RESEARCH OF WASTE DISPOSAL PROBLEM IN PANTAI SIRING RESIDENT AREA

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Abstract: The problem of garbage disposal is an issue that is often contagious among the people in this country. The same goes for the problems that occur in Pantai Siring, Merlimau, Melaka, which is a place that attracts visitors and locals. The main objectives of this research are to investigate the causes of garbage problems and the impact of garbage disposal on residents in the Pantai Siring area. Research methods include questionnaires and interviews of residents and visitors at Pantai Siring. The results showed that the garbage problem occurred due to the increase in the number of visitors and the bins provided were insufficient and limited. In addition, this problem also coused from the lack of responsibility of visitors. Based on the results of the study and discussion, it can be concluded that, local authorities need to play an important role to increase the awareness of visitors to dispose of garbage in the places provided in addition to adding garbage bins in the main places around Pantai Siring.

Keywords: garbage disposal; rubbish; polluted;

1. Introduction

The problem of waste management is often an issue in this country. This matter becomes more serious with the increase in the number of people, thoughts, and civilizations that greatly influence human attitudes and behavior. This research was carried out to survey and investigate the problem of garbage disposal and waste in the Pantai Siring area, Merlimau, Melaka. The waste or waste consists of solid, liquid or gas, where each has its disposal and management method.

According to the Environmental Quality Act 1974, waste is defined as waste, including all materials that have been designated as scheduled waste, or all materials whether in solid, liquid or gas or vapor form that are released, discharged or placed in the environment that will cause pollution. Meanwhile, waste management can be defined as a scientific discipline related to the control of generation, storage, collection, transfer, transport, processing and disposal of waste at landfill sites with methods that are suitable for the basis of public health, economics, engineering, conservation, aesthetics and environmental considerations [1].

In Malaysia, mainly urban residents contribute at least 1.5 kilograms of garbage disposal per day compared to 0.8 kilograms by rural residents. This number continues to increase with the increase in respondentsand the improvement of people's living standards. Disposing of waste at will not only affects human health but also threatens marine life. Therefore, all parties need to work together to find a solution as soon as possible before this problem becomesmore serious [2].

Media reports on Garbage Collection Generation Data clearly show that there has been a significant increase in the production of waste by the people of this country in the past five years, namely in 2018 as much as 36,843 tons of garbage was produced per day, while in 2019 it increased to 37,462 tons which increased to 38,081 tons in 2020. [3].

"This situation will worsen the existing situation. What's more, the latest data estimates that 14 million tons of garbage per year will be collected throughout 2022 or almost 40,000 tons per day with an estimated 95 percent of the collected solid waste being disposed of at landfills," [4].

Economic growth and respondentsgrowth are two elements that contribute to increasing the quantity of solid waste in each location. This dumping will have a negative impact on the environment, especially in metropolitan areas and residential areas. The current situation shows that the issue of the creation and composition of solid waste is increasingly worrying, especially in developing countries such as Malaysia. Using the method used in Act 672, this study tries to identify the composition of waste in residential areas. [5]

The attitude of a few of our people who ignore the effects of this garbage disposal, not only pollutes the environment, but if it is left, it will cause the environment to smell bad and then attract pests such as rats and flies.

The waste problem can be reduced if the government cooperates with the community and offers a growing segment of the respondentswith the opportunity to participate in waste management. [6]

1.2 Problem Statement

The problem of uncontrolled dumping and piles of garbage in several places around Pantai Siring, Merlimau can have a negative impact on local residents and a negative view by visitors. In addition to affecting the scenery due to the litter scattered in most places around Pantai Siring, residents, traders and visitors are also at risk of dealing with the problem of foul smell, disease, flies, mosquitoes and so on.

The problem of litter that occurs in Pantai Siring, Merlimau, Melaka was identified through observation and interview sessions with residents around the area. The problem faced by the residents around the Pantai Siring area is the problem of garbage disposal which causes the area to smell bad. The garbage house is located across the road next to the stalls and the market through gross observation. Garbage is thrown into the trash can that exceeds the limit that can be held by the trash can, even the waste that is thrown away is collected every day.

Based on the increase in living standards and the number of residents in the Pantai Siring area as well as the increase in the number of visitors especially every weekend, the quantity of waste disposal produced is also increasing. Therefore, systematic waste disposal management needs to be planned so that problems caused by management failure and its effects can be avoided. Failure to manage waste disposal will have unwanted effects and will pollute the environment. Therefore, a study needs to be conducted to see the effectiveness of garbage disposal collection carried out in the Siring Beach area.

In aim of this study is to determine the couses that will be conducted, in addition to examining the cause of the garbage problem that occurs, this study also tries to find some additional alternatives that can be used to solve the problem of garbage disposal in the Siring beach area.

Figure 1: Pantai Siring article

Figure 2: Waste disposal area around the trash house

1.3   Importance of Research

Through the study, the researchers hope to make recommendations that can solve the problem of waste disposal in the area resident. This result is also expected to help all agencies involved directly or indirectly in this garbage disposal problem. The parties in question are the Southern Waste Management (SWM Environment) Sdn. Bhd. to solve the problem of waste disposal in this resident area. The results of this study can also be used by other parties as a reference when wanting to do further research in the future.

The importance of this research to the public was to instill awareness and the responsibility to the communities in the importance of environmental responsibility is. The role and attitude of this society is very important in ensuring the well -being of the younger generation in the future. This environmental awareness is also expected to have a small impact on non-governmental organizations (NGOs), and the public to join hands in supporting the government's intention to implement efforts to preserve and conserve the environment.

2.   Literature Review

Operations under the control of the solid waste management service provider are known as solid waste management operations. The study's highlights comprise numerous factors that will be grouped to reflect the direction of the study's objective and the challenges to be I nvestigated. This is critical in understanding the importance of research based on historical events. The issue

features in the same category, as well as the highlights of this study, have distinct points of view, bringing new insights into the issues being investigated. The classification is based on waste management operations, management service providers, community attitudes, the effects of inadequate waste management, and solutions to the problems that have been identified.

There are various issues that may be recognized to affect the efficiency of the waste management operator in the area of solid waste management, particularly in the operation of waste management. Collection frequency, waste management processes, and labor are all issues. These three issues might reveal whether or not the operation was carried out efficiently. The community is the client who pays for and receives the solid waste management services given in this case. The attitude and involvement of the community must also be considered when evaluating the amount of management effectiveness adopted. This is the group that produces solid waste and requires adequate waste management in order to maintain a comfortable standard of living. The community's attitude must be analyzed and determined, including if the community is prepared to pay for the services supplied and if the community is open to or accepting of the waste management adaptations applied. This is critical in order for trash operations and management to reach ideal levels as a result of the community's response. In other words, the reaction provided enables the management operation to adjust, as well as provide alternate management ways if the existing management is disliked by the inhabitants local.

It is necessary to identify the impacts that arise as a result of improper waste management. This is because, in order to achieve effective management, the impact must be understood so that alternative management strategies may be discovered to reduce the impact. As a result, inadequate waste management will have a negative influence on both the environment and human people. The effect will be further described and linked through these two factors so that an integrated waste management system can be developed to ensure that the resulting effect has a minimal impact in this area. Suitable for current management with impacts in the research area.

3. Methodology of Study

3.1 Sampling Techniques

The primary goal of data and information collection is to achieve the study's objectives (Mohd Majid, 1990). In this study, has use both a quantitative and a qualitative approach to collect data. According to Robinson (1998), combining quantitative and qualitative data can provide more accurate results. The sample is selected randomly in order to obtain a representative sample number of the respondents(Blumetal.1986). A survey and visit to Pantai Siring were also conducted to identify in more detail and learn more about the problem of garbage disposal around the study location.

3.2 Primary Data

Primary data is the original data collected by the researcher during the study, and the data has never been obtained from any previous study (According to Syed Arabi Idid (1992). In the context of this study, primary data was collected using quantitative and qualitative methods. Qualitative data was collected through interviews, while quantitative data was through the

preparation of questionnaires. The total sample was 247 respondents who were involved, consisting of visitors, traders and residents of Pantai Siring.

3.3 Secondary data

Secondary data sources include scholarly books, journals, seminar papers and conferences, websites, newspaper clippings, and related brochures. Readings from secondary materials were conducted by researchers in order to strengthen information and concepts. Content analysis methods include storing and recording all information obtained at the site in a file to make it easier for researchers to re-refer to data. According to Mohd Majid Konting (1990), the content analysis method can categorize documents or data based on identified themes or issues related to the study. Secondary source information or data is critical for supporting and strengthening arguments during the data analysis process.

4.   Result and Data Analysis

In order to achieve the research goals, data analysis of relevant information was carried out. To facilitate the analysis process, computer software was used. This software analyzes the collected data statistically. It can also present the analysis results in the form of graphs or charts that are easier to understand and interesting. However, in this study only the frequency method was used. Statistical analysis of frequency generally shows the percentage of frequency for a variable or question when referring to this study.

The data presented in this chapter were acquired as a consequence of a questionnaire distributed throughout the research region. The results from the questionnaire in the study region were evaluated in greater depth in order to make conclusions based on the research's stated goals.

4.1 Analysis of Section A (Demographic Profile)

The data were analyzed using several statistical analyses. Descriptive analysis is used to explain the background of residents, traders and visitors in Pantai Siring. A total of 247 respondents were surveyed for the questionnaire, a total of 51% or 126 of the respondents were males while 49% or 121 were female. The result showed that 95 respondents, or 38% of those aged 20 to 30 years, 49 respondents, or 20% of those aged 41 and over, 65 respondents or 27% were aged between 31 and 40 years and a total of 35 respondents, or 15%, aged between 19 and below. Finally, the results showed that 235 respondents or 95% were Malays, 12 people or 5% were Indians and 0% percent were Chinese.

4.2 Analysis of Section B (The source of this waste problem occurred in the study area)

All the results of Section B are shown in Table 1.

Table 1: The source of this waste problem occurred in the study area

No.	Question	Agree	Unsure	Disagree
1.	Dumpster adequacy chart in the trash house	40%	12%	48%
2.	Did you throw waste at the trash house?	67%	7%	26%
3.	Level of satisfactory on waste management at Pantai Siring, Melaka	63%	9%	28%
4.	The problem of garbage disposal that arises due to the increase in the number of visitors.	90%	3%	7%
5.	Garbage disposal problems that arise due to limited trash bin facilities.	80%	8%	12%
6.	The problem of garbage disposal that arises due to a lack of responsibility among visitors and traders.	68%	5%	27%
7.	Waste problem that has arises because lack of exposure in the importance of environmental care.	70%	5%	25%

Table 1 shows the analysis of source of this waste problem occurred in the study area. From the question, question No. 1, 40% respondent Agree, 12% Unsure and 48% Disagree for dumpster adequacy chart in the trash house. Question No. 2, 67% respondent Agree, 7% Unsure and 26% Disagree for throw waste at the trash house. Question No.3, 63% respondent Agree, 9% Unsure and 28% Disagree for level of satisfactory on waste management. Question No. 4, 90% respondent Agree, 3% Unsure and 7% Disagree, the result shows that most respondent agree the problem of garbage disposal that arises due to the increase in the number of visitors. Question No.5, 80% respondent Agree, 8% Unsure and 12% Disagree for garbage disposal problems that arise due to limited trash bin facilities. Question No. 6, 68% respondent Agree, 5% Unsure and 27% Disagree, the problem of garbage disposal that arises due to a lack of responsibility among visitors and traders. Question No.7, 70% respondent Agree, 5% Unsure and 25% Disagree for Waste problem that has arises because lack of exposure in the importance of environmental care.

Based on the data shown above, the residents and visitor proved that the source of the abundant waste happen in the trash house are because the insufficient waste bins and an increase in population. This is because most residents and sellers dispose waste in trash house. Pantai Siring is the focal point of public so when it is weekend or school holiday, visitors will increase. As the number of visitors increases, the waste generated in the eateries will also increase. Hence, abundant waste will happen when the trash disposed exceeded the limit.

4.3 Analysis of Section C (The impact of the waste disposal towards respondents)

All the results of Section C are shown in Table 2.

Table 2: The impact of the waste disposal towards respondents

No.	Question	Agree	Unsure	Disagree
1	The problem of garbage is disturbing the comfort and enjoyment while on the beach	79%	4%	17%
2	The problem of the smell of waste materials causes displeasure to the respondents	78%	4%	18%
3	The problem of flies, ants, and insects that can disturb respondents	80%	5%	15%
4	The problem of food waste and junk can affect the health of respondents	64%	6%	30%

Table 2 shows analysis of the impact of the waste disposal towards respondents. From the question, question No. 1, 79% respondent Agree, 4% Unsure and 17% Disagree for the problem of garbage is disturbing the comfort and enjoyment while on the beach. Question No. 2, 78% respondent Agree, 4% Unsure and 18% Disagree for the problem of the smell of waste materials causes displeasure to the respondents. Question No.3, 80% respondent Agree, 5% Unsure and 15% Disagree for the problem of flies, ants, and insects that can disturb respondents. Question No. 4, 64% respondent Agree, 6% Unsure and 30% Disagree, for the problem of food waste and junk can affect the health of respondents.

Based on the data shown above, most of the respondents agreed that the problem of garbage disposal at the study site has caused discomfort to visitors, causing an unpleasant smell, interference with insects such as flies, mosquitoes and ants and can cause diseases to visitors.

4.4 Analysis of Section D (Awareness about 3R - Reuse, Reduce, and Recycle)

All the results of Section D are shown in Table 3.

Table 3: Awareness about 3R - Reuse, Reduce, and Recycle

No.	Question	Agree	Unsure	Disagree
1.	Respondents who have heard of this 3R program	98%	2%	0%
2.	Respondents who practice this 3R program	77%	13%	10%
3.	Percentage of the difficulty of practicing this 3R program among respondents	27%	16%	57%
4.	percentage of respondents perspective over implementing this 3R program, the waste problem may be minimized.	83%	10%	7%

Table 3 shows awareness about 3R - Reuse, Reduce, and Recycle. From the question given, question No. 1, 98% respondent Agree, 2% Unsure and 0% Disagree for respondents who have heard of this 3R program. Question No. 2, 77% respondent Agree, 13% Unsure and 10% Disagree for practice this 3R program. Question No.3, 27% respondent Agree, 16% Unsure and 57% Disagree for the difficulty of practicing this 3R program among respondents. Question No

4, 83% respondent Agree, 10% Unsure and 7% Disagree, for respondent perspective over implementing this 3R program, the waste problem may be minimized. From the results of the data analysis, it shows that the majority of respondents know about the 3R program and agree that if this program is implemented, it will reduce the problem of garbage that occurs. The results also show that most respondents find it difficult to practice the 3Rs in their daily lives.

5.0 Conclusion

According to the findings, respondents provided a variety of perspectives or comments for each category. Most respondents felt that the dumpsters provided by SWM were insufficient for the first category, the amount of trash management and creation. The same is true for the second and third categories, namely the element of Pantai littering. Although some people disagreed, the majority agreed based on the evidence that was evaluated. The last goal, which was to assess the level of knowledge of the usage of the 3Rs, was likewise met. Overall, this study was successful in meeting its stated goals.

The study also investigating respondent's awareness of the 3R and review the effective solutions to solve the problem of waste in the study area. One of the questions being asked to the researcher which say does 3R practice is still relevant. 3R practice are still the best method in reducing amount of waste. Due to the circumstances of the problem happen in the study area, 3R practices is the ideal solution in solve the abundant waste at trash house. This is because when the waste can be minimized, the abundant waste would not be likely to be happen.

Based on the data collection, 3R practice is still uncommonly used by the respondents although most of the respondents comprehend about the practice and benefits comes from it. Even so, several of the populations practice 3R. If the numbers of people practice 3R increase, the waste problem at Pantai Siring could be solved. However, from the perspective of the respondents, a large number are unsure that 3R practice could solve the problem.

There are some recommendations given by the respondents. Firstly, is adding more dumpster to accommodate the amount of the waste at the trash house. By doing that, the trash house will look more practical and pleasant to the community especially to the visitors.

Next, the trash house should be maintained by the responsible party. From the observation, the trash house was dirty and emitted a very bad smell. The wall on the trash house was also moldy. The trash house is located near the fish market, food stall, and restaurant where many people would come. It would be discomfort to the residents and visitors.

Moreover, if the trash house is not maintained clean, there will be causing the reproduction of germs and bacteria. It could spread diseases to the community especially elders and children. It could cause dangerous diseases such as Human Immunodeficiency Virus (HIV), hepatitis virus or even common diseases like tuberculosis, pneumonia, and diarrhea. Furthermore, this also causes the reproduction of dengue mosquitoes.

6.0 Recommendations

Based on this effort, researchers investigated a way that can assist people in minimizing the waste problem. Several issues have been identified in order to increase the study's viability. Among the ideas made by respondents are improvements to the dumpsters in the trash house and issue resolution techniques such as the implementation of the 3R programmed for waste reduction in the trash house. Next, expand the size of the dumpster and maintain the dumpster so that there are no pests and the stench of waste is reduced. Finally, one of the responses recommended putting garbage cans in different regions and installing water hoses in the trash house.

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