

Effectiveness of Waste Management by the Environmental and Hygiene Office (DLHK) in Karawang District (Study in West Karawang District)

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ABSTRACT

Environmental problems today are very serious and complex problems, especially the waste problem. In Indonesia, nowadays the problem of waste is often underestimated by the government and society, even though the problem of waste and its management must be thought of as early as possible so as not to have a negative impact on humans in the future. The waste problem in Karawang Regency can be seen from the total volume of daily waste in Karawang which reaches 1,200 tons/day, and only 350 tons can be transported to the Jalupang TPA. This study uses Duncan's theory in Richard M. Steers stating the measures of effectiveness such as Goal Achievement, Integration, and Adaptation. This research uses descriptive qualitative method which is intended to understand a phenomenon as a whole in the form of words or language. The results of this study indicate that the effectiveness of waste management in Karawang Regency by DLHK has not been effective. The researcher suggests that the Karawang Regency government should be able to provide complete facilities and infrastructure to support the Karawang INTERASIH slogan, change the open dumping waste management system to a control landfill or sanitary landfill, and provide ongoing socialization to the community so that it can change people's habits.

Keywords: Garbage; Waste Management Effectiveness; DLHK Karawang Regency; Community.

INTRODUCTION

Environmental problems today are a serious problem very serious and complex, especially the waste problem. Problem This waste is getting more serious as the human population on earth continues to increase which indirectly has an impact on increasing the volume of waste, types waste, and the characteristics of waste are increasingly diverse. Even according to data World Bank estimates that the amount of waste in 2025 will increase up to 2.2 billion tonnes/year. Environmental problems are complex problems where the environment is more dependent on human behavior which is increasingly decreasing, both in quality and quantity in supporting human life. In addition, with the uncontrolled increase in population, the environmental situation is becoming increasingly chaotic (Supardi, 2003).

Environmental problems that are currently difficult to overcome are the problem of waste and less than optimal waste management. Humans and waste can be likened to two coins that are united and very difficult to separate, in everyday life humans always produce waste every day.(Artiningsih, 2008) According to Kuncoro Sejati Waste is a material that is thrown away or discarded; is the result of human or natural activities that are no longer used because their main elements or functions have been taken(Kuncoro Sejati, 2013). Furthermore, according to Law Number 18 of 2018 concerning Waste Management, it is stated that "Trash is the remains of daily human activities and/or natural processes in solid form".

In Indonesia today, the waste problem often persists is underestimated by the government and society, even though the problem of waste and its management must be considered as early as possible so that it does not have a negative impact on humans in the future, furthermore, waste management must also be improved so as not to cause waste generation (Cecep, 2012). According to SNI 19-2452-2002, the definition of waste generation is "The amount of waste that arises from the community in units of volume or per capita per day, or expand buildings, or lengthen roads" (Wawan Gunawan, 2019). The government and society must pay more attention to the waste problem in Indonesia, because Indonesia has a large population resulting in an increase in the volume of waste in Indonesia every year. According to Darmasetiawan "The increasing population will be accompanied by an increase in the volume of waste produced".(Purnomo, 2020) The following table shows the population in Indonesia,

Table 1 Indonesian Population Growth

POPULATION	AMOUNT
2021	272682,5
2022	275773,8
2023	278696,2

Source: Badan Pusat Statistik

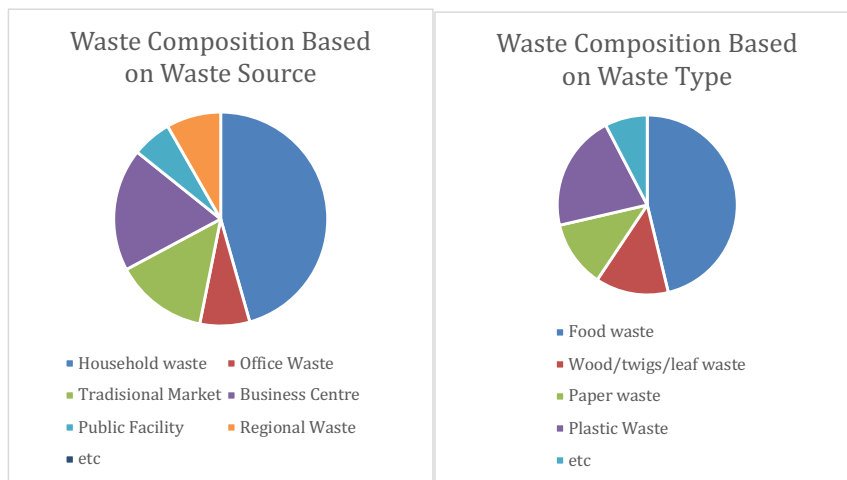
From the table above it can be seen that Indonesia is always experiencing growth and an increase in population, this of course presents new problems for cities in Indonesia, because with the increasing population it is also necessary to increase various public facilities and infrastructure for the community. In Indonesia, the waste problem is one of the problems that is difficult to solve and even today it can be said that the waste problem has not been handled well, this is proven by data from the National Waste Management Information System (SIPSN) which records that there was 30,881 waste generation in 2021, 803,.15 tons/year. With a large population, the problem of waste and its management must receive attention from the government and the Indonesian people.

Seeing the amount of waste produced by the community is very large, many people still manage waste in traditional ways such as burning waste. This method has many advantages compared to traditional landfill and composting methods, incineration can produce unwanted combustion by-products such as partially burned ash, heavy metals, particulates, and organic pollutants such as dioxins (Zhang et al., 2022). The negative impact of using this method in the form of public health can be a threat, because various hazardous substances or pollutants can be blown by the wind during the waste burning process.

Waste can be classified in various ways, such as considering its physical form (solid, liquid, or gas) and solid waste can be classified based on its use (waste used as packaging, food waste, etc.); then based on the material it is made of (can come from glass, paper, etc.); based on its nature and form (for example, flammable waste, compostable waste, recyclable waste, etc.), then based on the source of the waste (waste comes from households/domestic, commercial/trade, agriculture, industry, etc.) (P. White, M. Franke, 1999). Waste cannot arise suddenly without a cause, there must be human activity that was carried out previously which resulted in waste. Here are some factors that affect the composition of waste,

- 1) Waste Source, the composition of waste will definitely differ depending on where the waste is produced.
- 2) Population Activity, the profession of each resident will definitely affect the composition of the waste produced.
- 3) Waste Collection and Disposal System, various methods and methods used in the process of collecting and disposing of waste will definitely have an impact on the increasingly diverse composition of waste.
- 4) Geography, each region must have a different composition of waste, for example, industrial areas that produce toxic waste and agricultural areas.
- 5) Socio-Economic, factors such as economy, customs, and even the mentality of a community will have a direct impact on the composition of the waste produced.
- 6) Season or Climate, for example in Indonesia which has a rainy season which will have an impact on waste carried by rainwater.
- 7) Technology, rapid progress made by humans will certainly have an impact on the composition of waste such as plastic waste which is often found in landfills today.
- 8) Time, affects the composition of waste depending on people's daily activities (Tchobanoglous, 1993).

Figure 1 Waste Composition in Indonesia



Source: SIPSN

According to the Ministry of Environment and Forestry (KLHK), in 2021 Indonesia will produce 21.88 million tons of waste. Furthermore, according to the Ministry of Environment and Forestry (KLHK) plastic waste is ranked second as the largest composition with a percentage of 15.73%. The condition of abundant waste sometimes does not receive optimal management, so that the waste problem becomes increasingly rigid and can have a negative impact on the surrounding environment. Environmental problems are difficult to solve, because humans as living creatures always interact with the environment (Atik Rochaeni, 2017). Based on the picture above, the author can see that the most dominant waste in Indonesia is food waste, followed by plastic waste, the amount of waste in Indonesia also comes from the household sector, which is then followed by waste originating from activities in traditional markets.

The waste problem also occurs in Karawang Regency, West Java. Karawang Regency itself, according to a BPS survey in 2021, has a population of 2.46 million people (there is a possibility that this number will increase due to the branding of Karawang Regency which is known as an industrial city). The waste problem in Karawang Regency can be seen from the daily volume of waste in Karawang which reaches 1,200 tons/day, and only 350 tons can be transported to the Jalupang TPA (BPS - Statistics of Karawang Regency, 2023).

This results in high waste generation, as a result of the large amount of waste in failed TPS transported to the landfill. Waste generation also results in various negative impacts such as unpleasant odors that are disturbing, damage to aesthetics/sights, a source of disease, etc. A further example is when a 100 meterlong waste pile appeared on Jalan RHS Sanca Kusuma, Babakan Village, Tanjung pura Village, West Karawang District. The emergence of this waste generation suddenly went viral on social media and raised various questions as to why the 100 meterlong waste generation was not managed properly, thus destroying Karawang's slogan INTERASIH (Beautiful, Safe, Orderly and Clean). In order to realize Karawang INTERASIH, the Karawang Regency government issued Regent Regulation Number 22 of 2021 concerning Reducing the Use of Plastic Bags (Pemerintah Kabupaten Karawang, 2021). In order to respond to the regent's regulations, the Regency DLHK. This waste problem if not managed properly will certainly have a negative impact in the future, whether it is an impact on humans or the environment itself. The following are negative impacts that can arise if the waste problem is not managed properly,

- 1) Environmental pollution, in the form of damaged aesthetics, unpleasant odors due to waste, or decreased air, water, and soil quality.
- 2) Disease, waste that is not managed properly will certainly become a breeding ground for diseases, such as diarrhea and even in crisis conditions can trigger cancer.
- 3) Injury, other impacts in the form of injuries that can always arise, for example in the waste management process. Where injuries can be experienced as a result of the composition of waste in the form of glass, iron, and hazardous chemicals (Iqbal H. Kahn & Naved Ahsan, 2017).

Karawang Regency has 30 (thirty) sub-districts and one of the sub-districts that is the focus of researchers is West Karawang sub-district, because in that area (West Karawang District) there are many activities of the people of Karawang Regency (education, economics, etc.) and West Karawang District is also listed as The district with the largest population in Karawang Regency. The waste problems in Karawang Regency are:

1. Lack of truck fleet, according to the 2019 Government Agency Performance Accountability Report (LAKIP)(Pemerintah Kabupaten Karawang, n.d.), it is stated that DLHK Karawang Regency only has 56 trucks, while according to Guruh Sapta (February, 2021) Head of DLHK Karawang Division, ideally Karawang Regency should have 200 garbage trucks to avoid high volumes of waste generation.
2. The role of waste banks in Karawang Regency is less active, according to Wawan Setiawan (August, 2022). The Head of the Karawang Regency DLHK Service said that currently there are 91 waste banks, but only 24 waste banks are active.
3. Lack of adaptation by the Karawang Regency DLHK to changes in people's lifestyles which currently tend to be more consumerist.

Based on the background that has been described, the author is interested in conducting research and raises the title "Effectiveness of Waste Management by the Environment and Hygiene Service (DLHK) in Karawang Regency (Study in West Karawang District)".

METHODS

This research uses a descriptive qualitative research method, according Bogdan and Taylor (1982) state that qualitative research is a research procedure that produces descriptive data in the form of written or spoken words from people and observable behavior; the approach is directed at the setting and individuals holistically. Kirk & Miller explain that qualitative research is a particular tradition in social science that fundamentally depends on observing (of)

humans in their own area and relating to those people in their language and terminology.(Dr. H. Zuchri Abdussamad, 2021)

Qualitative research is a research used to research the conditions of natural objects, where the researcher is the key instrument (Sugiyono: 2005). The difference with quantitative research is that this research starts from data, utilizes existing theories as explanatory material and ends with a theory. According to Moleong (2005:6), qualitative research is research that aims to understand phenomena about what is ideally experienced by the subject of research, for example behavior, perception, motivation, action, etc. holistically, and by means of description in the form of words and language, in a specific context which is natural and by utilizing various natural methods (Nasution, 2023).

RESULTS AND DISCUSSION

Result

Karawang Regency is one of the areas that has fertile land in West Java which is aimed at becoming a gateway city for development in western Indonesia as a buffer for the National Capital. It is also known as a rice warehouse and national food barn, so most of the land is used for agriculture. Effectiveness is a basic element for achieving predetermined goals or targets in every organization, activity or program. An activity, program and policy can be said to be effective if in the implementation process there is accuracy between the desired expectations and the results achieved from the activity, program and policy.

The waste management process in Karawang Regency refers to Law number 18 of 2008 concerning Waste Management and its derivative in the form of Regional Regulation (PERDA) Number 9 of 2017 concerning Waste Management. This is in line with Article 5 of the Waste Management Law which states, "The Government and Regional Governments are tasked with ensuring the implementation of good and environmentally sound waste management in accordance with the objectives as intended in this law". In order to make it easier for researchers to describe the effectiveness of waste management by the Environment and Hygiene Service (DLHK) in Karawang Regency (Study in West Karawang District) the researchers used the theory according to Duncan in Richard M. Steers(Richard M. Steers, 2010) as follows:

Commented [MOU1]: In my opinion, to make this article better and stronger, it is necessary to add research informants.

1. Goal Achievement is the overall effort to achieve the goal which must be seen as a process, so that the achievement of the final goal is more guaranteed, stages are needed, both in the sense of phasing in the achievement of the parts and phasing in the sense of periodization. Karawang has not been running effectively due to lack of facilities and infrastructure (garbage trucks, TPSS, TPS3R) and poor community educated so they still throw rubbish carelessly.

The Goal Achievement Indicator has not yet been running effectively because the process of achieving the final goal (Karawang INTERASIH) is still far from being achieved, this can be seen from the lack of facilities and infrastructure in the form of a fleet of waste trucks (currently Karawang Regency has 54 trucks, it should be has 150 garbage trucks), the number of TPSS and TPS3R is inadequate due to constraints on land availability, and the Karawang Regency DLHK does not have a phased program as an effort to create Karawang INTERASIH. Based on the description above, it can be concluded that the effective waste management process to realize Karawang INTERASIH still cannot be said to be effective, this occurs because of the lack of basic facilities and infrastructure for realizing effective waste management and realizing the slogan of Karawang Beautiful, Orderly, Safe and Clean. (INTERATION).

2. Integration or measurement of the level of ability of an organization, to carry out socialization or communication and develop consensus. Integration concerns the communication or socialization process carried out by the Karawang Regency Environment and Hygiene Service (DLHK), as well as by other government agencies such as sub-districts and sub-districts.

Based on the results of the interviews above with informants or sources, it can be stated that the socialization process for the community in order to realize Karawang INTERASIH is still limited to appeals that are not sustainable in nature, whereas to change people's habits, ongoing socialization needs to be carried out in order to change bad habits (throwing away rubbish). carelessly and not sorting rubbish from the house) of the community. This indicates that the socialization program carried out by the Department of Environment and Hygiene (DLHK), West Karawang District, Karangpawitan Village, and Tanjungpura Village is just ordinary socialization alone, without any supervision or clear follow-up plan. The socialization that is often carried out at every weekly meeting by sub-districts and sub-districts has little impact on the community, this is proven by the fact that there are still many people who lack understanding regarding good waste management from their own homes, there are still many

people who throwing (household) waste carelessly, not sorting waste, and making efforts to manage or reduce waste unilaterally without being equipped with proper understanding and education.

3. Adaptation is the ability of an organization to adapt to its environment, which is related to the suitability of program implementation to conditions in the field. The ability to adapt is very important for humans and organizations to have, this is important because life is dynamic and tends to always change. As a result of increasingly advanced technological developments, this has an impact on the higher and faster flow of information exchange and the increasingly developed marketing methods, causing humans today to tend to become consumptive, because of this consumptive behavior, humans produce more and more waste. The waste produced is also increasingly diverse as technology develops today, the waste produced cannot simply be processed naturally, there are several characteristics of waste that are even difficult to process naturally (inorganic waste) and waste that can even harm the environment itself (b3 waste). So from That is the need for adaptive capacity by the government and other government agencies, where this adaptive capacity is the ability to adapt to one's environment.

Based on the description above, a big picture can be drawn that the Karawang Regency government has not been able to create waste management that is based on environmental sustainability. This can be seen from the quantity of TPS in Karawang Regency which is only 146 TPS and has 20 TPS³⁴, this is compared to the population of the Regency. Karawang, which in 2021 was recorded as having a population of 2.46 million people. With the minimal number of TPS and TPS^{3R}, the sight of waste piling up at TPS around community settlements has become very commonplace. This is also made worse by the very small number of trucks transporting waste from TPS to TPA. So it can be concluded that the adaptation capacity of the Karawang Regency Government through the Environment and Hygiene Service (DLHK) is still low. This stems from the Karawang Regency Regional Government and DLHK not being able to make preventive efforts (the increasing population and changes in people's lifestyles which tend to be more consumptive) by providing adequate facilities and infrastructure to create effective waste management and realize the Karawang INTERASIH slogan.

Discussion

Based on 3 (three) indicators of effectiveness that have been put forward by Duncan in M. Steers (2005:64) in the form of goal achievement, integration or socialization ability, and adaptation in the form of the ability to adapt to the environment. It can be said that it has not been implemented effectively, this is because these three indicators of effectiveness have not been implemented well, this occurs due to several things, such as inadequate facilities and infrastructure, unsuccessful outreach to the community, and insufficient budget from the Regional Government. so that the technical process in the field can be realized Karawang INTERASIH through effective waste management has not been successful.

There are various obstacles in creating INTERASIH Karawang Regency through effective waste management. Both from the habits or habits of the people who tend not to implement a waste sorting system from their respective homes and people who throw away waste haphazardly or not according to the place, the lack of available facilities and infrastructure related to waste management (garbage trucks, TPS, Land in TPA), and the budget provided by the regional government is relatively small. The solution to overcome the existing obstacles is to make an effort to realize effective waste management, namely by raising public awareness, increasing the quantity of facilities and infrastructure, and changing waste into goods that have economic selling value, such as POC and Maggot as poultry feed. and fish.

CONCLUSION

Based on the research results above that have been discussed, it can be concluded that waste management in Karawang Regency has not been effective, this departs from the analysis of researchers who use Duncan's theory in M. Steers (2005:64) which mentions 3 (three) indicators such as,

1. Goal Achievement which can be interpreted as an effort or process in achieving the final goal (Karawang INTERASIH) through stages. Indicators of achieving the goal "are not working effectively" due to the lack of available facilities and infrastructure, such as the fleet of transport trucks in Karawang Regency (only has 54 fleets while what is needed is 150 trucks), the number of available TPS (146 TPS) and TPS3R (20 TPS3R).
2. Integration which can be interpreted as the ability of an organization to carry out or provide outreach or communication to the community. This integration indicator is "not working effectively" because the outreach carried out to the community is still limited

to appeals that are temporary and not sustainable. Meanwhile, socialization itself has an important position in changing, reducing and even eliminating people's habits of always throwing away things littering and socialization efforts are also important as an effort to build and grow public awareness to love the environment more and start sorting waste from home.

3. Adaptation or the organization's ability to adapt to its environment related to program implementation in the field. This indicator is also "ineffective", this stems from the failure of preparations made by the Karawang Regency DLHK to prevent and minimize the impact of the increasing population in Karawang Regency as well as the impact of changes in the community's increasingly consumerist lifestyle.

Efforts made by the Karawang Regency government itself through the Environment and Hygiene Service (DLHK) and lower levels of government, such as sub-districts and sub-districts. The efforts made include completing facilities and infrastructure (providing land for TPS, adding a fleet of transport trucks, expanding Jalupang TPA, providing outreach, as well as managing personally using various methods (waste bank). and use of Maggot media. researchers provide suggestions between other:

1. The Regional Government of Karawang Regency through the Environment and Hygiene Service (DLHK) should provide deeper outreach to the community on an ongoing basis.
2. The government must provide facilities and infrastructure that support waste management activities. Such as budget, TPSS (Temporary Waste Disposal Site), fleet of trucks carrying waste from TPSS to TPA, carts/cators to make it easier for people to transport waste from the environment to TPSS
3. The government must find a new method in the waste management system at the landfill, the open dumping system currently used is no longer effective due to the growth of the population of Karawang Regency which continues to increase every year.

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