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Evaluation of Ciwulan River Waste to the Surrounding Environment

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ABSTRACT

Pollution of the Ciwulan River by garbage has become a heavy burden for the public health system and ecosystem in Tasikmalaya Regency. This study aims to evaluate the impact of waste pollution on the water quality of the Ciwulan River and public health in Neglasari Village. The results of the study show that the level of waste pollution is quite high, mainly caused by domestic waste and lack of public awareness. This condition has an impact on decreasing water quality and increasing the risk of disease for people who rely on rivers as a source of water. To overcome this problem, comprehensive efforts are needed, such as increasing public awareness, improving the waste management system, and stricter law enforcement.

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1. INTRODUCTION

The Ciwulan River, located in Tasikmalaya Regency, West Java, Indonesia, plays an important role in the ecosystem and local communities. The Ciwulan River is the lifeblood of community activities in this region, contributing to biodiversity and water resource management.

The Ciwulan River, as one of the important water resources in the Tasikmalaya Regency area, has a crucial role in supporting the lives of the surrounding community. However, in recent decades, the water quality of the Ciwulan River has experienced a significant decline due to the high level of pollution, especially by garbage. This is due to the lack of adequate waste disposal sites, so people tend to throw garbage directly into the river as a practical solution. Some of the main factors that trigger this problem are the lack of public education and awareness regarding the negative impacts of dumping garbage into rivers. Research shows that there is still a presumption in the community that rivers are the right place to dispose of garbage, without considering the environmental consequences caused. The community's basic need for clean water is threatened by the increasingly severe river pollution, considering that the river is still widely used for bathing, washing, and even as a source of drinking water for some residents. (Anggraheni et al., 2020; Indrawati , 2011) (pristananda , 2018; Rahma, 2019)

The Ciwulan River is not just a flow of water, but also an integral part of the lives of the surrounding community. The Ciwulan River has a dual role as a vital natural resource. For farmers, this river is the lifeblood for agricultural irrigation. Meanwhile, the general public also uses it as a recreational place. In addition, the dependence of people, especially those living in rural areas, is very high on rivers to meet daily needs, such as bathing, washing, and cooking.

Waste pollution in the Ciwulan River has various negative impacts. Waste that is thrown into rivers, especially plastic waste, has a very long decomposition time and can pollute the air and interfere with the life of aquatic life. Dumping garbage into rivers also contributes to the decline in water quality, which can result in health problems for people who depend on these water sources for their daily needs. Garbage carried by water streams can carry various types of pathogens, such as bacteria, viruses, and parasites. If the polluted river water is used for domestic purposes, the risk of people being exposed to water-borne diseases becomes very high. Some diseases that can arise due to the consumption of polluted water include diarrhea, typhoid, cholera, hepatitis A, and various skin diseases. (Aditya et al., 2024)

Although it has been known that the water quality of the Ciwulan River is declining, the community's dependence on river water for daily activities is still very high, especially in areas that have not been reached by the clean water distribution network. This is due to several factors, such as limited access to clean water, long-standing habits, and lack of awareness of the importance of keeping the environment clean.

Seeing these conditions, this study aims to evaluate the impact of waste pollution in the Ciwulan River on the surrounding environment, focusing on its impact on the health of people who still rely on river water for daily needs. This research aims to reveal in detail the current condition of the water quality of the Ciwulan River, so that it can be the basis for planning sustainable water resource management, as well as providing the right recommendations to overcome the problem of waste pollution and improve the quality of life of the community.

2. RESEARCH METHODS

This study applies a quantitative descriptive method to provide an accurate picture of the water quality condition of the Ciwulan River based on data obtained from measurements in the field. The data collection itself uses observation techniques, documentation, and also literature studies. Furthermore, the results of data collection will be analyzed and also discussed.



Picture 1 Shella Agustina, Ciwulan River, 2024
(Source: Personal Documents, 2024)

Neglasari Village in Tasikmalaya Regency was chosen as the research location to study the condition of the Ciwulan River that flows through it.

3. DISCUSSION

3.1 Waste Endangers The Health of Residents

The Ciwulan River, which was supposed to be a source of life for the surrounding community, has now turned into a serious threat to their health. Worsening waste pollution has contaminated river water to alarming levels. Ironically, the people around the river are still heavily dependent on polluted river water to meet their daily needs. This condition is very susceptible to causing various diseases, such as skin diseases, diarrhea, and even more serious diseases such as typhoid and cholera. Pathogenic bacteria, viruses, and parasites contained in organic and non-organic garbage that pollute rivers can easily enter through direct contact with water or consumption of contaminated food, harmful substances can easily enter the body and cause various diseases.



Picture 2 Shella Agustina, domestic waste in the Ciwulan River, 2024, jpg.
(Source: Personal Documents, 2024)



Picture 3. Shella Agustina, garbage around the Ciwulan River, 2024
(Source: Personal Documents, 2024)

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Picture 4 Shella Agustina, latrines where people bathe, 2024
(Source: Personal Documents, 2024)



Picture 5 Shella Agustina, toilet washing place, 2024
(Source: Personal Documents, 2024)

The dependence of local communities on river water to meet daily needs is still a major problem, even though the quality is already very poor, being one of the factors that exacerbate the health impact. Lack of awareness of the dangers of water pollution and limited access to proper clean water are the main reasons why this practice is still ongoing. In fact, the continuous use of polluted river water can cause long-term health problems, both for individuals and the community as a whole.

Waste pollution is one of the main factors that damage the balance of the Ciwulan River ecosystem. Domestic and industrial waste that is indiscriminately dumped into rivers causes deterioration in water quality, the death of aquatic biota, and habitat destruction. This condition creates a vicious circle that is difficult to break. River pollution causes water resources to be increasingly limited, which in turn forces people to continue to use polluted river water, thus further exacerbating the problem.

3.2 Factors Causing Waste Pollution

Rapid population growth, in line with the development of people's lifestyles and consumption, has made a significant contribution to the increase in the amount of waste. The increasing demand for goods and services has driven the mass production of a wide range of products, from basic necessities to luxury goods. This accelerating cycle of production and consumption produces a large amount of waste. Both at the production, distribution, and consumption stages, waste becomes an inevitable by-product. Starting from product packaging, food scraps, to electronic items that are no longer used, everything contributes to the accumulation of garbage.



Picture 6 Shella Agustina, household waste, 2024
(Source: Personal Documents, 2024)

One of the main factors causing pollution of the Ciwulan River is the low awareness of the importance of protecting the environment. Many of them still consider the waste problem as a trivial problem that does not have a significant impact on daily life. The behavior of littering, both in the surrounding environment and directly into the river, is still a habit that is difficult to change. Household waste, especially plastic waste, is a major contributor to pollution. Plastics that are difficult to decompose naturally will accumulate in rivers, clog water flows, and damage aquatic ecosystems.

This lack of awareness is exacerbated by the absence of adequate waste management. Without an effective waste treatment system, the waste is easily carried away by the flow of rainwater to the river. As a result, the Ciwulan River becomes the final shelter for various types of waste. This condition is very concerning because the polluted river water is still used by the surrounding community for various domestic purposes, such as washing, bathing, and even as a source of drinking water for some residents. The use of water polluted by garbage can lead to various types of diseases, such as skin diseases or even to the point of causing more dangerous diseases such as diarrhea, typhus, and cholera. Pathogenic bacteria, viruses, and parasites contained in garbage can easily contaminate water and enter the human body through direct contact or consumption of contaminated food.

Reviewing these matters, it is necessary to have increased public awareness to realize the importance of maintaining environmental cleanliness, especially around water sources such as the Ciwulan River. Intensive and sustainable education campaigns need to be carried out to change people's attitudes or behaviors so that they are more concerned about the surrounding environment. In addition, the government and related parties also need to provide adequate waste processing facilities that can also be easily accessed by the community. With this, it is hoped that the problem of pollution in the Ciwulan River can be solved and the quality of life of the surrounding community can be improved.

The lack of socialization regarding the importance of public awareness of environmental cleanliness, especially in terms of waste management, is one of the main factors causing the pollution problem of the Ciwulan River. There are still many people around the river who do not understand the bad impact of littering, especially into water sources such as rivers. In fact,

garbage thrown into rivers not only pollutes water, but can also cause various health problems.

4. CONCLUSION

The Ciwulan River, which flows through Tasikmalaya Regency, is one of the natural resources that plays a very important role for the local community. This river not only plays a role in maintaining the balance of the ecosystem, but also becomes a source of water for various purposes, such as agriculture, fisheries, and domestic. Unfortunately, in recent years, the beauty and function of the Ciwulan River have been threatened by the problem of waste pollution. Public awareness that is not optimal for the importance of environmental cleanliness, coupled with the lack of waste management facilities, causes garbage to be thrown carelessly into rivers, thereby polluting water and damaging ecosystems.

The increase in population and lack of awareness of the importance of maintaining environmental cleanliness have led to the accumulation of garbage in the Ciwulan River. The lack of socialization about the adverse impact of indiscriminate waste disposal has made people ignore the dangers caused. As a result, people tend to throw garbage into the river, thus threatening their own health.

To overcome the problem of pollution in the Ciwulan River which is getting worse, real and integrated action is needed. Strategic efforts that can be made are to cultivate behavior to maintain environmental cleanliness, especially around rivers. Through intensive socialization and counseling, it is hoped that the community can change their behavior and actively participate in efforts to preserve the Ciwulan River.

In order for the waste problem to be resolved, it is necessary to increase the number and quality of waste disposal sites. Intensive socialization to the public about the adverse impact of waste on the environment is also very important to increase their awareness. In addition, encouraging the community to carry out independent waste management, such as sorting waste and composting, as well as utilizing the latest technology in waste processing, such as recycling and processing organic waste into energy, are strategic steps that need to be taken.

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