



# The Innovative Role of Tri Alam Lestari Waste Bank in Environmental Management

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## ABSTRACT

Waste pollution is still a classic problem that plagues Indonesia from all corners of the region. The functioning of every element in the social life of society is an important component in maintaining environmental stability. Therefore, this study aims to understand the relationship between the environment and humans. This study also discusses the role of humans in environmental management. The research method used in this study is qualitative, where data is obtained through literature studies, which are then analyzed using a structural functional perspective analysis knife. The research in this discussion presents the Tri Alam Lestari Waste Bank as an interesting object of study to be studied. The results of this study indicate that the functioning of an element in the web of life can influence each other. The Tri Alam Lestari Waste Bank and the surrounding community have carried out environmental conservation practices, which are then considered in a structural functional perspective as the functioning of an element of life.

**Keywords:** Waste, Environment, Human, Function

## ABSTRAK

Pencemaran sampah masih menjadi masalah klasik yang melanda Indonesia dari berbagai daerah. Berfungsinya setiap elemen dalam kehidupan sosial masyarakat merupakan komponen penting dalam menjaga kestabilan lingkungan. Oleh karena itu, penelitian ini bertujuan untuk memahami hubungan antara lingkungan dan manusia. Dalam penelitian ini juga dibahas bagaimana peran manusia dalam pengelolaan lingkungan. Metode penelitian yang digunakan dalam kajian ini adalah kualitatif, dimana data diperoleh melalui studi literatur, yang kemudian dianalisis dengan menggunakan pisau analisis Fungsional Struktural. Kajian dalam pembahasan ini menempatkan Bank Sampah Tri Alam Lestari sebagai objek kajian yang menarik untuk diteliti. Hasil dari penelitian ini menunjukkan bahwa berfungsinya sebuah elemen dalam jaring kehidupan dapat saling mempengaruhi satu sama lain. Bank Sampah Tri Alam Lestari dan masyarakat sekitar telah melakukan praktik-praktik pelestarian lingkungan yang kemudian dinilai dalam pandangan Fungsional Struktural sebagai keberfungsian suatu elemen kehidupan.

**Kata kunci:** Sampah, Lingkungan, Manusia, Fungsi



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## 1. Introduction

The Innovative Role of Tri Alam Lestari Waste Bank in Environmental Management Waste pollution is still a problem in various regions in Indonesia (Aulia & Hermansah, 2023) . Waste pollution that has not recovered is still a disturbing environmental problem. However, human life cannot be separated from its relationship with the surrounding environment. The environment and humans are entities in life that cannot be separated, both are related and influence each other. The Ministry of Environment and Forestry (KLHK) noted that in 2020, Indonesia produced 67.8 tons of waste. The highest percentage was household waste, reaching 37.3%. The next highest percentage was traditional market waste, reaching 16.4%. In that year, the

type of waste that was produced the most was food waste, reaching 39.8%, followed by plastic waste with a percentage of 17% (Andani & Sukei, 2022) .

When viewed from the urgency of Sociology in human ecology, the problem of high waste production in Indonesia is closely related to population growth that is not comparable to the amount of available resources. Based on data from the Central Statistics Agency in 2021, it was recorded that Indonesia had reached a population density of 270.20 million people (Aulia & Hermansah, 2023) . The higher the population growth rate, the higher the level of human needs. Related to this condition, the higher the level of human needs, the higher the amount of waste produced. When the available resources are unable to meet unlimited human needs, nature becomes an easy target for exploitation. This is very worrying about the occurrence of environmental damage.

Humans in their lives are always in contact with the environment. How humans behave can affect the environment and vice versa. Human behavior also plays a role in the problem of waste pollution, until now. For example, such as the behavior of littering which will certainly pollute the environment, excessive use of waste due to a lifestyle that does not pay attention to the existence of the environment, and so on. The role of all elements of society in preserving the environment is very important to be realized collectively and holistically. However, the ironic conditions that are currently affecting Indonesia are a solid wall against this realization. Elements of society who pay little attention to environmental preservation behavior are still a classic problem in Indonesia. As humans whose lives also depend on the environment, preserving the environment is a responsibility that must be carried out. Unfortunately, this is still a problem in Indonesia.

Ineffective and inefficient waste management can cause various serious environmental problems. Improper waste disposal can pollute the air through open burning of waste, releasing hazardous pollutants such as dioxins and furans (Erika & Gusmira, 2024) . Waste if not managed properly will endanger human health. Then, if left unchecked, the waste problem will continue to disrupt human life. Of course, this is a threat to human survival. In the end, we find that environmental problems not only affect the environment itself, but also human life in general. Thus, the waste problem has become a complex problem. Therefore, a transformation of environmental management is needed, in this case waste management.

In response to the problem of waste pollution, Tri Alam Lestari Waste Bank consistently intensifies waste management activities into creative and useful recycled products. Tri Alam Lestari Waste Bank has been established since 2015 (Aulia & Hermansah, 2023) . This waste bank is a waste bank located on Jalan Swadarma Raya Kp Baru 2 Ulujami, Pesanggrahan, South Jakarta. This area is a densely populated area and the frequency of activities is quite high. This high frequency of activities allows people to produce large amounts of waste. This condition also allows people to be less sensitive to the major impacts that will arise due to the accumulation of waste (Aulia & Hermansah, 2023) . The existence of Tri Alam Lestari Waste Bank is an innovative and creative solution to the waste problem there. Therefore, researchers are interested in raising Tri Alam Lestari Waste Bank as a study in this study, by looking at how its role in environmental management is seen from a Structural Functional perspective.

## **2. Method**

This study uses a descriptive qualitative approach to explore the innovative role of Tri Alam Lestari Waste Bank in environmental management. This approach was chosen because it is able to provide an in-depth understanding of complex social phenomena in a local context. Literature studies were conducted systematically by reviewing various literature sources, including scientific journals, books, activity reports, and policy documents that are relevant to environmental management and the role of waste banks in Indonesia. This process includes literature searches using certain keywords, selecting credible and relevant sources, and thematic analysis to identify theories and concepts that support the research. Data collection was carried out through participatory observation and semi-structured interviews with managers, members, and stakeholders at Tri Alam Lestari Waste Bank. The data obtained were then processed through stages of data reduction, categorization, and thematic interpretation to find significant patterns related to innovation and environmental impacts. The method chosen is believed to be able to answer the research questions about How Tri Alam Lestari Waste Bank plays a role innovative in environmental management. The validity of the findings is maintained through data triangulation, both from sources, methods, and theories, as well as

through verification of the results with key informants to ensure the accuracy and validity of the interpretation.

### **3. Results and Discussion**

The environment is an inseparable part of human life. Humans cannot be separated from the environment. Likewise, the environment cannot be separated from human existence. Responsibility for the environment should be a moral embedded in us and inherent in our behavior. After all, we live side by side with the environment. Where humans are, that is where the quality of their life lies. Therefore, the environment is a very important aspect of human life and should be something that cannot be separated from human attention. In order to overcome environmental problems, especially waste problems, Tri Alam Lestari Waste Bank is one of the interesting waste management units to explore. Based on the results of the study (Aulia & Hermansah, 2023), Tri Alam Lestari Waste Bank actively carries out waste care activities by managing waste into items that can be reused. The environment is an inseparable part of human life. Humans cannot be separated from the environment. Likewise, the environment cannot be separated from human existence. Responsibility for the environment should be a moral that is embedded in us and inherent in our behavior. After all, we live side by side with the environment. Where humans are, that is where their quality of life is. Therefore, the environment is a very important aspect of human life and should be something that cannot be separated from human attention.

The activities carried out at the Tri Alam Lestari Waste Bank are not only intended for the community around the waste bank area, but are also open to the community outside the waste bank area. This is in line with the purpose of the Tri Alam Lestari Waste Bank which wants to create a condition for a community that is aware of the importance of the environment in human life and the importance of protecting the environment itself. Therefore, the activities at the waste bank are also open to the wider community so that the impacts generated can also be widespread, in line with the purpose of the waste bank. Tri Alam Lestari Waste Bank strives to educate the public by approaching them directly. This direct approach is intended to communicate with the public in order to provide information that is expected to build environmental insight in the community. Public education is carried out by providing an understanding of waste sorting and management, which can be collected at Tri Alam Lestari Waste Bank, where the public can earn additional income, and not only that, the public is also involved in protecting the environment. That way, the environment where the community lives can be cleaner and more well-maintained.

The education was successfully implemented by Tri Alam Lestari Waste Bank. Many people accepted the input, and now many people have joined as customers who save waste at Tri Alam Lestari Waste Bank. As a driver of the sustainability of these activities, Tri Alam Lestari Waste Bank always facilitates the community by providing various equipment that can support the activities of saving and weighing waste, namely by facilitating sacks, scales, and savings books. Not only that, Tri Alam Lestari Waste Bank also always provides the community with knowledge on how to sort waste so that it can have a higher selling value. Interestingly, Tri Alam Lestari Waste Bank also empowers the community by providing training in making valuable products from waste, through the utilization of existing skills and resources. This training is provided free of charge to customers and other communities who want to manage waste into interesting and valuable creativity. This training also trains the community on how to market the product.

The educational role carried out by Tri Alam Lestari Waste Bank is not only limited to waste sorting education and waste management training, but also education that aims to raise awareness and remind the public of the importance of protecting the environment. This education is carried out by inviting the public to utilize social media such as Instagram and Whatsapp to campaign for the importance of environmental management in order to protect our environment from pollution and damage. This campaign can be carried out by uploading activities at the waste bank, training, and seminars to social media, so that more people are aware and care about the environment. The campaign is also carried out offline by displaying boards containing information about waste.

To continuously improve community skills, Tri Alam Lestari Waste Bank organizes various trainings, both directly and indirectly. The training materials provided are varied, ranging from waste recycling training, making handicrafts from waste, waste management, how to sort waste properly, making soap and

candle products from used cooking oil, and providing education about waste banks. The targets of this training are not only limited to adults, but also children and teenagers. Tri Alam Lestari Waste Bank as an institution engaged in the environmental sector, also acts as a spokesperson for the community in environmental matters. Tri Alam Lestari Waste Bank acts as an intermediary for the community in conveying the needs of the surrounding community for trash bins and river cleanliness. In addition, Tri Alam Lestari Waste Bank builds cooperative relationships with various parties, such as waste delivery. This has indirectly encouraged the wider community to send their waste to Tri Alam Lestari Waste Bank. Ultimately, this condition has a positive impact on the environment, where the environment is increasingly protected from waste pollution and becomes cleaner and more comfortable.

In another study, based on the results of research by Aulia & Hermansyah (2023), it was found that participation in the Tri Alam Lestari Waste Bank activities is flexible. That is, it is open to all people who want to join. The Tri Alam Lestari Waste Bank is also open to various inputs provided by the community to be able to provide input for the development of the waste bank. The openness of the Tri Alam Lestari Waste Bank is also a driver of the alignment of the Tri Alam Lestari Waste Bank with its mission from the start, protecting and managing the environment. In Auliani's research (2020), it was stated that the waste bank provides a solution that can generate profits not only by cleaning the environment but also by increasing economic value and empowering the community. Instead of being a profit-oriented business, Tri Alam Lestari Waste Bank has become a social entrepreneur that answers today's environmental challenges in a creative and innovative way. Social entrepreneurship is a business activity that is based on a mission of social concern for social problems. In other words, a business that is a combination of a business mission and a social mission (Auliani, 2020)

In the Structural Functional perspective, there is a concept of relationships between elements in society. Every element in society is interrelated and cannot be separated. Society is seen as a whole that must carry out its function in order to create balance. Society not only exists, but also functions. If one element in society does not function, it will disrupt the system in that society. As in the food chain, if the food chain is broken, it will endanger humans, where the human food web is broken, which can cause a food crisis for humans. The complete formation of every element that affects the life of society is the main requirement for creating harmony. Therefore, humans as elements of society must place themselves in harmony with the web of life.

The Structural Functional Perspective places itself on structural functionalism, which focuses on functional requirements as the needs of a social system that must be met. Functional Structuralism views society as a social system that contains various parts that are interrelated and united in a framework of balance. This theory assumes that all structures in a social system can influence each other in carrying out their functions. When there is a structure that does not carry out its function, it will disrupt the social system in society. In other words, it cannot disappear by itself, but will disrupt other structures in a social system, so that the social system itself becomes disrupted. Structural functionalism theory views society as a social system consisting of interconnected parts that have their respective functions in maintaining social balance and stability (Aulia & Faisal, 2022) . In the context of the environment, Structural Functionalism focuses on how each element in society carries out its function. Structural functionalism will only be created if all elements function. In other words, each element has a function to maintain environmental balance. If these elements do not function, it will cause damage to the environment and threaten human life itself.

People who are aware of their function as elements in the sustainability of the environment will not take actions that are not in harmony with the balance of nature. However, of course they will protect the environment by paying attention to every behavior towards the environment. This is an important concept in viewing the functionality of structures in the context of the environment. The quality of the environment will depend greatly on how humans behave towards the environment itself, and vice versa. A good quality environment will lead to a good quality of human life. However, if the quality of the environment itself is bad, it will also affect the quality of human life. This is what in the Structural Functional concept is the relationship between one element and another in the harmony of the environment.

The form of social order is a manifestation of the functioning of existing elements. If social order is not achieved, then it is certain that the existing elements do not function as they should. From here we can understand that when a problem occurs in an environment, it is certain that the elements related to that

environment do not function as they should. For example, in waste pollution, waste that pollutes the environment is the result of functions that do not work properly, such as humans littering. This condition illustrates that humans are not integrated with the social norms that exist in a society to protect the environment, so that their behavior is contrary to existing norms. In the end, stability is disrupted and order is not achieved. However, when the elements in society function well, harmony will be created, as happened at the Tri Alam Lestari Waste Bank. As explained in the explanation above, the Tri Alam Lestari Waste Bank is a waste bank that was founded out of concern about seeing the condition of the surrounding environment that is polluted by the amount of waste.

This condition shows that humans have awareness of their environment. This awareness is an important foundation for the realization of the function of elements in the social life network. If there is no awareness in a society, then society will find it difficult to understand what its function is in the social life network that influences each other. Therefore, a conscious attitude in the Functional Structure is the key to the success of realizing the function.

Based on the data obtained, Tri Alam Lestari Waste Bank shows behavior that reflects aspects of harmony with the environment. It is not only present as an element, but also functions, so that order is created in the environment. Tri Alam Lestari Waste Bank is aware of its relationship with the environment, where human life is influenced by the environment and the environment is influenced by humans, which is why as an entity in the environment it is necessary to carry out its various functions to maintain each other and create balance. Environmental balance is important in seeing the functional structure in the web of human life. Everything is interrelated, so it requires a balanced role between one and the other. In environmental balance, there is no gap between the environment and humans. This means that humans must exist for the environment as the environment exists for humans. The concern that the environment gives to humans through the various riches it provides for human life must also be accompanied by the same treatment. Humans must protect the environment.

In such a network of life, the related elements are a single, interrelated entity. The formation of these elements in their entirety is a requirement for the resilience of the network of life. If their formation is incomplete in a network of life, the impact will be visible. In such conditions, it means that the quality of the environment is influenced by the formation of the elements that make it up. In this case, the function of each element becomes something that needs to be considered. This is what Tri Alam Lestari Waste Bank does. Practices carried out by Tri Alam Lestari Waste Bank such as sorting waste, managing waste, and recycling waste into useful items are contributions to efforts to prevent waste pollution. Contribution in this case shows the functioning of the social function of an element. This means that the role of each element in the web of human life is important. The sustainability of the web of life is closely related to the function of the elements that surround it. The more an element functions, the higher the sustainability of the web of life. The more society functions in relation to the environment, the greater the environment that can be maintained. Thus, environmental degradation is a result of the low level of structural functionality.

Furthermore, Tri Alam Lestari Waste Bank further optimizes its function by raising public awareness to protect the environment, through education, training, and empowerment. The activities carried out by Tri Alam Lestari Waste Bank have succeeded in encouraging the creation of an environmentally conscious society, and have even achieved the implementation of environmental protection from the community itself. This indicates the increasingly widespread function of society, especially in the community around the Tri Alam Lestari Waste Bank area which is directly related to the activities at Tri Alam Lestari Waste Bank. The condition in which the community collectively practices environmental protection behavior through waste management, campaigning on social media, participating in various self-development activities in terms of environmental issues, and others is a functioning community.

Thus, here we see the functions in society that are running. Where every element of society around the Tri Alam Lestari Waste Bank area and the waste bank itself together consciously carry out their respective functions as an inseparable part of the environment. The unity of society is integrated in its function, so that an order is created between humans and the environment. Tri Alam Lestari has become an innovative model in community-based waste management. Its success lies not only in the technical aspects of waste management, but also in the social, educational, and empowerment approaches carried out sustainably. Several key factors that contributed to this success can be identified as follows:

1. Active involvement of local communities: Participation of local residents in waste management activities, both as customers and volunteers, shows a collective awareness of the importance of protecting the environment. This involvement is strengthened by the direct approach of waste bank managers in educating and building two-way communication with the community.
2. Education and training sustainable: Tri Alam Lestari Waste Bank is consistent to organize training on waste sorting, recycling, and waste-based entrepreneurship. This not only improves the skills of residents, but also creates new economic value from household waste.
3. Holistic and integrated approach: Its activities cover environmental, social, and economic aspects. A waste bank is not only a place to store waste, but also a center for learning and community empowerment.
4. social media and technology: Use of platforms such as Instagram and WhatsApp to campaign environment expanding the reach of education and raising public awareness more widely.

However, the effectiveness of this model in other contexts is highly dependent on several social and cultural factors. In communities with different socio-economic conditions, for example in areas with high poverty rates or low environmental awareness, the success of this model may not be directly replicable without adjustment. For implementing the Tri Alam Lestari model in the community others, adaptation the following may be required:

1. Adaptation to local culture: Communication patterns, educational approaches, and forms of incentives need to be adapted to local cultural norms, values, and practices in order to be widely accepted.
2. Modification of economic incentive schemes: In low-income communities, incentives from recycled materials must be attractive enough to encourage participation.
3. Early awareness raising through campaigns: In areas with low environmental literacy, initial activities should focus on education and strengthening internal motivation before technical activities are carried out.
4. Partnerships with local institutions: Support from educational institutions, community leaders, and local governments is critical to legitimizing and expanding impact.

With however, even though The Tri Alam Lestari approach is promising , its success elsewhere will depend on adaptation to local characteristics and the ability to build active citizen participation. The basic principles can be generalized, but their application must be contextually adjusted to achieve optimal results.

#### **4. Conclusion**

The waste problem has become a complex problem, caused by various factors. Humans who should function to maintain environmental balance have instead become the largest waste producers. Therefore, there needs to be a transformation in overcoming this environmental problem. Researchers found the Tri Alam Lestari Waste Bank as an innovative solution amidst the rampant waste pollution in various regions of Indonesia. The Tri Alam Lestari Waste Bank actively carries out waste care activities by managing waste into reusable items.

The main activities of Tri Alam Lestari Waste Bank are waste sorting and weighing activities aimed at increasing community income, waste recycling activities into useful crafts with the aim of protecting the environment and increasing creativity in addition to earning income, and training activities to train and build community awareness. In addition, there are also other activities that support the objectives of Tri Alam Lestari Waste Bank. These activities aim to create a clean environment while raising awareness among the community, especially the surrounding community, about the importance of protecting the environment. The strategy of environmental management in order to maintain its sustainability indicates the running of a function in the elements of the web of life, seen from a Structural Functional perspective. Added to this is the participation of the surrounding community which increasingly creates harmony between the environment and the community around the Tri Alam Lestari Waste Bank.

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