



## Behavior of Communities Along The Air Bengkulu River in Managing Household Waste

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### Abstract:

A river is a large and long water flow that flows continuously from upstream (source) to downstream (estuary). Household waste or garbage is waste that comes from daily activities in the household. People's behavior is less aware of waste disposal, for example, there are still many people who throw garbage carelessly such as on the banks of rivers and streams so that there is a negative impact on the community environment caused by their own actions which will result in their environment being polluted, unpleasant odors and flooding due to throwing garbage carelessly. The purpose of the study was to determine the behavior of the Bengkulu Riverbank community in managing household waste. The research method of this type of research is descriptive quantitative. The results of the study based on data processing and analysis showed that there was no relationship between attitudes and public perceptions where  $p = 1,000$ , there was a relationship between actions and public perceptions where  $p = 0.023$ . Suggestions for the community are expected to better understand the importance of managing household waste to maintain and not pollute the residential environment so that it can cause odors and become a breeding ground for disease.

**Keyword : Rivers, Garbage, Community Behavior**

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## INTRODUCTION

A river is a large, long stream of water that flows continuously from upstream (source) to downstream (estuary). Rivers are a form of aquatic ecosystem that plays a vital role in the hydrological cycle and serve as water catchment areas for the surrounding area. Therefore, the condition of a river is greatly influenced by the characteristics of its surrounding environment. Human behavior is the biggest cause of environmental damage. The world's population's indifference to disasters is likely influenced by several facilitating factors, including education, income, knowledge, awareness, and social factors. These factors are also influenced by supporting factors, including distance, availability of waste disposal facilities (TPS), availability of waste collection services, cost of waste collection services, and community culture. (Farizi, 2021).

Water is a vital necessity for living things, so its quality and quantity must be maintained. Rivers are a water source used to meet the needs of residents. However, rivers that are in poor condition, smelly, and dirty can potentially have negative impacts on the surrounding environment, making them unsuitable for use by residents (Kamalia & Sudarti, 2022).

One of the most heavily polluted water sources today is rivers. Most rivers in Indonesia are unhealthy, despite their numerous functions for humans. Furthermore, rivers also serve numerous functions in their ecosystems. The precise definition of water pollution is divided into two categories: the entry or introduction of living organisms, energy, substances, or other components that can exceed the established quality standards. River pollution is caused by the first two sources, namely specific sources. Water pollution can also occur biologically, chemically, or physically. Chemical pollution alone can be divided into two categories: organic and inorganic. Pollution arising from these three factors, if it exceeds quality standards, will have negative impacts on aquatic biota and humans when used in daily life. (Arni & Susilawati, 2022)

The water quality of the Bengkulu River is currently less than optimal. Based on water quality monitoring conducted by the Bengkulu Province Environmental Protection Agency in 2023, it was found that the Bengkulu River water mostly falls into categories III and IV. This indicates that the water quality of the Bengkulu River does not meet water quality standards for industry, fisheries, and/or tourism. (Minister of Environment and Forestry, 2021)

According to Law No. 18 of 2008 concerning Waste Management, waste is a national problem and must be managed comprehensively and in an integrated manner to provide economic benefits, a healthy and safe environment for the community, and to change human behavior. The environment is where living things on earth, especially humans, live. According to the WHO, waste is anything that is not used, no longer used, unwanted, or discarded as a result of human activities and does not occur independently. Waste is anything that is no longer used, unwanted, or discarded that arises from human activities and does not occur automatically (Azizah & Sudarti, 2023).

Household waste or garbage is waste originating from daily household activities, excluding feces and specific waste. The impacts of household waste can contribute to environmental pollution, such as decreased water quality, which can impact the health of others. Regulations governing the environment, particularly

household waste management, already exist, regulated by Government Regulation Number 81 of 2012 concerning Waste Management, which aims to reduce the waste problem in Indonesia (Bantaran et al., 2021).

The waste problem in Indonesia is complex due to a lack of public understanding of the consequences of waste. Other factors include the increasing standard of living, which is not accompanied by a consistent understanding of waste management, and a lack of public participation in maintaining cleanliness and disposing of waste properly. The increasing population and development of urban environments have resulted in changing consumption patterns. The constant expansion of land area will place increasing pressure on the environment. Human activities, from agriculture, industry, and household activities, generate waste that contributes to the decline in river water quality. (Kutlu, 2023).

Humans are individuals with emotions and reason to act. The impacts of all human behavior are felt by the surrounding physical and social environment. Humans have the ability to create disasters through their actions. These actions impact the environment, eliciting reactions and responses from both the natural environment and humans themselves. Humans wield significant power and influence over the environment, resulting in both detrimental and beneficial impacts. These impacts depend on how humans behave towards the environment. (Fakih & Sa'id, 2021)

Organic household waste, such as food and vegetable scraps, is discarded into rivers and decomposes through microorganisms. This increases the population of microorganisms in the water, leading to an increase in BOD levels. Furthermore, processed food waste contains proteins and amino groups, which, when degraded, break down into volatile compounds that produce a foul odor. The more odorous the water, the greater the amount of microbial decomposition occurring, indicating that the water is polluted. Low public awareness of environmental hygiene can have numerous negative impacts on the community itself. One of the impacts is that river water can cause disease because it can transmit diseases directly or indirectly. Diseases are usually transmitted through water used by the community or surrounding population, known as waterborne sickness or water-related illness (Puspandari et al., 2023).

Behavior can be defined as a common action undertaken by humans. Human behavior is based on a wide range of human activities, including walking and other daily activities, speaking, acting, thinking, emotions, and perceptions. Behavior is the result of all kinds of experiences and human interactions with their environment, taking the form of knowledge, attitudes, and actions. A lack of awareness of waste disposal behavior, for example, is still evident in many people who litter carelessly, such as on riverbanks and streams. This has a negative impact on the environment caused by their own actions, which can lead to pollution, unpleasant odors, and flooding due to indiscriminate waste disposal. (Puspandari et al., 2023).

Attitude is a person's closed reaction or response to an object stimulus. Attitudes cannot be directly observed but can only be interpreted through implicit behavior. Attitudes clearly demonstrate the appropriate emotional reactions to social stimuli. Public littering pollutes residential areas, can produce odors, and can become breeding grounds for disease, such as mosquito breeding in stagnant water, especially around plastic and canned waste (Prautami, 2022).

Based on a preliminary survey conducted on March 19, 2024, in three sub-districts in Bengkulu City and two villages in Central Bengkulu Regency, a significant amount of waste was still found along the banks

of the Bengkulu River, particularly household and non-organic waste. The riverbanks are home to residential areas. Meanwhile, some waste is still being disposed of haphazardly in landfills (TPA). Several areas of the river are already shallow, especially during the dry season. Therefore, excessive waste can sometimes cause flooding.

Health is a highly debated topic in Indonesia. One factor in the quality of public health is cleanliness. Unfortunately, the public's mindset of using rivers as a place to dump waste remains elusive. This needs to be addressed immediately by building individual awareness of the importance of rivers for community survival. Considering that people use rivers, their knowledge of maintaining river environmental quality and their ability to carry out activities while maintaining river sustainability are crucial. Therefore, efforts are needed to reduce the impact of pollution. This is crucial because it threatens environmental health and the survival of the surrounding community. Furthermore, a balance is needed between maintaining public health and environmental sustainability. (Ritiau et al., 2021)

According to the Environmental Agency, river water pollution can be addressed through various efforts and collaboration between the government and the community. One approach is to measure water quality using test parameters such as temperature, pH, TSS, BOD, COD, and DO. The data obtained from these water quality tests can be used to determine appropriate steps to address water pollution issues.

## METHOD

This type of research will be conducted using a quantitative descriptive research method, which is a research method by filling out a questionnaire, where the research results obtained are then used to determine the behavior of the Bengkulu Riverbank community in managing household waste. The population in this study was the Bengkulu River basin community, totaling 947 families. The population data was taken from each of the two riverside villages in the Rindu Hati and Kembang Seri areas (upstream), each of the two riverside neighborhood units (RT) in the Tanjung Agung and Surabaya sub-districts (central), and Pasar Bengkulu (downstream).

A sample is a representative or portion of a population that shares similar characteristics and traits, is representative, and therefore, is considered representative of the entire population being studied. Sampling techniques are useful for assisting researchers in generalizing about the population they represent.

Using the Slovin formula:

$$\begin{aligned}n &= N / (1 + (N \times e^2)) \\n &= N / (1 + (N \times e^2)) \\n &= 947 / (1 + (947 \times (0,01)^2)) \\n &= 90 \text{ kk}\end{aligned}$$

Description:

n = number of samples

N = population

e = maximum tolerable error limit in the sample, aka the significance level is 0.1 (10%).

## RESULTS AND DISCUSSION

### RESULTS

This research was conducted in sub-districts within Bengkulu City, namely Pasar Bengkulu, Tanjung Agung, and Surabaya. It was also conducted in Kembang Seri and Rindu Hati villages in Central Bengkulu. The research aimed to determine the behavior of residents along the Bengkulu River in managing household waste. The research was divided into two stages: preparation and implementation.

The preparation stage included determining the title and conducting an initial survey in Pasar Bengkulu, Tanjung Agung, Surabaya, Kembang Seri, and Rindu Hati villages. A pre-research letter was submitted for data collection, which was conducted from March 8 to April 1, 2024. Data collected included the number of people, the number of family cards, and the number of neighborhood associations (RT/KADUN).

The implementation stage involved submitting a research letter to the Bengkulu City National Unity and Politics Agency (Kesbangpol), the heads of Pasar Bengkulu, Tanjung Agung, Surabaya, Kembang Seri, and Rindu Hati, and obtaining an Ethical Clearance letter. This research was conducted from May 24 to June 21, 2024. The data collected in this study were primary and secondary data obtained directly from interviews with respondents in the Bengkulu City and Central Bengkulu communities. A total of 90 respondents were studied.

The collected data were processed using a computer using the Statistical Product and Service Solutions (SPSS) program. The statistical test used was the chi-square test. It is presented in descriptive and narrative tables.

**Table 4.1 Distribution of Respondents' Attitudes on the Bengkulu Riverbank Regarding Household Waste Management**

No	Attitude	Total	(%)
1	Good	87	96.7
2	Poor	3	3.3
	Total	90	100

Based on Table 4.1, 87 respondents (96.7%) had a good attitude. Meanwhile, 3 respondents (3.3%) had a poor attitude.

**Table 4.2 Distribution of Respondents' Actions at the Air Bengkulu Riverbank in Managing Household Waste**

No	Action	Total	(%)
1	Good	79	87.8
2	Poor	11	12.2
	Total	90	100

Based on Table 4.2, 79 respondents (87.8%) responded to good actions, while 11 respondents (12.2%) responded to poor actions.

## DISCUSSION

### a. Attitude

The results showed that of the 90 respondents, 87 (96.7%) had a positive attitude, while 3 (3.3%) had a negative attitude. This is because attitude is a person's closed reaction or response to an object stimulus. The manifestation of this attitude cannot be directly observed but can only be interpreted through closed behavior. A concrete attitude indicates the appropriateness of emotional reactions to social stimuli. The public's attitude of littering pollutes residential areas, can cause odors, and can become a breeding ground for disease, such as mosquitoes breeding in stagnant water around plastic and canned waste (Prautami, 2022).

### b. Action

The results showed that of the 90 respondents, 79 (87.8%) had a positive attitude, while 11 (12.2%) had a negative attitude. Another common problem is waste, as it is closely related to environmental health, as it can cause various diseases and the emergence of pests such as insects, which can spread disease. The generation of waste is usually triggered by community actions. This is because awareness and hygiene practices do not meet expectations. This problem arises from several behavioral aspects, such as a lack of knowledge about waste management, unrecognized attitudes toward waste management, and the absence of waste management policies.

## CONCLUSIONS

Based on the results of a study conducted on 90 sample members in Pasar Bengkulu Village, Tanjung Agung Village, Surabaya Village, Bengkulu City, Kembang Seri Village, and Rindu Hati Village, Central Bengkulu Regency,

1. 87 (96.7%) residents had a positive attitude towards household waste management, while 3 (3.3%) respondents had a negative attitude towards household waste management.

2. 79 (87.8%) residents had positive attitudes towards household waste management, while 11 (12.2%) residents had negative attitudes towards household waste management.

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