



Analysis of Physical Water Quality in Griya Asri Housing District Fountain Stone Regency Deli Serdang

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ABSTRACT

The physical quality of water can affect the physical condition of water, the physical condition of water can be in the form of smell, taste, color. There are several factors related to clean water that need to be considered, including sustainability, quantity and quality. This will be strengthened by access to clean water which is determined by how much clean water there is in the house and the surrounding environment. The aim of this research is to determine the physical quality of water in the Griya Asri residential area, Tuntungan District. The method used is a qualitative approach by conducting interviews with residents who live in the Griya Asri housing complex directly in the field. The research results show that there are two very broad aspects regarding the physical quality of clean water, the first is the environmental aspect, and the other is the health aspect. The physical availability of clean water in the Griya Asri residential area is not adequate because the water used is yellowish, smelly and rusty so that if used in daily life it has an impact on health. Lack of access to quality clean water is defined as a lack of availability of clean water, which is also caused by several factors, such as an uncertain climate and poor clean water storage infrastructure. To overcome this problem, a number of concrete actions are needed, such as creating other water sources and building infrastructure or water filters to increase access to the physical quality of clean water.

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INTRODUCTION

Physical quality affects the physical condition of water, the physical condition of water can be in the form of smell, taste and color It can be said that water is a natural resource that is never exhausted and is always accessible. However, due to the generally regular hydrological cycle, the availability of water as a natural resource becomes limited; thus limiting its availability. The water supply on earth is uneven due to the lack of significant water addition over time. There are several factors related to clean water that need to be considered, including sustainability, quantity, and quality. This will be strengthened by access to clean water which is determined by how much clean water is in the family reservoir. The availability of clean water, which usually depends on women, will limit access to water at home. To encourage improved health status, household tasks such as preparing food in a healthy way, maintaining personal hygiene, and maintaining environmental sanitation will be affected by the limited supply of clean water (Daytana & Salmun, 2021).

In Indonesia, the problem of lack of clean water requires attention because it has a negative impact on public health. Man strives to get enough water for himself because water is essential for his survival.

Meanwhile, the water used often does not always meet health requirements. It is often found that this water contains pathogens or compounds that can cause diseases that can seriously endanger human life. Not all of the main water sources used in the home are used to make drinking water. For example, only 14.4% of tap water/PAM is used for drinking, while 19.7% is used as the main source of water for household needs. This means that almost 27.0% of tap water/PAM is not used for drinking (Aziza et al., 2020).

Clean water quality is an important component of human activity and creativity. The problem is, not all water is suitable for human consumption. It is certain that people will not be able to support themselves if water resources are reduced or depleted. Because of this rational foundation, people now view water as a resource of life. Seen from any angle, water and life itself are closely intertwined (*aqua vitae*, water of life) (Wattimena, 2021).

In housing or complexes that mostly use water, drilled wells are often a concern. This is because the water from the drilled well is often yellowish which has an impact on the items in the house (Jumadewi et al., 2021). Likewise in the Griya Asri housing where all residents use drilled wells for household activities. Based on the background that has been described above, the purpose of this study is to determine the physical quality of water in Griya Asri housing, Tuntungan Village.

METHODOLOGY

Methods and observations are used through a qualitative approach with a descriptive method. The approach chosen in this activity is adjusted to the environmental conditions of the community in Griya Asri housing, Pancur Batu District. Data was collected through observation, interviews and documentation with a population of 168 people in 50 houses and samples representing 42 respondents.

Data analysis was carried out through direct interviews to identify the main patterns and themes of the qualitative data. This research is expected to provide an in-depth understanding of the physical quality problems of water studied in Griya Asri housing, Pancur Batu District, Deli Serdang Regency.

RESULTS

The following are the results of the table of respondent characteristics and physical quality of clean water for 42 respondents related to this study.

Table 1. Characteristics of Respondents

	Frequency (1)	Percentage (%)
Age		
< 20 Years	25	59,5%
20-30 Years	12	28,5%
> 30 Years	5	12%
Gender		
Man	28	66%
Woman	14	33%
Last Education		
SD	5	17,9%
JUNIOR	17	40,4%
SMA	12	28,5%
Bachelor	8	19%
Total	42	100%

Table 2. Physical Quality of Clean Water

Variable	Frequency	Percentage
Smell		
Smell	29	69%
Odorless	13	31%
Taste		
Felt	36	85,7%
Feeling	6	14,2%
Color		
Colored	29	69%

Colorless	13	31%
Source		
PAM	0	0%
Drill Source	42	100%
Total	42	100

Based on table 1, the dissemination of respondent characteristics in the study shows that out of a total of 42 respondents, as many as 28 are male (66%) and as many as 14 are female (33%), the age category that has the most age is 20-30 years old (28%)<20 years (59%), >30 years old (12%), based on the education level of respondents who have the most education at the junior high school level (40.4%) and high school level as much as 28.5%, respondents who have the least last education at the elementary level (17.9%), S1 level as much as 19%.

Based on Table 2, the results of clean water provision show that there are 29 respondents (69%) who have smelly water and 13 respondents (31%) who do not have odorless water. There were 36 respondents (85.7%) whose water had taste, while as many as 6 respondents (14.2%) whose water had no taste. Regarding colored water, there were 29 respondents (69%), and colorless water was 13 respondents (31%).

DISCUSSION

Houses that have access to clean water for daily needs, either from sheltered wells, tap water, bottles, or rainwater shelters, are said to have decent availability of clean water. According to the results of a research survey that has been conducted, the local community of Griya Asri housing uses drilled well water only for household purposes, while in drinking water consumption, all people use mineral water (gallon water) priced at 5000. If you look at the condition of the drilled well, it is very unsuitable for consumption because the water is still yellowish and rusty, the community should provide a filter so that the water to be used is cleaner and clearer so that it is suitable for daily use as drinking water. The yellowish color of the borewell water also has an impact on the color of the clothes used daily, the color of home furnishings, to the tub and bathroom walls.

Because groundwater from borewells or dug wells is taken from a layer of soil that is very close to the surface, it can be contaminated by household activities and waste seepage from animals and humans. The construction specifications of the well location must be supported so that the groundwater drilled can be supplied with drinking water in accordance with applicable regulations. Large borehole equipment is used to drill non-solid soil material to make groundwater boreholes.

Some residents stated that "the water of the borewell in this housing has an average depth of only about 3 meters". In fact, various types of water structures are formed because the structure of boreholes is highly dependent on the condition of the aquifer and water quality. Typically, the depth of the water hole ranges from 60 to 200 meters, mostly used for business and residential buildings. Unsatisfactory water quality in clean water supply facilities is another problem that needs attention and is often encountered in the community.

Residents who live in Griya Astri housing also said that "the quality of the water contained here is yellow, smelly, and if it is used to wash clothes, it will be scars".

There are two very broad aspects regarding the right to clean and healthy water quality: the first is the environmental aspect, and the other is the health aspect. Because the health and quality of clean water is so important for human existence, clear and firm legal regulations are needed to provide binding force and force all parties involved to take additional action to make this a reality.

Locals do not use the water from the drilled well for consumption, they only use it for bathing, washing clothes, and so on. For drinking water consumption, locals predominantly use mineral water (gallon water) priced at 5000s. The reality of the situation, accessibility, and adverse impacts of water problems in various regions of the world encourages organizations concerned with human health to focus on clean water sources and sustainable management practices so that human well-being can be improved. A variety of dangerous problems, including diarrhea, skin disorders, and other diseases caused by other harmful bacteria, are caused by a lack of clean water. The problems caused by the high number of environmentally related diseases in Indonesia are the lack of access to clean water quality, poor use of latrines, and soil, water, and air pollution caused by garbage.

In Griya Asri housing, water quality infrastructure is well available, it's just that it is necessary to make a water filter so that the drilled well water used does not cause odor and is yellow and no longer contains sticky rust in items and bathroom tubs. Accessibility to water sources and water sanitation facilities

is an important factor in determining environmental sustainability. In addition to practical purposes, clean water quality infrastructure is also important because Indonesia still has an uneven distribution of water resources. The inability of people to obtain the amount of water needed to meet their daily needs is a sign of water scarcity. Lack of access to clean water is defined as a lack of availability of clean water, which is also caused by several factors, such as an uncertain climate and poor clean water storage infrastructure. With the construction of clean water infrastructure, it will be possible to store and provide clean water that can maintain the integrity of the community in the distribution process for direct public consumption.

CONCLUSION

Based on the research that has been carried out, it can be concluded that the availability of clean water in the Griya Asri residential environment is not adequate because the color of the water used is slightly yellowish so that if used in daily life it has an impact on the color of clothes and household appliances. Lack of access to clean water is defined as a lack of availability of clean water, which is also caused by several factors, such as an uncertain climate and poor clean water storage infrastructure. To overcome this problem, a number of concrete actions are needed, such as the creation of other water sources and the construction of infrastructure or water filters to increase access to clean water. Expanding the clean water pipeline network can help create infrastructure by distributing the physical quality of clean water to all local communities in Griya Asri housing, Tuntungan Village.

SUGGESTION

It is necessary to increase access to clean water in the Griya Asri residential environment by improving the physical quality of water used by residents. Improvement efforts can be made through better management of drilled wells and clean water supply systems.

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