

**Alternative Waste Management Strategy based on Community Empowerment through the
Reactivation of Waste Banks in Bukit Biru Tenggara Sub-District as Part of the
Community Service Program (KKN) XXXII Year 2023, Kutai Kartanegara University**

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Abstract: The mismanagement of solid waste (SW) in Bukit Biru Village, Indonesia, is contributing to a global issue affecting environmental pollution, social equity, and economic viability. The 2019 report from the Kupang City Environment and Cleanliness Office highlights the need for proper waste management practices and proper disposal facilities. The Banjarmasin City BLHD and the LKB foundation collaborate with educational institutions to establish waste banks, focusing on waste reduction, sorting, utilization, recycling, and conservation. Kutai Kartanegara University is introducing its Students' Community Service (KKN) to address the waste management issue in Bukit Biru Village. The government of Bukit Biru is launching an initiative to establish a waste bank, involving students as active participants, to increase community awareness and socialization about refuse management. The ASRI Waste Bank is in its initial operational phase, with decisions made on participants, training schedules, locations, and resources.

1. Introduction

The mismanagement of solid waste (SW) is a pervasive global problem that has significant implications for environmental pollution, social equity, and economic viability. Addressing this issue necessitates comprehensive evaluations and holistic strategies to effectively resolve it. It is imperative to direct attention towards developing and transition countries, where the prevalent issue of unsustainable solid waste management necessitates urgent consideration (Ferronato & Torretta, 2019).

In numerous Asian nations, governmental bodies have recently implemented measures aimed at imposing restrictions on imports that have historically served as a source of supply for recycled plastic mills. With the arrival of additional imported materials, the amount of waste increased. Polluted waste posed significant challenges to recycling efforts, confronting countries worldwide with an increasingly complex predicament. Greenpeace released a report on April 23rd, detailing several investigations conducted in Indonesia, Malaysia, and Thailand, which revealed instances of illegal recycling practices, open burning, water contamination, and an increase in pollution-related illnesses (Koh & Raghu, 2019).

The study "Indonesia's Sustainable Development Goals Resolving Waste Problem: Informal to Formal Policy" found that Indonesian rules explicitly outline the aims of sustainable development. The governmental initiative behind the legal policy upholds the constitutional rights of Indonesian residents to preserve a favourable environmental condition. However, the execution of this legal strategy lacks proportionality. Furthermore, the implementation of informal policies, such as those pertaining to personal drinking bottles and the utilization of organic packing and shopping bags, mitigates the inadequacy of formal policies. However, it is evident that the waste issue in Indonesia falls short of initial expectations and necessitates more advanced solutions in both the formal and informal sector (Karjoko, Handayani, Jaelani, & Hayat, 2022).

The Kupang City Environment and Cleanliness Office's 2019 report highlights garbage problems. Several factors contribute to these problems, such as the local population's inadequate understanding of proper waste management practices, which leads to the underutilization of available dumping facilities. Additionally, the existing garbage transportation equipment is not suitable for handling the volume of waste generated, further exacerbating the issue. Furthermore,

the report identifies deficiencies in landfill management, indicating a need for improvement in this area. Government services should not be solely responsible for garbage management, but society as a whole should also consider it a concern. We should view garbage management as a collective obligation, requiring an equitable distribution of the burden among various stakeholders, including both public entities and the private sector (Riwukore & Habaora, 2019).

A waste bank is one of the many waste management options available in Indonesia. A study from Ulfah, Normelani, & Arisanty's 2016, "Studi EFEKTIFITAS BANK SAMPAH SEBAGAI SALAH SATU PENDEKATAN DALAM PENGELOLAAN SAMPAH TINGKAT SEKOLAH MENENGAH ATAS (SMA) DI BANJARMASIN," revealed that the waste bank is an effective method for waste organization. It also showed the waste bank system encompasses five fundamental principles, commonly referred to as the 5M framework. These principles include waste reduction, waste sorting, waste utilization, waste recycling, and waste conservation. It is noteworthy that the Banjarmasin City BLHD (Regional Environment Agency) Office assumes the role of a regulatory body responsible for overseeing waste banks. Additionally, the LKB foundation (Lembaga Kompas Borneo) collaborates with educational institutions to facilitate waste management by establishing school waste banks. Another study from Rozak (2014) also showed a positive impact of waste management. By tapping into the community's latent abilities in trash management and waste bank operations, trash bank Citizen Cares for the Environment (WPL) implements an empowerment model that benefits the environment. The Waste Bank has a positive effect on the customer's economy, as well as the public's health and the state of the environment.

The odd semester will mark the introduction of Kutai Kartanegara University's Students' Community Service, or KKN, program. The researchers conducted observations both prior to and after the deployment of students to KKN sites. The tasks covered in this study included engaging in firsthand observations of various events and conditions within the community context, conducting interviews with village authorities, and carefully analysing the data acquired from Bukit Biru Village. The research team discovered that waste management in Bukit Biru Village has emerged as a prominent concern within the Bukit Biru sub-district. This issue stems from the establishment of the Mandiri Waste Bank in RT. 14 in 2015, which, by 2023, has either ceased to

operate or is functioning inadequately. We can attribute the existence of Mandiri Waste Bank at RT. 14 to its establishment in 2015.

The objective of this initiative is to raise awareness among the residents of Bukit Biru Village regarding the reactivation of waste banks. We anticipate that this initiative will reinstate waste management in Bukit Biru Village, bringing it in line with the practices observed in other villages in Tenggara. Ultimately, this endeavour will contribute to the advancement of waste management in Indonesia.

2. Methodology

a. Coordination with the Village Government and Community

For the purpose of discussing the history of waste banks, their administration, and the challenges they have faced up to this point, students from KKN met with representatives from the local organization. By participating in this activity, they had the opportunity to gather specific information regarding the existence of trash banks as well as potential actions for future improvements.

b. Survey

In order to have a better understanding of the management of garbage banks, the students at KKN actively participated in conducting interviews with local populations. The purpose of this activity is to perform an investigation of the information that was provided by the village administration in the stage that came before it, with the intention of ensuring that the information is accurate and consistent.

c. Program Socialization

To guarantee that the community is aware of the program and interested in the program, it is essential to socialize the program to the community as an initial introduction. This ensured that the community is interested in the program. If one intends to draw the attention of the general public, it is very necessary to take part in a wide range of different social events. During this stage, decisions were made by the participants, as well as the training schedule, places, and resources that were utilized right after the decision taking.

d. Program Realization

In addition to the students from KKN, two representatives from the Rapakmahang Health Center were present at the socializing event that took place on July 20th, 2023 in BPU Kelurahan Bukit Biru. The purpose of the event was to initiate the establishment of a trash bank. At first topic of discussion was centered on the fundamental characteristics of garbage banks, which included their comprehension, influence, efficient management tactics, and the benefits that are related with them. The availability of a considerable amount of documentation relevant to waste accounting, in addition to correspondence about waste banks, was still present. Through the employment of concrete illustrations and explanations of the procedures involved, we were able to successfully accomplish our goal of illuminating the functioning of a particular waste bank region. Residents were seen to be waiting in line to take part in the social gathering, as evidenced by the substantial number of inquiries that were received. These inquiries included inquiries concerning the location of the gathering as well as queries concerning communication for the purpose of future implementation.

3. Result and Discussion

The government of Bukit Biru is launching an initiative to establish a waste deposit in the village. As part of this endeavor, they have decided to involve students in various activities as active participants. The purpose of this activity is to increase community awareness and socialization regarding the significance of refuse management. This is in line with the previous study which stated the use of garbage banks is a strategic approach to trash management at the community level, aligning with the principles of the 3R framework (reduce, reuse, and recycle). The establishment of waste banks can be considered as a form of social engineering aimed at including the community in the process of rubbish segregation. According to the Director General of Cipta Karya cited in Saputro, Kismartini, & Syafrudin, (2016), the act of exchanging rubbish for monetary compensation or precious items serves as a means to educate the community about the value of waste.

Consequently, this initiative fosters a desire among individuals to actively engage in waste sorting practices. Students played an essential role in attaining this objective by fostering comprehension and social interaction. The involvement of students is of utmost importance in

achieving the goal of enhancing comprehension and fostering social interaction. This is due to the significant role students play in contributing to these outcomes. The ASRI Waste Bank is now in its initial operational phase, wherein students are obligated to provide solutions and provide assistance. Active student participation is a mandatory need during the initial phase of establishing the Waste Bank. This phase involves the systematic tasks of recording, counting, and weighing several categories of waste material. Further, the process of empowering citizens involves the implementation of counseling, education, and training programs, which are supplemented by emancipatory participation methods such as engagement, communication, and dialogue with community residents. Furthermore, the establishment of networks and institutional cooperation mechanisms between trash bank management residents and relevant stakeholders is vital for the provision of partnership support (Asteria & Heruman, 2016).

4. Conclusion

In order to ensure that the community is aware of the program and interested in the program, it is important to socialize the program to the community as an initial introduction. It is essential to participate in a variety of social activities if one wishes to attract the attention of the general public. During this phase, decisions were made on the participants, as well as the training schedule, locations, and resources. During this event, the government of Bukit Biru hoped to establish a trash bank on a fair playing field. Village through recruiting students to serve as instigators for various activities Students' primary responsibility in this endeavor is to educate and raise awareness among members of the community about the critical nature of effective trash management. In addition to this, students are expected to offer both solutions and escorts. in the process of putting into action the preliminary steps of starting up the ASRI Waste Bank. One of the primary challenges encountered by students pertains to the task of altering societal perceptions around waste management. The previous era had challenges pertaining to the implementation method of the independent trash bank, specifically regarding the accumulation of waste resulting from customer weighing. Students address this issue by employing the method of division in order to effectively manage and mitigate the problem of excessive accumulation of garbage. The process of determining the location of the weighing post requires consideration of numerous obstacles, which necessitates deliberation. This responsibility falls under the purview of the RT Forum Chairman. As the user is presently unable to attend, it is determined that additional communication

is required. In conclusion, the finding the location of the weighing post necessitates additional thought and discussion due to the fact that the Chairman of the RT Forum is in charge of this activity. Not yet able to attend, so further communication is required.

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