

Strengthening Environmental Awareness through Waste Bank Activities

Syaharuddin^{1*} Mutiani¹ Hidayanti¹

¹*Social Studies Education Department, Faculty of Teacher Training and Education, Lambung Mangkurat University, Banjarmasin, Indonesia*

^{*}*Corresponding author. Email: syahar@ulm.ac.id*

ABSTRACT

The problem of waste becomes a complex problem faced by every region in the world. Ideally, waste management must be carried out comprehensively and consistently. Thus, it is expected that a reduction in landfill waste at the Temporary / Final Disposal Site (TPS / TPA). One solution that can be done is by promoting the Waste Bank in each village. This article aims to describe the activities of the Gemilang Garbage Bank in Guntung Manggis Village, Landasan Ulin District, Banjarbaru City. A qualitative approach is used to describe the results of research in the form of descriptive narratives. Data collection techniques passed through observation, interviews, and documentation. The interactive model of Miles and Huberman is used to get saturated data. The results of the study describe that in 2018 Gemilang Garbage Bank won the top six at the level of South Kalimantan Province. The management and customers of Gemilang Garbage Bank have their respective roles in managing the environment, especially waste management in the Berlina Jaya III Complex, RT. 17. Bank Sampah Gemilang's management and customers synergize in the achievements of Gemah Sampah Bank as an effort to create a green, clean, healthy, and beautiful environment accompanied by a more prosperous life. The entire achievements of Gemilang Garbage Bank indirectly raise environmental awareness in the form of 3R behavior (reduce, reuse, and recycle). The management and customers of Gemilang Garbage Bank have their respective roles in managing the environment, especially waste management in the Berlina Jaya III Complex, RT. 17. Bank Sampah Gemilang's management and customers synergize in the achievements of Gemah Sampah Bank as an effort to create a green, clean, healthy, and beautiful environment accompanied by a more prosperous life. The entire achievements of Gemilang Garbage Bank indirectly raise environmental awareness in the form of 3R behavior (reduce, reuse, and recycle). The management and customers of Gemilang Garbage Bank have their respective roles in managing the environment, especially waste management in the Berlina Jaya III Complex, RT. 17. Bank Sampah Gemilang's management and customers synergize in the achievements of Gemah Sampah Bank as an effort to create a green, clean, healthy, and beautiful environment accompanied by a more prosperous life. The entire achievements of Gemilang Garbage Bank indirectly raise environmental awareness in the form of 3R behavior (reduce, reuse, and recycle).

Keywords: *Garbage, garbage bank, and environmental awareness.*

1. INTRODUCTION

Humans and their environment as a whole that affect each other, some interactions cannot be separated in it. Humans use the environment to meet their needs as well as the environment managed by humans to maintain their existence. Humans are very dependent on the environment where they live in both the physical environment and the social environment [1]. The environment becomes part of human life and influences the perspective of human behavior towards the environment where humans are formed by their environment and vice versa humans also shape their environment [2], [3]. The interaction made by humans and their environment has been going on for a long time, but humans in utilizing the environment and its resources pay less attention to the reciprocal relationship between themselves and their environment. Earth is 4.5

billion years old and since 3.5 billion years ago life on earth has existed. Humans lived their lives on this earth about two to three million years ago since then life on earth walks with harmony and attention to the balance between life the other [4].

Changes have occurred since the last two centuries where human activity has shown significant impacts on the environment and its resources [5]. The serious impact of human activities began to be proven in the last half-century. Human activities have an impact on the environment and its resources pose a serious threat to the survival of life on earth. Human activity in meeting needs leaves one big problem, namely waste. Indonesia produces around 725 million liters of waste from the population. This means that the waste that appears in Indonesia is 40 - 45 million tons per year [4], [6].

Law Number 18 the Year 2008 concerning Waste Management and Government Regulation Number 81 the Year 2012 mandate the need for a fundamental paradigm shift in waste management, which is from the collecting-transport-disposal paradigm to processing that relies on waste reduction and waste management. The waste management paradigm that relies on the final approach is the time to be abandoned and replaced with a new paradigm. The paradigm that considers waste as a resource that has economic value and can be used, for example, for energy, compost, fertilizer, and industrial raw materials.

Waste management can be done with a comprehensive approach. The intention is to start from upstream, ie since a product that has the potential to become waste has not yet been produced [7][8]. Continue to the downstream, which is the production phase has been used, so it becomes garbage, which is then returned to the environment media safely. Waste reduction activities aim at all levels of society, both government, business, and the wider community; carry out activities to limit waste generation, recycling and reuse of waste or better known as Reduce, Reuse and Recycle (3R) through smart, efficient and programmed efforts [9], [10]. Nevertheless, this 3R activity still faces major obstacles, namely the low awareness of the community to sort waste. To provide habituation to the community, 3R activities can be internalized through the garbage bank program. This article aims to describe how public environmental awareness arises due to the existence of a waste bank.

2. RESEARCH METHODS

This research is a descriptive study with a qualitative approach. Qualitative research is a research procedure that produces descriptive data in the form of written or oral words from people and observed behavior [11]. Descriptive research is a form of research aimed at describing or describing existing phenomena, both natural phenomena and human engineering [11]. The purpose of descriptive research is to make a systematic, factual, and accurate description of the facts and the nature of a particular population or area. The informant is the management and customers of the Gemilang Garbage Bank, the Banjarbaru City Government, which is the Cleanliness Manager of the Banjarbaru City Environment Agency, the Head of the Guntung Manggis Village LPM,

Data collection techniques include: 1) participatory observation, where the researcher is directly involved with the daily activities of the person being observed or used as a source of research data, 2) structured interviews so that they are directed and focused on the intended purpose and avoid too broad a conversation, 3) documentation to explore data in the form of photographs of service conditions and other service conditions. Data analysis techniques according to Miles and Huberman with three activities, namely data reduction, data presentation, and drawing conclusions or verification [11]–[13]. The data validity technique is used triangulation techniques. Triangulation is a testing technique by verifying, changing, and extending

information from one actor to another and or from one actor to saturation [14].

3. RESULTS AND DISCUSSION

Gemilang Garbage Bank is located in Berlina Jaya III Complex, Jalan Anggrek, RT. 17, RW.2, Kelurahan Guntung Manggis, Landasan Ulin District, Banjarbaru City, South Kalimantan Province. The Gemilang Garbage Bank Building stands on the land of public facilities RT 17. The physical building of Gemilang Garbage Bank consists of two parts, namely a warehouse to store customer deposited rubbish and Gemilang Garbage Bank Secretariat that stands right next to the warehouse. The back of the physical building of the Gemilang Garbage Bank is bordered by the Trikora road. Around the Gemilang Garbage Bank, there is a TOGA (Family Medicinal Plants) plantation managed by the TOGA RT 17 group. Gemilang Garbage Bank received a Village Decree on December 31, 2013. Gemilang Garbage Bank Building was completed on January 20, 2014, and was inaugurated on January 29, 2014, by the Mayor of Banjarbaru in that period, HM Ruzaidin Noor. The Gemilang Garbage Bank has a motto that is to like to sort out the waste directly weighing in money. Its mission is so that citizens care about a green, clean, healthy, and beautiful environment.

The reason for the establishment of a garbage bank in the Guntung Manggis is due to the desire of the Guntung Manggis Kelurahan to succeed the Banjarbaru City Government program, Green and Clean. According to Kiswono (68 years old) Chairman of the LPM (Community Empowerment Institute) Guntung Manggis Kelurahan. The initial plan of the Guntung Manggis Kelurahan target is that every RW (Rukun Warga) has a waste bank. RT (Neighborhood Association) in Guntung Manggis Urban Village.

Garbage banks are indeed expected to exist in every RT in Guntung Manggis Urban Village. Bank Sampah Gemilang can stand and be able to walk consistently until now certainly cannot separate the roles of the management and customers of Bank Sampah Gemilang. Bank Sampah Gemilang Bank's management and customers work together in the achievements of Gemah Bank Sampah as an effort to create a green, clean, healthy, and beautiful environment with a more prosperous life. Management and customers show a form of environmental stewardship through their respective roles.

Appeal to form rubbish in Komplek Berlina Jaya III in RT. 17 have obstacles to invite citizens to save at Gemilang Garbage Bank. The constraints can be resolved after the RT chief. 17 Hj. Faridah invites its citizens to take part in socialization and education from the Village Head, Guntung Manggis, namely Indra Putera. Residents came to understand why waste segregation should be carried out and distributed to the waste bank. Gemilang Garbage Bank customers also receive education from Gemilang Garbage Bank management. Education is provided through hands-on experience sorting waste according to its type, greening by planting plants in the yard and cleaning the complex environment. Gemilang Garbage Bank customers,

amounting to 70 active customers, is based on the savings that are still stored in Gemilang Garbage Bank. According to Nurdinah (40 years), 70 bank customers in the waste bank are still active as customers, even though every time the Gemilang Garbage Bank opens a deposit service, not all of them come. This is as revealed by Faridah that dry waste of the type purchased by Gemilang Garbage Bank from customers cannot always be collected weekly. So there is a turnover of customers who save every two weeks at Gemilang Garbage Bank.

Waste management activities at Gemilang Garbage Bank are carried out using the 3R principle. Reducing activities or all kinds of activities carried out to reduce waste generation. Reuse or reuse activities, namely the reuse of waste that is fit for use for the same function or another. The activity of recycling or recycling waste is waste management to become a new product. Waste management activities using the 3R principle are carried out by management and customers.

The application of the principle of reducing that can be seen from the activities of Gemilang Garbage Bank customers is the process of sorting waste by the customer at home and then deposited into the waste bank. Based on Government

Regulation No. 81 of 2012 concerning Management of Household Waste and Similar Household Waste (kppip.go.id accessed December 23, 2019), what is meant by "limitation of the waste generation" is an effort to minimize waste generation that is carried out since before the production of a product and/or product packaging until the end of product usability and/or product packaging. Examples of implementing waste generation restrictions include:

- a. The use of goods and / or packaging that can be recycled and easily decomposed by natural processes;
- b. Limit the use of plastic bags; and / or
- c. Avoid using disposable goods and / or packaging.

Waste that is deposited by the customer to Gemilang Waste Bank will be exchanged for money. The customer has the right to choose to immediately take or save. The waste bank work system is carried out on a household-based basis, by giving rewards to those who have succeeded in sorting and depositing some waste [9], [15]. The waste that the customer deposits at Gemilang Garbage Bank show the form of the customer's ability to manage waste to be of economic value.

Table 1 Report Per Semester of Waste Purchase at Gemilang Garbage Bank

Year	Semester (6 months)	Trash (kg)	Savings (Rp)
2014	I	2,567	2,806,300
	II	1,495	2,220,900
2015	I	2,351,9	3,562,555
	II	2,084,8	2,813,770
2016	I	1,817,7	2,355,700
	II	1,327,4	1,563,625
2017	I	1,278.8	1,544,350
	II	884.8	1,422,160
2018	I	1,009.2	1,576,390
	II	1,219,6	2,065,720
2019	I	1,323,7	2,240,346

Source: Gemilang Garbage Bank Documents, processed sources.

Customers are helped by the existence of Gemilang Garbage Bank in their neighborhood. Nasabah feels the benefits of saving in Gemilang Garbage Bank. Waste that was once considered a useless citizen and just thrown away turns out that with Gemilang Garbage Bank the residents have begun to understand the importance of garbage. Gemilang Garbage Bank customers can carry out waste management done by sorting household waste. The household waste referred to is obtained from the daily

consumption of customers. Knowledge in sorting waste is obtained by the customer through socialization by Gemilang Bank Waste Management. Customers deposit garbage and get money in the form that can be directly taken or saved and can be used to meet the needs of life the customer. Application of the principle of reuse by customers by reusing waste that is still suitable for use. Garbage is used by customers as decoration and as a container for plants.



Figure 1 Form of Application of the principle of Reuse of Gemilang Garbage Bank Customers
Source: Personal Documents, photos were taken on 4 August 2019.

Gemilang Garbage Bank customers apply the reuse principle, which is to reuse waste that is fit for use with the same function or other functions. This is as stated in Government Regulation No. 81 of 2012 concerning Management of Household Waste and Similar Household Waste (kppip.go.id accessed December 23, 2019) as referred to as "waste reuse" is an effort to reuse waste following the same function or different functions and / or reuse parts of waste that are still useful without going through a processing process first. The application of the reuse principle by Gemilang Garbage Bank customers can be seen from the use of the garbage container used for wall paint. The application of the reuse principle can also be seen from utilizing used bottles of mineral water like flower pots. Another use is to use a used bucket as a place for plants.

The principle of recycling or recycle waste according to Government Regulation No. 81 of 2012 concerning Management of Household Waste and Trash of Similar Household Trash (kppip.go.id accessed 23 December 2019) as referred to as "recycling of waste" is an effort to use rubbish into goods useful after going through a process of processing first. Customers make use of the recycle principle, as seen in the manufacture of shopping baskets made from plastic waste from drink wrappers or plastic cups. The use of the recycling principle can also be seen from the use of pen and ruler containers made from used newspapers. Making compost using a composter tube is also part of the application of the recycle principle by Bank Sampah Gemilang customers.

Environmentally conscious behavior is also raised in everyday life, where greening and cleaning up the environment continues. The caretaker called on his customers to have plants in their yards. The management even gave a part of the plant and planted it in front of the housing complex or front of the customer's house. Observations made by researchers showed that the activity of watering plants carried out every morning or evening. Joint planting activities have been carried out beside the Gemilang Garbage Bank, namely the existence of TOGA plants or Family Medicinal Plants which is also carried out with the PKK RT.17 team. Environmental clean-up

activities are also carried out by appealing to customers through the Dasawisma group in RT.17.

4. CONCLUSION

Gemilang Garbage Bank building was built on the land of public facilities RT. 17. The physical building of the Gemilang Garbage Bank was built from the contribution of Gemilang Garbage Bank customers. Received SK Guntung Manggis Urban Village on December 31, 2013. It was completed on January 20, 2014, and was inaugurated by the Mayor of Banjarbaru on January 29, 2014. Getting assistance from the Village in the form of money and scales as well as from the Office of the Environment in the form of scales, uniforms, t-shirts hands, sacks, composter tubes, and garbage transport vehicles. In 2015 Faridah President Director of Bank Sampah Gemilang won 1st place in an environmental competition and received money which was partly used to build the secretariat of the Bank Sampah Gemilang. In 2016 Gemilang Garbage Bank won first place in the category of community garbage bank in Banjarbaru City. In 2018 Gemilang Garbage Bank ranked in the top six at the level of South Kalimantan Province. The management and customers of Gemilang Garbage Bank have their respective roles in managing the environment, especially waste management in the Berlina Jaya III Complex, RT. 17. The management and customers of Bank Sampah Gemilang synergize in the achievements achieved by Bank Sampah Gemilang as an effort to create a green, clean, healthy, and beautiful environment accompanied by a more prosperous life. The role of the management and customers of Gemilang Bank shows the existence of environmental awareness as evidenced by the activities of the management and customers of Gemilang Bank in managing the environment, especially in waste management. Environmental awareness can be seen through three indicators namely knowledge, concrete attitudes.

REFERENCES

- [1] M. Mutiani, "IPS dan Pendidikan Lingkungan: Urgensi Pengembangan Sikap Kesadaran Lingkungan Peserta Didik," *SOSIO-DIDAKTIKA Soc. Sci. Educ. J.*, vol. 4, no. 1, pp. 45–53, 2017.
- [2] S. Otto and P. Pensini, "Nature-based environmental education of children: Environmental knowledge and connectedness to nature, together, are related to ecological behaviour," *Glob. Environ. Chang.*, vol. 47, pp. 88–94, 2017.
- [3] M. Mutiani, "Pemanfaatan Puisi Sebagai Sumber Belajar Ips Untuk Menumbuhkan Kesadaran Lingkungan Peserta Didik Di SMP Negeri 6 Banjarmasin," *J. Pendidik. Ilmu Sos.*, vol. 24, no. 2, pp. 199–208, 2015.
- [4] W. Singhirunnusorn, K. Donlakorn, and W. Kaewhanin, "Contextual factors influencing household recycling behaviours: A case of waste bank project in Mahasarakham municipality," *Procedia-Social Behav. Sci.*, vol. 36, pp. 688–697, 2012.
- [5] R. M. Mancha and C. Y. Yoder, "Cultural antecedents of green behavioral intent: An environmental theory of planned behavior," *J. Environ. Psychol.*, vol. 43, pp. 145–154, 2015.
- [6] A. P. Triana and E. Sembiring, "Evaluasi Kinerja Dan Keberlanjutan Program Bank Sampah Sebagai Salah Satu Pendekatan dalam Pengelolaan Sampah dengan Konsep 3R," *J. Tek. Lingkungan.*, vol. 25, no. 1, pp. 15–28, 2019.
- [7] C. S. Lai, "A Study of Fifth Graders' Environmental Learning Outcomes in Taipei," *Int. J. Res. Educ. Sci.*, vol. 4, no. 1, pp. 252–262, 2018.
- [8] N. Cardellicchio, C. Annicchiarico, A. Di Leo, S. Giandomenico, and L. Spada, "The Mar Piccolo of Taranto: an interesting marine ecosystem for the environmental problems studies," *Environ. Sci. Pollut. Res.*, vol. 23, no. 13, pp. 12495–12501, 2016.
- [9] A. S. Suryani, "Peran bank sampah dalam efektivitas pengelolaan sampah (studi kasus bank sampah Malang)," *J. Aspir.*, vol. 5, no. 1, pp. 71–84, 2014.
- [10] P. Walter, "Local knowledge and adult learning in environmental adult education: Community-based ecotourism in southern Thailand," *Int. J. Lifelong Educ.*, vol. 28, no. 4, pp. 513–532, 2009.
- [11] B. A. S. Afifuddin and B. A. Saebani, "Metodologi Penelitian Kualitatif, Bandung, Cv," *Pustaka Setia*, 2012.
- [12] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta CV, 2017.
- [13] M. Kasiram, "Metodologi penelitian: Kualitatif–kuantitatif." Uin-Maliki Press, 2010.
- [14] J. W. Creswell and J. D. Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications, 2017.
- [15] E. A. Fulton *et al.*, "A multi-model approach to engaging stakeholder and modellers in complex environmental problems," *Environ. Sci. Policy*, vol. 48, pp. 44–56, 2015.