

The Contribution of The Waste Bank Program to The Customer Household Income of Barokah Waste Bank in RW. 10 Sisir - Batu City - East Java

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Abstract

This study aims to analyze the effect of the Barokah waste bank program on community household income in the Rukun Warga (RW) 10, Sisir Village, Batu City, which is a customer of the Barokah waste bank, as well as examine the contribution of the Barokah waste bank to whether there is a change in customer household income. the Barokah waste bank before and after the existence of the Barokah waste bank. This research is a survey research using a quantitative approach, using primary data in the form of questionnaires from respondents, namely Barokah waste bank customers, totaling 118 people/person, with a sample set of 25%, namely 30 respondents using simple random sampling method. The results showed that there was no effect of the Waster Bank Program on Household Income of Barokah Waste Bank customers due to the lack of integration of the Waste Bank program with community training to produce handicraft products made from waste waste that have economic value. Meanwhile, the contribution of the existence of the Barokah waste bank shows that there is a change in household income from customers of the Barokah waste bank before and after becoming customers of the Barokah waste bank.

Keywords: *Waste bank, Household Income, Customers*

INTRODUCTION

Human concern for the environment is not a new problem, one of the things that causes environmental damage is waste. The amount of waste according to data from the Ministry of Environment and Forestry in 2022, 2021, 2020 has reached 19.45 million tons, 31.13 million tons, 32.82 million tons respectively (<https://sipsn.menlhk.go.id/sipsn/>). Waste is a very serious problem and also a social, economic and cultural problem. Waste piles are a problem that must be overcome together, especially the people who live in the area.

To solve this problem, we need a mechanism related to waste management. One method of waste management is community-based waste management and one of its forms is through the establishment of a waste bank (Fadly, 2017). Waste management through waste banks is different from conventional methods where waste is only collected, transported and disposed of. Meanwhile, waste management through waste banks, namely using the reduce, reuse and recycle approach or what is commonly called 3R, is all community activities to reduce waste, reuse waste for the same function or other functions that can be used to make new products (Alfian, *et.al.*, 2019). The establishment of a waste bank aims to help handle waste management in the community, which is expected to raise public awareness of a healthy, neat and clean environment, and to turn waste into creative goods with economic value.

Waste banks have a fairly large role in dealing with waste in the community (Rizqi, 2021) as well as in Batu City. One of the existing waste banks in Batu City is the Barokah waste bank which was officially established in 2017 which was originally a waste bank under

the guidance of the eLHa Waste Bank in Batu City which had been established since 2015 (Zumrodah, 2021).

The Barokah Waste Bank is one of the waste banks in Batu City which is in the Rukun Warga (RW) 10 Village of Sisir Village, Batu City which participates in creating a clean environment and overcoming various waste problems around the local environment. At first, the existence of the Barokah waste bank was still ignored by the community. However, as time went on with socialization held for local residents, in the end the community of Rukun Warga (RW) 10, Sisir Village, Batu City began to participate in carrying out waste bank activities and became customers at the Barokah waste bank. As said by Winarno, et., al. (2019) that the function of a waste bank is almost the same as a bank in general, where a bank has customers to invest.

With the existence of the Barokah waste bank, it is hoped that it will make a positive contribution to the life of the community in the Rukun Warga (RW) 10 of Sisir Village, Batu City, especially those who are customers of the waste bank in increasing their household income. A waste bank customer is someone who saves at a waste bank by collecting waste that has economic value which will later be recorded in a savings book so that people can get additional income from waste collection (Setiawati, 2022). Therefore, there is a need for research on this matter which aims to find out and analyze the effect of the Barokah waste bank program on community household income in the Rukun Warga (RW) 10 Sisir Village, Batu City, which is a customer of the Barokah waste bank. In addition, it also examines the contribution of the existence of the Barokah waste bank regarding whether there was a change in the household income of the Barokah waste bank customers before and after the existence of the Barokah waste bank.

This research is not the only research that has been done, previously there were several studies that examined the contribution of the waste bank program to the income of waste bank customers. In Prayati and Kartika's research (2018) which found a positive relationship between waste banks and the income of waste bank customers. In addition, Fikriyyah & Adiwibowo (2018) stated the results of his research that the transaction and non-transactional activities of the waste bank can have a significant effect on the customer's household waste management behavior so that the opinion of the waste bank customer increases by around 0.34% to 0.68% of the monthly average household income. Agree with Fikriyyah & Adiwibowo (2018), Ruski's research (2014) explains that with the waste bank program, people's income has increased by 0.527%.

Based on the description above, the replication and development of this research is the use of research questionnaires distributed to respondents, namely customers of the Barokah waste bank, and then an analysis of the data obtained is carried out to obtain answers to the problems in this study. The considerations in selecting the Barokah waste bank in Rukun Warga (RW) 10, Sisir Village, Batu City as an object of research because the area of the waste bank is limited to neighborhoods, and the existence of the Barokah waste bank, which was founded in 2017, ignored by the local people, but as time goes by, many people participate in the waste bank program, this is evidenced by the number of waste bank customers in 2017 of 17 people and in 2022 it has reached 118 people.

Based on this, this research was conducted with the title "The Contribution of The Waste Bank Program to The Customer Household Income of Barokah Waste Bank in RW. 10 Sisir - Batu City - East Java".

RESEARCH METHODS

This research is a survey research using a quantitative approach to determine the effect of the contribution of the waste bank program (X) on customer household income (Y), where an approach is needed to carry out the research. Quantitative research according to Sugiyono (2018: 13) is a research method based on concrete data, research data in the form of numbers that are measured using statistics as a calculation test tool, related to the problem under study to produce a conclusion. This research was conducted at the Barokah waste bank located in the Rukun Warga (RW) 10, Sisir Village, Batu District, Batu City.

This study uses primary data in the form of questionnaire results from respondents, namely customers of the Barokah waste bank, namely residents who are in the Rukun Warga (RW) 10 area of Sisir Village, Batu District, Batu City, totaling 118 people/person. However, the research sample taken was 30 respondents, as Arikunto (2012: 104) said, if the population is less than 100 people, then the total sample is taken as a whole, but if the population is greater than 100 people, then 10-15% is taken or 20-25% of the total population. So, based on this, in this study by considering the population size is greater than 100 people, namely 118 customers in the Barokah waste bank, the sample is determined as much as 25%, namely 30 respondents using the simple random sampling method. simple), with details as follows:

Table 1. Characteristics of Respondents

| Characteristics | N | % |
|------------------------|----------|----------|
| Gender | | |
| - Woman | 30 | 100% |
| - Man | 0 | 0% |
| Amount | 30 | 100% |
| Work | | |
| - Housewife | 30 | 100% |
| - Formal Workers | 0 | 0% |
| Amount | 30 | 100% |
| Education | | |
| - SMP | 2 | 7% |
| - SMA/SMK | 27 | 90% |
| - S1 | 1 | 3% |
| Amount | 30 | 100% |

Source: Researchers, 2022

In this study the hypothesis that was built was the effect of the Waste Bank Program on Household Income of Barokah Waste Bank customers in the Rukun Warga (RW) 10 of Sisir Village, Batu City. A waste bank is one of the solutions in overcoming the waste problem (Suryani, 2014). The benefits derived from the existence of a waste bank are not only for the surrounding environment but from an economic point of view the waste bank also provides benefits by becoming a waste bank customer, by becoming a waste bank customer, the amount of household income increases (Nuryani, 2012). This is evidenced by an increase in household income when they become customers of a waste bank (Ruski, 2014). So the hypothesis to be tested in this study is:

H₀ **The influence of the Contribution of the Barokah Waste Bank Program on the Household Income of Barokah Waste Bank in Rukun Warga (RW) 10, Sisir Village, Batu City.**

H₁ **There is no influence of the Contribution of the Barokah Waste Bank Program on the Household Income of Barokah Waste Bank in Rukun Warga (RW) 10, Sisir Village, Batu City.**

In this study, the research variables used were the waste bank program as the independent variable (X), and household income of the waste bank customers as the dependent variable (Y). Thus, the research model used is:



Figure 1: Research Model
Source: Researchers, 2022

The Waste Bank Program variable is interpreted as a collective dry waste management system through a waste bank that encourages the community to play an active role in it and can utilize waste to be recycled into new products that have economic value. Meanwhile, the variable Household Income of Waste Bank Customers is interpreted as income in the form of rupiah earned by a person or family who saves at the waste bank by collecting waste recorded in the waste bank passbook to be managed into economically valuable handicraft products which can be additional income for the family and can be used to meet daily needs.

Using this model, this study aims to analyze the effect of the waste bank program on household income of waste bank customers, namely customers of the Barokah waste bank in the Rukun Warga (RW) 10, Sisir Village, Batu City. In addition, it also examines the contribution of the existence of the Barokah waste bank to whether there is a change in the household income of the Barokah waste bank customers before and after the existence of the Barokah waste bank. Thus, the indicators used are as follows:

Table 2. Indicators in the Research Questionnaire Instrument

| Variable | Dimensions | Indicator | Measurement |
|--------------------|-------------------|---|--------------------|
| Waste Bank Program | Socialization | Actions to share information about the waste bank program to the community in the surrounding environment after participating | Likert scale |

Table 2. Indicators in the Research Questionnaire Instrument

| Variable | Dimensions | Indicator | Measurement |
|-----------------|---|---|--------------------|
| | | in the waste bank program outreach activities. | |
| | Training | The waste bank conducts technical training on the waste bank system. | Likert scale |
| | | The waste bank provides a detailed explanation to the public regarding the procedures for implementing the waste bank system. | Likert scale |
| | | The presence of Rukun Tetangga (RT) officials in the Rukun Warga (RW) 10 area of Sisir Village, Batu City during the waste bank technical training. | Likert scale |
| | Implementation of the Waste Bank System | Waste bank customers sort household waste at their homes. | Likert scale |
| | | Waste bank customers generate household waste such as bottles. | Likert scale |
| | | Waste bank customers register before depositing waste. | Likert scale |
| | | Bring the customer's savings book when depositing waste into the waste bank. | Likert scale |
| | | Following the process of waste bank activities from collecting, depositing, weighing, recording and transporting waste. | Likert scale |
| | Waste management | Waste bank customers sort waste at TPAS (Tempat Pembuangan Akhir Sampah - Waste Final Disposal Sites). | Likert scale |
| | | Waste bank customers save non-organic waste in the waste bank. | Likert scale |
| | | Waste bank customers generate household waste such as paper. | Likert scale |
| | | Waste bank customers save waste weighing more than 1 kg (one kilogram). | Likert scale |
| | | When weighing the waste, all waste bank administrators are present. | Likert scale |
| | | Waste bank administrators, customers and collectors discuss the schedule for weighing waste. | Likert scale |
| | | The evaluation was attended by all administrators of the waste bank. | Likert scale |

Table 2. Indicators in the Research Questionnaire Instrument

| Variable | Dimensions | Indicator | Measurement |
|--------------------------------------|---------------------------------------|--|---------------|
| | | The results of the waste savings are collected every 3 (three) months by the customer of the waste bank. | Likert scale |
| | | Using the money from waste savings for daily needs. | Likert scale |
| Waste Bank Customer Household Income | Income before becoming waste customer | a) < Rp 500.000 b) Rp 500.000 s/d Rp 1.000.000 c) Rp 1.000.000 s/d Rp 3.000.000 d) Rp 3.000.000 s/d Rp 5.000.000 e) > Rp 5.000.000 | Ordinal Scale |
| | Income after becoming waste customer | a) < Rp 500.000 b) Rp 500.000 s/d Rp 1.000.000 c) Rp 1.000.000 s/d Rp 3.000.000 d) Rp 3.000.000 s/d Rp 5.000.000 e) > Rp 5.000.000 | Ordinal Scale |

Source: Apriayi, 2020

The measurement of the indicators in this study is the Likert scale for the waste bank program variables and the ordinal scale for the household income variables of the waste bank customers. The interpretation of each of the Likert scales and ordinal scales is as follows:

Table 3. Interpretation of Measurements with a Likert Scale

| Score | Interpretation of Answers |
|-------|---------------------------|
| 5 | Always |
| 4 | Frequently |
| 3 | Sometimes |
| 2 | Seldom |
| 1 | Tidak Pernah |

Source: Sugiyono, 2006: 86

Table 4. Interpretation of Measurements with Ordinal Scale for Waste Bank Customer Income before and after becoming a Waste Bank Customer

| Answers | Scor | Interpretation of Answers |
|-----------------------------|------|---------------------------|
| > Rp 5.000.000 | 5 | Very high |
| Rp 3.000.000 – Rp 5.000.000 | 4 | High |
| Rp 1.000.000 – Rp 3.000.000 | 3 | Currently |
| Rp 500.000 – Rp 1.000.000 | 2 | Low |
| < Rp 500.000 | 1 | Very low |

Source: Setiawati, 2022

The data collected from the respondents was then processed and analyzed using SPSS (Statistical Program for Social Science) Ver. 16 software. The data processing and analysis techniques in this study are as follows:

1. Testing the Instrument, by conducting a Validity Test and Reliability Test.
2. Classical Assumption Test, by carrying out the Normality Test, Multicollinearity Test, Heteroscedasticity Test and Autocorrelation Test
3. The hypothesis test is carried out using the Simple Linear Regression Test, t test, and is supported by conducting the F test to answer the research hypothesis about the effect of the Barokah waste bank program on community household income in the Rukun Warga (RW) 10, Sisir Village, Batu City which is the Barokah waste bank customers.

Different Test (Paired Sample T-Test), which is used to determine the contribution of the existence of the Barokah waste bank to whether there is a change in the household income of the Barokah waste bank customers before and after the existence of the Barokah waste bank.

RESULTS AND DISCUSSION

Data Exposure

Based on the respondents' answers to 18 (eighteen) questions for the Waste Bank Program variable (X), the following is a summary of the results of the respondents' answers, namely:

Table 5. Respondents' Answers to the Waste Bank Program Variables

| Respondent No. | Item Statement Variable X | | | | | | | | | | | | | | | | | | Average |
|----------------|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| 1 | 4 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 5 | 5 | 4 | 5 | 3 | 3 | 2 | 5 | 3.38 |
| 2 | 5 | 5 | 3 | 4 | 4 | 4 | 4 | 2 | 4 | 5 | 3 | 5 | 4 | 4 | 4 | 3 | 3 | 5 | 3.94 |
| 3 | 4 | 3 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 5 | 4 | 3.88 |
| 4 | 4 | 2 | 5 | 3 | 4 | 4 | 5 | 4 | 5 | 1 | 5 | 3 | 3 | 4 | 3 | 3 | 1 | 5 | 3.55 |
| 5 | 5 | 3 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 2 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 3.00 |
| 6 | 4 | 3 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 4 | 4 | 1 | 2 | 2 | 2 | 2 | 5 | 5 | 3.50 |
| 7 | 5 | 2 | 5 | 5 | 5 | 3 | 5 | 3 | 4 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 4 | 5 | 3.16 |
| 8 | 5 | 4 | 2 | 3 | 3 | 1 | 3 | 4 | 5 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2.94 |
| 9 | 5 | 2 | 5 | 3 | 4 | 4 | 5 | 5 | 3 | 4 | 3 | 5 | 5 | 4 | 5 | 5 | 2 | 3 | 4.00 |
| 10 | 5 | 1 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 4 | 3 | 1 | 1 | 4 | 1 | 1 | 5 | 4 | 3.27 |
| 11 | 5 | 2 | 5 | 3 | 5 | 5 | 5 | 4 | 5 | 5 | 3 | 4 | 4 | 4 | 4 | 4 | 2 | 3 | 4.00 |
| 12 | 5 | 2 | 5 | 4 | 5 | 4 | 5 | 3 | 2 | 4 | 4 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2.94 |
| 13 | 4 | 3 | 5 | 4 | 2 | 4 | 5 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 3.72 |
| 14 | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 1 | 1 | 4 | 1 | 1 | 1 | 4 | 3.00 |
| 15 | 4 | 4 | 5 | 5 | 5 | 3 | 3 | 3 | 5 | 4 | 5 | 1 | 1 | 4 | 1 | 1 | 4 | 1 | 3.27 |
| 16 | 4 | 3 | 5 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | 1 | 4 | 1 | 1 | 1 | 2 | 3.00 |
| 17 | 3 | 3 | 5 | 2 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 5 | 5 | 3.72 |
| 18 | 3 | 2 | 5 | 2 | 4 | 4 | 4 | 3 | 5 | 5 | 5 | 1 | 1 | 2 | 1 | 1 | 4 | 3 | 3.05 |
| 19 | 3 | 3 | 5 | 4 | 4 | 5 | 5 | 1 | 4 | 4 | 5 | 1 | 1 | 2 | 2 | 1 | 4 | 3 | 3.16 |

Table 5. Respondents' Answers to the Waste Bank Program Variables

| Respondent No. | Item Statement Variable X | | | | | | | | | | | | | | | | | | Average |
|--|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------|
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| 20 | 5 | 3 | 5 | 4 | 4 | 4 | 5 | 3 | 4 | 4 | 5 | 1 | 1 | 2 | 1 | 1 | 2 | 5 | 3.27 |
| 21 | 3 | 3 | 5 | 4 | 3 | 4 | 4 | 2 | 5 | 4 | 4 | 1 | 1 | 2 | 1 | 1 | 1 | 4 | 2.88 |
| 22 | 3 | 3 | 5 | 3 | 3 | 3 | 4 | 3 | 2 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 5 | 3.72 |
| 23 | 2 | 1 | 5 | 4 | 4 | 4 | 3 | 3 | 4 | 5 | 3 | 1 | 1 | 4 | 1 | 1 | 5 | 3 | 3.00 |
| 24 | 4 | 2 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 2 | 2.88 |
| 25 | 5 | 3 | 5 | 3 | 4 | 4 | 5 | 5 | 4 | 5 | 1 | 2 | 2 | 4 | 2 | 2 | 4 | 1 | 3.38 |
| 26 | 5 | 2 | 5 | 4 | 4 | 5 | 4 | 3 | 5 | 4 | 3 | 5 | 5 | 4 | 5 | 5 | 3 | 1 | 4.00 |
| 27 | 4 | 3 | 5 | 5 | 3 | 4 | 4 | 3 | 3 | 4 | 2 | 3 | 3 | 5 | 3 | 3 | 5 | 5 | 3.72 |
| 28 | 4 | 2 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 2 | 3.88 |
| 29 | 3 | 1 | 5 | 3 | 2 | 2 | 4 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 2.55 |
| 30 | 3 | 2 | 5 | 3 | 2 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 2.83 |
| Average Value of Waste Bank Program Variables | | | | | | | | | | | | | | | | | | | 3.35 |

Source: Researchers, Processed Data, 2022

While the respondents' answers to the question for the variable Household Income of Waste Bank Customers (Y), are as follows:

Table 6. Respondents' Answers to Household Income Variables of Waste Bank Customers

| Respondent No. | Customer Income Before and After the Barokah Waste Bank | |
|-------------------|--|-------|
| | Before | After |
| 1 | 1 | 2 |
| 2 | 2 | 2 |
| 3 | 2 | 3 |
| 4 | 3 | 3 |
| 5 | 3 | 4 |
| 6 | 3 | 3 |
| 7 | 2 | 2 |
| 8 | 3 | 3 |
| 9 | 2 | 2 |
| 10 | 1 | 2 |
| 11 | 3 | 3 |
| 12 | 3 | 4 |
| 13 | 1 | 2 |
| 14 | 2 | 2 |
| 15 | 3 | 3 |
| 16 | 1 | 2 |
| 17 | 1 | 2 |
| 18 | 2 | 2 |
| 19 | 2 | 3 |
| 20 | 2 | 3 |

Table 6. Respondents' Answers to Household Income Variables of Waste Bank Customers

| Respondent No. | Customer Income Before and After the Barokah Waste Bank | |
|----------------|---|-------|
| | Before | After |
| 21 | 2 | 2 |
| 22 | 1 | 2 |
| 23 | 2 | 2 |
| 24 | 2 | 2 |
| 25 | 2 | 3 |
| 26 | 2 | 2 |
| 27 | 1 | 2 |
| 28 | 4 | 4 |
| 29 | 1 | 1 |
| 30 | 2 | 2 |

Source: Researchers, Processed Data, 2022

Analysis Results

Validity Test and Reliability Test

a. Validity Test

The validity test is used to determine whether the questionnaire used in the study is valid or not. In this study the results of r_{count} were compared with r_{table} where $df = n-2$ with sig 5%, if $r_{count} > r_{table}$ then it was said to be valid and if $r_{count} < r_{table}$ it was said to be invalid.

Based on research data obtained from respondents' answers to the Waste Bank Program variable (X), the results are as follows:

Table 7. Validity Test of Waste Bank Program Variables (X)

| No | R_Count | R_Table | Information |
|----|---------|---------|-------------|
| 1 | 0,335 | 0,296 | Valid |
| 2 | 0,216 | 0,296 | Invalid |
| 3 | 0,000 | 0,296 | Invalid |
| 4 | 0,016 | 0,296 | Invalid |
| 5 | 0,182 | 0,296 | Invalid |
| 6 | 0,180 | 0,296 | Invalid |
| 7 | 0,241 | 0,296 | Invalid |
| 8 | 0,182 | 0,296 | Invalid |
| 9 | 0,030 | 0,296 | Invalid |
| 10 | 0,242 | 0,296 | Invalid |
| 11 | 0,176 | 0,296 | Invalid |
| 12 | 0,786 | 0,296 | Valid |
| 13 | 0,828 | 0,296 | Valid |
| 14 | 0,544 | 0,296 | Valid |
| 15 | 0,845 | 0,296 | Valid |
| 16 | 0,828 | 0,296 | Valid |
| 17 | 0,323 | 0,296 | Valid |
| 18 | 0,119 | 0,296 | Invalid |

Source: SPSS Output Results, Processed Primary Data, 2022

Based on the results of these calculations, it can be seen that there are 7 valid indicators and 11 invalid indicators, the invalidity is caused by the value of $r_count < r_table$. So in this study used are the 7 valid indicators, the value of $r_count > r_table$.

Table 8. Valid Waste Bank Program Variable Indicators (X).

| No | R_Count | R_Table | Information |
|----|---------|---------|-------------|
| 1 | 0,335 | 0,296 | Valid |
| 12 | 0,786 | 0,296 | Valid |
| 13 | 0,828 | 0,296 | Valid |
| 14 | 0,544 | 0,296 | Valid |
| 15 | 0,845 | 0,296 | Valid |
| 16 | 0,828 | 0,296 | Valid |
| 17 | 0,323 | 0,296 | Valid |

Source: SPSS Output Results, Processed Primary Data, 2022

While the results of the validity test for the variable Household Income of Waste Bank Customers (Y) are as follows:

Table 9. Validity Test of Household Income Variables of Waste Bank Customers (Y)

| No | R_Count | R_Table | Information |
|----|---------|---------|-------------|
| 1 | 0,911 | 0,296 | Valid |
| 2 | 0,901 | 0,296 | Valid |

Source: SPSS Output Results, Processed Primary Data, 2022

Based on the results of these calculations, the value of $r_count > r_table$, which means that the variable Household Income of the Waste Bank Customer is declared valid.

b. Reliability test

The results of the reliability test are used to determine the consistency of an instrument. In this study using Cronbach's alpha value, where an instrument is said to be reliable if it is more than the value $\alpha > r_table$ where the value of r_table is 0.296. The results of the reliability test are as follows:

Table 10. Reliability Test Results

| Variable | Cronbach Alpha | N of item | Information |
|--|----------------|-----------|-------------|
| Waste Bank Program (X) | 0,851 | 7 | Reliabel |
| Waste Bank Customer Household Income (Y) | 0,782 | 2 | Reliabel |

Source: SPSS Output Results, Processed Primary Data, 2022

From the results of the calculation above, the Cronbach alpha value $> r_table$ is 0.296, so it can be concluded that the Waste Bank Program variable and the Waste Bank Customer Household Income variable used in this study have met the level of reliability.

Classical Assumptions Test

In this study there is a requirements analysis test which consists of several tests including normality tests, multicollinearity tests, and autocorrelation tests which are calculated using SPSS Ver. 16 software.

a. Normality Test

The normality test used is the Kolmogorov-Smirnov test with an Asymp.Sig.(2-tailed) value of 0.249 > Sig. 0.05 which can be assumed that the research variables used are normal.

b. Multicollinearity test

The multicollinearity test is used to test whether in the regression model there is a high or perfect correlation between the independent variables. The multicollinearity test results show that the tolerance value is 1,000 and the VIF value is 1,000. The provisions in determining whether or not multicollinearity occurs in the data is known if the tolerance value is greater than > 0.01 and if the VIF value is less than < 10.00. So it can be assumed that the research variables used do not show symptoms of multicollinearity.

c. Heteroscedasticity Test

Heteroscedasticity test is used to test whether in the regression model there is an inequality of variance and residuals from one observation to another. The results of the multicollinearity test can be assumed that the research variables used in this study did not find symptoms of heteroscedasticity by looking at the results of the scatterplot method's heteroscedasticity test which showed the data points were spread above and below or around the number 0, did not collect only above or below, the spread of the points data points do not form wavy or straight patterns, and the distribution of data points does not have a pattern.

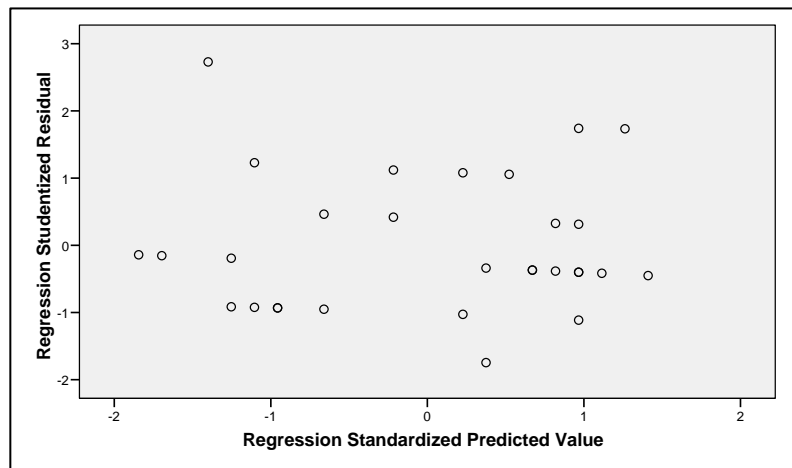


Figure 2. Heteroscedasticity Test Results

Source: SPSS Output Results, Processed Primary Data, 2022

d. Autocorrelation test

The autocorrelation test is used to determine whether there is a correlation between the research variables in the linear regression model. From the results of the autocorrelation test, it can be seen that the Durbin Waston (DW) value is 2.107, with a significance level of 0.05. Then no autocorrelation symptoms were found because the DW value was between the DL and DU values, namely $DU 1.352 < DW 2.107 < 4-DL 1.4894$.

So it can be concluded that the classical assumption test that has been carried out has fulfilled the requirements and can be carried out to test the hypothesis as needed in this study.

Hypothesis Test

This research was conducted to test whether or not there was an influence between the Waste Bank Program variable (X) on the Waste Bank Customer Household Income variable (Y). Tests were carried out using the Simple Linear Regression Test, t test, and F test.

a. Simple Linear Regression Test

This linear regression test was conducted to determine the effect of the waste bank program on the household income of the waste bank customers. The results of the simple linear regression test are as follows:

Table 11. Simple Linear Regression Test Results

| Model | Coefficients | | | t | Sig. |
|--------------------|--------------|------------|-------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 4.816 | .822 | | 5.860 | .000 |
| Waste Bank Program | -.020 | .040 | -.091 | -.491 | .627 |

Source: SPSS Output Results, Processed Primary Data, 2022

From the results of a simple linear regression test based on the significance value, it is known that the significance value is $0.627 > 0.05$, so it can be concluded that the waste bank program has no effect on the household income of waste bank customers.

b. Test t

In the t test it is known that the t_{count} value is -0.491 , while the t_{table} value with a total of 30 respondents and a 5% error rate shows a value of 2.042. So that the t_{count} value is $-0.491 < t_{table}$ 2.042, which means that the waste bank program has no effect on household income of waste bank customers.

c. Test F

The F test is used to support the results of the Simple Linear Regression Test and the t test which aims to determine whether or not there is an influence given by the Waste Bank Program variable (X) on the Waste Bank Customer Household Income variable (Y) with the following results:

Table 12. F Test Results

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|------|-------------------|
| Regression | .507 | 1 | .507 | .241 | .627 ^a |
| Residual | 58.859 | 28 | 2.102 | | |
| Total | 59.367 | 29 | | | |

Source: SPSS Output Results, Processed Primary Data, 2022

From the test results it can be seen that the F_{count} value is 0.241 which is smaller than the F_{table} value of 4.17. So that the F_{count} value is $0.241 < F_{table}$ 4.17, it can be concluded that the waste bank program variable has no effect on the household income of waste bank customers.

Based on this test, it can be concluded that there is no influence between the waste bank program on the household income of Barokah waste bank customers who are in the Rukun Warga (RW) 10 Village, Sisir Village, Batu City.

Difference Test (Paired Sample T-Test)

A Difference Test with the Paired Sample T-Test was conducted to determine the contribution of the existence of the Barokah waste bank to the income of customers of the Barokah waste bank in the Rukun Warga (RW) 10, Sisir Village, Batu City by comparing the income earned by the people who are customers of the waste bank Barokah before and after becoming a waste bank customer.

The test results show that the value of Sig. (2-tailed) of $0.000 < 0.05$, so it can be concluded that there is a significant difference between household income of Barokah waste bank customers before and after becoming customers at Barokah waste bank. Which means that the existence of the Barokah waste

bank contributes to the community in the Rukun Warga (RW) 10, Sisir Village, Batu City, which is a customer of the Barokah waste bank.

Table 13. Paired Sample T-Test Results

| Pair 1 | Mean | Std. Deviation | Std. Error Mean | t | Sig. (2-tailed) |
|---|-------------|-----------------------|------------------------|----------|------------------------|
| Household Income Before and After Becoming a Customer of the Barokah Waste Bank | -.43333 | .50401 | .09202 | -4.709 | .000 |

Source: SPSS Output Results, Processed Primary Data, 2022

The test results are supported by changes in household income from customers of the Barokah waste bank before and after becoming customers of the Barokah waste bank, namely:

Table 14. Household Income Before and After Becoming a Barokah Waste Bank Customer

| Alternative Answers | Household Income Before Becoming a Customer of the Barokah Waste Bank | | Household Income After Becoming a Customer of the Barokah Waste Bank | |
|------------------------------|--|--------------|---|--------------|
| | F | % | F | % |
| | < Rp 500.000 | 8 | 27 % | 1 |
| Rp 500.000 – Rp 1.000.000 | 14 | 47 % | 17 | 57 % |
| Rp 1.000.000 – Rp 3.000.000 | 7 | 23 % | 9 | 30 % |
| Rp. 3.000.000 – Rp 5.000.000 | 1 | 3 % | 3 | 10 % |
| > Rp 5.000.000 | 0 | 0 % | 0 | 0 % |
| Jumlah | 30 | 100 % | 30 | 100 % |

Source: Researchers, Processed Primary Data, 2022

Based on the table it can be seen that the income of customers before becoming customers of the Barokah waste bank is known that customers who have an income of less than IDR 500,000 are as many as 8 customers or 27%. Then, customers with income between IDR 500,000 to IDR 1,000,000 are 14 customers or 47%, then, customers with income between IDR 1,000,000 to IDR 3,000,000 are 7 customers or 23%. Furthermore, customers who have income between Rp. 3,000,000 to Rp. 5,000,000 are as many as 1 customer or 3%, besides that, for a range of more than Rp. 5,000,000 no one chooses it.

Meanwhile, the income of customers after becoming customers of the Barokah waste bank is known that customers who have an income of less than IDR 500,000 are as many as 1 customer or 3%. Then, customers with income between IDR 500,000 to IDR 1,000,000 are 17 customers or 57%, then, customers with income between IDR 1,000,000 to IDR 3,000,000 are as many as 9 customers or 30%. Furthermore, customers who have income between IDR 3,000,000 to IDR 5,000,000 are as many as 3 customers or 10%, besides that for a range of more than IDR 5,000,000 no one chooses it.

So it can be concluded that of the 30 people who were respondents in this community service, from 118 customers of the Barokah Waste Bank, it shows that the community of Rukun Warga (RW) 10, Sisir Village, Batu City, whose income ranged from less than and equal to (<) Rp. 500,000, - initially there were 8 people per month, when with the Barokah Waste Bank program there was only 1 person left. This is indicated by an increase in the number of families whose monthly income is between more than Rp. 500,000 - Rp. 1,000,000 from initially only 14 people to 17 people (an increase of about

10%), as well as for families whose monthly income is between more than Rp. 1,000,000 - IDR 3,000,000 from the beginning of only 7 people, increased to 9 people (an increase of about 7%), and so for families whose monthly income is between more than IDR 3,000,000 - IDR 5,000,000, from the beginning 1 person increased to 3 people (up about 7%). From this condition, it can be concluded that the income of the people in the Rukun Warga (RW) 10 Sisir Village, Batu City, which are customers of the Barokah Waste Bank, has increased their household income with the Barokah Waste Bank. It is hoped that this increase in household income can improve the welfare of their families.

Discussion

The results of data analysis in this study using a simple linear regression test, t test and F test show that the waste bank program has no effect on household income of Barokah waste bank customers who are in the Rukun Warga (RW) 10 area of Sisir Village, Batu District, Batu City. In the tests carried out with the simple linear regression test it shows that the significance value is $0.627 > 0.05$ and the results of the t test show that the t_{count} value is $-0.0491 < t_{\text{table}}$ is 2.042, and the F test value shows that the F_{count} value is $0.241 < F_{\text{table}}$ is 4, 17. This shows that the Waste Bank Program variable has no effect on the Waste Bank Customer Household Income variable.

The reason for the absence of the influence of the Waste Bank Program on Household Income of Barokah Waste Bank Customers in the Rukun Warga (RW) 10, Sisir Village, Batu City is due to the fact that the existing waste bank program has not been integrated with community training to produce craft products made from waste waste that has economic value.

The results of this study stated that the Waste Bank Program variable had no effect on the household income of Waste Bank Customers in contrast to the results of research from Nuryani (2012), Frikriyah (2018), and Ruski (2014) which stated that there was an influence between the contribution of the waste bank program and household income of waste bank customers. This was mentioned by Nuryani (2012) who stated that income increased by 1.34% from the contribution of the waste bank program. This is the same as Fikriyyah & Adiwibowo (2018) who stated in his research results that with waste management the income of waste bank customers increases by around 0.34% to 0.68% of the average household income per month. Agreeing with Fikriyyah & Adiwibowo (2018), research by Ruski (2014) explains that with the waste bank program, people's income has increased by 0.527%.

However, in measuring the contribution of the existence of the Barokah waste bank to whether there is a change in household income either before or after becoming a customer of the Barokah waste bank, the result shows that there is a change in household income from the Barokah waste bank customer before and after becoming a customer of the Barokah waste bank as indicated by the decrease in the number of customers who have income $< \text{IDR } 500,000$ from initially 27% decreased to 3%. Whereas for those who have an income between IDR 500,000 to IDR 1,000,000 increased from 47% to 57%, also those who have income between IDR 1,000,000 to IDR 3,000,000 experienced an increase from 23% to 30%, and those with income between IDR 3,000,000 to IDR 5,000,000 experienced an increase from the initial 3% to 10%. Thus, the average increase is between 7% -10%.

CONCLUSION

The conclusion of this study is based on tests conducted using simple linear regression test, t test and F test is that the hypothesis is not accepted, where the Waste Bank Program variable has no effect on the Waste Bank Customer Household Income variable, which means that there is no influence from the waste bank program on household income of Barokah waste bank customers in the 10 Rukun Warga (RW) area of Sisir Village, Batu District, Batu City, East Java. The results of this research are due to the absence of an integrated program regarding the utilization of waste waste to become handicraft products

that have economic value packaged in the form of ongoing training for the surrounding community in the Barokah waste bank area. Meanwhile, regarding the contribution of the existence of the Barokah waste bank in the Rukun Warga (RW) 10 area of Sisir Village, Batu City, based on the results of testing using the Paired Sample T-Test, it shows that there is a change in household income from people in the area who are customers of the Barokah waste bank. This change is indicated by an increase in income for some people who are customers of the Barokah waste bank.

There are limitations in this study related to the random selection of respondents, so that it cannot measure the understanding of the people in the area about the importance of the existence of a waste bank. Thus, for further research it is hoped that it will be able to map research respondents and expand the scope of the research area as well as examine other factors that can affect household income of waste bank customers

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