FACTORS AFFECTING COMMUNITY PATICIPATION IN THE WASTE BANK PROGRAM IN THE CITY OF SEMARANG

Melissa Azalea Gunawan[1], Mohammad Mirza Ansyori[2]
Universitas Kristen Satya Wacana, Indonesia[1,2]

ARTICLE INFO	ABSTRACT
Keywords: knowledge, attitudes, education, employment, facilities, benefits participation, waste bank.	Waste management in developing countries still uses burning and open dumping methods. Likewise, in the City of Semarang, with an area of 373.7 Km2, 16 Districts, and 177, 1,200 tons of waste are released every day, and 438,000 tons of waste production every year. Regarding the volume of waste, the Head of the Semarang City Environment Service appealed to the people of Semarang City to be able to manage waste and activate the Garbage Bank in the city of Semarang. The research use quantitative methode, the sample of this study was 171 with multiple regression analysis using SPSS version 21 software. The results of research include there are significant effect between knowledge and attitudes to the engagement of community in the waste bank program. Moreover, there are no significant effect between education level, employment, attitudes, facility and benefit to the engagement of community in the waste bank program. Factors of knowledge, attitudes, education, employment, facilities, and important benefits in the engagement of community in the waste bank.
E-mail: melz1806@gmail.com mirza.ansyori@uksw.edu	

1. INTRODUCTION

Today population growth is still a problem, especially for developing countries in the world. Population growth and the increase in public consumption cause an increase in the amount of waste produced. The waste generated annually is estimated to reach more than 4 billion tonnes and will increase to 72% by 2025 (World Bank, 2012). In Indonesia, the amount of waste generated reached 65.2 million tons in 2016 and will continue to increase to 70.8 million tons in 2025 (Ministry of Environment RI, 2017). The amount of waste generated in Semarang Regency in 2017 was 1,945.75 m3/day and is expected to continue to increase to 2,489.87 m3/day in 2032 (Environmental Service, 2017).

Waste management in developing countries still uses burning and open dumping methods. It can cause serious health and environmental problems, such as the development of disease vectors and global warming (WHO, 2015). Piles of organic waste in landfills produce CH4 gas (p=0.015) and H2S (p=0.038), which affect complaints of respiratory problems (Andhika et al., 2015). Poor waste management harms developing countries' environmental quality and public health (Kouame et al., 2014). Abul's research (2010) stated that people living in the waste management center area experience the effects of malaria, shortness of breath, cholera, and diarrhea. Research conducted by Oloruntoba et al. (2014) in Nigeria showed that the method of waste management utilizing shared disposal has a relationship with the incidence of diarrhea in toddlers (p=0.011).

Waste management by open dumping can create a breeding ground for flies which causes the incidence of diarrheal diseases to increase (Addo et al., 2014). Another study by Nida (2014) in Tangerang stated that waste segregation activities had a significant relationship with the risk of diarrhea in infants (p = 0.035). The study also stated that respondents who did not carry out waste segregation would cause their babies to have 5,189 times the risk of getting diarrhea. Carles' research (2017) conducted in Pekanbaru found that poor waste processing behavior and the density of flies in the waste management area affected symptoms of diarrheal disease (p = 0.0001). In Indonesia, the number of cases of diarrhea in health facilities in 2017 reached 7,077,299 cases, which increased compared to 2016 with 6,897,463 cases of diarrhea. (Ministry of Health RI, 2017). In Central Java, the number of cases of diarrhea has increased from 911,901 cases in 2016 to 924,962 cases in 2017 (Central et al. Office, 2017). Meanwhile, in Semarang Regency, the number of cases of diarrhea fluctuated from 2010 to 2016. The number of cases in 2010 was 16,596 and continued to increase until 2013. In 2016 the number of cases of

diarrhea in Semarang Regency increased from the previous year of 20,447 cases. (Semarang District Health Office, 2016).

Implementing 3R activities is still constrained due to low the engagement of community (Ministry of Environment, 2012). The engagement of community in waste management is still limited to disposal (Yuliana & Haswindy, 2017). As many as 50.1% of households manage waste by burning it, 9.7% dispose of it carelessly, and only 8.75% use waste (BPS, 2014; Riskesdas, 2013). In Central Java, 76.01% of households manage waste by burning it and throwing it into pits, 11.52% throw garbage in trash cans, and 4.73% throw it into rivers and ditches (BPS, 2014). The engagement of community in sorting waste is 11.09% of households that have sorted waste according to its type (BPS, 2014).

One form of the engagement of community in the waste bank program is sorting waste before depositing it into the waste bank. Research conducted by Mujiburrahmad and Firmansyah (2014) showed a relationship between respondents' ability to sort waste (p=0.0001) and the engagement of community in the waste bank program. People who sort waste do so to sell the waste and earn income (Banga, 2011). According to Posmaningsih (2016), the economic benefits obtained by the community affect the engagement of community in managing waste (p=0.0001). Manalu (2013), in his research, showed that the benefits obtained from the waste bank were significantly related to the engagement of community in the program (p=0.007).

The availability of waste management facilities such as segregated waste bins contributes to the community's participation in waste management. The convenience obtained with the existence of waste segregation facilities will motivate The community to carry out waste management activities. Maulina (2012), in his research, showed that the availability of sorting bins affected the engagement of community in waste sorting (p=0.016). The availability of trash bins also has a significant relationship with the engagement of community in the waste bank program (p=0.014) based on Manalu's research in Medan Denai District. Likewise, in the City of Semarang, with an area of 373.7 Km2, 16 Districts, and 177 Villages (Semarang City Environment Service, 2017), 1,200 tons of waste are released every day (Tribun Jateng, 2019), and 438,000 tons of waste production every year (Environmental Service) (Semarang City, 2017). Regarding the volume of waste, the Head of the Semarang City Environment Service, Mutohar, appealed to the people of Semarang City to be able to manage waste and activate the Garbage Bank in the city of Semarang (Central et al., 2019). According to the Semarang City Environment Service (DLH), the amount of waste produced in Semarang City in a day has increased to 1,110 tons per day since the pandemic. This number has gone up from the start of the last pandemic when it was only 900 tons per day. The increase in waste production in Semarang is influenced by community activities that have started to normalize, along with reducing the number of Covid 19 cases and relaxing some community activities outside the home. Four main regulations form the basis of waste management in the city of Semarang, namely:

1   The Indonesian Law Number 18 of 2008 is about how waste should be managed.
2   Presidential Regulation Number 97 of 2017 is about the rules and plans for managing household waste and similar types of waste in the country.
3   This is a regulation made by the government of Semarang City in 2012. It is about how waste should be managed in the city.
4   The text is about a regulation made by the mayor of Semarang in 2018. It is about how to manage household waste and similar waste in the region.

Technically, the Semarang City Environment Service (DLH) handles waste problems by taking it, storing it in the Waste Collection Site (TPS), and disposing of it to the TPA (Final et al.) (Kustyardhi et al., 2008) and applying the 3R (Reduce) concept. , Reuse, Recycle) according to JAKSTRADA.

The TPA that has been provided still needs to be more to overcome the volume of waste generated by the people of Semarang City. The Semarang City Government anticipating the overload at the Jatibarang TPA by implementing an integrated waste management system through the Integrated Waste Management Site (TPST) / TPS 3R, which is at the sub-district level (Kustyardhi et al., 2008).

Talking about waste management upstream certainly cannot be separated from the role of the Garbage Bank. To reduce waste and change people's behavior, the Waste Bank is a very important element. In 2019, there were 48 Waste Banks that actively managed the waste released by the community (Syarifudin et al., 2019)

2. METHOD

The research used is quantitative. This way of doing things is quantitative since the information collected involves numbers, and the examination of the data uses statistics. The sample of this study was 171 customers who filled out the Mulyo Sedoyo Garbage Bank questionnaire. The data analysis used in this study was multiple regression analysis using SPSS version 21 software.

3. RESULTS AND DISCUSSION
Result

Table 1. Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test				Unstandardized Residual
N				164
Normal Parameters[a,b]	Mean			.0000000
	Std. Deviation			1.30760925
Most Extreme Differences	Absolute			.082
	Positive			.082
	Negative			-.052
Test Statistic				.082
Asymp. Sig. (2-tailed)				.010[c]
Monte Carlo Sig. (2-tailed)	Sig.			.218[d]
	99% Confidence Interval	Lower Bound		.208
		Upper Bound		.229
a. Test distribution is Normal.				

Source: Primary data processed, 2023

The residual normality test results with Kolmogorov-Smirnov show a Monte Carlo.Sig value of 0.218. Based on the output table, the Asymp.Sig test value > α value (0.05), so it can be concluded that the residuals of the regression model are normally distributed.

Table 2 Multikolinieriety Test

Coefficients[a]		
Collinearity Statistics		
Model	**Tolerance**	**VIF**
1X1	.651	1.537
X2	.704	1.420
X3	.732	1.366
X4	.614	1.629
X5	.603	1.657
X6	.686	1.458
a. Dependent Variable: Y		

Source: Primary data processed, 2023

By examining the VIF (Varian Inflation Factor) value, it is determined that none of the variables has a VIF value greater than 10 and a tolerance value lower than 0. 10 So, we can say that there is no issue of multiple independent variables being related to each other.

Table 3 Heteroscedaciticy Test

Variable	T hitung	T table (df = 169)	Sig.
sikap	1.284	1,65392	0.203
pendidikan	0.085	1,65392	0.932
pengetahuan	0.653	1,65392	0.515
penghasilan	-0.164	1,65392	0.870
fasilitas	-0.852	1,65392	0.397
manfaat	-0.207	1,65392	0.837

Based on the table above, it can be seen that all calculated t values are smaller than table t values at df = 169. The sig or p values are all greater than 0.05, so we can say that there are no symptoms of heteroscedasticity in the model.

Table 4 F Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	107.607	6	17.934	10.103	.000[b]
	Residual	278.704	157	1.775		
	Total	386.311	163			

a. Dependent Variable: Y
b. Predictors: (Constant), X6, X3, X2, X4, X1, X5

Source: Primary data processed, 2023

The results of the model test taking into account the probability value on the F test obtained a p value of 0.000. Based on the table, the results obtained are sig 0.000 <α value (0.05), this shows that X1, X2, X3, X4, X5, and X6 have a significant influence simultaneously on the engagement of community (Y).

Table 5 T Test

Coefficients[a]

Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.763	2.136		1.294	.198
X1	.338	.122	.232	2.766	.006
X2	.364	.097	.303	3.751	.000
X3	-.453	.297	-.121	-1.527	.129
X4	.318	.200	.138	1.594	.113
X5	-.051	.137	-.033	-.375	.708
X6	-.262	.176	-.122	-1.492	.138

a. Dependent Variable: Y

Source: Primary data processed, 2023

Tabel 6 Hasil Uji Koefisien Determinasi

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528[a]	.279	.251	1.33236

a. Predictors: (Constant), X6, X3, X2, X4, X1, X5

Source: Primary data processed, 2023

By looking at the test results of all the models, we found that the R Square value is 0. 279 or 279% Y can be explained by X1, X2, X3, X4, X5, and X6 for 27. 9% of the total influence. The remaining 72. 1% of the influence comes from other factors that are not related to X1, X2, X3, X4, X5, and X6..

Discussion

The effect of knowledge on the engagement of community in the waste bank program.

Testing the effect of knowledge on the engagement of community in the waste bank program obtained a regression coefficient of 0.338 with a significance value of 0.006, so there is a significant influence between knowledge and the engagement of community in the waste bank program. The relationship between the two is positive because the regression coefficient is positive. It means that the higher the knowledge, the higher the the engagement of community will be, and vice versa.

Knowledge is the most important dominant for forming one's actions (over behavior). From the results of the study, it can be seen that 104 respondents (60.8%) have average knowledge, 49 people (28.7%) have low knowledge, and 18 people (10.5%) have high knowledge. Hence, most of the sample has good knowledge about waste banks. According to Notoadmojo (2007), behavior based on knowledge and awareness differs from that not based on knowledge and awareness because behavior based on knowledge and awareness will last longer than behavior based on knowledge and awareness. It is influenced by the need for more information obtained from socialization regarding waste management carried out by the government; besides that, information is also lacking from neighbors, family, and friends. So it is necessary to provide counseling and socialization regarding waste management so that the community has good knowledge of waste management. Meanwhile, according to Wahid et al. (2007)

in Furnanda (2012), the ease with which a person can obtain information can help speed up a person's knowledge acquisition.

The results of this study are in line with the results of research conducted by Selomo et al. (2013), Haryana (2015), and Solihin (2018) that there is a relationship between the level of knowledge and the engagement of community in saving waste banks. It can be concluded that information and education levels greatly influence public knowledge. However, this study's results align with the research conducted by Jailan (2016) regarding the waste management system and efforts to deal with waste in the Dufa-dufa village, Ternate City. The results of Jailan's research show that, in general, the community's knowledge of waste management could be in a better category. Communities get less information about good waste management from socializations held by the government.

The influence of attitudes towards the engagement of community in the waste bank program.

Testing the effect of attitudes on the engagement of community in the waste bank program obtained a regression coefficient of 0.364 with a significance value of 0.000, indicating a significant influence between attitudes towards the engagement of community in the waste bank program. Given that the regression coefficient is positive, the relationship between the two is positive. It means the higher the altitude, the higher the community participation, and vice versa.

In this study, attitude is the view or response of respondents to waste management. As Allport (1954) mentioned in Furnanda (2012), attitude is a concept formed by yoga components, namely cognitive, affective, and behavioral. The cognitive component contains all thoughts and ideas related to the attitude object. The content of a person's thoughts includes things he knows about the attitude object. It can be in the form of responses or beliefs, impressions, attributions, and assessments of objects. The existence of an affective component of the attitude can be known through feelings of sum or dislike, pleasure, or displeasure towards the object of the attitude. Newcomb, a social psychologist, stated that attitude is a readiness or willingness to act, and the moon is the implementation of certain motives. Attitude is not yet an action or activity but a predisposition to a behavior. That attitude is still a closed reaction, not an open reaction/open behavior.

If people recognize and have extensive knowledge about the attitude object, accompanied by positive feelings about their cognition, then they will tend to approach the attitude object. Conversely, if people have negative assumptions, knowledge, and beliefs accompanied by feelings of displeasure towards the attitude object, they are inclined to stay away from it (Fernanda, 2012). Furthermore, attitudes influence involvement since participation comprises mental and emotional components. According to Davis et al. (1987), participation is defined as a person's mental and emotional involvement in a group environment that inspires him to contribute to accomplishing group goals and sharing responsibilities. Beliefs and feelings about something influence these mental and emotional variables. The research respondents' beliefs and feelings influenced their involvement in the programme in the setting of this study.

involvement is also affected by attitudes because involvement entails awareness of what is thought and wanted. According to Campbell and Jovchelovitch (2000), one of the most significant parts of community engagement is action based on understanding of who one is, what one wants, and how one sees oneself in the future. According to studies on the relationship between attitudes and behaviour, a person's attitude towards an object influences their behaviour, including involvement (Bechler et al., 2021; Ife, 1995; Marcinkowski & Reid, 2019). Individual views towards a programme or policy, as a result, will influence participation (Pratkanis et al., 2014; Schreurs and al., 2018).

This research agrees with the previous studies done by Rohmatin and Tucunan in 2014, Erfinna in 2012, and Laor and others. In the year 2017, Malik and his colleagues studied this topic. In 2015, a study found that people's attitudes affect how involved they are in waste management in their communities. A study by Astuti and Linart (2018) found that people's attitude greatly affects whether or not Yogyakarta City workers will participate in the waste bank. Ahmad (2012) also mentioned that how residents feel about integrated waste management can make a big difference in whether they choose to participate in a waste bank. The authors Nigburet et al. The study in 2010 found that the most influential factor in determining whether someone wants to recycle is their personal opinion or attitude towards recycling waste materials..

Effect of education level on the engagement of community in the waste bank program.

Testing the effect of education level on the engagement of community in the waste bank program obtained a regression coefficient of -0.453 with a significance value of 0.129, so there is no significant

effect between education level on the engagement of community in the waste bank program. It means that high or low levels of education do not affect increasing or decreasing community participation.

According to Notoadmojo (2003) in Wawan and Desi (2010), the factors influencing knowledge include education, employment, and age. According to him, the higher a person's education, the easier it is to receive information. Meanwhile, according to Wahid et al. (2007) in Furnanda (2012), the ease with which a person can obtain information can help speed up a person's knowledge acquisition. The most recent education of the respondents was high school, with 138 people (80.7%), while the least recent education was elementary and junior high, with three people (1.8%).

It is the same as the opinion of Pratama (2014), which states that based on the results of product-moment correlation calculations, it shows that there is no significant relationship between education level and fishermen's participation in mangrove conservation in Keputih Village, Sukolilo District, and Gununganyar Tambak Village, Gununganyar District. Other research from Marpaung (2016) and Putra (2018) also states no significant relationship between education level and community participation.

Effect of Income on the engagement of community in the waste bank program.

Testing the effect of income on the engagement of community in the waste bank program obtained a regression coefficient of 0.318 with a significance value of 0.113 so that there is no significant effect between work on the engagement of community in the waste bank program. It means that high or low income does not affect the increase or decrease in community participation.

This research agrees with the previous studies done by Rohmatin and Tucunan in 2014, Erfinna in 2012, and Laor and others. In the year 2017, Malik and his colleagues studied this topic. In 2015, a study found that people's attitudes affect how involved they are in waste management in their communities. A study by Astuti and Linart (2018) found that people's attitude greatly affects whether or not Yogyakarta City workers will participate in the waste bank. Ahmad (2012) also mentioned that how residents feel about integrated waste management can make a big difference in whether they choose to participate in a waste bank. The authors Nigburet et al. The study in 2010 found that the most influential factor in determining whether someone wants to recycle is their personal opinion or attitude towards recycling waste materials.

Research conducted by Sudar (2015) also stated that there was no relationship between employment status, the respondents' income amount (p = 0.454), and the engagement of community in household waste management activities. Rhofita's research (2016) shows that work and income have no real effect on the engagement of community in household waste management. However, this is different from Prianto (2011), stating that there is a relationship between the type of work and the level of participation, depending on the attitude and willingness of the residents as a form of responsibility as part of society. The type of work a person, has is strongly related to the level of the engagement of community because it is closely related to the opportunities available to attend activities with other residents.

Effect of segregated waste bin facilities on the engagement of community in the waste bank program.

Testing the effect of the segregated waste bin facility on the engagement of community in the waste bank program obtained a regression coefficient of -0.051 with a significance value of 0.708. So, there is no significant effect between the segregated waste bin facility and the engagement of community in the waste bank program. It means that high or low-segregated waste bin facilities do not affect increasing or decreasing community participation.

Most respondents thought the segregated waste bin facility was in the medium category, namely 115 people (67.3%). The next sequence is the low category of 50 people (29.2%), and the last is the high category of only six people (3.5%). Although many respondents suggested improving facilities, from weighing equipment, waste sorting sites, and admin rooms, this did not dampen their intention to participate in managing waste through the waste bank. Other factors such as environmental awareness, individual concern, information campaigns, and government or related organizations' support can also affect the engagement of community in the waste bank program.

This research aligns with the results of Maulina (2012) and Manalu (2013) that segregated waste bin facilities have no effect on the engagement of community in the waste bank program. Communities around the Mulyo Sedoyo waste bank in Brumbungan Village have a high level of awareness about the importance of protecting the environment and managing waste properly. They may deeply understand the negative effects of environmental pollution and the importance of reducing waste. This high

environmental awareness can motivate them to continue participating in the waste bank program, even though the facilities could be more optimal. Suppose the community around the waste bank is actively involved in the operation and management of the waste bank. In that case, they may have a sense of responsibility and ownership of the program. This involvement can create a strong sense of ownership and motivation to continue participating, despite inadequate facilities.

Effect of the Benefits of the waste bank on the engagement of community in the waste bank program.

Testing the influence of the benefits of the waste bank on the engagement of community in the waste bank program obtained a regression coefficient of -0.262 with a significance value of 0.138, so there is no significant influence between the benefits of the waste bank on the engagement of community in the waste bank program. It means that the high or low benefits of the waste bank do not affect the increase or decrease in community participation.

Most respondents considered the benefits to be in the high category, namely 146 people (85.4%), while 25 people (14.6%) considered the benefits to be in the medium category. Some of the benefits of the Mulyo Sedoyo Garbage Bank, according to respondents, include having more savings even though the majority are still under 500 thousand/month, besides that the environment is clean and comfortable, having the skills to recycle waste, and being able to produce unique items that can be sold (such as tissue holders from coffee packs, bags from other plastic waste, and others).

This research is in line with the results of research by Nurbaiti (2017), Manalu (2013), and Posmaningsih (2016) that the benefits of garbage banks do not affect waste bank participation. The engagement of community can be influenced by other factors besides the immediate benefits. Communities may be highly aware of the importance of protecting the environment and good waste management. They can see participation in the waste bank program as contributing to environmental preservation and acting according to the environmental values they adhere to.

4. CONCLUSIONS

Based on the formulation of the problem, hypothesis, and research results, the authors obtain conclusions that can be drawn from research on the Factors Influencing The engagement of community in the Garbage Bank Program in the City of Semarang as follows:nTesting the effect of knowledge on the engagement of community in the waste bank program shows a significant effect between knowledge and the engagement of community in the waste bank program.n Testing the effect of attitudes on the engagement of community in the waste bank program, the result shows a significant influence between attitudes towards the engagement of community in the waste bank program. Testing the effect of education level on the engagement of community in the waste bank program showed no significant effect between education level and the engagement of community in the waste bank program. Testing the effect of work on the engagement of community in the waste bank program, the results show that there is no significant effect between work on the engagement of community in the waste bank program Testing the effect of the segregated waste bin facility on the engagement of community in the waste bank program, the results show no significant effect between the segregated waste bin facility and the engagement of community in the waste bank program. Testing the effect of the benefits of the waste bank on the engagement of community in the waste bank program, the results show no significant effect between the benefits of the waste bank on the engagement of community in the waste bank program. Factors of knowledge, attitudes, education, employment, facilities, and important benefits in the engagement of community in the waste bank.

REFERENCES

1. Abul, Salam. (2010). Environmental and Health Impact of Solid Waste Disposal at Mangwaneni Dumpsite in Manzini: Swaziland. Jornal of Sustainable Development in Africa. 64-78.
2. Addo, I.B., Adei, D., & Acheampong, E.O. (2015). Solid Waste Management and Its Health Implications on the Dwellers of Kumasi Metropolis, Ghana. Current Research Journal of Social Sciences. 81-93.
3. Ahmadi, M., Mohamed, A. F., & Kamall, M. (2016). Sustainable Municipal Waste Management Improvement in Tehran City through Community Participation. Internatioanal Journal of Waste Resources, 1-5.

4. Andhika, R., Lanti, Y., & Setyono, P. (2015). Pengaruh Paparan Gas Metana (CH4) Karbon Dioksida (CO2), dan Hidrogen Sulfida (H2S) terhadap Keluhan Gangguan Pernapasan Pemulung di Tempat Pembuangan Akhir (TPA) Sampah Klotok Kota Kediri. Jurnal EKOSAINS, 105-116.
5. Assessing a hierarchical sustainable solid waste management structure with qualitative information: Policy and regulations drive social impacts and stakeholder participation. Resources, Conservation & Recycling, 168, 105285. https://doi.org/10.1016/j.resconrec.2020.105285
6. Astuti, I. G., Swatiningsih, K. S., & Mirta, I. W. (2016). Peranan Bank Sampah Berbasis Partisipasi Masyarakat dalam Pengelolaan Sampah di Kota Denpasar. Denpasar: Universitas Warmadewa.
7. Athirawong, W. (2015). Factors Affecting Household Participation in Solid Waste Management Segregation and Recycling in Bangkok, Thailand.
8. Badan Standarisasi Nasional. (2002). SNI 19-2454-2002 tentang Tata Cara Teknik Operasional Pengelolaan Sampah Perkotaan. Jakarta: Badan Standarisasi Nasional.
9. Banga, M. (2011). Household Knowledge, Attitudes, and Practices in Solid Waste Segregation and Recycling: The Case of Urban Kampala. Zambia Social Science Journal, 27-39.
10. Bank, W. (2012). What a Waste A Global Review of Solid Waste Management. Washington DC: World Bank.
11. BPS. (2014). Persentase Rumah Tangga Menurut Provinsi dan Perlakuan Memilah Sampah Mudah Membusuk dan Tidak Mudah Membusuk. Jakarta: BPS.
12. Brotosusilo, A., Nabila, S. H., Negoro, H. A., & Utari, D. (2020). The level of individual participation of community in implementing effective solid waste management policies. Global Journal of Environmental Science and Management, 6(3), 341-354. https://doi.org/10.22034/gjesm.2020.03.05
13. Budiardjo, M. A., Ardiansyah, S. Y., & Ramadan, B. S. (2022). Community-driven material recovery facility (CdMRF) for sustainable economic incentives of waste management: Evidence from Semarang City, Indonesia. Habitat International, 119, 102488. https://doi.org/10.1016/j.habitatint.2021.102488
14. Carles, Amrifo, V., & Zahtamal. (2017). Keterlekatan Perilaku Masyarakat dalam Pengelolaan Sampah dengan Tingkat Kepadatan Lalat terhadap Gejala Penyakit Diare di Kecamatan Rumbai Pesisir. Jurnal Ilmu Lingkungan. 44-53.
15. Dahlan, M. S. (2014). Statistik untuk Kedokteran dan Kesehatan Edisi 6. Jakarta: Epidemiologi Indonesia.
16. Deputi Pengelolaan Sampah. (2012). Buku Profil Bank Sampah Indonesia 2012. Jakarta: Kementerian Lingkungan Hidup.
17. Dinas Kesehatan Kabupaten Semarang. (2016). Profil Kesehatan Kabupaten Semarang Tahun 2016. Ungaran: Dinas Kesehatan Kabupaten Semarang.
18. Dinas Kesehatan Provinsi Jawa Tengah. (2016). Profil Kesehatan Provinsi Jawa Tengah Tahun 2016. Ungaran: Dinas Kesehatan Provinsi Jawa Tengah.
19. Dinas Lingkungan Hidup. (2017). Laporan Akhir Masterplan Pengelolaan Sampah di Kabupaten Semarang. Ungaran: Dinas Lingkungan Hidup.
20. Erfinna, T. F. (2012). Hubungan Karakteristik dengan Partisipasi Masyarakat dalam Pengelolaan Sampah di Lingkungan III dan V Kelurahan Bagan Deli Kecamatan Medan Belawan Tahun 2012. Medan: Universitas Sumatera Utara.
21. Factors influencing the engagement of community in the management of household electronic waste in West Surabaya Indonesia. Environmental Science and Pollution Research, 26, 27930-27939. https://doi.org/10.1007/s11356-019-05812-9
22. Furnanda, R. (2012). Partisipasi Ibu Rumah Tangga dalam Mewujudkan Program Medan Green and Clean (MdGC) melalui Pengelolaan Bank Sampah di Lingkungan II Kelurahan Tanjung Gusta Kecamatan Medan Helvetia Kota Medan. Medan: Universitas Sumatera Utara .
23. Hadiwidodo, M., Samadikun, B. P., Putri, A. I., Sumiyati, S., & Ramadan, B. S. (2020, December). Development of Reverse Logistics Scenarios for Inorganic Waste Recovery in Grobogan Regency-Indonesia. In IOP Conference Series: Materials Science and Engineering (Vol. 909, No. 1, p. 012078). IOP Publishing. https://iopscience.iop.org/article/10.1088/1757-899X/909/1/012078/meta
24. Hamad, J., Hanafiah, M. M., & Abdullah, S. (2017). Problems and Current Practices of Solid Waste Management in The City of Al-Marj, Libya. Journal CleanWAS, 01-05.

25. Hayana. (2015). Hubungan Sosial Ekonomi dan Budaya terhadap Partisipasi Ibu Rumah Tangga dalam Pengelolaan Sampah di Kecamatan Bangkinang. Jurnal Kesehatan Komunitas, 294-300.
26. Huraerah, A. (2008). Pengorganisasian dan Pengembangan Masyarakat: Model dan Strategi Pembangunan Berbasis Kerakyatan. Bandung: Humaniora.
27. Hutagaol, R. A. (2015). Hubungan Tingkat Partisipasi dengan Keerlanjutan Program Bank Sampah PT ISM Tbk. Bogor: Institut Pertanian Bogor.
28. Improvement of recycling-based municipal solid waste management in Padang City, West Sumatera, INDONESIA. In IOP Conference Series: Earth and Environmental Science (Vol. 245, No. 1, p. 012007). IOP Publishing. https://iopscience.iop.org/article/10.1088/1755-1315/245/1/012007/meta
29. Indriyani, R., Nozawa, K., & Matsumoto, T. (2017). Analysis of consciousness structure of participatory and cooperation in waste banks in Indonesia considering private benefits. Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research), 73(6), II_11-II_21. https://ui.adsabs.harvard.edu/link_gateway/2017JSCER..73...11I/doi:10.2208/jscejer.73 .II_11
30. Isfani, A. N. (2018). Partisipasi Masyarakat dalam Pengelolaan Bank Sampah Wirolaras di Kelurahan Wirogunan Kecamatan Mergangsan Kota Yogyakarta. Yogyakarta: Universitas Negeri Yogyakarta.
31. Kaho, J. R. (2007). Prospek Otonomi Daerah di Negara Republik Indonesia (Identifikasi Faktor-Faktor yang Mempengaruhi Penyelenggaraan Otonomi Daerah). Jakarta: Raja Grafindo Persada.
32. Kementerian Kesehatan RI. (2013). Riset Kesehatan Dasar (Riskesdas 2013). Jakarta: Kementerian Kesehatan RI.
33. Kementerian Kesehatan RI. (2018). Data dan Informasi Profil Kesehatan Indonesia 2017. Jakarta: Kementerian Kesehatan RI.
34. Kementerian Lingkungan Hidup RI. (2012). Peraturan Menteri Negara Lingkungan Hidup Republik Indonesia Nomor 13 Tahun 2012 tentang Pedoman Pelaksanaan Reduce, Reuse, dan Recycle Melalui Bank Sampah. Jakarta: Kementerian Lingkungan Hidup RI.
35. Kementerian Pekerjaan Umum RI. (2013). Peraturan Menteri Pekerjaan Umum Republik Indonesia Nomor 03/PRT/M/2013 tentang Penyelenggaraan Prasarana dan Sarana dalam Penanganan Sampah Rumah Tangga dan Sampah Sejenis Rumah Tangga. Jakarta: Kementerian Pekerjaan Umum RI.
36. Khair, H., Rachman, I., & Matsumoto, T. (2019a). Analyzing household waste generation and its composition to expand the solid waste bank program in Indonesia: a case study of Medan City. Journal of Material Cycles and Waste Management, 21(4), 1027-1037. https://doi.org/10.1007/s10163-019-00840-6
37. Khair, H., Rachman, I., & Matsumoto, T. (2019b). Environmental and economic assessment of solid waste bank activities in Indonesia: A case study of Medan City. Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research), 75(6), II_189-II_196. https://doi.org/10.2208/jscejer.75.6_II_189
38. Khair, H., Siregar, I. Y., Rahman, I., & Matsumoto, T. (2019c). Material flow analysis of waste bank activities in Indonesia: Case study of Medan City. Indonesian Journal of Urban and Environmental Technology. p-ISSN, 2579-9150. http://dx.doi.org/10.25105/urbanenvirotech.v3i1.5473
39. Kouame, Parfait K., Kouassi D., Hung, N.V, Zurbriig, C., Luthi, C., Hattendorf, J., Utzinger, J., Biemi, J., Bonfoh, B. (2014). Ecohealth Approach to Urban Waste Management: Exposure to Environmental Pollutants and Health Risks in Yamoussoukro, Cote d'Ivoire. International Journal of Environmental Research and Public Health. 10292-10309.
40. Kubota, R., Horita, M., & Tasaki, T. (2020). Integration of community-based waste bank programs with the municipal solid-waste-management policy in Makassar, Indonesia. Journal of Material Cycles and Waste Management, 22, 928-937. https://doi.org/10.1007/s10163-020-00969-9
41. Laor, P., Suma, Y., Keawdounglek, V., Hongtong, A., Apidechkul, T., & Pasukphun, N. (2018). Knowledge, Attitude, and Practice of Municipal Solid Waste Management among Highland Residents in Northern Thailand. Journal of Health Research, 123-131.
42. Lestari, P., & Trihadiningrum, Y. (2019). The impact of improper solid waste management to plastic pollution in Indonesian coast and marine environment. Marine Pollution Bulletin, 149, 110505. https://doi.org/10.1016/j.marpolbul.2019.110505

43. Logan, M., Safi, M., Lens, P., & Visvanathan, C. (2019). Investigating the performance of internet of things based anaerobic digestion of food waste. Process safety and environmental protection, 127, 277-287. https://doi.org/10.1016/j.psep.2019.05.025
44. Malik, N. K., Abdullah, S. H., & Manaf, L. A. (2015). The engagement of community on Solid Waste Segregation Through Recycling Programmes in Putrajaya. Procedia Environmental Sciences, 10-14.
45. Manalu, S. P., Chahaya, I., & Marsaulina, I. (2013). Faktor-Faktor yang Berhubungan dengan Partisipasi Masyarakat dalam Program Bank Sampah di Kelurahan Binjai Kecamatan Medan Denai Kota Medan Tahun 2013. 1-9.
46. Matsumoto, S. (2011). Waste separation at home: Are Japanese municipal curbside recycling policies efficient ? Resources, COnservation, and Recycling, 325-34.
47. Maulina, A. S. (2012). Identifikasi Partisipasi Masyarakat dalam Pemilahan Sampah di Kecamatan Cimahi Utara serta Faktor yang Mempengaruhinya. Jurnal Perencanaan Wilayah dan Kota , 177-196.
48. Mian, M. M., Zeng, X., Nasry, A. A. N. B., & Al-Hamadani, S. M. (2017). Municipal solid waste management in China: a comparative analysis. Journal of Material Cycles and Waste Management, 19(3), 1127-1135. https://doi.org/10.1007/s10163-016-0509-9
49. Mikkelsen, B. (2011). Metode Penelitian Partisipatoris dan Upaya Pemberdayaan. Jakarta: Yayasan Pustaka Obor Indonesia.
50. Mujiburrahmad, & Firmansyah. (2014). Hubungan Faktor Individu dan Lingkungan dengan Partisipasi Masyarakat dalam Pengelolaan Sampah Rumah Tangga (Kasus Kampung Sengked, RT 03/RW 03 Desa Babakan Kecamatan Dramaga, Kabupaten Bogor). Jurnal Agrisep, 47-66.
51. Mukherji, S. B., Sekiyama, M., Mino, T., & Chaturvedi, B. (2016). Resident Knowledge and Willingness to Engage in Waste Management in Delhi, India. Sustainable, 1-14.
52. Nida, Kotrun. (2014). Hubungan Pengelolaan Sampah Rumah Tangga terhadap Daya Tarik Vektor Musca domestica (Lalat Rumah) dengan Risiko Diare pada Baduta di Kelurahan Ciputat Tahun 2014. Skripsi. Universitas Islam Negeri Syarif Hidayatullah Jakarta.
53. Notoatmodjo, S. (2010). Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta Notoatmodjo, S. (2007). Promosi Kesehatan dan Ilmu Perilaku. Jakarta: RinekaCipta.
54. Notoatmodjo, S. (2010). Promosi Kesehatan Teori dan Aplikasi. Jakarta: Rineka Cipta.
55. Nurbaiti, S. R., & Bambang, A. N. (2017). Faktor-Faktor yang Mempengaruhi Partisipasi Masyarakat dalam Pelaksanaan Program Corporate Social Responsibility (CSR). Proceeding Biology Education Conference, 224- 228.
56. O'Connell, E. (2011). Increasing Public Participation in Municipal Solid Waste Reduction. The Geographical Bulletin, 105-118.
57. Oh, J., & Hettiarachchi, H. (2020). Collective action in waste management: A comparative study of recycling and recovery initiatives from Brazil, Indonesia, and Nigeria using the institutional analysis and development framework. Recycling, 5(1), 4. https://doi.org/10.3390/recycling5010004
58. Oloruntoba, E. O., Folarin, T. B., & Ayede, A. I. (2014). Hygiene and Sanitation Risk Factors of Diarrhoeal Disease among Under-Five Children in Ibadan, Nigeria. Africa Health Sciences , 1001-1011.
59. Pandebesie, E. S., Indrihastuti, I., Wilujeng, S. A., & Warmadewanthi, I. D. A. A. (2019).
60. Posmaningsih, D. A. (2016). Faktor-Faktor yang Mempengaruhi Partisipasi Masyarakat dalam Pengelolaan Sampah Padat di Denpasar Timur. Jurnal Skala Husada, 59-71.
61. Premakumara, D. G. J., Menikpura, S. N. M., Singh, R. K., Hengesbaugh, M., Magalang, A. A., Ildefonso, E. T., ... & Silva, L. C. (2018). Reduction of greenhouse gases (GHGs) and short-lived climate pollutants (SLCPs) from municipal solid waste management (MSWM) in the Philippines: Rapid review and assessment. Waste Management, 80, 397- 405. https://doi.org/10.1016/j.wasman.2018.09.036
62. Prianto, R. A. (2011). Partisipasi Masyarakat dalam Pengelolaan Sampah di Kelurahan Jombang Kota Semarang. Semarang: Universitas Negeri Semarang.
63. Putra, H. P., Damanhuri, E. N. R. I., & Sembiring, E. M. E. N. D. A. (2019). Identification of factors affecting the performance of waste bank in waste management system in the "Kartamantul" territory (Yogyakarta City, Sleman and Bantul Districts), Special Region of Yogyakarta, Indonesia. Pollution Research, 38, S94-S99.

64. Putri, A. R., Fujimori, T., & Takaoka, M. (2018). Plastic waste management in Jakarta, Indonesia: evaluation of material flow and recycling scheme. Journal of Material Cycles and Waste Management, 20(4), 2140-2149. https://doi.org/10.1007/s10163-018-0753-2
65. Rachman, I., & Matsumoto, T. (2017). Perspektif keuntungan ekonomi dan kesadaran masyarakat dalam mengelola sampah rumah tangga. Teknosia, 3(2). https://core.ac.uk/download/pdf/228569984.pdf
66. Rachman, I., & Septiana, A. I. (2020). FOOD WASTE CONTROL RECOMMENDATIONS IN INDONESIA BASED ON PUBLIC OPINION RELATED TO THE TARGET SDGS. Journal of Community Based Environmental Engineering and Management, 4(1), 25-30. http://dx.doi.org/10.23969/jcbeem.v4i1.2334
67. Rachman, I., Soesanto, Q. M. B., Khair, H., & Matsumoto, T. (2020). PARTICIPATION OF LEADERS AND COMMUNITY IN SOLID WASTE MANAGEMENT IN INDONESIA TO REDUCE LANDFILL WASTE LOAD. Journal of Community Based Environmental Engineering and Management, 4(2), 75-84. http://dx.doi.org/10.23969/jcbeem.v4i2.3348
68. Raharjo, S., Bachtiar, V. S., Ruslinda, Y., Matsumoto, T., & Rachman, I. (2019, March).