

## Environmental Sanitation in Madrasah Aliyah Entrepreneur of Amrullah Akbar Islamic Boarding School Medan Tuntungan

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### ABSTRACT

Environmental sanitation refers to preventive efforts to control environmental factors that may negatively impact human health. Its main components include the provision of clean water, solid waste (garbage) management, liquid waste management, and access to basic sanitation facilities such as proper toilets. This study aims to describe and analyze the environmental sanitation conditions at Madrasah Aliyah Entrepreneur Pesantren Amrullah Akbar Medan Tuntungan, an Islamic boarding school located in an urban setting with a relatively dense student population. The research employed a qualitative approach using field observations, in-depth interviews, and documentation involving school administrators, female supervisors (ustazah), and active students. Findings revealed that the pesantren's clean water supply comes from bore wells, generally meeting physical standards and available 24 hours. Separate toilet facilities are provided for male and female students, and routine cleaning programs (gotong royong) are implemented. However, several issues were identified, including limited water filtration systems, the unhealthy habit of some students bathing in nearby rivers, open and unsorted trash bins, and the absence of soap at handwashing stations. Additionally, the dormitories suffer from poor ventilation and lighting, leading to damp conditions that may encourage the growth of disease-causing microorganisms. These findings indicate that although some sanitation components are in place, there is still a pressing need for improved infrastructure and health education promoting clean and healthy living behaviors (PHBS). The study's outcomes are expected to inform pesantren managers, health professionals, and local governments in developing effective, sustainable, and community-based sanitation interventions.

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### INTRODUCTION

Environmental sanitation is an environmental condition that includes waste disposal facilities, provision of clean water and so on. Meanwhile, when included in the Islamic boarding school section, Islamic boarding school sanitation is an effort to control or supervise factors that can affect physical development, health and human survival caused by Islamic boarding schools as a place to gain Religious Knowledge (Agustin et al., 2022)

Sanitation supports health efforts in educational institutions including schools and Islamic boarding schools. As an educational institution, Islamic boarding schools play a role in improving the quality of human resources, especially Muslims (Nilandita et al., 2022). Islamic boarding schools are community-based institutions founded by individuals, foundations, Islamic community organizations and/or communities that instill faith and piety in Allah SWT (Sumantri et al., 2024).

Problems that often occur in Islamic boarding schools are the provision of clean water, waste disposal, wastewater disposal, garbage and overcrowding. The environment is the factor that has the greatest influence on the level of public health, especially in the Islamic boarding school environment, so this is a priority that needs to be considered and fixed. Some diseases that are closely related to the condition of the Islamic boarding school environment include: skin diseases, diarrhea, typhus, dengue fever, malaria, coughs and colds (ARI), tuberculosis (TB), leptospirosis and hepatitis. If this problem is not handled seriously, it can reduce the level of health (Cahyaningtyas, 2019).

The presence of piled up leaf litter can potentially become a nest for wild animals such as snakes and other animals. Scattered leaf litter, in addition to disturbing the beauty of the environment, can also be easily carried by the wind into the water channels so that the water channels become clogged, causing water to stagnate and can potentially become a nest for mosquitoes.

Waste management requires increased awareness and active involvement from the community, one of which is by getting used to the behavior of sorting waste. In order for this habit to form effectively, the behavior of sorting waste should be instilled from an early age, because at that stage children are more likely to accept and form behavior that will continue to develop in the future (Siagian et al., 2022).

A healthy toilet must also have adequate access to clean water to clean oneself after defecating, and be equipped with good ventilation and lighting so that it does not become a breeding ground for disease. In addition, the toilet must be easily accessible and provide sufficient privacy for its users. Owning a toilet that meets standards not only improves public health but also prevents open defecation (BABS) which can pollute the environment and cause various diseases such as diarrhea and digestive tract infections. Research shows that important factors influencing toilet ownership include the availability of clean water, land, and community income levels, where these three factors are interrelated in supporting the realization of proper basic sanitation (Mukhlisin & Solihudin, 2020). The availability of adequate, clean, and sanitation-compliant toilet facilities greatly influences the behavior of utilization by the community, including in Islamic boarding schools that have communal and dense environments. Good toilet facilities must also be supported by access to clean water and ongoing education for students about the importance of sanitation. Sufficient knowledge, a positive attitude, and support from Islamic boarding school managers will encourage increased awareness in the use of healthy toilets. Therefore, the role of cross-sectors, including health workers and Islamic boarding schools, is very important to provide proper toilet facilities and ensure their consistent and sustainable use by all residents of the Islamic boarding school (Syukaisih, 2024).

In the context of Islamic boarding schools, this is even more crucial because the students live collectively and share public facilities, which if not managed properly can accelerate the transmission of disease. Therefore, it is important for Islamic boarding school managers to pay attention to sanitation standards, not only in terms of the physical toilets, but also the completeness of supporting facilities such as clean water and waste management, as well as conducting regular education to students about the importance of clean and healthy living behaviors (Armaidi, 2023).

Madrasah Aliyah Entrepreneur Islamic Boarding School Amrullah Akbar is a modern Islamic boarding school located in the Medan Tuntungan District, North Sumatra. This Islamic boarding school was founded in 2020. The Islamic boarding school environment is part of the daily lives of the students, where they interact with their peers, teachers or ustadz/ustadzah, and all the components around them.

In general, the condition of clean water supply facilities in Islamic boarding schools is still quite concerning, especially in Islamic boarding schools located in remote areas or areas with limited infrastructure. Many Islamic boarding schools do not yet have access to clean water networks from PDAM, so they rely on water sources such as drilled wells or rainwater that do not necessarily meet clean water quality standards. The available water is often cloudy, smells bad, and contains particles and microorganisms that have the potential to cause health problems, such as skin diseases, digestive disorders, and urinary tract infections (Kusumadi et al., 2023). Islam is very concerned with human cleanliness, house cleanliness, street cleanliness, mosque cleanliness and others. Until it spreads among Muslims "an-nazhafatu min al-iman" (cleanliness is part of faith) (Mustajib, 2020a). Therefore, the environment where students live must comply with the rules and sanitation standards that have been set. This needs serious attention in order to create a healthy environment that supports a good and comfortable learning process, so that students can study, worship, and carry out activities optimally without being disturbed by unhealthy environmental problems.

## METHOD

This study is a descriptive study with a qualitative approach that aims to describe the environmental sanitation conditions at the Madrasah Aliyah Entrepreneur Pesantren Amrullah Akbar, Medan Tuntungan. The study was conducted on April 30, 2025 with subjects consisting of caregivers, cleaning staff, and students selected purposively. Data collection techniques include direct observation using checklist sheets, semi-structured interviews, and documentation. The research instruments include indicators of clean water provision, waste management, toilet conditions, and environmental cleanliness. Data were analyzed descriptively qualitatively through the stages of data reduction, data presentation, and drawing conclusions with source triangulation to maintain validity. The results of this study are expected to provide a comprehensive picture of the sanitation conditions in Islamic boarding schools and become the basis for improving a healthier environment.

## RESULTS

### General Identity of Islamic Boarding Schools

A study conducted at the Amrullah Akbar Islamic Boarding School Entrepreneur High School showed that this Islamic boarding school has a relatively balanced number of male and female students, namely 26 male students and 25 female students, with dormitory facilities consisting of 2 female rooms and 7 male rooms. The person in charge of sanitation at this Islamic boarding school is Ustazah Ratih and Defi, who are tasked with supervising the cleanliness and health of the Islamic boarding school environment. This condition reflects special attention to structured and responsible sanitation management, even with a limited number of rooms to accommodate students. From the aspect of environmental sanitation, the existence of a clear person in charge is an important factor in implementing cleanliness and health programs in Islamic boarding schools. Good sanitation management greatly influences the health of students and the quality of the learning environment. Based on previous studies in various Islamic boarding schools, active supervision and involvement of caregivers or ustazah in sanitation management can increase compliance with cleanliness standards and prevent various environmental-based diseases. This is in line with the finding that Islamic boarding schools that have good sanitation management tend to have a more hygienic and healthy environment for students. However, as found in other studies, challenges in sanitation management in Islamic boarding schools still exist, especially related to limited facilities and resources. For example, the limited number of rooms can cause overcrowding, which has the potential to reduce the quality of cleanliness and comfort. Therefore, efforts to improve facilities and training for those responsible for sanitation are needed to ensure that the Islamic boarding school environment remains healthy and supports the optimal learning process for students. This study provides an important initial overview as a basis for developing a more effective sanitation program at the Amrullah Akbar Islamic Boarding School Entrepreneur Madrasah Aliyah.

The main water source in this Islamic boarding school comes from a drilled well which is the mainstay in meeting the clean water needs of students and Islamic boarding school managers. The condition of the water obtained is generally clear and fresh, so it is suitable for use for various daily needs such as bathing, washing, and cooking. However, the existing water filtration system is still limited, only a few reservoirs are equipped with simple filters, while most do not have an adequate filtration system. This shows the need for improved filtering facilities so that water quality can be more guaranteed and meet the health standards of the Islamic boarding school environment. From the results of interviews and observations, students also often bathe in the river near the boarding school. The habit of bathing in the river has significant health risks, because river water has the potential to be polluted by waste and pathogenic microorganisms that can cause various skin and digestive tract diseases. The availability of water in the Islamic boarding school is well maintained for 24 hours, thanks to the use of water pumps in drilled wells that ensure an uninterrupted water supply. However, the location of the water reservoir, although generally clean and closed, there are several places that are poorly maintained and open, potentially becoming a source of contamination if not repaired immediately. This condition is in line with findings in several other Islamic boarding schools that face similar challenges in clean water management, where maintenance and supervision of water storage areas greatly determine the quality of the water used.

The environment of the Aliyah Entrepreneur Islamic Boarding School Amrullah Akbar Islamic Boarding School already has adequate trash bins, so that students and managers can dispose of trash in its place easily. Household waste collection is carried out routinely by the cleaning service, which helps maintain the cleanliness of the Islamic boarding school environment. However, the separation of organic and inorganic waste types has not been carried out consistently; most of the waste is still disposed of mixed without clear sorting. The condition of the trash bins, which are mostly open and poorly maintained, causes leaf litter to pile up around the trash bins and the surrounding environment, potentially causing an unpleasant odor and becoming a nest for disease vectors. In addition, the management of organic waste, especially leaf litter, has

not been carried out properly so that it is often left to pile up without further processing. This shows the need to improve the waste management system to be more integrated and sustainable, such as the implementation of consistent waste sorting and processing organic waste through composting. With these improvements, it is hoped that the cleanliness and health of the Islamic boarding school environment can be improved, while providing education and habituation of clean and healthy living behavior for all students and managers.

The environment at Madrasah Aliyah Entrepreneur Pesantren Amrullah Akbar shows that the clean water facilities available are adequate and well protected, with clear water that is suitable for use. Separate toilet facilities for male and female students are also available according to standards. However, the condition of the toilets still varies; although some are in good condition and functioning well, some are poorly maintained with slippery floors and unpleasant odors, and there is no hand washing soap which reduces the effectiveness of cleanliness. In addition, the available hand washing places are not equipped with soap, so more attention is needed to support clean and healthy living behavior. Waste management at this Islamic boarding school is still not optimal, especially leaf litter that often piles up in the dormitory environment because it is not managed properly. The wastewater channels function well, although there are poorly maintained fish ponds that need to be repaired so that they do not become a source of environmental problems. The dormitory environment also shows high humidity and inadequate ventilation and lighting, so improvements are needed to improve the comfort and health of residents. However, routine community service activities have been carried out periodically, which is a positive effort in maintaining the cleanliness of the Islamic boarding school environment. Overall, the sanitation conditions in this Islamic boarding school reflect the availability of basic facilities and several aspects that are running well, but there are still significant obstacles in waste management, ventilation, lighting, and provision of soap in handwashing areas.

This is in line with findings in many other Islamic boarding schools which show that environmental sanitation still needs to be improved in order to optimally support the health of students. Therefore, improvements and stricter supervision of these aspects are needed to create a clean, healthy, and comfortable Islamic boarding school environment for all residents. The number of toilets and bathrooms available, around more than 10 units, is in accordance with the number of students. The physical condition of the toilets shows variation, where 6 toilets are clean and well-maintained, but some others are still found in dirty conditions. Ventilation and lighting in the toilet and bathroom areas are considered adequate, so that they support good air circulation and lighting to maintain the comfort and cleanliness of these facilities. The availability of water in the bathrooms is also there, ensuring that the basic needs of students for bathing and ablution can be met properly. However, there is a significant shortcoming, namely the absence of hand washing soap in the toilet facilities, which is a crucial part of supporting clean and healthy living behavior (PHBS). This is in line with findings in several other Islamic boarding schools which show that although physical facilities are adequate, supporting aspects such as the provision of hand washing soap are often neglected. This condition needs to be a concern for Islamic boarding school managers to equip sanitation facilities with adequate equipment in order to prevent the spread of disease through hands and improve the overall health quality of students. The neatness of the beds and cupboards in the rooms of students at the Amrullah Akbar Islamic Boarding School Entrepreneur Madrasah Aliyah is relatively neat, with an orderly arrangement according to the order of the students. This shows the awareness and discipline of students in maintaining the tidiness of their personal space. However, ventilation and air circulation in the rooms are considered inadequate so that the rooms feel damp. This condition can affect the comfort and health of students, because high humidity has the potential to cause unpleasant odors and the development of mold or bacteria.

Supervision by the management of students' rooms already exists, where the management routinely monitors and ensures that the cleanliness and order of the rooms are maintained. This supervision is important to foster student discipline in maintaining the cleanliness and tidiness of the room, as well as preventing violations of the rules that can disrupt mutual comfort. However, improvements in ventilation and air circulation aspects need to be considered so that student rooms are not only neat, but also healthy and comfortable to live in in the long term. The cleanliness of the general environment at the Madrasah Aliyah Entrepreneur Pesantren Amrullah Akbar is relatively good. There is a routine work schedule that is carried out every Sunday, which involves students and administrators in maintaining the cleanliness of important areas such as the yard, classrooms, and mosque. This effort has proven effective because the overall condition of the general environment looks clean and well-maintained, creating a comfortable and healthy atmosphere for all residents of the boarding school.

In addition, the water channels or drainage in the Islamic boarding school environment function well and are not blocked, so that wastewater can flow smoothly without causing puddles. The absence of puddles or mosquito breeding grounds is also a positive indicator that environmental management has considered aspects of health and disease prevention. This condition is very important to prevent the spread of diseases carried by vectors such as mosquitoes, while also supporting the creation of a clean and healthy Islamic boarding school environment.

## CONCLUSION

Madrasah Aliyah Entrepreneur Pesantren Amrullah Akbar has several aspects of environmental sanitation that are quite good, such as the availability of adequate clean water facilities, separate toilet facilities, and a routine work schedule that supports environmental cleanliness. The main water source comes from a drilled well with generally clear and usable water quality, as well as 24-hour water availability that is maintained. However, several problems are still found, such as some water reservoirs that are not well maintained, and the habit of some students bathing in the river which is a health risk. In terms of waste management, trash bins are available and household waste collection is carried out routinely by the cleaning service. However, the separation of organic and inorganic waste has not been optimal, the condition of the trash bins which are mostly open causes leaf litter to pile up and has not been managed properly. In addition, several facilities such as hand soap in the toilet, ventilation and lighting in the room, and humidity management in the student's room still need to be improved to support a healthier and more comfortable environment.

## Suggestion

Islamic boarding schools need to complete sanitation facilities by providing hand washing soap in every toilet and dining area, as well as improving ventilation and lighting in rooms and public areas so that humidity and air quality are better maintained. Providing hand washing soap is an important part of efforts to prevent infectious diseases, especially those transmitted through hand contact, such as diarrhea, acute respiratory infections, and skin diseases. The habit of washing hands with soap has been shown to significantly reduce the risk of disease transmission in densely populated environments such as Islamic boarding schools. In addition, the availability of soap in the dining area also supports clean and healthy living behavior (PHBS) which is part of the character building of students.

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