

Community Empowerment Through Plastic Waste Recycling Activities into Ecobrick

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ABSTRACT

Waste is one of the complex problems faced by both developed and developing countries, especially plastic waste where plastic waste is difficult to decompose so it can damage the surrounding environment. The purpose of this empowerment is to educate the public on how to manage plastic waste with ecobricks. and how the impact of ecobrick on the surrounding community. The approach in this study uses qualitative methods with data collection techniques in the form of observation, interviews, and documentation. The research informants are the local people of Sanrobone Village. The research results show that there are six stages in empowering ecobricks (1) providing training on ecobricks, (2) collecting plastic waste, (3) sorting plastic waste, (4) doing ecobricks, (5) Weighing the ecobricks, (6) putting together the ecobricks.

INTRODUCTION

One of the endless problems is the problem of environmental waste. The problem of waste management cannot be solved by the government alone, but all stakeholders must be involved in waste management. The waste problem is a complex problem that needs to be addressed collectively, especially for developing countries. This is because the waste problem in these countries is increasing every year. Indonesia's position is currently in second place after China as a contributor to one of the largest plastic wastes in the world, therefore plastic waste can be utilized by the Indonesian people to become useful items and can be used for their daily lives.

A clean and healthy environment is an environment that is free of various impurities, including dust, garbage and odors. Because the process of disease transmission is caused by microbes, a clean and healthy environment can be free from viruses, pathogenic bacteria and various disease vectors. A clean and healthy environment must also be free of harmful chemicals. However, the issue of cleanliness and environmental health has always been a prolonged polemic in society. Even cases involving environmental hygiene and health problems are always increasing every year. Many human activities have a negative impact on environmental quality, one of which is the poor management of waste and waste (Widiyasari et al., 2021)

Waste management is a problem that this nation has never been able to solve. According to the Director General of Garbage, Waste and B3 (Hazardous and Toxic Materials) Management from the Ministry of Environment and Forestry, Tuti Hendrawati Mintarsih, the total amount of Indonesian waste in 2019 will reach 68 million tons. 187.2 million tonnes after China which reached 262.9 million tonnes. Not to mention, plastic waste in Indonesia is the main source of accumulation of waste weight, moreover plastic is decomposed within 1 millennium or around 1000 years (Istirokhatun & Nugraha, 2019). Empowerment activities in the form of workshops for making ecobrick as a countermeasure for plastic waste, ecobrick is an alternative solution for recycling plastic waste, which can be seen that plastic waste is one of the wastes that is very difficult to decompose, so with the empowerment of this waste it becomes a very useful empowerment for the community so that the environment around them is well maintained.

IMPLEMENTATION AND METHODS

Empowerment research in the form of ecobrick making workshops as a countermeasure for plastic waste uses qualitative research methods using a descriptive approach. Descriptive qualitative research is a research conducted to get a clear description or information about a phenomenon that exists in society without exaggerating anything in the problem under study (Sharif & Yunus, 2013). This empowerment is located in the village of Sanrobone Takalar. The research subjects selected were local people from the village of Sanrobone, Takalar district, who were progressively selected using a purposive sampling technique. purposive sampling is the collection of information from informants with certain criteria to achieve research objectives such as the people in the village of Sanrobone.

Data collection techniques in research using observation and interview techniques using primary data sources. Primary data sources are data obtained from people related to research. In addition, this study uses secondary data sources, data sources derived from scientific journals, and other scientific and electronic articles that are relevant and encourage research problems.

Data analysis in this study was carried out systematically starting from data reduction, data presentation and drawing conclusions using the Member check technique. member check is a collection of data conducted by researchers obtained from informants. the purpose of reading is to find out how far the data obtained is in accordance with the data from the informant. in the data collection process using member check research conducted interviews again with informants using the same questions that aim to check the validity of a data (Sidiq & Choiri, 2019)

RESULTS AND DISCUSSION

In 2021, to be precise, on the 30th of the 10th month Hermin Hardyanti Utami, a chemical engineering lecturer, industrial technology faculty, Indonesian Muslim university and community service team leader collaborated with local organizations in Sanrobone village, namely Karang Taruna, to carry out community empowerment or community service activities in Sanrobone Village, Sanrobone District, Takalar Regency, South Sulawesi. This community service or empowerment is a workshop activity for making ecobricks as a countermeasure for plastic waste. Conceptually, community empowerment itself can be interpreted as the social activism of community members who organize themselves for planning and collaboration, solving social problems or responding to social needs according to their abilities and resources (Habib, 2021). Meanwhile, according to (Noor, 2011) Community empowerment is a concept of economic development that unites community values to build a new paradigm that is community-centered, inclusive, empowered and sustainable.

Based on the results of the research, it shows that there are several stages carried out by Hermin Hardyanti Utami and youth organizations in empowering communities in the Sanrobone sub-district, namely:

1. Provide training or direction to the community about the steps in the activities they will carry out, before starting the activity the residents are first gathered at the Sanrobone village office to be given lessons on how to use plastic waste to become ecobricks and provide other education regarding plastic waste recycling.



Picture 1. Ecobrick making workshop for Sanrobone residents

1. Collecting plastic waste in every house, each resident collects plastic waste in the form of bottles and other plastics and then takes it to the village office which will then be processed into ecobricks.
2. Sort or clean up plastic waste, after a lot of plastic waste has accumulated, the next thing to do is clean and sort out which waste is suitable for ecobricking, the method for cleaning it is also quite easy, namely by washing it in water until it is clean and then drying it.
3. Making ecobrick, after the plastic waste has been collected and cleaned, the next thing to do is the main activity, which is recycling plastic waste into ecobrick, how to make your own ecobrick is very easy, namely by putting plastic waste in a plastic bottle using wood as encouragement, fill until the plastic bottle becomes solid.



Picture 2. Workshop pembuatan ecobrick bagi warga sanrobone

1. Weigh the ecobrick, after putting the plastic waste into the bottle and it becomes an ecobrick, the ecobrick is then weighed, the minimum weight for a 600 ml plastic bottle is about 200 grams and for a 1500ml plastic bottle is about 500 grams. This weighing process aims to make the bottles have the same weight so that it is easier when assembling the ecobricks and also comfortable when used.

2. Unite the ecobricks, the next process is to unite or shape the ecobricks into a beautiful chair or table. The method is to arrange the ecobricks in a hexagonal pattern for round chairs and tables and arrange the ecobricks in a square pattern for cubical chairs and tables. or rectangular, ecobrick is put together using glass glue as an adhesive, glass glue is chosen because it is able to attach strongly to plastic bottles.



Picture 3. Chairs and tables made of ecobricks

This community empowerment activity is very beneficial for the Sanrobone community. According to the village secretary, Suwardi, this activity is very useful for increasing community knowledge about plastic waste management, because every house must produce plastic waste. This activity also greatly impacts the economic and environmental fields.

1. The impact of ecobrick on the community's economy, ecobrick has a positive impact on society, one of which is in the economic field because after recycling plastic waste into ecobrick which can be used as chairs and tables, these ecobrick chairs and tables can be resold at a fairly high selling value , this can help increase people's income by utilizing plastic waste which is recycled into ecobricks.
2. The impact of ecobrick on the environment, in addition to having an impact on the people's economy, ecobrick also has a great impact on the environment because with the help of ecobrick, plastic waste can be properly stored in bottles and used for other purposes, instead of being burned, buried in plastic waste or allowed to accumulate in garbage dump.

When this plastic is burned, harmful substances such as carbon monoxide enter the air, which harms human health and contributes to global warming. If left unchecked, plastic particles are also very difficult to decompose and can damage the surrounding ecosystem, such as terrestrial and marine ecosystems. Therefore, we must be able to try to reduce the use of plastic waste. If we have to use and produce plastic waste, we better collect it so that it can be recycled into something useful in the long term.

CONCLUSIONS AND RECOMMENDATIONS

Community empowerment through recycling waste into ecobricks in Sanrobone Village has a significant impact on the Sanrobone Village community both in the economic and environmental fields. Where with this empowerment the community can get income from the sale of ecobricks. while in the environmental sector, with this empowerment, the community is diligent in collecting plastic waste, resulting in a clean and healthy environment.

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