

Research article

An Analysis of Socio-Economic Impacts of Kasturi Waste Bank in Karangasem Gempol, Condongcatur, Yogyakarta

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Abstract.

This study aimed to determine the socio-economic impact of the existence of the Kasturi Waste Bank in Karangasem, Gempol, Condongcatur, Yogyakarta. This was field research using a descriptive qualitative data analysis and a purposive sampling technique. The results showed that the existence of the Kasturi Waste Bank has a positive impact on increasing public awareness and concern for waste sorting and management, awareness of environmental hygiene thus improving the quality of public health, and awareness of inorganic waste utilization into valuable goods as well as organic waste utilization into eco-enzymes and compost. In addition, the existence of this waste bank also results in more efficient spending of the community and increases the income of the waste bank customers from waste saving transactions. The income is used to help meet the basic household needs and incidental needs, as well as for personal savings funds. Although the income from the waste transaction is not yet much, it could contribute to helping meet the daily needs of the customers.

Keywords: impact; socio-economics; waste management

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1. Introduction

Indonesia is a developing country of which the population keeps increasing every year. The increase certainly influences the increase in the population of each province in Indonesia, one of which is the province of the Special Region of Yogyakarta. Until 2020, the population in DIY reached 7.76 million people, which increased by 78,712 people compared to the previous year's population. Such increased population then also increases the volume of waste generated from various activities. Based on the data from the National Solid Waste Management Information System (SIPSN), the waste generation in Yogyakarta from 2019 to 2020 reached 1.43 million tons with an average daily volume of 3,929 tons. This decreased by 10,976 tons from the volume in the previous year (1). An increase in the volume of waste without the existence of proper

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waste management can trigger various problems, ranging from environmental damage to disease transmission. An effective and serious waste management is needed, making it possible for waste to be recycled and have economic value, by establishing a waste bank. According to Law No. 13 of 2012, the mechanism for the performance of a waste bank includes sorting waste according to the types of household waste and household-like waste; delivering the sorted waste to the waste bank; weighing, taking notes, and bookkeeping of the waste deposits in a waste savings book; and sharing the profits gained from the sale of the waste between the management and customers of the waste bank (2). Quoting from the Environment Agency (DLH) of Yogyakarta City, until February 2021, there were 481 community-based (RW) waste banks in Yogyakarta and these waste banks could reduce approximately 2% of the average waste generation. One of which is Kasturi Waste Bank in RT 04 RW 12, Karangasem Gempol, Condongcatur, Depok, Yogyakarta which was established in 2014. The waste management activities include collecting plastic waste, recycling the waste into handicrafts and compost, socializing creative waste management, and conducting a training on making handicrafts from plastic waste. Due to its success in its waste management, Kasturi Waste Bank became one of Adipura Sleman's monitoring spots, achieved the DIY Green & Clean award from Persada (CSR Unilever) in 2016, and ranked the 1st place in the category of Advanced Waste Bank for the Special Region of Yogyakarta in 2017 (3).

The existence of a waste management system through a waste bank may bring benefits for the socio-economic conditions of the surrounding community. According to Mulyanto Sumardi and Hans Dieter Evers, the socioeconomic condition indicators consist of: (1) education level; (2) occupation; (3) social status; (4) income; and (5) culture. The results of a study by Mita Novianty and Nurhamidah who highlighted the impact of a waste bank program on the socio-economic conditions of the community in Binjai, Medan and Kota Baru, Jambi found that the existence of a waste bank could increase people's income in meeting their daily needs, health, social interactions, availability of jobs, reforestation movement, and empowerment to pay more attention to the environment, and a cleaner environment over time. Based on the abovementioned background, the authors were interested in conducting a study to analyze the socio-economic impacts of the existence of the Kasturi Waste Bank in Karangasem Gempol, Condongcatur, Yogyakarta on the surrounding community. In fact, research on the socio-economic impact of the existence of the Kasturi Waste Bank has not been available. Theoretically, this study is expected to add to references for future researchers, particularly for those studying the impacts of the existence of waste banks on the socio-economic conditions of the surrounding community. Practically, this study is expected

to ease the government in making decisions and policies to improve the performance of waste banks, especially the Kasturi Waste Bank in Condongcatur Yogyakarta

2. Research Method

This was field research which used a qualitative approach. This research focused on unmeasured processes and meanings, socially constructed reality, the close relationship between the researched and the researchers, the situations affecting the investigation, value requirements, and the way in which social experiences emerged as well as the acquisition of its meaning. The study was conducted in 2021, with in-depth interviews via Zoom as the primary data collection technique to obtain direct information regarding the socio-economic impacts of the existence of the Kasturi Waste Bank in Depok Subdistrict, Condongcatur Village, Yogyakarta. The in-depth interviews were conducted with key persons as key informants and 10 customers of the Kasturi Waste Bank as main informants (3). The study used a purposive sampling technique of which the sampling was adjusted to the predetermined criteria. The criteria used were key persons as founders or administrators of the Kasturi Waste Bank and customers who had saved waste more than 3 times. The data analysis technique was a descriptive qualitative analysis with data collection, data editing, data grouping according to classification, data display, and conclusion according to the problem formulation (4).

3. Research Discussion

3.1. Kasturi Waste Bank

Kasturi Waste Bank is an integrated community-based waste management organization in Karangasem Gempol, Condongcatur Village which was established in 2014 and inaugurated by the Environmental Agency (DLH) of Sleman Regency in 2014. Waste management is conducted based on a concept known as 3R (reusing waste, reducing the use of goods that cause new waste, and recycling waste by processing). Kasturi Waste Bank has 10 administrators with only a few customers when it was first established, but the number of customers keeps increasing and it now has 177 customers. The name registered as a customer represents other family members registered in one family card (KK). Based on the increasing number of customers, the Kasturi Waste Bank believes that the number of customers will continue to increase every year (4). In its implementation, the Kasturi Waste Bank currently focuses on education through socialization related

to waste management to the community instead of recycling non-biodegradable waste into valuable products such as handicrafts. This is because recycling non-biodegradable waste into handicrafts is considered ineffective and only lengthens the life of the waste. Besides, the number of waste deposits with the same material, color, and thickness is limited, not to mention the limited innovation and creativity to create handicrafts with many variations and competitiveness in the market industry with good selling prices (5). The programs carried out by the Kasturi Waste Bank as its waste management efforts include cooperation with local residents to clean the environment, education through socialization of waste sorting and management of which the target is the entire community members in Karangasem Gempol, Condongcatur Village starting from teenagers to adults, handicraft training for female residents, and waste bank savings services for local residents. Education and socialization have been conducted through interesting and various educational media, including booklets, brochures, banners, PowerPoint slides, videos, and a quartet card game which shows the pictures of various types of waste with attractive designs. This way, the Kasturi Waste Bank has indirectly played an active role in raising awareness through socialization conducted to the surrounding community to create better environmental governance. Even in 2022, the Kasturi Waste Bank has been chosen to collaborate with other parties in implementing a new program in the form of a pilot project with E-Recycle and making interesting educational videos related to waste sorting and management. In terms of the transaction system related to waste savings, the waste bank uses the percentage of 80% for the customers and 20% for the waste bank as an administrative fee. The money from the waste profit sharing can be withdrawn at least every 3 months when the sorted waste has been delivered to waste collectors or every time before Eid al-Fitr (6).

3.2. Socio-Economic Impacts of the Existence of the Kasturi Waste Bank

The socio-economic impact of the existence of the Kasturi Waste Bank was analyzed based on the perceptions of 10 customers and one of the key persons. The Kasturi Waste Bank customers were dominated by housewives starting from the age of 20 years to the elderly. The customer data were used to reveal the perceived socio-economic benefits and the respondents' awareness in various aspects. The customer perceptions based on from the customer data indicated customer satisfaction with the existence, management, and system of the Kasturi Waste Bank. Within 3 months, the intensity of waste saving transactions conducted by each customer varied, depending

on household consumption (7). Based on the data obtained, the transactions can take place up to 5 times within 3 months. The customers admitted that the existence of the Kasturi Waste Bank had a positive impact on the community's perspective on waste management, in which the community, especially the customers of the waste bank, had better awareness of the importance of waste management as an effort to maintain environmental hygiene, thus indirectly improving community's health. Such improved awareness can be seen from the gradually decreasing yet fluctuating waste generation over years, and the changes in customers' attitudes in dealing with organic and inorganic waste. Before the Kasturi Waste Bank was established, the customers usually burnt household waste, thus causing air pollution (8).

After exposure to education through socialization, there was a change in the customers' attitude towards waste management. Now organic waste is processed into eco-enzyme and compost, while inorganic waste is stored in a waste bank. Based on the data from the Kasturi Waste Bank, the waste generation from January to June 2020 and 2021 was 2,092.15 kg and 907.75 kg, respectively, with an average decrease in waste generation of 220.45 kg. This is due to various factors, including the fluctuating amount of consumption and the different intensities of the customers' waste savings in each month, so the number of customers who make waste saving is fluctuating. An improved condition of the community's environmental hygiene is due to improved public awareness of both waste management and the importance of environmental protection (9). The existence of the Kasturi Waste Bank also raised awareness of inorganic waste utilization into valuable goods. For example, bottle and can waste can be used as a growing medium for plants, plastic bag waste can be recycled into handicrafts such as flowers and wallets, and other waste can be recycled into functional items. In addition, it also affects the decisions of some customers to minimize the purchase of goods that can increase inorganic waste as well as affects the mindset of the community in meeting their needs and desires so public spending gets more efficient because they will only buy and consume goods as necessary, thus making them not consumptive.

The total income from 409 waste saving transactions as recapitulated by the Kasturi Waste Bank from January 2020 to July 2021 reached IDR 6,682,056.10 with an average monthly transaction of IDR 504,044.32. The income generated from the waste saving transactions has brought a number of benefits and advantages for the customers. The income is in general used to help meet basic household needs or incidental needs, and as customers' personal savings. Some customers feel that the income from the waste savings is still not much and does not significantly affect the fulfilment of their daily needs. However, in general, the income has contributed to meeting the customers'

daily needs (10). Based on the data collected through the interviews, the public has not had a high level of awareness of the environment as evident from the fact that they contributed to the waste savings to earn money instead of being concerned with a clean environment. In addition, some of them sometimes still have not implemented optimal and proper waste management and sorting. However, in general, there has been an increase in the socio-economic aspects of the community, which can be seen through public awareness and concern for waste sorting and management, awareness of environmental hygiene which improves the quality of public health, and awareness of inorganic waste utilization (recycle) into valuable goods and organic waste utilization into eco-enzymes and compost. On the other hand, the customers' incomes also increase after making savings transactions at the Kasturi Waste Bank. In other words, the Kasturi Waste Bank has a quite significant impact on the community, especially the people who live in Karangasem Gempol, Condongcatur Village, Yogyakarta.

3.3. Socio-Economic Impacts of the Existence of the Kasturi Waste Bank

Since it was established and inaugurated, there have been several obstacles encountered by the Kasturi Waste Bank, including (11):

1. The socialization and education processes that should be done simultaneously by two administrators are in reality carried out only by one administrator. This is because most of the Kasturi Waste Bank administrators are not quite confident with their skills to conduct socialization. They lack the ability to master and use educational media. Particularly during the Covid-19 pandemic in which socialization is mostly done through media, the socialization activities do not run optimally.
2. The comprehensive mentoring process as a part of the socialization processes has not yet been optimal due to the lack of adequate and competent human resources and the lack of time for the implementation of the mentoring process. To date, the socialization has only reached the stage of examining the progress and results. Evaluating the waste sorting activities carried out by the community through the socialization provided by the Kasturi Garbage Bank has not been carried out.
3. During the Covid-19 pandemic, the intensity of mutual cooperation activities in the surrounding environment has significantly reduced, even none has been conducted, thus affecting the environmental hygiene and health. This situation has reduced the community's concern with the environment.

4. Conclusion

Based on the abovementioned analysis, the conclusions can be drawn as follows:

1. The existence of the Kasturi Waste Bank has a positive impact on increasing public awareness and concern for waste sorting and management, awareness of environmental hygiene which improves the quality of public health, and awareness of inorganic waste utilization (recycle) into valuable goods and organic waste utilization into eco-enzyme and compost.
2. The existence of the Kasturi Waste Bank influences some customers' decisions to minimize the purchase of goods that can cause inorganic and non-biodegradable waste and influences the mindset of the community in meeting their needs and desires, thus leading to a more efficient public spending because they only buy and consume goods as needed.
3. The existence of the Kasturi Waste Bank brings an impact on increasing customer income from waste saving transactions. In general, the income from the waste savings is allocated to help meet basic household needs and incidental needs, and as customers' personal savings. Although the income is still not much, it has contributed to meeting the customers' daily needs.
4. The challenges encountered by the Kasturi Waste Bank are a lack of competent human resources in conducting socialization and a lack of supervision as a part of socialization processes.

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