

# The Influence of Public Awareness on Knowledge and Behavior of Littering in The Village of Beras Basah, North Sumatera

<sup>1</sup>\*Meutia Nanda, <sup>2</sup>Nurul Hasanah, <sup>3</sup>Rehuliana Ninta Br Sitepu, <sup>4</sup>Shelly Shabina Putri Sinaga, <sup>5</sup>Khairunnisa Hasibuan, <sup>6</sup>Wirdah Sufa Zein Dalimunthe

<sup>1,2,3,4,5,6</sup> Universitas Islam Negeri Sumatera Utara, Medan, Indonesia

**Corresponding author:** Meutia Nanda, [meutianandaumi@gmail.com](mailto:meutianandaumi@gmail.com)

**Co-author:** N.H: [rehulsitepu@gmail.com](mailto:rehulsitepu@gmail.com), R.N.B.S: [rehulsitepu@gmail.com](mailto:rehulsitepu@gmail.com), S.S.P.N: [rehulsitepu@gmail.com](mailto:rehulsitepu@gmail.com), K.H: [rehulsitepu@gmail.com](mailto:rehulsitepu@gmail.com), W.D: [rehulsitepu@gmail.com](mailto:rehulsitepu@gmail.com)

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## Abstract

Waste is a problem that has not been addressed, especially in Indonesia. From time to time, the amount of trash continues to fluctuate. According to data from the Ministry of Environment and Forestry, the national waste pile in 2021 will reach 26.39 tons. This number has decreased compared to 2020 when the total national waste is estimated to reach 33.16 tons. This research aims to determine the main source of this pollution, to identify problems related to environmental sanitation due to the accumulation of waste, as well as the impact on health in *Beras Basah* Village, Pangkalan Susu Langkat District, North Sumatera. The results of the research show that environmental sanitation in the *Beras Basah* sub-district, especially in the ward the majority of people with low education generally only reach junior high school level. This research method is quantitative research. The data used in this research is primary data taking data from questionnaires, interviews, and documentary observations. The subjects of this research were 53 respondents who were different from village officials such as the village head, Kipling, and the local community. The research location is in *Beras Basah* Village, Pangkalan Susu District, Langkat, North Sumatera. The situation in *Beras Basah* Village is still not good, because the majority of people in *Beras Basah* Village still throw rubbish in the river. The lack of government attention in *Beras Basah* Village means that many people still dump rubbish at sea, because there is no infrastructure from the *Beras Basah* village government, such as rubbish transport cars which cannot enter the Ward XI area, the distance between the house and the TPS is quite far, etc.

**Keywords:** Sanity; Coastal Communities; Settlements

## Introduction

The issue of waste management remains a persistent challenge in Indonesia, as evidenced by fluctuating waste piles over time. According to data from the Ministry of Environment and Forestry, the national waste pile bagged in 2021 amounted to 26.39 tons, a decrease from the previous year's estimate of 33.16 tons (Marpaung et al., 2022).

Environmental sanitation, a vital aspect of public health, encompasses individual and collective efforts aimed at controlling and mitigating environmental factors that pose health risks to communities. Basic sanitation initiatives are crucial for fostering a healthy environment and meeting health standards essential for human survival. However, in *Beras Basah* Village, Pangkalan Susu District, Langkat North Sumatera, inadequate waste management practices have led to the accumulation of garbage, posing significant challenges to environmental sanitation and potentially impacting

public health (Natalia Marpaung, Iriyanti, & Prayoga, 2022).

Drawing from research conducted by Natalia Marpaung and colleagues (2022), it's evident that the lack of awareness regarding waste management, insufficient support from local authorities, and inadequate infrastructure contribute to improper waste disposal behaviors within communities. This is further emphasized in the case study, which highlights the low awareness of environmental hygiene among residents living in coastal areas, leading to the indiscriminate disposal of garbage.

To address these challenges and improve environmental sanitation, it's imperative to increase public awareness, implement waste management strategies such as waste separation and wastewater management, and establish proper waste disposal facilities (Natalia Marpaung et al., 2022). Community-based waste management initiatives, as demonstrated in the study by Aisyah et al. (n.d.), can also play a

significant role in enhancing sanitation practices and maintaining a clean environment.

Furthermore, insights from research conducted in similar coastal communities, such as the study by Baharuddin and Dyastuti (2023) in Desa Bukit Samang, Kecamatan Sendana, provide valuable perspectives on the legal awareness of coastal communities regarding environmental management. By learning from successful sanitation initiatives and legal frameworks in other regions, *Beras Basah* Village can develop effective strategies tailored to its specific needs and challenges.

In conclusion, addressing the root causes of improper waste management, including awareness, infrastructure, and governance, is essential for improving environmental sanitation and safeguarding public health in *Beras Basah* Village and similar coastal communities. By incorporating insights from relevant studies and adopting community-driven approaches, sustainable solutions can be developed to tackle this pressing issue.

## Methods

This research method employs a quantitative approach. The data utilized in this study are primary data obtained through the administration of questionnaires to respondents, interviews with village officials, and observation of relevant documentation. The subjects of this research consist of 53 different respondents, including village officials such as the village head, sub-village head (Kepala dusun), and local community members. The research is conducted in *Beras Basah* Village, Pangkalan Susu District, Langkat North Sumatra.

To further elaborate on this method, the data analysis will involve statistical techniques appropriate for quantitative research, such as descriptive statistics, correlation analysis, or regression analysis, depending on the research objectives and the nature of the data collected. The sample selection process likely involves random sampling or stratified sampling techniques to ensure the representativeness of the respondents. Additionally, the research methodology may include details on data collection procedures, research instruments' validity and reliability, and ethical considerations.

## Results

**Table 1.** Characteristic of Respondent

Variables	Frequency	Percentage
<b>Knowledge</b>		
Good	20	37,7
Simply	15	28,3

Less	18	33,9
<b>Behavior</b>		
Good	23	43,3
Less	30	56,6
<b>Availability of Facilities</b>		
Worth	25	47,1
Less Feasible	28	52,8

## Discussion

### 1. Housing Condition

The village has physical conditions that do not meet the standards/requirements of a healthy home, which can be seen from the size of the house, the success of the yard, the unqualified toilet, the minimal ventilation of the house by only utilizing the existence of doors and windows, the construction of houses that are stage-shaped and made of wood. This causes their houses to look shabby and crowded due to the lack of light entering the house. This is also supported by the lack of awareness of each individual/community on the importance of basic sanitation and cleanliness of each house, which can be seen from the amount of garbage scattered in any place. But this is also because each house does not have a large area of land.

The population density of residential houses that are not suitable and the floor of the house is made of soil or boards are 294,296 units, while houses that meet health requirements are 135,383 units (45.90%) of the entire city of Langkat. Pangkalan Susu sub-district, *Beras Basah* village, the number of buildings amounted to 776 housing units and the slum area detected was 12.6 hectares. Judging from the acquisition of direct observation, the level of balance in the design of the building shows that ordinary buildings in *Beras Basah* Village have more or less the same orientation of building damage. Still lacking the same direction. With a percentage score of 60%, the condition of the building still does not meet the criteria of a house that should be categorized as healthy.

### 2. Environmental Conditions

There is still no good structuring system in waste management in slums in various streets and villages. And to be organized. Waste management is only done by the surrounding community by burning and dumping it into rivers or swamps. Hence, the harsh environmental situation calls for better action and planning using the 3R idea.

The environment is the key to the healthy state of the human being itself, but it is very different from the situation in the XI *Beras Basah* neighborhood, the environmental conditions in the XI neighborhood are very concerning, because if we come down directly to see the conditions in the XI neighborhood, starting from the garbage that is scattered and piled up everywhere,

this has become commonplace for the community, there is no disgust for them to see things like that, lack of awareness from the community itself also makes the environment slum. The factors that influence people to litter are the low level of education of the community itself, they carry out continuous garbage disposal because there is no special warning from the government, and we have a lot of diseases caused by garbage. But it cannot be blamed entirely on the community because the distance from the XI neighborhood to the landfill is not close, and the lack of facilities and infrastructure is one of the factors in not resolving this waste problem.

Waste that is disposed of carelessly always has an impact on the environment, a polluted environment occurs because of the behavior of people who do not care and are too concerned about proper waste disposal, littering is also supported because of the unavailability of trash bins in every home.

### 3. Water Condition

In general, humans obtain water sources from food, drinks, and the results of the body's metabolism. However, 80% of water source needs are found in beverages. Human survival is found in clean water sources, the provision of clean water must always be considered in every region. The provision of clean water includes water quality that meets health standards, an inexhaustible amount, odorless, colorless tasteless and easily available. *Beras Basah* village is classified as easy to access clean water sources because they do activities using PDAM water and drink by buying a gallon of water.

### 4. Latrine Condition

In Kelurahan *Beras basah*, there are still many people who do not have a place to dispose of feces or have a place that does not meet the requirements. In general, the community in *Beras Basah* utilizes land to build toilets directly above the river and the feces flow directly into the river. On average, the community in *Beras Basah* has a low level of education with only primary and junior high school education, and earns their income by working as fishermen. Lack of counseling related to various diseases caused by poor sanitation, so that when a disease such as diarrhea, skin diseases such as itching, and other diseases occurs, it is considered a common thing in the region.

Fishing communities generally have a low education and generally up to the junior high school level. with the first order of elementary school the second order of junior high school the senior high school level being the last order and very little. This is what makes coastal communities lack health knowledge, there is no progress towards utilizing existing income, making it difficult for the government to reduce the social

assistance provided related to consultation and modernization of equipment. This can affect the environment in which they live because they believe in the importance of a healthy home due to their lack of knowledge. Refuse Air quality is caused by various causes (biotic and abiotic). This situation is exacerbated by the lack of green spaces in urban areas. However, there is still a lot of air pollution, and it does not only occur in coastal areas.

Keeping the environment clean is one of the efforts in preventing disease and controlling risk factors caused by the environment. An environment that is not maintained and has been polluted will have a lot of impact on health and the environment itself, that's why every human being must protect the environment to prevent diseases that arise from the environment. Several things can be done, namely:

1. Food hygiene that must be maintained
2. Proper waste disposal
3. Provision of clean water and drinking water
4. Disposal of human waste and household waste, and lack of access to clean water in coastal settlements.

The *Beras Basah* neighborhood is an area on the beach that tends to dump feces directly into the beach stream which gives the impression of being dirty and unsightly. in addition, it becomes a hotbed of disease. The lack of awareness of the local community and the lack of assistance, and access, poor environmental conditions and unfavorable, making the state of the environment worse and uncontrolled garbage in the waters.

The river is often used by the community around the beach for bathroom waste disposal. Residents who behave in this way can be influenced by various factors, one of which is the level of education, inherent socio-cultural and low economic factors. These various factors are interrelated with the behavior of each human being as well as support in utilizing river flow for waste disposal and excrement. This also occurs due to a lack of knowledge in understanding about maintaining environmental cleanliness, lack of awareness, lack of available facilities and infrastructure and lack of counseling related to environmental health.

A possible program suggestion is the availability of waste banks that can reduce 1.7% of the national waste. The provision of waste banks uses the 3R principle (Reduce, Reuse, and Recycle). There is potential for consumer waste to be managed by the community, especially rural communities and communities living in densely populated coastal areas. Good waste sorting is through the existence of a waste bank. A waste bank is a collection point for waste that can be processed or recycled back into economic value. The waste bank is a collection point for inorganic waste and is classified as having proper banking management, excluding the rich

but garbage collected. The construction of garbage shelters Indonesia's growth rate is quite significantly important.

The first socialization has been conducted offering insight into the benefits of waste management, the importance of waste streams before the availability of waste banks and then after the availability of waste banks. This socialization is very important for understanding the existence of waste banks.

As part of the overview help the program run 2 times after the startup of the program Monitoring is implemented aiming:

1. Securing waste banks can be utilized by residents.
2. Analyze problems that occur and are organized by village government and community members
3. program footprint that has evolved over the years to be decided upon and established as a countermeasure.

The program of the Puskesmas of *Beras Basah* Village, Pangkalan Susu Sub-district, itself is:

1. Families have access to/use family latrines
2. Families already have access to/use clean water

Langkat Regency Government itself has given a warning to the people of *Beras Basah* Village, especially for Neighborhood XI so as not to throw garbage in the sea again. Although there has been a warning from the government itself, the habit of dumping domestic waste in the sea has become flesh and blood for the people of *Beras Basah* Village, Neighborhood XI, seeing the crisis of public awareness, it is necessary to impose strict sanctions and provide a deterrent effect for the people of *Beras Basah* Village, Neighborhood XI. Lack of government attention is also a factor. Neighborhood XI of *Beras Basah* Village is categorized as a dirty area. This can be seen from the unchangeable habit of the community to throwing garbage carelessly so that it has the potential to damage the environment which will pollute the coastal environment. The absence of severe sanctions from the government does not prevent people from throwing garbage in the sea.



**Figure 1.** Settlement conditions

## Conclusion

The challenge of waste management persists in Indonesia, particularly evident in *Beras Basah* Village, Pangkalan Susu District, Langkat North Sumatra. The research highlights the detrimental effects of inadequate waste management on environmental sanitation and public health, underscored by factors such as lack of awareness, insufficient support from authorities, and deficient infrastructure (Marpaung et al., 2022; Natalia Marpaung et al., 2022). By integrating insights from community-based waste management initiatives and legal frameworks from similar coastal regions, tailored strategies can be developed to address these challenges and foster sustainable solutions for waste management in *Beras Basah* Village and beyond.

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## Author Contribution and Competing Interest

The author's contribution to this study was to collect data through the analysis of inpatient medical record files, conduct in-depth observations and interviews, analyze the results, and compile manuscripts.

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