



Reducing Waste Collection Through Ecobrick Become A Wise Solution In Heroes Village

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Abstract. Community activities that adopt a mutual cooperation system and joint management of inorganic waste have the potential to be used as an effective and targeted product in terms of waste management. Recycling inorganic waste as one way to achieve this goal. This pattern will make empowerment activities a major breakthrough in government programs, especially in circular economy activities to reduce the degree of organic waste contamination, which has been more critical in dealing with inorganic waste and public apathy towards waste management and the circular economy. As a consequence of this, efforts to promote empowerment will be a major focus of progress in government initiatives. Ecobrik is a new product developed with the aim of reducing the amount of various forms of inorganic waste and contaminants in the soil. The product name comes from the word "eco", which refers to inorganic waste and contaminants. Increasing community empowerment through the use of ecobricks has the potential to reduce the level of community dependence on cement products and other materials. This is one of the potential benefits of using ecobricks. Utilization of ecobricks will provide space for the formation of a circular economy, as well as green spaces that will supply oxygen and ensure that the water cycle continues to rotate and change. Increasing community empowerment through the use of ecobricks has the potential to reduce the level of community dependence on cement products and other materials. This is one of the potential benefits of using ecobricks. The use of eco-bricks will provide space for the formation of a circular economy, as well as green spaces that will supply oxygen and ensure that the water cycle continues to rotate and change. Increasing community empowerment through the use of ecobricks has the potential to reduce the level of community dependence on cement products and other materials. This is one of the potential benefits of using ecobricks. The use of eco-bricks will provide space for the formation of a circular economy.

Keywords: *Garbage, Ecobrick, Village, Circular, Participation*

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1. Introduction

Openness that grows in society, especially in terms of the media, has a positive impact on the growth of space for expression and creativity(Sartika, et al., 2022). To bridge the natural gap that exists between the government and the community, village development is being carried out(Hasanah, et al., 2022). Socialist economic planning replaces factor markets with a system of direct resource allocation within the network of socially owned organizations which collectively constitute the productive apparatus of the economy(Hapsari, et al., 2022). When we do development we have to think about the environment so that the development we do does not damage the environment(Faried & Sembiring, 2019). A common phenomenon that occurs in the process of economic development of a region(Purba, et al., 2021)waste management. This can be seen from the disposal of waste made of plastic which must be given a higher priority than what already exists. Plastic as one of the most frequently used materials in the production of all the essential tools and supplies that humans need. The use of plastic materials in everyday life is guaranteed to result in a significant increase in the amount of waste stored in landfills.Disposing of waste in an inefficient and careless manner will almost certainly affect the ecosystem's ability to remain healthy.

This is due to the fact that this waste is disposed of, because it ends up in the sea, there needs to be a waste management system that is beneficial to the environment to reduce or possibly eliminate the damaging effects that plastic waste has. In fact, if you don't have skills, productivity, qualified expertise, it will become a new problem for both the city you are going to and the village you are leaving(Sembiring, et al., 2022).

All efforts are made consciously and planned, carried out continuously by the government(Sudarmanto, et al., 2020)village. Therefore, many social and economic activities are restricted and have positive and negative implications for these activities(Nainggolan, et al., 2019). Rural communities can be actively involved in the entire development process if participatory methods are used (Gandasari, et al., 2021). Activities to utilize natural wealth and the unique environment (Damanik, et al., 2022) based on allocative efficiency refer to the optimal distribution of goods and services (Sudarmanto, et al., 2021). The process of converting inputs into outputs, so that the value of these commodities will increase (Marit, et al., 2021) with the needs and wants through the products produced or produced but create jobs and income in the economy (Faried, et al., 2022). The lack of a trained workforce is only one of the many problems that are challenging current growth (Sipayung, et al., 2022).



Figure 1. Plastic waste around Pahlawan Village settlements, 2023

Government policies that can be carried out to encourage growth centers in the regions(Faried, et al., 2019). One of the stepping stones towards better economic welfare, health and education is the formulation of policies and development plans for various government programs(Faried, et al., 2022). The strengths and weaknesses of development thinking in this view are oriented towards policy products(Kurniullah, et al., 2021)as well as having an advantage in creating added value(Khairunnisa, et al., 2022). To improve people's welfare through various development policies(Faried, et al., 2021).

Plastic waste in the sea waters of coastal villages can not only harm the fauna that live there, but can also make it difficult or impossible for traditional fishermen to make a living. It is possible that their fishing gear was destroyed by the impact created by non-biodegradable materials. Not infrequently the propeller which is used as an important component to propel the boat breaks, which causes delays in traveling to sea. This is due to the entangled nature of the propellers. As a direct consequence of this, fishermen experience lost time and catch. Humans must cooperate with other people because basically humans cannot meet their own needs(Masrul, et al., 2020).The use of production factors needed to support the process of development and sustainable economic growth(Basmar, et al., 2021).

Garbage accumulation in the nets results in an automatic reduction in income, and the amount of time that could be spent fishing is spent cleaning the nets. As a result, less time is available for fishing.In comparison, the crab release process only takes between two and three hours to complete whereas it can take up to three days to remove plastic debris stuck in the nets. With increasing water flow towards the mouth of the harbor, waste from residential areas is more likely to be washed away during the rainy season, which contributes to an increase in the amount of plastic waste generated and ultimately ends up polluting the oceans. This information is based on observations and discussions with the community. When going to sea, he often finds trash that has been rolled up in the nets. There is a significant danger in the coastal area of Pahlawan Village, not only because of trash, but also fish catch that is contaminated with local garbage.

In addition to opening opportunities in achieving goals, demonstrating full potential and obtaining maximum benefits and benefits(Hastuti, et al., 2020)in increasing adaptability(Sitorus, et al., 2022). Given the complexity of the existing plastic waste problem, the residents of Pahlawan Village have the ability to

develop a work program, but it has not yet reached the stage of making ecobrick, with the aim of reducing the amount of plastic waste that currently exists in the village environment. Many social institutions are engaged in the environmental sector (Hasanah, et al., 2022) and the environment continues to socialize waste issues. To date, there has been an accumulation of up to 15,000 tonnes each week of plastic waste in the region. This indicates that waste has not been handled properly, thus requiring additional energy expenditure to be able to minimize waste in accordance with the Village SDGs program until 2030 in order to achieve a reduction of 40%. The impact of this pollution is the lower level of public health, which in turn will reduce human welfare (Simarmata, et al., 2021).

2. Method

The approach method offered to solve community group problems is doing service by providing counseling:

1) Approach participatory

This approach involves the active participation of the community in every stage of the activity. Communities are involved in planning, implementing, and evaluating waste management activities. Communities are an important part of making decisions regarding waste management, so they feel they own and are responsible for the success of the program.

2) Education and Training Approach

This approach aims to increase community knowledge and skills in waste management. Through outreach activities, training and workshops, the public will be given an understanding of the importance of sustainable, circular-based waste management through ecobricks as a visionary, innovative solution that has never been done before.

3) Collaborative Approach

This approach involves collaboration between communities, stakeholders, shareholders, academic institutions, and other related parties. Through this collaboration, synergy will be created in waste management. Local governments can provide supporting policies and regulations, academic institutions can provide research, community service, while the community gets education on local waste management assistance and active involvement in reducing rural waste.

4) Community Empowerment Approach

This approach aims to increase self-reliance, the active role of the community in waste management which aims to encourage the community to have an important role in the implementation of sorting waste from its source to be managed regularly and responsibly. Increased community involvement is carried out with the support of each local government and other waste management communities.

5) Public Communication and Campaign Approach

This approach involves effective communication efforts and public campaigns to raise public awareness about the importance of waste management. Through counseling, discussions, mentoring, social media, and other public activities, messages about the importance of managing waste come from the source. Through this campaign, it is hoped that it can also invite the community to be involved in waste management while at the same time supporting the clean Indonesia target of 2025.

6) Sustainable Economic Development Approach

This approach integrates environmental, social and economic aspects in waste management. Communities are encouraged to develop sustainable economic activities related to waste. Activities to manage waste from start to disposal, including collection, transportation, treatment and disposal, are accompanied by monitoring and regulation of waste management. Waste management can be called the 'gateway' to achieve sustainable development targets, because it is a multi-sectoral issue that impacts various aspects of society and the economy. Waste management is related to health issues, climate change, poverty reduction, food and resource security, as well as sustainable production and consumption.

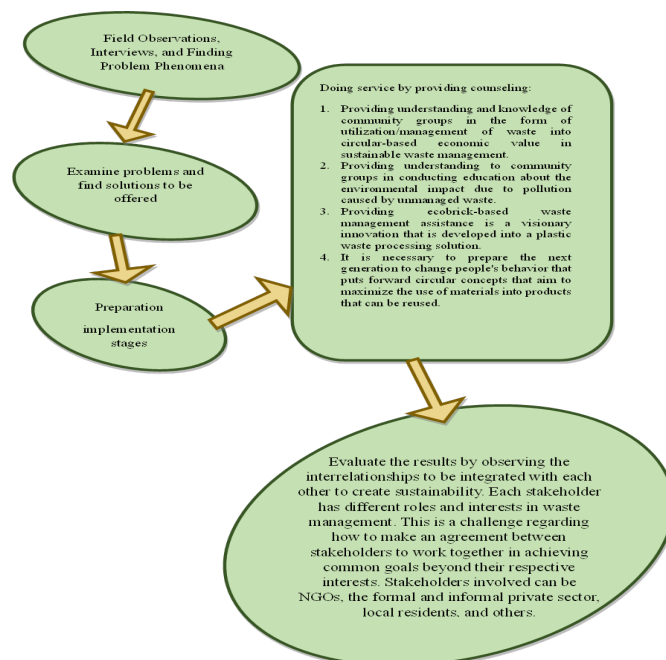


Figure 2. Work Procedure

Through collaboration and cooperation between partners and service teams, it is hoped that strong synergy will be created in community empowerment and sustainable waste management in Pahlawan Village, Tanjung Tiram District, Batu Bara Regency.

3.1 Partner Participation Description

The partners in community service activities consist of:

1. Community Group



Figure 3. Pahlawan Village Community Group, Tanjung Tiram District, Batu Bara Regency

2. Community participants from various hamlets in the Hero Village



Figure 4. Community Groups, Students and Resource Persons

In this case, the description of partner participation in the implementation of community service is as follows:

Table 3.2. Job Participation Description

No	Related Partners	Role
1.	Pahlawan Village Community Group	The object of implementing devotion
2.	Village apparatus with 12 village hamlets	Partners of community groups in terms of reducing waste collection, ecobricks are a wise solution

Description of the Evaluation of the Service Program Implementation

Evaluation of the implementation of the community service program and its sustainability after the completion of community service activities in the field, where the results will be evaluated by observing the interrelationships to be integrated with each other to create sustainability. Each stakeholder has different roles and interests in waste management.

3. Results And Discussion

The results of this service activity:

1) High Public Awareness Raising

Service activities can be successful in increasing public awareness about the importance of waste management starting from the source. People are becoming more aware of changing their habit of disposing of garbage and the negative impacts of environmental pollution from various aspects.

2) Increased Knowledge and Skills

Through mentoring and counseling can improve community knowledge and skills in sustainable waste management. Communities can have new knowledge and skills related to waste management that have economic value and can be circular based if community awareness is continuously fostered.

3) Community Participation in Management

The results of the service can create active community participation in sustainable waste management. Communities become more involved in discussions, and work programs through deliberations of village heads, hamlets and communities for waste management at the local level. Communities are becoming more independent in carrying out management activities, including segregation from sources, circular-based recycling through ecobrick innovations to answer the challenges of managing the waste of Pahlawan Village.

4) Waste Management Through Ecobrick

This community service activity encourages the community to manage waste, especially plastic by using ecobrick innovation through used plastic bottles which are filled with plastic waste until it is full and then compacted until it becomes hard. Then these bottles can be assembled with glue and formed into tables, chairs and even can be used as a material for making walls like bricks.



Figure 5.1 Bottles Containing Plastic Waste Through Ecobrick In Hero Village

5) Cooperation Between Community and Various Parties

The results of this dedication can also result in continued collaboration with other programs related to reducing waste from the surrounding community settlements starting from the source. The occurrence of this collaboration allows for technical support, resources and access to programs or policies that support sustainable waste management.

Discussion

In service activities there are several important discussions that are the main focus. Through this discussion, it is hoped that a better understanding will be created about the importance of waste management and the active role of the community in protecting the environment and reducing waste.

First, the discussion will focus on the importance of waste management starting from the source, namely plastic waste. In this discussion, it will be explained about utilizing plastic waste for ecobrick solutions in reducing sustainable waste. Unfortunately the awareness that plastic for our society is very low will be the danger that can be obtained if it continues to accumulate plastic in the surrounding environment. Second, it is undeniable that plastic has become a part of our lives and supports various needs that are needed at a relatively cheap price and the material is light, which has caused more people to switch to using single-use plastic items and easily throw them away, burn them without them realizing it. responsible user.

Third, the discussion will raise the challenge of making ecobrick products included in open spaces for public use or private use such as making tables, chairs using ecobrick in utilizing plastic waste as the main raw material. On the other hand, with the management of plastic waste, in addition to being able to save the environment, the benefits that can be felt are that the management of plastic waste can produce works that can be used by everyone. An example is the manufacture of ecobrick, which is a product of the management of collected plastic waste. If the use of ecobrick can be carried out continuously, plastic waste can be reduced and artistic value will increase.

It is necessary for all parties involved to take the issue of plastic waste seriously in the village government. Without the support of the Village Government, the goals of waste management as part of the national program will have to be achieved as effectively as possible. Because of this, one of the most important programs aimed at doing so has been funded by village finance. The importance of efforts to reduce waste through ecobrick as a wise and wise solution in managing plastic waste in Pahlawan Village. It is hoped that as a result of participating in this activity, all parties will have the same understanding and will make similar efforts to accelerate waste reduction in rural areas.

Program Compatibility with Learning Outcomes

This community service activity program is in accordance with the learning outcomes that are expected by the community to achieve a number of important lessons. First, this program provides an

opportunity for the public to understand the importance of managing plastic waste that has economic value, which our society does not yet realize.

In this dialogue the forum/participants get information about knowledge about how to manage waste through ecobrick to be a wise and wise solution in reducing rural waste. To increase the success of these initiatives will ultimately lie in the community's response. Therefore, taking this step to fix things in line with official policy is the right thing to do.

4. Conclusion

Community empowerment can be done from simple things, for example by utilizing existing plastic waste so that it can be efficient rather than wasted and can ultimately pollute soil, water, and air pollution. How to use plastic waste using ecobrick if it can be applied in every rural and urban area. This plastic waste was chosen because it is very difficult to decompose but can last a very long time even if it is placed in an open room and is often exposed to rain. The use of plastic for ecobricks will also reduce global warming as a result of burning plastic. This is why we need to carry out various latest innovations to deal with plastic waste that has accumulated around us. but unfortunately there is still little creativity and will within oneself to be able to manage waste into a product based on a circular economy through direct waste reduction, redesign, reuse, re-production and recycling activities. This was achieved through the implementation of a new business model using waste raw materials.

This form of socialization is a significant step in prioritizing ecosystems from upstream to downstream so that they can grow properly so that they can develop. Continuous assistance is needed in stages to help village communities have awareness in continuous waste management and create circular-based creativity using waste as the main raw material which aims to stimulate the community to be more sensitive to an unsanitary environment. Sustainability actions for this activity need to be carried out to become a solution and be wise in using single-use plastics.

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