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## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

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**ABSTRACT:** In accordance with the provisions of Law No. 18/2008 on Waste Management, it is now necessary to change the way people view waste and how they treat or manage waste. For alternative solutions to the waste problem, the development of waste banks is a social engineering activity that teaches people to sort waste and fosters public awareness in waste management. The purpose of this study was to determine the role of Beta Waste Bank in managing plastic waste in Hative Besar Village, Teluk Ambon Sub-district, Ambon City. The type of research used in this research is descriptive qualitative. This research involves collecting data about the role of Beta Bank Sampah in managing plastic waste in Hative Besar Village, Teluk Ambon Subdistrict, Ambon City, the location of this research is Hative Besar Village, Teluk Ambon Subdistrict, Ambon City. The subjects in this study were the founders of Beta Bank Sampah and the customers of Beta Bank Sampah, totaling 12 people. The variable in this study uses a single variable, namely the waste bank manager. However, the single variable will be described with reference to the LH parliament No. 13 of 2012. In this study researchers used several data collection techniques, namely, observation, interviews, questionnaires and documentation. Based on the results of the research conducted, Beta Bank Sampah is a community that is actively engaged in efforts to maintain environmental balance by carrying out the process of recycling plastic waste into creations of economic value. good awareness efforts on environmental cleanliness especially on the impact of the threat of plastic waste that grows with the growth rate of society. and Beta Bank Sampah has helped the city government in realizing the clean Ambon program by reducing the use of plastic waste in people's lives.

**Keywords:** Beta Bank Sampah, Plastic Waste, Waste Management, Waste Bank



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## INTRODUCTION

Public education about the complex environmental problems caused by waste accumulation is needed to form public awareness (Kawecki et al., 2021; Rautela et al., 2021; Wang et al., 2021;

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

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Willis et al., 2018). Active participation of citizens is important to be identified in waste management actions. Efforts to preserve the environment must start from the individual by starting to do small things (Bening et al., 2022; Bianchini & Rossi, 2021; Zhang et al., 2022). The changes made can then be 'transmitted' into a habit in the family or community, resulting in big changes. According to (Krisnani, H., Humaedi, S., Ferdryansyah, M., Asiah, D. H. S., Basar, G. G. K., Sulastri, S., & Mulyana, 2017), changes in the way people think about household waste management to reduce waste at source through citizen participation should be integrated into community-based waste bank projects. Waste is the residue of daily human activities and/or natural processes in solid form (Law No. 18/2008 Article 1). Waste generation in urban settlements comes from households, stalls, public buildings, and home industries. Population growth in urban residential areas raises waste management problems ranging from the problem of waste generation, the need for a final waste processing site, and the environmental costs incurred (Salakory, M., Rakuasa, 2022). Waste management is a systematic, comprehensive, and sustainable activity that includes waste reduction and handling. Waste management models known today include: waste generation, on-site handling, collection, transportation, processing, and final processing (Andersson & Buser, 2022; Ferrante et al., 2018; Hussain & Mumtaz, 2014; Wahyono, 2018)

In accordance with the provisions of Law No. 18/2008 on Waste Management, it is now necessary to change the way people view waste and how they treat or manage waste. The way people view waste should no longer view waste as a useless waste product. Waste should be seen as something that has use value and benefits (Reno, 2015). In order to implement Government Regulation No. 81/2012 on the Management of Household Waste and Waste Similar to Household Waste, the practice of processing and utilizing waste must be a real step in managing waste (Santoso, S. B., Margowati, S., Dyah, K., Pujiyanti, U., Pudyawati, P. E., & Prihatiningtyas, 2021). The community must abandon the old way of just throwing garbage away by educating and familiarizing the community to sort, choose, and value waste while developing a people's economy through the development of waste banks (Alblooshi et al., 2022; Ali et al., 2019a, 2019b; Banerjee & Sarkhel, 2020; Kurniawan, D. A., & Santoso, 2020). Waste generation requires proper handling based on the number of actors, types and activities. On-site handling or waste handling at the source is the treatment of waste that still has economic value that is carried out before the waste reaches the disposal site. On-site waste handling has a significant influence on waste handling at the next stage. Handling activities include sorting, reuse and recycle to reduce the amount of waste generation (reduce). Waste collection is an activity carried out from homes or sources of waste generation to Temporary Shelters (TPS) before transportation or transfer of waste from TPS to the final processing location (TPA) (Alonso-Muñoz et al., 2022; Asteria & Herdiansyah, 2022; Kalempouw, 2021; Nizar et al., 2021).

Waste processing includes the physical transformation process of separating waste components and compacting them to facilitate storage and transportation. Combustion to convert waste into gaseous form so that its volume can be reduced by up to 95% (Wahyono, 2018). Composting of natural fertilizers from green waste and other organic materials to accelerate the decomposition process, and transformation of waste into heat and electricity. While the final processing of waste is the placement of waste in a certain place (open dumping, sanitary landfill) until the capacity of the place is no longer sufficient (Rahmawati, R., Agustiningih, S. W., & Supeni, 2021). Basically, a waste bank is a concept of collecting dry and segregated waste and has a banking-like management, but what is saved is not money but waste. Residents who save (hand over waste) are also called customers and have a savings book and can borrow money which is later returned with waste worth the money borrowed. The waste that is saved will be weighed and valued at a certain

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

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amount of money, which will then be sold at a factory that has collaborated with the waste bank (Kristyawan, 2017).

For alternative solutions to the waste problem, the development of waste banks is a social engineering activity that teaches people to sort waste and fosters public awareness in waste management (Umar, 2018). The establishment of waste banks must be integrated with the 4R program movement so that residents will benefit directly, not only economically, but also in terms of environmental health, with clean, green, comfortable, and healthy community conditions. In addition, waste banks provide social benefits by strengthening social cohesion (Chisholm et al., 2021). Other benefits economically provide an impact in the form of additional income, and benefits for the environment can reduce waste generation. The role of waste banks became important with the issuance of Government Regulation (PP) Number 81 of 2012 concerning the Management of Household Waste and Waste Similar to Household Waste. The PP regulates the obligation of producers to carry out 3R activities by producing products that use packaging that is easily decomposed by natural processes; which creates as little waste as possible; using recyclable and reusable production raw materials; and/or withdrawing waste from products and product packaging for recycling and reuse (Mahyudin, 2017). With the existence of a Waste Bank, producers can cooperate with existing waste banks in order to process waste from the products they produce in accordance with the mandate of the government regulation (Andina, 2019).

Beta Bank Sampah Was established in March 2018, the focus of Beta Bank Sampah is to reduce plastic waste in the surrounding environment and continue to educate people to live wisely in the use of plastic with customers who are mostly children in the neighborhood. The initial idea for the waste bank, said Kaka Jojo, was due to the large amount of plastic waste in the river and in the neighborhood which is not far from their house. Hative Besar Village is geographically located in a coastal area, bordered to the west by Tawiri Village and to the east by Wayame Village. Most of the residents work as fishermen and farmers. The condition of people's houses that are close to each other makes the community high in tolerance. Beta Bank Sampah emerged as a local community initiative in an effort to participate in dealing with the existing waste problem. This community-based waste management has changed the mindset of most people towards waste that has no economic value.

In Ambon city, the practice of waste banks has developed very well among young people, spearheaded by Jojo and Hani as a success story in turning waste into high economic value. Waste banks are a social activity that teaches the community to manage waste wisely and in turn will reduce the amount of waste that is transported to the landfill. The development of Beta Bank Sampah is an initial momentum to foster collective awareness of the community to start selecting, recycling and utilizing waste, because waste has a high enough selling value so that environmentally sound waste management can become a good culture in Ambon city. Waste production at Beta Bank Sampah began in March 2018 by working with children in the neighborhood or the Beta Bank Sampah complex. The waste that Beta Bank Sampah focuses on is plastic waste. Plastic waste collected by children is obtained from the area around them and then saved at Beta Bank Sampah and valued at IDR 3000/100 plastic waste, which is then processed into ecobrik. Based on this description, this study aims to determine the role of Beta Bank Sampah in managing plastic waste in Hative Besar Village, Ambon City.

## **METHOD**

This research was conducted in Hative Besar Village, Ambon City. Researchers used a qualitative type of research, namely describing in depth what it is objectively with the data collected. Qualitative method as a research procedure that produces descriptive data in the form of written or spoken words from people and observed behavior to describe and interpret objects as they are. The subjects in this study were the founders of Beta Bank Sampah and the customers at Beta Bank Sampah totaling 12 people. This study uses a single variable, namely the waste bank manager. However, the single variable will be described by referring to the Environment Ministerial Regulation No. 13 of 2012, namely waste savers, waste bank implementers, waste collectors or buyers, waste managers in waste banks and the role of waste bank implementers. Data collection techniques consist of observation, interviews, questionnaires, documentation and data analysis techniques in this study, namely description.

## **RESULT AND DISCUSSION**

### **1) Waste savers.**

#### **a. Waste Bank counseling.**

Waste Bank counseling is an activity to introduce waste banks to individuals or groups, provide knowledge, information and various abilities in order to form attitudes and behaviors that should live. The essence of waste bank counseling is a non-formal activity in order to introduce waste banks to the community to utilize and process waste into useful goods. Based on the Regulation of the Minister of Environment of the Republic of Indonesia Number 13 of 2012 concerning guidelines for the implementation of reduce, reuse and recycle, it is necessary to conduct waste bank counseling at least once every three months, and this has been done by Beta Bank Sampah in collaboration with communities of nature lovers and educational institutions from elementary to college level.

The results of the interview show that Beta Bank Sampah has conducted extension activities in several agencies and communities among various ages including the nature lovers community, namely 5 times of counseling with a percentage (55.56%), with CERDAS School (Ceria Damai Sianga Bencana), namely 1 time counseling with a percentage (11, 11%) with Himounan Islamic Students of the Faculty of Agriculture, namely 1 time counseling with a percentage of (11.11%), with SD to SMP Muhammadiyah Luhu West Seram, namely 1 time counseling with a percentage of (11.11%) and with the Peace Generation Maluku community, namely 1 time counseling with a percentage of (11.11%).



Figure 1. Socialization and counseling activities by Beta Bank Sampah Community

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

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Based on Figure 1, it can be seen how the introduction and counseling carried out by Beta Bank Sampah and based on the results of interviews with the owner of Beta Bank Sampah that the socialization and counseling activities ended with joint practical activities in making creations from waste, such as ecobrik.

### b. Trash Can Containers.

Waste containerization is the activity of temporarily accommodating waste in an individual or communal container at the source of waste. SNI 19-2454-2020 concerning Operational Engineering Methods for Urban Waste Management. Based on the results of interviews with the owner or head of the Beta Garbage Bank, the container in the form of a waste basket provided by them was obtained from the recycling of 1 piece of waste and 2 others were donated by the City Government and Mollucas coastal care.

### c. Account Book

Based on the Waste Bank Management Standards in Government Regulation No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that savers get an account book and a waste savings account number. Through the Waste Bank, Beta Bank Sampah works like other banks where Beta Bank Sampah has customers and customers certainly have a savings book that is used to save, and the savings will be collected at the end of the year or if the balance in the savings book has reached Rp 50,000 by having to leave Rp 5,000 as a balance in their savings.

### d. Waste Sorting.

The waste that you have sorted can be reused by exchanging it at the Waste Bank. Not only will you reduce the amount of waste you throw away, but you will also earn money according to the amount of waste you exchange. The waste that has been exchanged at the Waste Bank will also be recycled, one of which is by becoming handicraft products. The types of waste that can be exchanged at the Waste Bank are paper, plastic, cans. In this case Beta Bank Sampah does not use all types of waste as recycled materials but only plastic waste is recycled.



Figure 2 Waste sorting process by Beta Bank Sampah Community

The results of the interview showed that the most widely used plastic waste for making recycled works used was plastic bags with a percentage of 47.61% and snack packaging and detergents 47.61% and the lowest percentage was plastic waste type aqua bottles 4.78%. In Figure 2, it can be seen that the process of selecting plastic waste starts from cleaning plastic waste, drying it and finally the waste can be seen.

e. Waste Reduction Efforts

In order to organize integrated and comprehensive waste management and reduction efforts, fulfillment of community rights and obligations, as well as the duties and authorities of the Government and local governments to carry out public services, a legal umbrella is needed in the form of a law. The laws that regulate waste management include Law No. 18 of 2008 concerning Waste Management. The law explains the legal certainty for the people to get good and environmentally sound waste management services; firmness regarding the prohibition of entering and / or importing waste into the territory of the Unitary State of the Republic of Indonesia; order in the implementation of waste management; and clarity of duties, authorities, and responsibilities of the Government and local governments in waste management. The efforts made to reduce waste are carried out jointly by Beta Bank Sampah and the community through socialization or joint community service.



Figure 3. Community service activities to clean up trash on the beach by Beta Bank Sampah Community

**2) Implementation of Beta Bank Sampah**

a. Personal Protective Equipment Provided.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that when processing waste, personal protective equipment must be used while serving waste savers. The personal protective equipment provided by Beta Bank Sampah is gloves.

b. Handwashing Pattern and Waste Bank Director Criteria

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that members must attend Waste Bank training and there needs to be monitoring and evaluation (monev) at least once a month by holding a Waste Bank management meeting. The highest evaluation and

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

monitoring activities at Beta Bank are moneva meetings with the head of DLHP and all waste banks throughout Maluku, namely with a percentage of 50.00%, DLHO's review of BETA BANK SAMPAH with a percentage of 25.00% and reports on the development of waste banks throughout Ambon city with a percentage of 25.00%.

### c. Daily management amount and plastic waste price data.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that the number of daily managers is at least 5 (five) people. Based on the results of the interview, it is explained that the management of plastic waste begins with the calculation of plastic waste glass bottled water we value with Rp. 4,000 / Kg, crackle waste is valued at Rp. 2000 / Kg and plastic waste packaging snacks and detergents are valued at Rp. 2000 / Kg. In Beta Bank Sampah there is a plastic waste management process that begins with the counting of waste deposited by each small customer at the price of 100 pieces of plastic waste Rp3000 (a form of appreciation and education for children) and in 2020 starting in January it is still counted 100 pieces of Rp.2,000 this is done at Beta Bank Sampah because considering that plastic waste is very light and to reach 1 kg is quite a lot then we will sell it again to collectors for Beta Bank Sampah operational costs. While large bottle waste (Aqua, le mineral, and the like) we make into ecobrik containers, and for bottle caps we make curtain creations which we sell for those who are interested. The process of collecting plastic waste every day by Beta Bank Sampah can be seen in Figure 4.



Figure 4. Process of collecting data on plastic waste every day

### d. Salary or Income.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that the manager gets a salary/incentive every month. The following are the results of my interviews with Beta Bank Sampah managers and customers: Question: How much revenue is earned from each waste recycling. Answer: Manager: The main purpose of establishing Beta Bank Sampah is just to provide education and understanding for the community for the importance of protecting and caring for the environment to be free from plastic waste. So Beta Bank Sampah focuses on educating and teaching people around to care and be able to manage the plastic waste they produce from their daily activities. Usually our income comes from the sale of ecobrik chairs and tables. Where income

is not fixed every month. Usually in 1 month or 3 months the income we receive from recycled creations can be from Rp. 250,000 - Rp. 700,000. Customer: Beta Bank Sampah customers get their income from saving depending on the amount of garbage they collect. Every month they can get Rp. 20,000 - Rp. 30,000.

### **3) Waste Collectors or Buyers.**

#### **a. No Burning of Waste**

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that burning waste is not allowed. Founder Beta Bank Sampah Ambon has conducted socialization to the community about the dangers of burning waste will cause coughing reactions, shortness of breath, and dizziness, because the body is exposed to harmful substances, because plastic waste when burned will produce dioxins and furans. Where these substances in small concentrations (if they continue to accumulate and are inhaled by humans) are very dangerous, and can trigger cancer." Safe burning that does not produce hazardous substances as long as it is carried out at a temperature of 1,000 degrees Celsius and this is still difficult to do in the surrounding environment.

#### **b. Environmental Hygiene.**

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that being able to maintain environmental cleanliness such as the absence of mosquito larvae in can/bottle waste. Environmental cleanliness in the neighborhood around Beta Bank Sampah, until now, can be said to be quite good because plastic waste can be handled, and organic waste from food waste is put into the hole. organic waste from food waste is put into the biopore infiltration holes in the Beta Bank Sampah yard.

#### **c. Business License**

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that it must have a business license. There is no business license from the RT / RW, but Beta Waste Bank has become a concern for the Government of Negeri Hative Besar, where clean-up activities in Negeri Hative Besar usually bring plastic waste to Beta Bank Sampah. Meanwhile, from the city government, there is already a Decree on the Establishment of BETA BANK SAMPAH from the Ambon City Environmental Service with No. 30/2018 on the Decree of the Head of the Environmental Service: 30 of 2018 concerning the Decree of the Head of the Ambon City Environment and Solid Waste Service on the Establishment of Beta Bank Sampah Management.

### **4) Waste Management in Waste Bank (Beta Bank Sampah)**

#### **a. Tube-Worthy Waste**

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that canister-worthy waste is taken by collectors calculated per the amount of waste purchased by the manager in a day. The results of the interview explained that all plastic waste worth saving from customers for saving in a day has the same percentage, namely mineral water bottles 25%, crackle waste 25%, snack and detergent packaging waste 100% and mineral water glass waste 25%. Figure 5 shows



## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

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that tube-worthy waste such as aqua bottles, mineral water bottles and other mineral water bottles are difficult to clean by Beta Waste Bank.



Figure 5. Tube-worthy waste in the Beta Bank Sampah Community

### b. Garbage Worthy of Creation.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that waste worthy of creation is recycled by Waste Bank assisted craftsmen, all waste that is worth saving is included in waste worthy of creation because it has gone through a detailed sorting and data collection stage first before being categorized as waste worthy of creation. The survey results show that plastic waste worthy of creation has the same percentage, namely mineral water bottle waste 25%, crackle waste 25%, snack and detergent packaging waste 25% and used mineral water glass waste 25%.

### c. Coverage of Beta Bank Sampah Service Area

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that compostable waste is managed at the RT scale and / or communal scale. Currently, Beta Bank Sampah only covers the scale of Negeri Hative Besar, and Beta Bank Sampah customers are currently in RT 004, RT 010, RT 013.

### d. Number of Savers

Based on the Waste Bank Management Standards in PERMEN No.13 of 2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that the number of savers increases by an average of 5-10 savers every month, Savers or customers at the beta waste bank were originally only 12 people but a few months ago 2 people have increased so that it has amounted to 14 people. Customers at the beta waste bank are generally children with an age level of 9-15 years. The results of the interview explained that on average the most customers are between the ages of 9-12 years with a percentage of 57.14%, then at the age of 13-15 years with a percentage of 42.86% and the last at the age level of more than 15 years is none with a percentage of 0%.

### e. Waste Bank Beta Replication.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that there is a replication of the local Waste Bank to other areas. The results of the interview show that the

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

replicas of recycled plastic waste in beta waste banks, namely with the highest percentage are ecobrik 71.43%, stilts from eckobrik plastic bottles 3.57%, fish from iron and plastic 3.57%, curtains from more than one bottle cover with a percentage of 3.57% and the lowest is lanterns from used aqua glasses with a percentage of 17.86%.



Figure: 6. (a) Making a Stage from Ecobrick Bottles, (b) Ecobricks, (c) Aqua Glass Lanterns, (d) Fish Shapes Made of Iron and Plastic Waste

### 5) The role of the Waste Bank Executive

#### a. Waste Bank Beta Development and Implementation Facilitator

Based on the Waste Bank Management Standards in PERMEN No.13 of 2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that as a facilitator in the development and implementation of the Waste Bank. All Beta Bank Sampah founders Georgie Manuhwati and 1 Beta Bank Sampah Manager Gary Manuhuwa, and Beta Bank Sampah Volunteers Devi Niak, Kevin Siahaya are permanent facilitators at Beta Bank Sampah.

#### b. Waste Collection or Recycling Data.

Based on the Waste Bank Management Standards in PERMEN No.13/2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle, it is explained that providing data on "waste collectors / buyers" for Waste Banks, Until now, there has been no data on waste recycling collectors, they run it based on who has concern for the environment.

#### c. Real Action.

Beta waste bank has taken real action in the city of Ambon. They are proven to have conducted socialization to various groups and also take part in all social environmental activities in this city. There are several activities that beta waste bank has participated in, including:

#### ❖ National Waste Day.

National Waste Awareness Day was first established in 2005 right after the tragedy of the waste landslide at Leuwigajah landfill, Cimahi, West Java on February 21, 15 years ago. The existence of this commemoration day is also a trigger so that Indonesia can be clean from waste by 2020. Beta

## The Role of Beta Bank Sampah Community in Plastic Waste Management in Hative Besar Village, Ambon City

Kappy, Maimina, Latue, and Rakuasa

waste bank conducts national waste day by distributing bags for shopping that can be used repeatedly without using plastic bags, they are also involved in community service with the alliance of students and communities and the community in the village of poka rumah tiga.



Figure 7. Activities that involve Beta Bank Sampah Community

### ❖ International Waste Day.

Beta Bank Sampah worked together with Mollucas Coastal Care and all youth communities focused on the environment to succeed the global World Clean Up Day (WCD) in 2018 and 2019 in Ambon City. The success of the Ambon Clean government program by teaching how to recycle plastic waste to various groups and agencies and communities.

## CONCLUSION

Based on the research objectives, namely: "knowing the role of Beta Bank Sampah in plastic waste management in Hative Besar Village, Teluk Ambon Sub-district, Ambon City", it can be concluded that:

1. Beta Bank Sampah is a community that is actively engaged in efforts to maintain environmental balance by recycling plastic waste into creations with economic value.
2. Beta Bank Sampah has directly collaborated with various communities in an effort to raise awareness on environmental cleanliness, especially on the impact of the threat of plastic waste that is growing along with the level of community growth such as: the nature lovers community, CERDAS (Ceria Damai Siaga Bencana) school, HMI Faculty of Agriculture Unpatti, SD-SMP Muhammadiyah Luhu SBB and Peace Generation Maluku.
3. On average, the most respondents were from the >20 years age group, namely 5 people (38.46%)
4. Based on the level of education, the most respondents were at the elementary school level, namely 6 people with a percentage of 46.15%.
5. Based on the gender of the respondents, the most respondents were women with a total of 9 people with a percentage of 69.23%.
6. Based on the occupation of the respondents, the most are students and students, namely 11 people with a percentage of 84.61%.
7. Waste worthy of tubes in beta waste banks are mineral water bottles, crackle, snack packaging and detergents and used mineral water glasses.
8. Waste worthy of creation in beta waste banks are mineral water bottles, crackle, snack packaging and detergents and used mineral water glasses.
9. The coverage area of the beta waste bank service is Hative Besar RT 004, 010 and 013.

10. The average number of customers in the beta waste bank is between 9-12 years old
11. Replicas of recycled beta waste bank products are stilts from ecobrik plastic bottles, fish replicas from iron and plastic, door curtains from bottle caps, ecobrik and lanterns from used mineral water glasses.
12. Beta waste bank actively participated in national and international activities such as: national waste day in Cimahi and international waste day in word clean up day activities in 2018 and 2019 in Ambon city.

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