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Evaluation Of Waste Management In The Perspective Of UKL-UPL At The Gunung Tinggi Health Center UPT.

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Abstrak

Environmental Impact Analysis (EIA) in the context of Puskesmas is an environmental assessment instrument used to identify, analyze, and evaluate the potential environmental impact of Puskesmas development and operational activities. The EIA acts as a strategic planning document, providing a basis for the government and activity managers to make the right decisions The Gunung Tinggi Health Center located on Jalan Glugur Rimbun is one of the health facilities planned to improve health services for the surrounding community The Environmental Impact Analysis at the Gunung Tinggi Health Center on Jalan Glugur Rimbun is important to identify, predict, evaluate, and mitigate environmental impacts that may arise from the development and operational activities of the Health Center. The method used is a descriptive survey with direct observation techniques using a checklist sheet based on indicators from the Ministry of Health with indicators of assessment of liquid waste, waste, solids, B3 waste, and facilities & infrastructure. The results of the study show that B3 waste management has been carried out in collaboration with third parties, but liquid waste management is not optimal due to the unavailability of Wastewater Treatment Plants (WWTP). Most solid waste is disposed of directly to the polling station without adequate sorting. Facilities and infrastructure are generally up to standard, but waste management needs to be improved through training, provision of adequate facilities, and a structured monitoring system.

Keywords *: EIA, Waste, Health Centers, Environmental management*

1. Introduction

Environmental Impact Analysis (EIA) is one of the important tools in environmental management that aims to plan and prevent environmental damage due to development activities. The EIA acts as a strategic planning document, providing a basis for the government and activity managers to make the right decisions (Nila Inggar Sari, 2024). The construction of health facilities is one of the government's efforts to improve the quality of public health services. The health center as a technical implementation unit of the district/city health office is the spearhead of health services for the community at the sub-district level. In its implementation, the construction and operation of the Puskesmas cannot be separated from the potential environmental impacts that may be caused, both positive and negative impacts. Therefore, A comprehensive environmental study is needed to minimize negative impacts and maximize positive impacts.

The Gunung Tinggi Health Center located on Jalan Glugur Rimbun is one of the health facilities planned to improve health services for the surrounding community. As a form of compliance with laws and regulations in the field of the environment, especially related to environmental management and monitoring, it is necessary to conduct an Environmental Management Efforts Analysis and Environmental Monitoring Efforts (UKL-UPL). Regulation of the Minister of Environment Number 16 of 2012 concerning Guidelines for the Preparation of Environmental Documents regulates in detail the procedures for the preparation of UKL-UPL documents. This regulation is the legal basis and technical guidelines in compiling UKL-UPL documents for activities that are not mandatory for AMDAL but have the potential to have environmental impacts. The development and operational activities of the Puskesmas are included in the category of activities that are required to have UKL-UPL documents according to the type and scale/amount of the activities Analysis of Environmental Impacts at the Gunung Tinggi Health Center on Jalan Glugur Rimbun is important to identify, predict, evaluate, and mitigate environmental impacts that may arise from the development and operation activities of the Puskesmas. Environmental components that need to be considered include physical-chemical, biological, socio-economic, and public health aspects. With this analysis, it is hoped that it can provide a

guarantee that the activities of the Gunung Tinggi Health Center can run by paying attention to aspects of environmental sustainability and the health of the surrounding community. A study on the implementation of AMDAL at the Gunung Tinggi Health Center is important to assess the extent to which the planning and construction process of the health center has paid attention to environmental sustainability aspects. In addition, this study also aims to identify the obstacles faced in the implementation of AMDAL and provide applicable recommendations for facility managers and local governments in improving the quality of environment-based development planning. It is hoped that the results of this study will not only provide an overview of the actual conditions in the field, but also contribute to the formulation of environmental policies in the health sector. In addition, the UKL-UPL analysis also aims to ensure that the management and monitoring of the environment at the Gunung Tinggi Health Center is in accordance with the standards and provisions applicable in the Regulation of the Minister of Environment Number 16 of 2012. The results of this analysis will It is the basis for the preparation of effective and efficient environmental management and monitoring plans, as well as a reference in the implementation and evaluation of sustainable environmental management and monitoring.

2. Method

This research is an evaluative research with a qualitative approach. This approach was chosen because it allows researchers to explore in depth various aspects of the implementation of environmental management and monitoring (UKL-UPL) at the UPT Gunung Tinggi Health Center, especially related to the environmental impact caused by health service activities. The research was carried out at the UPT Gunung Tinggi Health Center, which is located on Jalan Suka Rende, Kutalimbaru District, Deli Serdang Regency, North Sumatra Province. The implementation time is in May-2025.The subjects in this study are environmental managers at health centers, cleaners, and third parties B3 waste managers (PT. Sumatra Deli Lestari Indah). Informants were selected purposively based on their involvement in the waste management and environmental monitoring process. The instrument used by the researcher consists of an observation sheet (checklist) based on the indicators of the implementation of UKL-UPL in accordance with the Regulation of the Minister of Environment No. 16 of 2012.With the data collection techniques carried out, namely, direct observation in the health center environment to assess the physical condition of liquid waste management, solid waste, B3 waste, as well as facilities and infrastructure.

3. Discussion

3.1. Liquid Waste

In the research conducted at the UPT Gunung Tinggi Health Center, the results were obtained regarding the analysis of liquid waste, namely the main source of liquid waste comes from laboratories, toilets and bathrooms, as well as treatment rooms. The most significant environmental impact of liquid waste that is not properly treated at the Gunung Tinggi Health Center is groundwater pollution. Although the waste is drained through closed channels to the drainage system, the absence of a Wastewater Treatment Plant (WWTP) causes the content of chemicals and pathogenic microorganisms from laboratory waste, toilets, and treatment rooms to remain at risk of seeping into the interiorsoil. If the channel is leaking or not impermeable, contamination of the clean water source around the health center can occur. In the long term, this has the potential to cause public health problems such as diarrhea, skin infections, or other diseases transmitted through water. The estimated volume of liquid waste produced by the Gunung Tinggi Health Center is estimated to reach around ±5,000 liters per day, comparable to the high number of patients and medical activities. With this large volume and without WWTP, the risk of environmental pollution becomes very high. Liquid waste management at this health center has not been carried out routinely and in a structured manner. No form of processing is carried out, processing locations are not available, and there is no clear frequency of management. This shows that domestic and medical liquid waste has the potential to be directly drained into sewers or septic tanks without further treatment.

3.2. Solid Waste

Based on the results of the analysis carried out, the source of non-B3 solid waste at the Puskesmas comes from staff and patient activities during the service, such as the use of tissues, food/beverage packaging, and administrative activities that produce waste paper. In addition, there is also waste from the surrounding environment such as dry leaves and garbage from ornamental plants. This type of waste includes nonB3 solid waste because it does not contain harmful and toxic materials. This is strengthened by the results of observations in the field which show that the garbage cans available in the Puskesmas are partly not equipped with covers, thus allowing the spread of odors and becoming a breeding ground for disease vectors. The

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estimated volume of non-B3 solid waste produced from activities at the Health Center is around ±3 kg per day. To reduce these environmental impacts, better management efforts are needed. These efforts include the provision of garbage bin facilities that are in accordance with standards, namely covered and clearly labeled. Based on the results of observations and interviews, it is known that the supervision of solid waste at the Gunung Tinggi Health Center is carried out every day by cleaning service officers, especially in the area behind the health center where waste is collected and burned. However, this supervision is still visual and has not been supported by written SOPs or routine recordings. All waste management responsibilities are charged to cleaning services that do not have special technical training. . This is at risk of mismanagement and not in accordance with the standards set forth in thestipulated in the Minister of Health Regulation No. 18 of 2020 and the WHO guidelines (2014), which emphasize the importance of the involvement of trained officers and a documented monitoring system. Ideally, supervision is carried out by K3 officers or environmental sanitation to ensure that the process runs according to standards and can be evaluated periodically.

3.2. B3 Waste

Based on observations and interviews at the Gunung Tinggi Health Center, it is known that the main source of B3 waste (Hazardous and Toxic Materials) comes from service polyclinics and laboratory polyclinics. The environmental impact caused by B3 waste from the Gunung Tinggi Health Center has the main risk in the form of infection risk. Waste from medical and laboratory activities has great potential in spreading infectious diseases if not managed with proper procedures. This risk not only threatens health workers, but also other patients and the community around health care facilities. Although water or soil pollution is not listed as a direct impact, if waste is left without proper management, then the potential for environmental pollution remains wide open. Therefore, safe, closed, and compliant waste management is very important to be implemented consistently.

Based on the analysis at the Gunung Tinggi Health Center, it is known that efforts to manage B3 waste have been carried out by building a Temporary Shelter (TPS) specifically for B3 waste. This TPS is an important facility in the waste management system because it functions as a transit point before the waste is sent to the final disposal site. Furthermore, the management of B3 waste at the Gunung Tinggi Health Center is not carried out internally, but through cooperation with a third party, namely PT Sumatra Deli Lestari Indah (SDLI). SDLI is tasked with transporting, processing, and destroying B3 waste in accordance with the procedures set by the government, thereby reducing the risk of pollution and maintaining the safety of the surrounding community The management of B3 waste at the Gunung Tinggi Health Center is carried out by a third party, namely PT Sumatra Deli Lestari Indah (SDLI). The frequency of management is carried out every month.

observation of the facilities and infrastructure area at the UPT Gunung Tinggi Health Center obtained results, namely that the Puskesmas building is in a very sturdy condition that has met the Construction standards with strong foundations, walls do not crack, roof does not leak, and is earthquake resistant. Quality building materials and routine maintenance will ensure the safety of patients and healthcare workers and protect the medical equipment inside. For Medical Waste, the separation of medical waste has been carried out at the health center which is placed in a special container of yellow garbage cans with biohazard symbols, transportation by trained officers using personal protective equipment, and destruction through high-temperature incinerators or sterilization according to health standards and for Non-Medical Waste, the separation of Organic and Non-Organic waste has been carried out at the Gunung Tinggi Health Center, This waste is collected in a separate container, and the waste is transported to be burned in the backyard of the health center, The health center should not burn the waste because it produces air pollution and can release harmful substances, for the bathroom is said to be clean because there is a routine cleaning schedule every week, but the floor of the bathroom is a little dirty because of the crowded visits at that time, and for the water in the health center has met quality standards which include clarity (not cloudy), odorless, tasteless, free from harmful microorganisms, and has a balanced pH. And the lighting in the room in the puseksmas has met the standards and has adequate ventilation and windows in each room.

4. Conclusion

This research shows that the UPT Gunung Tinggi Health Center has prepared UKL-UPL documents in accordance with the Regulation of the Minister of Environment Number 16 of 2012.. However, in the practice of environmental management, there are still some shortcomings that need to be corrected. Liquid waste management is not optimal due to the unavailability of wastewater treatment plants (WWTP), which causes a

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fairly high risk of groundwater pollution, reflecting the social responsibility of the Solid Waste Health Center has been managed through transportation to TPS/TPA, but the sorting according to standards has not been carried out, and there are still waste burning practices that are not environmentally friendly. For B3 waste, management has been carried out with a temporary storage system and cooperation with third parties (SDLI), but internal monitoring still needs to be improved. The facilities and infrastructure of the Health Center are considered to be physically and functionally adequate, including building structures, lighting, ventilation, and the availability of clean water. And in operational implementation, it is still necessary to improve supervision and training of officers on waste management to comply with environmental safety and health standards.

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