
OVERVIEW OF ENVIRONMENTAL SANITATION IN THE KASILAMPE COASTAL AREA KENDARI CITY

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ABSTRACT

Background: Environmental sanitation plays a significant role in improving public health and supporting the achievement of *the Sustainable Development Goals* (SDGs). Coastal areas are densely populated and vulnerable to environmental degradation due to limited facilities and community behavior. This study aims to provide a comprehensive overview of environmental sanitation conditions in the coastal area of Kasilampe Beach, Kendari City.

Method: This research is descriptive with a quantitative approach. Primary data collection was conducted using questionnaires and observation sheets from 30 household respondents in the coastal area of Kasilampe Beach, Kasilampe District, Kendari City. The data were analyzed univariately using SPSS to generate frequency distributions and percentages.

Results: The clean water aspect shows that 96.7% of respondents rely on wells, with clear and odorless physical quality (86.7%), and have the behavior of boiling water before drinking (80.0%). Ownership of domestic waste bins reached 96.7%, where the majority dispose of waste at the TPS (66.7%), but some residents still burn waste (30.0%) and throw it into the sea (3.3%). The coverage of family toilet facilities has reached maximum results (100.0%) using a gooseneck type connected to a septic tank. In contrast, environmental indicators outside the home show poor conditions: there are puddles around the house (46.7%), unpleasant odors (33.3%), drainage channels are of moderate status (56.7%), and high complaints about the presence of disease vectors such as mosquitoes and flies (90.0%).

Conclusion: Basic sanitation conditions in the coastal area of Kasilampe Beach are already in the very good category, based on indicators such as the provision of healthy family latrines, the use of waste containers, and drinking water hygiene. However, major challenges that urgently need to be addressed include poor outdoor environmental management, local waste contamination (burning/dumping into the sea), substandard drainage, and a high population of

disease-transmitting vectors.

KEYWORDS: CoastalArea,KasilampeBeach,CleanWaterSanitation,ToiletSanitation,Disease Vectors.

INTRODUCTION

Environmental sanitation plays a crucial role in improving public health. A clean and healthy environment can support a community's quality of life, while poor sanitation can lead to various health problems such as diarrhea, skin diseases, respiratory infections, and other illnesses. Furthermore, sanitation management is also part of the Sustainable Development Goals (SDGs), particularly in efforts to increase public access to clean water and adequate sanitation facilities (Riduan *et al.*, 2026).

Coastal areas play a vital role in supporting community life, particularly in the fisheries, economic, residential, and tourism sectors. On the other hand, coastal areas are also vulnerable to environmental problems, particularly those related to sanitation. Inadequate environmental sanitation can lead to water pollution, waste accumulation, and an increased risk of environmental-related diseases. These conditions are generally caused by limited sanitation facilities, low public awareness, and inadequate domestic waste management (Riduan *et al.*, 2026).

Kasilampe Beach, as a coastal area, is characterized by a high level of community activity, both residential and economic. These activities have the potential to generate household waste and garbage that can pollute the environment if not managed properly. Sanitation problems frequently encountered in coastal areas include indiscriminate littering, inadequate drainage systems, and the direct discharge of domestic waste into the sea. These conditions can lead to a decline in environmental quality and impact the health of the surrounding community (Nurhayati *et al.*, 2024).

Poor environmental sanitation in coastal areas can negatively impact public health, such as increasing cases of diarrhea, skin diseases, and various other environmentally-related diseases. In addition to impacting health, coastal environmental pollution can also damage marine ecosystems and reduce the quality of aquatic resources. Research shows that suboptimal waste and sewage management is a major cause of pollution in coastal areas (Berutu, 2022). Sanitation issues in coastal areas are not only influenced by the availability of facilities and infrastructure, but also by community behavior in maintaining environmental cleanliness. Lack of public knowledge and awareness regarding the importance of sanitation has resulted in the

implementation of clean and healthy living behaviors not being optimally implemented. Therefore, efforts are needed to improve sanitation through community-based approaches, such as the Community-Based Total Sanitation (STBM) program, so that communities can play a more active role in maintaining coastal cleanliness (Rinaldi *et al.*, 2023).

Proper coastal environmental management is essential to reduce pollution levels and maintain the sustainability of coastal areas. Efforts that can be made include effective waste management, providing adequate sanitation facilities, and educating the public about the importance of maintaining environmental cleanliness. With proper sanitation management, the quality of the coastal environment can be maintained, thereby supporting public health and the sustainability of coastal ecosystems (Hafizah, 2022).

METHOD

This research is descriptive with a quantitative approach. The aim of the study was to describe the environmental sanitation conditions of the coastal community in Kassilampe Beach, Kassilampe District, Kendari City. Data were collected using a questionnaire. A quantitative approach was used because the data obtained were in the form of numbers and percentages from respondents' answers.

RESULTS

Clean Water Sanitation

The fulfillment conditions and clean water management behaviors of gallons in coastal gallons were evaluated using four main parameters, namely the main water source, physical water quality, the habit of boiling water before consumption, and the type of drinking water storage location. Based on the SPSS output results, a summary of gallonka values for clean water gallons is presented in Table 1:

Table 1. Respondents' Clean Water Sanitation Parameters.

Sanitation Indicators	Frequency (n)	Percentage (%)
Main water source		
Well	29	96.7
Other	1	3.3
Physical quality of water (clear & odorless)		
Yes	26	86.7
No	4	13.3
Water is boiled before drinking		
Gallon	17	56.7
Bucket	12	40.0
Other	1	3.3
Total	30	100.0

The clean water sanitation conditions in Table 1 show that all 29 respondents (96.7%) rely on wells as their primary water source. In terms of physical quality, 26 respondents (86.7%) stated that the water they use is clear and odorless. The majority of coastal residents also practice good preventive behavior, with 24 respondents (80.0%) boiling their water before consumption. Gallons (56.7%) are the most commonly used means for storing daily drinking water.

Waste and Garbage Management

Table 2. Distribution of Household Waste and Garbage Management.

Management indicators	Frequency	Percentage (%)
Availability of trash bins		
Yes	29	96.7
No	1	3.3
How to dispose of trash		
polling station	20	66.7
Burned	9	30.0
Thrown into the sea	1	3.3
Frequency of garbage disposal		
Once every 2-3 days	21	70.0
Everyday	8	26.7
Seldom	1	3.3
Integrated waste management		
Yes	17	56.7
No	13	43.3
Total	30	100.0

Based on Table 2, the level of domestic waste bin ownership is very high, owned by 29 respondents (96.7%). The method of waste disposal is predominantly direct disposal to Temporary Disposal Sites (TPS) in 20 households (66.7%). However, there are still practices of self-disposal by burning (30.0%) and dumping into the sea (3.3%). The frequency of disposal is generally every 2 to 3 days (70.0%). A total of 17 respondents (56.7%) confirmed that there is an integrated waste management system in their neighborhood.

Toilet Sanitation

Table 3. Distribution of Ownership and Sanitation Conditions of Toilets.

Toilet indicator	Frequency	Percentage (%)
Having Your Own Toilet		
Yes	30	100.0
No	0	0
Types of toilets		
Swan neck	28	93.3

Plunge	2	6.7
Have a septic tank		
yes	30	100.0
No	0	0
Bad	1	3.3
Total	30	100.0

Based on Table 3, basic sanitation coverage has reached its maximum. Thirty respondents (100.0%) were recorded as having a private toilet at home. The most common toilet model used was the gooseneck type (93.3%). All respondents (100.0%) also used a *septic tank* for the storage and final disposal of feces, meeting environmental health requirements.

Environmental Sanitation

Table 4. Distribution of Outdoor Environmental Sanitation Conditions.

Environmental indicators	Frequency	Percentage (%)
There is a puddle of water		
Yes	14	46.7
No	16	53.3
There is an unpleasant odor		
Yes	10	33.3
No	20	66.7
Drainage conditions		
Currently	17	56.7
Good	12	40.0
Bad	1	3.3
There are vector-borne diseases		
Yes	27	90.0
No	3	10.0
Total	30	100.0

Table 4 illustrates the results of environmental sanitation observations. Stagnant water was found in the neighborhoods of 14 respondents (46.7%), and 10 respondents (33.3%) lived in neighborhoods with unpleasant odor problems. The condition of the drainage or wastewater disposal channels was generally in fair condition (56.7%). A prominent indicator was the high rate of reported presence of disease vectors (such as mosquitoes, flies, and rats), with 27 respondents (90.0%) complaining about the presence of vectors in their coastal environment.

DISCUSSION

Clean Water Sanitation

Based on research results in the coastal area of Kasilampe Beach, the clean water sector shows a very high level of dependence on groundwater sources, with the majority of

respondents (96.7%) relying on wells as their primary water source. This phenomenon requires special attention, given that coastal areas are generally vulnerable to seawater intrusion, which can degrade groundwater quality to brackish or salty. However, in terms of physical quality, 86.7% of respondents reported that the water they use is clear and odorless. This indicates that the visual quality of groundwater in the study area is still relatively good.

From the aspect of preventive health behavior, the coastal community of Kasilampe has shown high awareness, where 80.0% of respondents have the habit of boiling water first before consuming it. This habit of boiling water is very effective in minimizing the risk of transmission of water-based diseases (*waterborne diseases*) due to microbial contamination such as *Escherichia coli bacteria* . Another finding confirms that hygienic domestic drinking water management at the household level plays a crucial role in achieving the target of *Sustainable Development Goals* (SDGs) indicator (Siagian, T. 2022) , namely ensuring the availability of clean water and proper sanitation for all. Community compliance in boiling water and the use of safe storage containers such as gallons (56.7%) is a protector of family health amidst limited access to piped drinking water networks in coastal areas (Desi, *at al.* 2025).

Domestic Waste and Garbage Management System

Solid waste management (garbage) at Kasilampe Beach reflects the dualism between the availability of adequate basic facilities and disposal practices that still pose a risk of environmental pollution. On the one hand, ownership of domestic waste containers at the household level is almost universal, reaching 96.7%. Access to macro-scale waste collection is also quite effective, with 66.7% of respondents disposing of their waste at the nearest Temporary Waste Disposal Site (TPS). The existence of these collection facilities is also supported by 56.7% of respondents' recognition of the existence of an integrated waste management system in their settlements.

However, on the other hand, a major challenge arises from some communities who still carry out environmentally unfriendly waste management practices, namely burning waste independently (30.0%) and throwing waste directly into the sea (3.3%). Although the percentage of waste dumped into the sea is relatively small, this action remains a serious threat to the sustainability of the coastal ecosystem and the aesthetics of the Kasilampe Beach tourist area. The behavior of burning waste also has the potential to trigger local air pollution in densely populated residential areas. In his study, it was stated that the accumulation of plastic and organic waste that is not managed in an integrated manner in Indonesian coastal areas is one of the main triggers for the degradation of aquatic resources and massive marine pollution.

Therefore, the frequency of waste collection, which is currently still dominated by once every 2-3 days (70.0%), needs to be optimized so that waste does not accumulate at the household level and encourages people to take shortcuts by burning or throwing it into the sea (Rinaldi, *at al.* 2023).

Coverage of Family Toilet Sanitation Access.

The excreta disposal sanitation sector in the Kasilampe Beach area has demonstrated remarkable success. Data visualization results show that all respondents (100.0%) have private toilets in their homes, all of which are connected to septic tanks as final disposal facilities that meet health criteria. The type of toilet adopted is mostly the gooseneck type (93.3%), which is technically very good at preventing the emergence of pungent odors and cutting off access for disease-transmitting insects.

open defecation (BABS), which is usually a chronic sanitation problem in fishing villages or coastal areas. The existence of this comprehensive septic tank plays an important role in protecting seawater from contamination by pathogenic bacteria from human feces. The availability of healthy, sanitary toilet facilities with goosenecks and septic tanks in coastal settlements can linearly reduce the prevalence curve of digestive tract infections significantly, while protecting the quality of coastal resources from biological contamination that endangers public health (Nurhayati, *at al.* 2024).

Drainage Conditions and Disease Vector Threats

Despite good results in the provision of clean water and family toilets, the environmental conditions outside homes in the Kasilampe Beach area actually indicate quite high vulnerability indicators. Empirical evidence in the field shows that 46.7% of respondents' residential areas still have standing water. The presence of this standing water is closely correlated with the quality of domestic wastewater drainage channels, which are mostly considered to be in fair or normal condition (56.7%), and some are even in poor condition (3.3%). Substandard drainage causes wastewater from household activities to stagnate and produce an unpleasant odor, which was complained about by 33.3% of respondents.

The most obvious impact of poor drainage management and the presence of stagnant water is the high number of complaints related to the presence of disease vectors. The absolute majority of respondents (90.0%) reported disturbances from disease vectors such as mosquitoes, flies, and rats around their homes. Humid coastal areas combined with stagnant wastewater provide an ideal breeding environment for *Anopheles* sp. or *Aedes* sp. mosquitoes, and

piles of garbage that are not routinely collected attract flies and rats. Poor drainage in coastal areas not only damages the beauty of the environment, but also acts as a major stimulant for the increased transmission of vector-borne diseases *such as* dengue fever (DHF) and malaria, as well as skin diseases caused by direct contact with dirty stagnant water. This condition emphasizes the need for the implementation of community-based environmental management programs, such as Community-Based Total Sanitation (STBM), especially in the pillars of domestic liquid waste management and vector control (Berutu, R. (2022)).

CONCLUSION

Based on a comprehensive overview of the research results, it can be concluded that environmental sanitation in the coastal area of Kasilampe Beach, Kendari City has several aspects that are very good but still faces quite severe challenges outside the home. In terms of providing basic facilities, the community has achieved significant progress with a 100% ownership rate of healthy gooseneck latrines with septic tanks, a high domestic waste bin ownership rate (96.7%), and the use of clear physical wells balanced by the behavior of boiling water before drinking (80.0%).

However, sanitation gaps remain in waste management practices, with 33.3% of residents still burning or dumping waste into the sea. Furthermore, a crucial issue lies in the condition of the outdoor environment, characterized by numerous puddles (46.7%), moderate topoor drainage (56.7%), and a high incidence of disease vectorssuch as mosquitoes and flies, which reached 90.0%.

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