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ANALYSIS OF AVAILABILITY AND CONDITION OF BASIC SANITATION FACILITIES IN HATO-LULI HAMLET

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Abstract

Sanitation is an effort to monitor several factors of the physical environment so as to prevent the emergence of diseases that affect humans, especially on things that have detrimental effects on physical development, health and human survival. Some environmental health requirements that every family must have to meet their daily needs are known as basic sanitation which includes the provision of clean water, family latrine facilities, garbage disposal facilities, and wastewater disposal facilities. Therefore, the availability and condition of these facilities need to be considered. Analysis of the availability and condition of basic sanitation facilities in Hato-Luli Hamlet, Maubisse Kota Village, Maubisse District, Ainaro Regency, Timor-Leste. The results showed that the source of drinking water contained in Hato-Luli Hamlet consisted of 72.2% piped water, 20.8% well water, and 6.9% from other sources of river / gutter water. The condition of the latrine, which uses 66.67% water, does not use 29.17% water and other types 4.17%. Judging from the cleanliness condition of clean latrines 33.3%, less clean 63.9%, dirty 2.8%. Which has a trash can 56%, owns and does not use 41%, does not own 67.4%. The data shows that the percentage of not having landfills is still high at 67.4%. Environmental sanitation conditions in Hato-Luli Hamlet, Maubisse Kota Village, Maubisse District, Ainaro Regency are said to be not good, judging from the indicators of latrine conditions, wastewater sewerage conditions, garbage dump conditions, and healthy house conditions have not met health requirements because there are still people who do not know the importance of maintaining environmental sanitation.

Keywords: Availability, Facilities, Sanitation

INTRODUCTION

Sanitation facilities are all facilities that support environmental sanitation. Facilities and infrastructure that are of concern related to environmental health aspects include the provision of clean water, the state of wastewater sewerage, the condition of latrines, and the condition of higine office space (Fatmawati & Munajat, 2018). This study was conducted by collecting data using questionnaires and

observations of basic sanitation facilities used by the community. Where the data that has been collected will be analyzed and can explain about how the condition of the basic sanitation facilities. From a previous study, it is known that there is a significant relationship between basic environmental sanitation and the incidence of diarrheal diseases ($p < 0.05$), it can be seen from the existence and condition of facilities such as clean water supply, garbage dumps, and inadequate toilets (Douterelo et al., 2019). Based on the results of the study, the author conducted an analysis of basic community sanitation facilities through household settings through observation. Hato-Luli Hamlet is located in the northern part of Maubisse Vila District which is in the Ainaro regency area with 72 heads of families and each family head or one family member who was a respondent in this study. This study aims to determine the availability and condition of basic sanitation (clean water supply, landfills and toilets) in the community in Hato-Luli hamlet, Maubisse Vila village, Maubisse district, Ainaro regency.

Global data shows that Ten thousand people in developing countries have health problems that cause death from poor sanitation.1 Diarrhea is experienced by almost everyone due to poor sanitation. Diarrhea is an infectious disease with a frequency of defecation more often or three times per day or more. The form of feces with a semi-liquid or liquid consistency becomes the main symptom in addition to the number of frequency of defecation. Based on its duration, diarrhea can be divided into three, namely acute with less than 14 days, persistent 14 to 29 days, and chronic with 30 days or more (Birawida, 2020).

Data-driven *United Nations Children's Fund* (UNICEF) and *World Health Organization* (WHO) in 2013, globally there were two million children died each year due to diarrhea. Diarrheal disease is still a health problem in the world, including in developing countries such as Timor-Leste. The importance of a healthy environment has been proven by WHO with investigations around the world where it was found that high mortality, morbidity rates are just as often endemic in places where environmental hygiene and sanitation are poor. Environmental sanitation is also closely related to the availability of clean water, the availability of latrines. Increasing efforts on the availability of basic sanitation are important things to pay attention to in order to know and control environmental conditions in preventing and minimizing the effects of pollution on the environment. Poor basic sanitation will cause problems found ranging from sanitation in the house, the use of clean water (shallow wells), disposal of household waste (latrines) and septic tanks, and there are still people who make animal drums near their homes (Exposto, 2023). This results in a decrease in the degree of public health (clean water for daily needs, the smaller the risk of children getting disease.

Environmental sanitation as an important part of improving the degree of health which in essence environmental sanitation is the optimum environmental condition or condition so that it positively affects the optimum health status as well. Environmental sanitation prioritizes prevention of environmental factors in such a way that the emergence of diseases will be avoided (Heller et al., 2003). Sanitation efforts can also mean an effort to reduce the number of disease seeds found in the

environment so that the degree of human health is perfectly maintained. Sanitation is related to environmental health which can affect the degree of public health. The impact of low levels of sanitation coverage can reduce the quality of life of the community, polluted drinking water sources for the community, increased environment-based diseases such as diarrhea. Diarrhea is a disorder of defecation or defecation characterized by defecation (defecation) more than 3 times a day with the consistency of liquid stools, may be accompanied by blood or mucus. Poor environmental sanitation is an important factor in the occurrence of diarrhea where the interaction between disease, humans, and environmental factors that cause disease needs to be considered in the management of diarrhea. The role of environmental factors, enterobacteria, intestinal parasites, viruses, fungi and some chemicals has been classically proven in various epidemiological investigations as the cause of diarrheal diseases (Angeline et al., 2012).

Efforts to maintain the quality of basic sanitation are very important for public health because sBasic Anitasi is the minimum facilities and infrastructure that must be owned by every residence. Facilities included in basic sanitation include clean water supply, wastewater disposal, drainage channels, and waste management. Poor quality of basic sanitation can cause slums in a settlement. A minimal sanitation system must be owned by every family as an environmental health requirement to live daily life including: The availability of clean water is used to meet water needs, both domestic and non-domestic. Drainage system refers to the activity of draining water, both surface water and groundwater from an area or area. A settlement must have a good drainage system in order to reduce excess water so as not to cause inundation or even flooding that can interfere with the health and life of its residents. Waste management includes storage, collection and destruction of waste carried out in such a way that waste does not interfere with public health and the environment.

RESEARCH METHODS

The study was conducted in March 2023 for two weeks. By research design *Cross sectional* in the community by using questionnaires. Sampling by *non probability* with sampling techniques *quota* Sampling of each family head or one family member who is considered worthy, which amounted to 72 respondents. Data analysis in this study is by comparing the number of answer scores with the expected score (highest) then multiplied by 100.

RESULT AND DISCUSSION

Clean water

Besih water according to (Kepmenkes, No.1405/MENKES/SK/XI/2002) is water used for daily purposes and its quality meets the requirements of clean water quality in accordance with applicable laws and regulations and can be drunk when cooked. In the results of this study, clean water facilities used by the community in the area are seen from the source which comes from PAM water 72.2%, well water 20.8%, and from other sources river / gutter water 6.9%. Judging from the water discharge there is always 51%, and the water discharge decreases in the dry season 48.6%. Judging from the physical condition of the water is odorless and colored

65.3%, colored / chalky 34.7%. Viewed from the distance to get clean water < 5 minutes 63.9%, <1 km or < 15 minutes 36.1%. And when followed from a clean water storage area tightly closed 9.7%, less tightly closed 16.7% and not covered 73.6%. The data shows the condition of clean water Hato-Luli Hamlet, Maubisse Town Village, Maubisse District, Ainaro Regency is less secure. Where the condition of polluted water there are several bacteria that cause health problems. One example of health disorders caused by water contamination is diarrhea, itching, skin infections and others. Clean water sources in the hamlet use a lot of surface water where currently the drinking water management installation still uses surface water as its main water source. In addition to surface water, there are still other sources of clean water where they are sources of groundwater and rainwater. These water sources have their own advantages, disadvantages. Groundwater generally contains a lot of iron and manganese and is not good if used continuously because it can reduce the soil surface, while rainwater depends on the season, rainwater can also be used as raw water by making large tanks or reservoirs where it can hold water on a large scale.

Research by Bambang, S which states that the biggest influence on the presence of E.coli is the distance of water sources from pollution sources such as livestock pens, septic tanks and trash cans. Research also conducted by Irianto et al., (1996) that polluting sources such as family latrines, the distance between latrines and septic tanks have the highest risk to households that do not have family latrine facilities. The strong relationship between the source of family latrine pollution and bacteriological quality where feces containing microorganisms / seeds of disease can be a source of disease that can be transmitted through water media, either directly or indirectly through food and beverages consumed by hosts or humans. Research by John, 2004 on the effect of distance on the water quality of dug wells concluded, that distance affects the bacteriological quality of water. The closer the distance between the source of pollution and the source of drinking water, the greater the possibility of contamination. This is due to the speed with which bacteria reach the water source. The construction of water sources also has an important role in the bacteriological quality of water. Polluters can reach water sources if the construction of water sources does not qualify. Contaminants serve as a carrier of disease and as a breeding ground for disease seedlings. Deborah Majerovitz, (2007) explained that construction improvements, sanitation improvements and access to qualified drinking water have an impact in reducing the prevalence of Lyautey et al., (2007), explained further that, the construction of a good clean water source will protect water contamination by inhibiting the food supply for bacteria so that bacteria do not develop. Thus with good construction affects the presence of bacteria that can cause diarrhea. Diseases that can be caused by polluted water include: cholera, typus abdominalis, amoeba disentry.

Therefore, to maintain the availability of clean water we must instill the importance of clean water for life.many ways to maintain the availability of clean water where these methods are quite easy to do. One form of activity to maintain the availability of clean water is to encourage the movement of planting trees, carrying out water-saving movements, forest preservation, building large reservoirs or water reservoirs, making biopore holes or water catchments, and cultivating not to dispose of waste both household and industrial (Diansyukma et al., 2021). There are many other ways to get clean water through technology such as seawater desalination.

Therefore, the community must maintain environmental sustainability and be frugal to maintain the availability of clean water in Hato-Luli Hamlet (Burke, 2022).

Toilet

Latrines are one of the sanitation facilities needed in every house to support the health of its residents as a human waste disposal facility, consisting of a squat or seating place with a gooseneck or gooseneck tampa equipped with a dirty storage unit and water for cleaning (Proverawati et al., 2022). Based on this study, judging from the existence / ownership of latrines, among others, private property 55.6%, public 43.1% and those without latrines 1.4%. Judging from the type of latrine used which uses 66.67% water, does not use 29.17% water and other tricks 4.17%. Judging from the cleanliness condition of clean latrines 33.3%, less clean 63.9%, dirty 2.8%. The data shows that the percentage of people who use family latrines does not meet sanitary requirements is still 63.9%. This condition is very concerning because fecal discharge needs special attention because it is a waste material that brings many problems in the health sector and as a medium for disease seeds, such as: diarrhea, typhus, muntaber, dysentery, worms and itching. In addition, it can cause environmental pollution to water sources and foul odors and aesthetics. Later it will be in contact with humans either through the air, direct contact, or vectors such as insects and can result in various health problems and it is feared that it will become a serious disease outbreak in the surrounding community (Amelia et al., 2021).

There are several determinants that influence people using latrines that are not sanitary. Based on the results of research by Wirdawati, Ria Risti, Komala in 2021, it shows that there is a meaningful relationship between the economic level and healthy latrine ownership. Low community income has resulted in people prioritizing the fulfillment of basic needs, so they have not been able to build family latrines even though there are some people who understand the importance of family latrines. The results also showed that there was a meaningful relationship between culture and healthy latrine ownership. Culture has a great influence on the formation of attitudes, because culture is a long-standing practice and part of the life of a community group. The same study found a significant relationship between attitudes and healthy latrine ownership Low public knowledge can affect healthy latrine ownership. A healthy latrine must meet the following requirements: Does not pollute drinking water sources, does not smell feces and is not freely touched by insects or rats, urine, clean water and flushing water does not pollute the surrounding land by it the floor is at least 1 x 1 meter and is made quite sloping, tilted towards the squat hole, easy to clean and safe to use, equipped with walls and covers, enough lighting and air circulation, sufficient room area, available water and cleaning tools (Aritonang et al., 2016).

Landfills

According to *World Health Organization* (WHO) waste is something that is not used, not used, disliked or something that is thrown away that comes from human activities and does not occur by itself (Saputri & Nawangsih, 2017). Related to this definition, it can be seen that something that is no longer used by humans should be thrown away, but to save a place known as a garbage dump is needed. In this study, it is seen from the ownership of landfills that own and use 56%, own and do not use 41%, do not own 67.4%. The data shows that the percentage of not having landfills

is still high at 67.4%. Indiscriminate disposal of garbage and waste to improper waste management is the cause of environmental pollution ranging from water, air, and soil. In addition to damaging our environment, pollution due to waste that is not managed properly can have a negative impact on our health with the onset of various diseases. Environmental pollution not only affects humans, but also other living things such as animals and plants. Garbage pollution in the sea makes many marine animals suffer and even lead to death with habitat destruction. Many incidents of marine animals from whales to turtles die due to contamination with garbage such as plastic waste eaten by them.

The waste problem begins with the increasing number of humans and animals producing waste, with the increasingly dense population in an area. For rural areas where the population is still relatively small, the waste problem is not so pronounced because the waste produced can still be handled in simple ways such as burned, landfilled or left to dry itself. For densely populated areas (residential, urban) where there are few open areas, it is felt that waste is a problem in itself. Waste problems in an area include the high rate of waste generation, low public concern so that they like to behave littering, reluctance to throw garbage in the space provided. This bad behavior often causes disasters in the rainy season because the darainase is clogged with garbage resulting in flooding (Hardiatmi, 2011).

With this, the efforts that must be made by local governments in managing and handling waste from their households create and place landfills in each location or The nearest hamlet and as much as possible the garbage must be disposed of in its tub until the final disposal of the landfill. However, this waste waste has always been a concern, but with the fact that now this waste is still a problem that cannot be solved properly in essence, the main one in the big city example was Jakarta, which is currently in a very small scale decline for people who often do the habit of burning garbage, while on a large scale do waste disposal with temporary tubs, if there is no landfill available, it can be at the surrounding TPS (Amrina, 2021).

CONCLUSION

Based on the description of the data and data analysis of the research results, it can be concluded as environmental sanitation conditions in Hato-Luli Hamlet, Maubisse Kota Village, Maubisse District, Ainaro Regency are said to be not good, judging from the indicators of latrine conditions, wastewater sewerage conditions, garbage dump conditions, and healthy house conditions have not met health requirements because there are still people who do not know the importance of maintaining environmental sanitation. The impact of environmental sanitation on public health in the Hato-Luli Hamlet, Maubisse Kota Village, Maubisse District, Ainaro Regency that there is an influence between the condition of latrines, the condition of wastewater sewers, the condition of landfills, and the condition of healthy homes that do not meet health requirements, has an impact on the onset of diseases such as diarrhea, dengue fever, pulmonary tuberculosis and others.

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