

Environmental Impact Analysis on Public Health in Pattiro Village, Mare District, Bone Regency

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ARTICLE INFO

Keywords: Environment, Public Health, Pollution

Received : 10 Oktober 2025

Revised : 25 Oktober 2025

Accepted: 1 November 2025

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ABSTRACT

This study explores the environmental conditions in Pattiro Village and their impact on public health. Using a qualitative descriptive method, data were collected through field observations, interviews with local health workers, and environmental sampling. Findings indicate that poor waste management and water pollution contribute to increased cases of skin diseases (35%), diarrhea (28%), and respiratory infections (22%). The study concludes that environmental degradation significantly affects public health. Recommendations include strengthening local environmental policies, improving sanitation infrastructure, and promoting community-based health education

INTRODUCTION

A healthy environment is a fundamental factor in determining the quality of public health. According to the World Health Organization (2022), environmental pollution—particularly of water and air—is a major cause of infectious diseases in developing regions. Haerani et al. (2019) emphasized that community behavior toward environmental cleanliness is influenced by levels of education and awareness. Diener (2000) also highlighted the role of environmental quality in shaping subjective well-being.

A healthy environment is a primary requirement for a high-quality life in society. In Pattiro Village, Mare Subdistrict, Bone Regency, various environmental problems such as water pollution, poor waste management, and inadequate sanitation have affected the health conditions of the community. Based on data from Mare Health Center in 2024, there has been a significant increase in cases of skin diseases and upper respiratory tract infections (URTIs), which are suspected to be related to the surrounding environmental conditions.

Previous research in rural areas has shown that the lack of sanitation facilities and waste management systems directly contributes to the high incidence of skin and gastrointestinal diseases. However, specific studies on the dynamics of environmental health in Pattiro Village remain limited. Therefore, this study aims to fill that gap and contribute to the development of community-based environmental health strategies.

This phenomenon highlights the need for an in-depth study of the relationship between environmental conditions and public health in rural areas. This research aims to analyze the environmental impact on public health in Pattiro Village and provide strategic recommendations for improving environmental conditions and enhancing the quality of life of its residents, considering that few studies have examined the environmental impact on public health in rural areas such as Pattiro Village.

LITERATURE REVIEW

Public health is significantly influenced by the quality of the living environment. According to the World Health Organization (2022), environmental pollution—such as contamination of water, air, and soil—is a major risk factor in the spread of infectious and chronic diseases, especially in areas with poor sanitation infrastructure.

Haerani et al. (2019) emphasized that environmental factors play a significant role in determining the level of public welfare and health. In rural contexts, water pollution caused by domestic waste and the lack of waste management facilities can lead to gastrointestinal diseases such as diarrhea and typhoid.

Diener (2000), in his study on subjective well-being, stated that a clean and healthy environment contributes to happiness and quality of life. This shows that interventions targeting environmental pollution affect not only physical health but also the psychological well-being of the community.

Research by Puspitasari (2023) on the Code River in Yogyakarta revealed that river pollution from domestic waste directly contributed to an increase in cases of skin diseases and respiratory disorders. The study highlighted the

importance of community participation and government oversight in maintaining environmental quality.

Overall, various studies show a strong correlation between environmental pollution and the rise in disease cases within communities. Therefore, a multidisciplinary and participatory approach is essential in efforts to control pollution and improve the quality of life for the population.

RESULTS AND DISCUSSION

1. Environmental Conditions

Observations show that most residents dispose of household waste in rivers or vacant land. The well water used for daily needs is murky and has an odor, especially during the rainy season.

2. Health Impact

Data from Mare Health Center shows that: - 35% of residents suffer from skin diseases such as itching and rashes- 28% experience diarrhea, especially children- 22% suffer from acute respiratory infections (ARI), especially during the dry season

3. Analysis

Environmental pollution directly impacts public health. Water pollution causes gastrointestinal diseases, while air contaminated by waste burning triggers respiratory disorders. The lack of environmental education and minimal sanitation facilities worsen the situation.

Table 1. Types of Pollution and Their Impact on Public Health

Types of Pollution	Main Source	Health Impact	Affected Population (%)
Water	Household Waste, Well	Diarrhea, Skin Diseases	35 %
Air	Trash Burning, Road Dust, Illegal Dumping	ISPA, Asma	22 %
Solid Waste		Skin Infection, Typhoid Fever	19 %

Source: Sumaling Health Center, Mare District

The table above shows that the correlation between environmental pollution and disease cases indicates that water pollution has the highest contribution to disease cases in Pattiro Village, followed by air pollution and poor waste management.

METHODS

1. This study uses a qualitative descriptive approach.
2. Instruments: Interview guides, observation sheets, and documentation
3. Subjects: Residents of Pattiro Village, health workers, and village officials
4. Data Collection Techniques: Field observation, semi-structured interviews, and documentation studies
5. Data Analysis: Data reduction, data presentation, and drawing conclusions using Miles & Huberman techniques

RESULTS

Correlation Between Environmental Pollution and Disease Cases
X-Axis: Types of Pollution (Water, Air, Waste)
Y-Axis: Number of Disease Cases (per 100 residents)
Water → 35 cases (Diarrhea, skin diseases)
Air → 22 cases (Respiratory infections, asthma)
Waste → 19 cases (Skin infections, typhoid fever)
The correlation between environmental pollution and disease cases shows that water pollution has the highest contribution to disease cases in Pattiro Village, followed by air pollution and poor waste management.

An infographic illustrating the impact of environmental pollution on public health in Pattiro Village, Mare District, Bone Regency

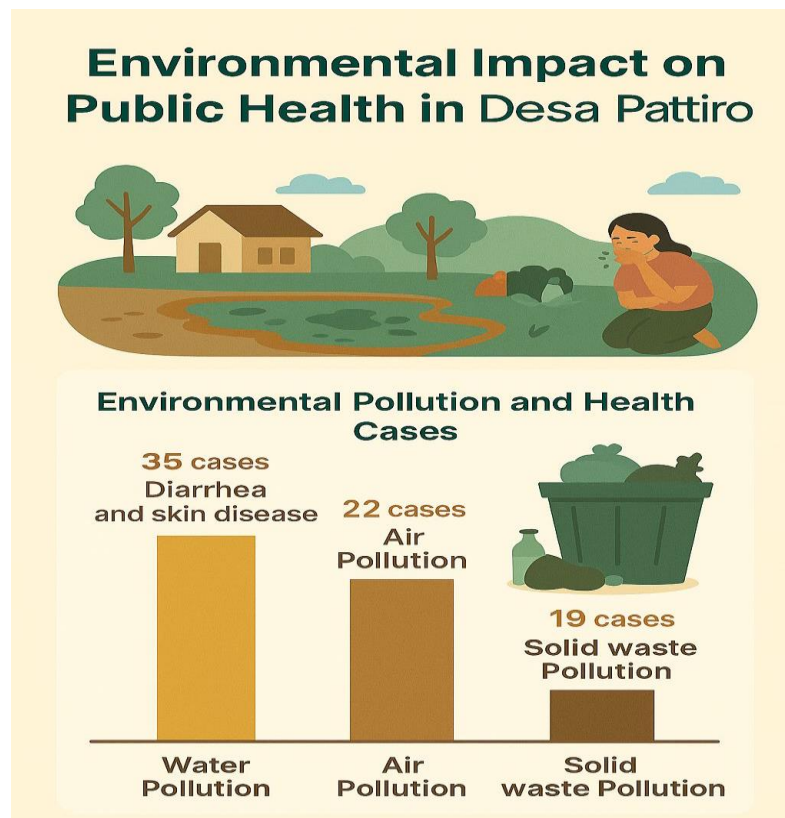


Figure 1. Illustration of the Village Environmental Conditions

This infographic includes: - Illustration of the village environmental conditions (water pollution, waste, and air)- Bar chart of disease prevalence: skin (35%), diarrhea (22%), ARI (19%)- Trend graph of increasing cases from 2022 to

2024- Strategic recommendations: waste management, improvement of water quality, community education.

DISCUSSION

Environmental Conditions Observations indicate that most residents dispose of household waste in rivers or vacant land. The well water used for daily needs is murky and has an odor, especially during the rainy season, which results in a decline in health, as seen from data from Sumaling Community Health Center in Mare District showing that:- 35% of residents suffer from skin diseases such as itching and rashes- 22% experience diarrhea, especially children- 19% suffer from acute respiratory infections, particularly during the dry season Polluted environmental conditions directly impact public health. Water pollution causes gastrointestinal diseases, while air polluted by waste burning triggers respiratory problems. The lack of environmental education and limited sanitation facilities worsens the situation in Pattiro Village, Mare District, Bone Regency.

Line Chart:X-axis: Year (2022, 2023, 2024)Y-axis: Number of Environmental Disease Cases
2022 → 58 cases
2023 → 72 cases
2024 → 85 cases
This chart shows an increasing trend in cases of environment-related diseases over the past three years, indicating the urgency of policy intervention and public education.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Environmental degradation in Pattiro Village, particularly water and air pollution, has a direct and measurable impact on public health. The high prevalence of skin diseases, diarrhea, and upper respiratory tract infections (URTIs) reflects the urgent need for environmental intervention. Poor sanitation infrastructure and limited environmental education further worsen the health conditions of residents.

Recommendations

- Implement community-based environmental education programs
- Establish integrated waste management facilities
- Improve access to clean water and proper sanitation
- Involve local stakeholders in environmental planning and monitoring
- Promote collaboration between village authorities, health workers, and educational institutions to encourage sustainable health practices

FURTHER STUDY

This research is limited to one village and uses a qualitative approach. Further studies are recommended to use a quantitative approach and cover a wider area to obtain a more comprehensive picture.

ACKNOWLEDGMENT

The author wishes to thank the Pattiro Village Government, Sumaling Health Center, and all residents who have participated in this research. Thanks are also extended to the Yapi Bone College of Agriculture (STIP) for their financial support and research facilities.

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