Analysis of Environmental Audit Strategies in Supporting the Progress of Sampe Cita Village

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Abstract

The issue of waste is one of the environmental challenges that requires planned and sustainable handling, including in Sampe Cita Village. This research aims to analyze environmental audit strategies in supporting the preparation of the Village Government Work Plan (RKPDes) to enhance waste management effectiveness and village progress. The research method used is a descriptive method with a qualitative approach. Data were obtained thru interviews with village officials, observation of environmental conditions, and literature studies related to environmental audits and waste management. The research results show that environmental audits can be an important instrument in identifying the sources, types, and volume of waste, as well as evaluating the weaknesses of the existing waste management system. The information obtained thru environmental audits can be utilized as a basis for formulating village work programs, such as the establishment of waste banks, the preparation of waste collection schedules, mapping waste accumulation points, and the development of a transparent waste bank administration system. In addition, the implementation of environmental audits also supports the development of a circular economy thru the reuse of waste that has economic value. Thus, the environmental audit strategy can assist the Sampe Cita Village government in formulating more targeted, sustainable RKPDes policies and programs, as well as improving environmental quality and community welfare.

Keywords: *Environmental Audit, Waste Management, Rkpdes, Waste Bank, Circular Economy, Village Development.*

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Introduction

North Sumatra is a large city with suboptimal waste management, as evidenced by the large amount of waste and the lack of effective waste management. For that reason, a go green movement and cooperation between the community, government, and all stakeholders in waste management are greatly needed. The many programs that have been created and implemented are not only in the form of written signs installed in several corners of the city for waste management but also require environmental audits to maintain seriousness in waste management. Waste is a problem that must be addressed by the government to reduce the risks that arise from waste accumulation.

The waste problem in the city of Medan has become one of the increasingly urgent urban environmental issues that need to be addressed systematically. As one of the major cities in Indonesia, Medan faces significant environmental pressure due to population growth, economic activities, household consumption, traditional markets, trade centers, residential areas, and urban service activities. The increase in these activities generates a large volume of waste every day, while the waste management capacity has not yet fully been able to keep up with the amount generated by the community.

Data from the Medan City Environmental Agency in the 2025 Performance Agreement shows that the waste generation in Medan City in 2024 reached 632,149.41 tons. The document also states that waste management in Medan City is targeted at 73% based on the Medan Mayor's Regulation of 2023. This figure indicates that waste management remains a significant challenge because the large volume of waste requires a robust handling system, starting from source reduction, transportation, sorting, processing, to final disposal.

This phenomenon is reinforced by information from the Medan City Government, which states that the volume of waste in Medan can reach around 2,000 tons per day. Of this amount, only about 800 tons can be handled by waste collection and management facilities up to the landfill, while the rest has the potential to be inadequately managed. This condition shows a gap between the amount of waste generated and the available management capacity. If not managed seriously, unhandled waste can cause environmental pollution, unpleasant odors, health issues, drainage blockages, and a decline in the quality of life for the community.

The waste problem in Medan is also evident from the condition of the Final Disposal Site (TPA) Terjun in the Medan Marelan District. The Medan City Government in 2025 stated that the pile of garbage at the Terjun Landfill has reached approximately 50 meters and has become a serious concern because it has the potential to cause environmental problems for the surrounding community. This condition shows that the waste management system, which relies too heavily on final disposal, is no longer adequate. Waste needs to be reduced and managed from its source so that the burden on landfills does not continue to increase.

The waste problem in Medan City is not only related to the technical aspects of transportation but also to governance, community behavior, citizen participation, the availability of infrastructure, and the weak sorting of waste at the source. If household, market, and residential area waste is disposed of directly without sorting, the economic potential of organic and inorganic waste will be lost. Organic waste can actually be processed into compost, liquid fertilizer, or maggot feed, while inorganic waste such as plastic, paper, cardboard, and metal can be managed thru waste banks or recycling activities.

The occurrence of water damage that can cause various diseases, the presence of land damage that can lead to reduced soil fertility. The presence of waste will create air pollution, discomfort. Proper waste management will create a good economy with the creation of a good economic cycle.

Literature Review

According to Wiku Adisasmito (2012:16), the definition of an environmental audit is as follows: "An environmental audit is an instrument to test the compliance of a hospital's activities with environmental regulations, laws, standards, and environmental quality benchmarks, such as air emission standards, liquid waste, and infectious waste handling, as well as procedures established by the hospital or other related operational standards, such as the arrangement of

AMDAL (Environmental Management Plan and Environmental Monitoring Plan) results and recommendations."

According to the International Organization for Standardization (ISO) 14000 series in Wiku Adisasmito (2012:15), it is defined as follows: "An environmental audit is a systematic and documented process of objectively evaluating evidence, with the aim of determining whether activities, events, conditions, management systems, or information related to the environment meet audit criteria and communicating the results of this process to customers."

In the Regulation of the Minister of Environment of the Republic of Indonesia No. 03 of 2013 on Environmental Audits, it is stated that: "An Environmental Audit is an evaluation conducted to assess the compliance of business and/or activity managers with the legal requirements and policies set by the government." Environmental audits are conducted with the aim of determining whether the implementation of the environmental management system (EMS) is in accordance with the environmental management regulations that have been properly applied and maintained.

Research Methodology

In order to provide feedback and recommendations for the RKPDes strategy, this descriptive study describes the story of environmental audit techniques. The village authorities will benefit from the environmental audit strategy's recommendations for waste management. The study of primary and secondary environmental audit data leads to a conclusion about waste management techniques to support RKPDes activities.

Results

Environmental audits in waste management not only serve as inspection activities but also as a basis for more directed, measureable, and community-appropriate planning. In the context of villages or sub-districts, environmental audits can be used to identify the sources of waste, types of waste, volume of waste, community behavior, availability of facilities, and weaknesses in the existing waste management system. The results of the audit then serve as the basis for developing a waste bank program, scheduling waste collection, mapping waste points, creating a waste bank account book, and providing incentives to the community members who are active in waste management.

1. Environmental Audit as The Basis for Planning a Waste Bank

The planning of a waste bank needs to begin with an environmental audit so that the program created is not merely administrative but truly addresses the waste issues in the community. An environmental audit can identify the types of waste that are most commonly produced, such as plastic, cardboard, paper, bottles, cans, and organic waste. This informations is important for determining the types of waste that can be saved, the purchase price of the waste, the weighing mechanism, and cooperation with collectors or recyclers.

In the planning of a waste bank, an environmental audit can also assess institutional readiness. This includes the availability of waste bank managers, temporary storage facilities, transaction recording teams, operational schedules, and support from village or sub-district goverments. With the audit, the waste bank can be designed as a program with a clear work structure, not just a voluntary activity running without a system. The waste bank designed based on the audit results will be easier to develop because it has data on waste potential, the number of participants, facility needs, and community economic opportunities.

2. Environmental Audit in Scheduling

Scheduling waste collection is an importat part of community-based waste management. Without a clear schedule, waste easily accumulates in residents'homes, public places, ditches, or illegal; dumping sites. Environmental audits help create collection shcedules based on real conditions in the field, such as the number of households, volume

of waste, distance between areas, availability of personnel, and capacity of collection vehicles.

Thru an audit, the village or sub district area can be divided into several collecyion zones. For example, Hamlet I is scheduled every Monday and Thursday, Hamlet II every Tuesday and Friday, while Hamlet III every Wednesday and Saturday. The schedule must be adjusted according to the volume of waste and the operational capacity of the staff. For waste that goes to the waste bank, collection can be scheduled, for example, once a week or twice a month, so that the community has time to sort and collect economically valuable waste.

This scheduling also serves as a control tool. If there are still instances of waste accumulation outside the schedule, the village government or waste bank managers can evaluate whether the issue lies in the lack of fleet, low public awareness, or a schedule that does not meet the residents' needs. Thus, environmental audits help make waste collecyion scheduling more effective and responsive.

3. Environmental Audit and Waste Mapping

The results of waste mapping can show which areas produce the most waste, locations of illegal dumping, points where drainage is blocked y waste, as well as areas that need waste bin facilities or regular collections. This mappinf also helps waste bank managers determine the locations of weighing posts, temporary collection points, and the most efficient waste collection routes.

In village planning, waste mapping can be used as a basis for developing more targeted programs. For example, areas with a lot of plastic waste can be directed toward inorganic waste bank programs, while areas with high organic waste can be directed toward composting or maggot farming. Thus, waste mapping is not only useful for cleaning the environment but also for developing circular economic activities based on local potential.

4. Environmental Audit in The Creation of Waste Bank Account Books

The waste bank account book is an important instrument for recording the community's waste-saving activities. In the waste bank system, residents deposit sorted waste, and its value in rupiah. Environmental audits can help ensure that this recording system operates transparently, orderly, and is trustworthy for the community.

The creation a passbook aims to build a sense of justice and accountability. Every resident who actively deposits waste must receive a clear record of the amount of waste deposited and the savings value obtained. With the existence of a passbook, the community can see the direct economic benefits of sorting and saving waste. This can increase residents' motivation to continue participating in the waste bank program.

The format of the waste bank account book can include the customer's name, account number, deposit date, type of waste, weight of waste, price per kilogram, total value, previous balance, and final balance. The data can also be used by the manager to prepare monthly reports on the amount of waste successfully collected, the number of active customers, transaction value, and the program's contribution to reducing waste in the village or sub-district.

Conclusion

The application of environmental audit strategy analysis plays a crucial role in helping to formulate the direction of sustainable development policies for Sampe Cita Village.
Environmental audits have proven to be not just an administrative inspection instrument, but rather a diagnostic tool capable of capturing real conditions on the ground, from the volume of waste generated, types of waste, to mapping points prone to illegal dumping. The factual data generated from this audit process provides a strong foundation for the village government to formulate a targeted, effective, and data-driven waste management work program, which can

then be incorporated into the next year's Village Government Work Plan (RKPDes) to create a beautiful village environment.

In addition to serving as a compass for village policy, this environmental audit becomes the main foundation in designing the Waste Bank system to operate professionally and accountably. The audit results facilitate the managers in identifying potential types of inorganic waste that are marketable in the recycling market, developing weighing mechanisms, and designing a financial transparency system thru the creation of waste bank account books for residents. Thru accurate audit data, the division of regional zones and the scheduling of waste collection in each hamlet can be responsively arranged according to the available fleet capacity, thereby minimizing the accumulation of waste outside the schedule.

In the end, the implementation of this environmental audit strategy has a significant dual impact on the progress of Sampe Cita Village. From an ecological perspective, structured waste management has successfully mitigated environmental damage risks such as air pollution from burning, water source contamination, and soil fertility decline. Meanwhile, from an economic perspective, the integration of audit results with the waste bank program has transformed environmental burdens into financial stimuli thru the creation of a circular economy. Thus, this program not only succeeded in restoring the village's natural environment but also provided tangible financial value for the sustainable welfare of the village community.

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