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Community Characteristics as the Basis of Empowerment Strategies In Sustainable Environmental Hygiene Management

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ABSTRACT

The community is one of the waste producers, so community empowerment in environmental hygiene programs is very strategic. The purpose of the study was to determine the characteristics (level of education, employment, income, a distance of the house to the TPS and TPA), and community perceptions related to sustainable environmental hygiene programs, especially towards the waste management of the city of Makassar. The data collection method used in the characteristics of society towards environmental cleanliness is carried out using a survey approach. Data analysis using qualitative and quantitative techniques. The results showed that the variety of these characteristics contributed (except the level of education) to the sustainable environmental hygiene management program. The results of Fisher's contingency coefficient test showed a significant relationship between community characteristics, except for the level of education and sustainable environmental hygiene management programs.

Keywords: characteristics, perceptions, and community empowerment

INTRODUCTION

Community characteristics (level of education, employment, income, the distance of houses to TPS and TPA), and community perceptions related to sustainable environmental hygiene programs, especially towards waste management in Makassar city are basic factors to understand community empowerment. Community empowerment in waste management in Makassar City is a basic strategy implemented for sustainable environmental hygiene management.

Sustainable environmental cleanliness can be realized by empowering the community, considering that the community is one of the producers of waste (Agustang et al., 2022). Empowerment is part of the development of a development paradigm that focuses its attention on all aspects that are principled of humans in their environment, starting from intellectual aspects (*human resources*), material and physical aspects, to managerial aspects (Awasthi et al., 2021; Das et al., 2019; Singh et al., 2022; Zhang et al., 2022). These aspects may be developed into sociocultural, economic, political, security, and environmental aspects. According to Damanhuri (2016), community empowerment in waste management is by changing the form of behavior based on the need for clean environmental conditions which in turn can grow and develop participation in the field of hygiene.

Community empowerment in waste management is currently very necessary, considering that waste is not only the responsibility of the government but also the responsibility of all parties, including all community groups that are one of the waste producers (Cheela et al., 2021; Kumar et al., 2017, 2020). However, until now research on community empowerment in environmental hygiene management that is made in an integrated and holistic manner is still rarely carried out. The purpose of this study is to understand the characteristics and perceptions of the community regarding sustainable environmental hygiene programs, especially the waste management of the city of Makassar.

METHOD

The data collection method is carried out using a *survey* approach, which is an approach to understanding social problems and community characteristics as a whole. The types of data collected are primary data and secondary data. Primary data were collected through interviews with respondents using questionnaires as interview guidelines and assisted by observation techniques through the capture of data related to variables of education level, income level, type of work, distance from home to TPS and TPA, and public perception, towards environmental hygiene management. Secondary data is obtained through search results from various documents, notes, and written reports from various sources and related parties (Agustang, 2023).

The sample of locations and household respondents as an analysis unit used the *multistage cluster random* sampling formula (Sugiyono., 2018) while the sampling technique used a *proportional* formula, with *an allowable error* of 0.05, data collection and analysis techniques used contingency tables r x c. (Calinski et al., 1990).

RESULT AND DISCUSSION

The respondents in this study were 344 people spread across ten villages from five sub-districts in Makassar city with the following characteristics. Based on gender, the group of respondents consisted of 172 men (50%) and 172 women (50%). The respondents' education level was mostly at the upper secondary level. The most types of respondents' jobs were the housewife group (IRT) at 27.33 percent, the self-employed at 17.73 percent, employees at 13.95 percent, and the civil servants/pensioners group at 10.17 percent. The respondents' income level ranged from Rp.500,001-1,000,000/month at 52.91 percent and followed by Rp1,000,001-2,000,000 at 28.16%. The distance of respondents' homes to temporary disposal sites (TPS) was the most at a distance of 0-200 m at 67.15 percent and a distance of 201-500 m at 25.00 percent. The distance between respondents' homes and landfills was 59.88 percent.

Characteristics and Perceptions of the Community towards the Environmental Hygiene Management Program

People's perception of environmental cleanliness based on gender shows that in general, the perception of men and women falls into the category of positive perception. However, it seems that there is little (although less than two percent) that women in Makassar have a less positive perception. The percentage of public perception of environmental hygiene management by gender is presented in Table 1.

Table 1 Distribution of percentage categories of public perception of environmental hygiene management programs by gender, Makassar City 2023

Gender	Perception categories (%)			Sum	Total (n)
	Less positive	Positive	Very positive		
Man	0,00	94,19	5,81	100,00	172
Woman	1,74	91,28	6,98	100,00	172

Source: Data Processing Results, 2023

The percentage of categories of public perception of environmental hygiene management programs by type of work shows that they generally have a positive perception category, except for the group of housewives (IRT) and traders who state that they are less positive even though they are small percentages.

The distribution of the percentage categories of public perception of environmental hygiene programs by type of work can be seen in Table 2.

Table 2 Distribution of percentage categories of public perception of environmental hygiene management programs by type of work, Makassar City 2023

Types of Work	Group	Perception categories (%)				Total (n)
		Less positive	Positive	Very Positive	Amount (%)	
First	Farmer	0,00	88,89	11,11	100,00	9
Seconds	a. Civi	0,00	94,29	5,71	100,00	35
	Servants/Pensioners	0,00	86,89	13,11	100,00	61
	b. Self-employed	0,00	97,92	2,08	100,00	48
	c. Employees					
Tertiary	a. Merchant	3,33	93,34	3,33	100,00	30
	b. Laborer	0,00	100,00	0,00	100,00	25
	c. Driver/motorcycle/taxi	0,00	75,00	25,00	100,00	4
Other	a. Housewives	2,13	92,55	5,32	100,00	94
	b. Scavenger	0,00	97,43	2,57	100,00	7
	c.Students	0,00	100,00	0,00	100,00	22

Source: Data Processing Results, 2023

The results of the analysis of the respondent's education level with the perception category of environmental hygiene management programs mostly showed that the perception category based on the level of education had a positive perception category. The percentage of perceptions of environmental hygiene management programs based on education level can be seen in Table 3.

Table 3 Distribution of percentage categories of public perception of environmental hygiene management programs by education level, Makassar City 2023

Education	Less positive	Positive	Very positive	Sum	Total (n)
SD	3,33	93,34	3,33	100,00	60
SLTP	0,00	90.32	9,68	100,00	93
High School	0,67	93,96	5,37	100,00	149
PT	0,00	92,86	7,14	100,00	42

Source: Data Processing Results, 2023

The results of the category analysis of respondents' perceptions of sustainable environmental hygiene management programs based on income levels, in general, showed a positive perception category. The percentage distribution of perception categories towards environmental cleanliness by income level is presented in Table 4.

Table 4. Distribution of percentage categories of public perception of environmental hygiene management programs by income level, Makassar City 2023

Income Rp.(000)/mo	Perception categories (%)				Total (n)
	Less positive	Positive	Very positive	Sum	
< 500	0,00	100,00	0,00	100,00	20
501 – 1.000	0,00	92,30	7,70	100,00	182
1.001 - 2.000	3,33	91,11	5,56	100,00	90
2.001 – 4.000	0,00	93,18	6,82	100,00	44
4.001 – 8.000	0,00	100,00	0,00	100,00	4
> 8.000	0,00	100,00	0,00	100,00	4

Source: Data Processing Results, 2023

The results of the analysis of the percentage of perception/attitude categories towards environmental hygiene management programs based on the distance of the house showed that people who lived closer to the landfill had a less positive perception. According to (Andini, S., Saryono, S., Fazria, A. N., Hasan, 2022) and (Muntasir , M. ., Weraman, P. ., Yulis , D. M. ., Muniroh , L. ., Yuliani , N. N. ., & Roza, 2023) decomposing waste can also result in the emergence or development of various kinds of

disease seeds, therefore it is very natural that people who live closer to the landfill have a less positive perception. For clarity is presented in Table 5.

Table 5. Distribution of percentage levels of public perception of environmental hygiene management programs based on the distance between the house and the landfill, Makassar City 2003

	Perception categories (%)				
TPA distance (m)	**Less positive**	**Positive**	**Very positive**	**Sum**	**Total (n)**
0 – 2.000	7,14	90,48	2,38	100,00	45
2.001 – 5.000	0,00	95,65	4,35	100,00	46
5.001 – 7.500	0,00	100,00	0,00	100,00	5
7.501 – 10.000	0,00	93,18	6,82	100,00	44
> 10.000	0,00	91,75	8,25	100,00	206

Source: Data Processing Results, 2023

Relationship of Community Characteristics with Sustainable Environmental Hygiene Management Programs

The results of the distribution of community opinions based on the level of education to environmental hygiene management programs show that the level of education tends not to be directly related to environmental hygiene management programs has a distribution of community opinions that spread. Respondents with primary and university education mostly stated that they were not good, while respondents with junior high school and senior high school education mostly thought it was good. The distribution by the level of education is presented in Table 6.

Table 6. Distribution of percentage of public opinion on environmental hygiene management programs based on education level, Makassar City 2023

Education Level	**Environmental hygiene management program (%)**					**Total (n)**
	Not Good Enough	**Good Enough**	**Good**	**Excellent**	**Sum**	
SD	43,34	35,00	18,33	3,33	100,00	60
SLTP	1,08	38,71	51,61	8,60	100,00	93
High School	0,00	16,11	77,85	6,04	100,00	149
PT	60,95	11,90	27,15	0,00	100,00	42

Source: Data Processing Results, 2023

The results of the distribution of community opinions according to work to the sustainable environmental hygiene management program show that the group of civil

servants/retirees and employees argues that the implementation of the existing program has gone well. In contrast, groups of housewives (IRT), scavengers, and traders tend to argue that environmental hygiene management is not good. The distribution of people's opinions by working towards sustainable environmental hygiene management programs is presented in Table 7.

Table 7. Distribution of the percentage of public opinion on environmental hygiene management programs by type of work, Makassar City 2023

Types of Workers	Group	Environmental hygiene management program (%)					Total (n)
		Not good enough	Good enough	Good	Excellent	Sum (%)	
First	Farmer	66,67	11,11	22,22	0,00	100,00	9
Seconds	a. PNS/Retired	11,43	11,43	77,14	11,43	100,00	35
	b. Self-employed	32,78	21,31	62,30	13,11	100,00	9
	c. Employees	2,08	8,34	87,50	2,08	100,00	48
Tertiary	a. Merchant	43,34	50,00	3,33	3,33	100,00	30
	b. Laborer	8,00	52,00	40,00	0,00	100,00	25
	c. Driver/motorcycle taxi	0,00	75,00	0,00	25,00	100,00	61
Other	a. Housewives	53,19	9,58	31,91	5,32	100,00	94
	b. Scavenger	71,43	28,57	0,00	0,00	100,00	7
	c.Students	27,27	68,18	0,00	4,55	100,00	22

Source: Data Processing Results, 2023

The results of the distribution of community opinions based on income levels to the sustainable environmental hygiene management program show that people who have incomes above Rp. 8,000,000 state absolutely that the programs that have been implemented by the Makassar city government are running well. This is shown by Table 8, where 100 percent of the highest-earning people declare good. Thus, it can be concluded that the higher the level of income, the better the appreciation of the programs that have been carried out by the Makassar city government. The distribution of the percentage of public opinion towards sustainable environmental hygiene management programs by income is presented in Table 8.

Table 8. Distribution of percentage of public opinion on environmental hygiene management programs based on income, Makassar 2023

Revenue (Rp/Month)	Environmental hygiene management program (%)					Total (n)
	Not Good Enough	Good Enough	Good	Excellent	Sum	
< 500.000	10,00	55,00	35,00	0,00	100,00	20
500.001 - 1.000.000	10,99	21,98	59,34	7,69	100,00	182
1.000.001 - 2.000.000	2,22	30,00	62,22	5,56	100,00	90

2.000.001 - 4.000.000	4,54	11,37	72,73	11,36	100,00	44
4.000.001 - 8.000.000	25,00	25,00	50,00	0,00	100,00	4
> 8.000.000	0,00	0,00	100,00	0,00	100,00	4

Source: Data Processing Results, 2023

The results of the distribution of people's opinions according to the distance between the house and the TPS to the sustainable environmental hygiene management program show that most of the existing programs are doing well. Respondents who stated that hygiene management programs were not good were very small in percentage. Thus, it can be concluded that the distance between the house and the TPS to the community's residence does not affect their assessment of the existing Makassar city government's environmental cleanliness program. The distribution of people's opinions according to the distance of the house to the TPS to the sustainable environmental hygiene management program is presented in Table 9.

Table 9. Distribution of the percentage of public opinion on environmental hygiene management programs based on the distance between the house and the TPS, Makassar 2023

TPS distance (m)	Environmental hygiene management program (%)					Total (n)
	Not Good Enough	Good Enough	Good	Excellent	Sum	
0 - 200	9,96	28,14	58,44	3,46	100,00	231
201- 500	0,00	16,28	67,44	16,28	100,00	86
501- 750	16,00	16,00	60,00	8,00	100,00	25
751- 1.000	0,00	50,00	50,00	0,00	100,00	2

Source: Data Processing Results, 2023

The results of the distribution of community opinions based on the distance between the house and the landfill to the sustainable environmental hygiene management program show that the distance between the house and the landfill does not affect the community's assessment of the environmental hygiene program of the Makassar city government. The highest percentage is people whose residences are 7,500 - 10,000 m. away from the landfill with a percentage of 66.50 percent. The distribution of community opinion on sustainable environmental hygiene management programs based on the distance of the house to the landfill is presented in Table 10.

Table 10. Distribution of percentage of community opinion on environmental hygiene management programs based on the distance between the house and the landfill, Makassar City 2023

TPS distance (m)	Environmental hygiene management program (%)					Total (n)
	Not Good Enough	Good Enough	Good	Excellent	Sum	
0 - 200	11,11	46,67	37,78	4,44	100,00	45
201- 500	6,52	23,91	65,22	4,35	100,00	46
501- 750	20,00	40,00	40,00	0	100,00	5
751- 1.000	8,74	15,05	66,50	9,71	100,00	206

> 10.000	0,00	45,24	54,76	0,00	100,00	42

Source: Data Processing Results, 2023

The results of the distribution of public perceptions of sustainable environmental hygiene management programs show that most people have a positive perception, and state that the Makassar city government program is also good. People with a very positive level of perception, also stated that the environmental hygiene management program is very good (100.00%). The distribution of public opinion according to the category of perceptions of environmental hygiene management programs is presented in Table 11.

Table 11. Distribution of percentage of public perceptions of environmental hygiene management programs, Makassar City 2023

Categories of Perception	*Environmental hygiene management program* (%)					Total (n)
	Not Good Enough	Good Enough	Good	Excellent	Sum	
Less positive	33,33	0,00	66,67	0,00	100,00	3
Positive	8,15	26,33	64,89	0,63	100,00	319
Very positive	0,00	0,00	0,00	100,00	100,00	22

Source: Data Processing Results, 2023

The results of the contingency coefficient test using the *Chi-Square* analysis of the Fisher test to see the relationship between community characteristics and perceptions of sustainable environmental hygiene management programs are presented in Table 12. Data is processed with the SPSS 15 *for windows* program.

Table 12. Results of Fisher's contingency coefficient test on the relationship of community characteristics and perceptions with the Makassar City environmental hygiene management program 2023

Characteristics of society	χ^2 count	χ^2 table
Work	150,714	40,256
Education	13,127	14,684
Income	87,182	22,307
The distance of the house to the TPS	73,895	14,684
The distance of the house to the landfill	365,679	18,549
Perception	11,258	10,645

Source: Data Processing Results, 2023

Table 12 shows that only educational variables have an insignificant relationship with environmental hygiene management programs in the city of Makassar, with a value of χ^2 counts of 13,127 less than the value of χ^2 tables of 14,684. Meanwhile, other variables have a significant relationship with sustainable environmental hygiene

management programs. Based on the contingency coefficient, it can be concluded that there is a significant relationship between community characteristics (except education level) and sustainable environmental hygiene management programs, this indicates that education and community behavior are complex towards sustainable environmental hygiene programs. Based on the analysis of the characteristics (*including perceptions*) of the people of Makassar city related to environmental hygiene management programs, especially municipal waste management, it is shown that community empowerment is a strategic policy. Sustainable environmental cleanliness can be realized by optimally empowering the community. Thus, community characteristics are the basis of empowerment strategies in managing sustainable environmental cleanliness.

CONCLUSION

The characteristics of society (except education), contribute to the program of the sustainable environmental hygiene management. Community characteristics are the basic capital in formulating policy strategies for environmental hygiene management programs. The policy strategy in question is integrated and holistic community empowerment.

The public's perception of environmental hygiene management programs in Makassar city mostly shows positive. The positive perception of the community is also due to its relation to the characteristics of the people of Makassar city. This is supported by the results of the statistical test of Fisher's contingency coefficient that there is a significant relationship between the characteristics and perceptions of the community (except education level) and the sustainable environmental hygiene management program in the city of Makassar.

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