5.7%)	28 (6.1%)	149 (32.4%)	239 (52.0%)	4.23
Local Business						
a) Improper waste management from local businesses	10 (2.2%)	33 (7.2%)	33 (7.2%)	251 (54.6%)	133 (28.9%)	4.01

4.2 The impact of waste dumping

Table 2 shows the analysis of the impact of waste dumping on the recreational and leisure activities of tourists at Teluk Batik. Recreational areas such as Teluk Batik rely on a pristine and well-maintained environment to provide enjoyable experiences for visitors. However, the presence of garbage and pollution can hinder these activities, reduce visitor satisfaction, and negatively impact the site's overall appeal. The project aims to assess the effects of rubbish disposal on leisure activities, including picnics, swimming, and other recreational pursuits. The analysis reveals that the waste dumping at Teluk Batik significantly undermines the destination's attractiveness and economic viability. The highest score

shows the effect on the local economy, with a score of 4.26. Then, the decrease in tourist activities is the lowest score mean of 3.98.

Table 2: The Analysis of The Impact of Waste Dumping

		Percentage%				
Variable	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly	Mean
Visitor						
a) Unmanaged waste disposal	3.9	5.4	7	53	30.7	4.01
b) 2. Uncontrolled waste can invite the presence of Venomous animals such as snakes	3	5.9	6.1	56.1	28.9	4.02
Recreation and Leisure						
a) Negative image	4.8	6.1	5.7	30.2	53.3	4.21
b) Reduces the number of visitors.	3.9	7	5.4	32.2	51.5	4.2
Economic						
a) Decrease in tourist activities	4.1	6.5	6.1	53.7	29.6	3.98
b) Affect the local economy	2.8	5.9	5.9	33.5	52	4.26

5. CONCLUSIONS

The data collected reveals that the waste management issues at Teluk Batik are like those identified in other coastal tourist destinations. Lack of waste disposal infrastructure and weak enforcement of waste disposal laws are common issues leading to increased littering (Fernando, 2021). The findings of this study indicate that improper waste disposal is not only an environmental concern but also has a direct impact on the recreational experiences of visitors. (Perkumiené et al., 2023). The study's findings underscore the need for effective waste management strategies and enforcement measures to mitigate the negative effects of waste on both the environment and the local economy. The recommendations outlined below aim to address the issues and contribute to the sustainable management of Teluk Batik as a tourist destination.

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