

## ORGANISING WASTE SERVICES BASED ON THE INDEPENDENCE OF THE CLEAN LIVING CULTURE OF THE PEOPLE OF MAKASSAR CITY

<sup>1</sup>Nur Syamsu SE M.M, <sup>2</sup>Dr Patta Rapanna SE MSi

LECTURER AT HIGH SCHOOL OF ECONOMICS MAKASSAR BONGAYA (STIEM BONGAYA)

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**Abstract:** This type of qualitative research through a phenomenological approach, while the results showed that waste services are needed in building city cleanliness, for that cleaning services in order to be optimal, the responsibility does not only belong to the Makassar city government but all levels of society need to be involved so that people feel they have a responsibility in maintaining the cleanliness of Makassar city.

**Keywords:** cleanliness, waste, policy, participation, community

### CHAPTER I. INTRODUCTION

The problem of urban waste is an issue that is always hotly discussed in both developed and developing countries including Indonesia. In Indonesia, the waste problem is no longer a new problem, the volume of waste that continues to increase in line with population growth and limited land for final disposal is a problem that must be solved immediately. Waste is a consequence of human activity plus an increase in population and economic growth, if these wastes are left unattended; there will be hoarding, environmental damage. Waste is one of the problems in big cities because of the many daily activities that ultimately produce waste in the form of garbage.

Urban areas such as Makassar are areas that produce a lot of waste. According to information provided by Hasanuddin M (2014) Peduli Negeri through the Makassar Green And Clean programme, the production of waste per day that is wasted to the Tamangapa landfill is around 700-800 tonnes. For dry waste as much as 403 tonnes is not wasted to Tamangapa landfill but is managed by the waste bank, meaning that in a day we are able to save waste that is not wasted to landfill around 403 tonnes. Government Regulation No. 81/2012 on the management of household waste and similar household waste mandates the need for fundamental changes in waste management that have been carried out so far. In the implementation of waste reduction activities, there are three main activities, namely waste generation, waste recycling, and reuse, which are the principles of the realisation of environmentally sound waste management called 3R (Reduce, reuse, recycle)..

Waste management is not only the obligation of the government, the community and businesses as waste generators must also be responsible for keeping the environment clean and healthy. There must be a good working relationship between the government, businesses and the community in overcoming waste problems. Landfill (TPA) is a place determined and created by the local government where all waste in urban areas will be collected, with the aim that the waste will be processed and processed until it can be utilised again. Landfill utilisation in urban areas is currently not able to fully solve the waste problem. So one of the alternative solutions that has been launched to overcome the problem of waste in various regions in Indonesia is the waste bank. A waste bank is a collective management system that encourages the community to actively participate in it.

Waste banks have a banking-like management, and to save in a waste bank, you don't need to use money, only waste. Residents who are registered in the waste bank are called customers who have a savings book and can borrow money which is later returned with garbage worth the money borrowed. the purpose of building a waste bank is a strategy to build community awareness so that they can make friends with waste and to get benefits from the waste. In response to this, the Makassar city government has promoted a programme to address urban problems, namely Makassar Tidak Rantasa (MTR). By establishing 37 waste banks in 2014 and will be multiplied

and will be placed at various points in Makassar City, (Based on Waste Bank Data) Makassar City Government last year was 78 waste banks and this year 103 waste banks, because the community is the main actor who provides a better innovation..

Therefore, people are required to fulfil their living and social standards, so that people can mingle with their surroundings. With the existence of a community motivation, it is able to create a view that leads to the future in order to achieve a desire or social welfare. Supported by several supporting factors regarding waste management such as the existence of landfills (TPA) and waste banks, the community easily collects and manages waste by making a number of innovations or changes in the form of waste that will be useful and have economic value. Thus, the accumulation of waste in landfills is no longer piled up and can be resolved. The idea of social welfare is based on the assumption that society can be organised and motivated. So people have a moral obligation to realise an ideal society that can give and produce a contribution to the surrounding environment.

#### A. Problem Formulation

1. How do waste services affect the participation of clean living in Makassar City?
2. How are efforts to build clean living motivation in the people of Makassar City?
3. What is the strategy of waste services for a clean living culture in the people of Makassar City?

### CHAPTER II. LITERATURE REVIEW

#### A. Definition of Waste

Waste is material that has no value or is worthless for ordinary or main purposes in the manufacture or use of damaged or defective goods in manufacturing or excess or rejected material or waste". Waste is a material that is wasted r discarded from sources resulting from human activities or natural processes that have no economic value. Waste that must be managed includes waste generated from:

1. Household.
2. Commercial activities: trade centres, markets, shops, hotels, restaurants, entertainment venues.
3. Social facilities: houses of worship, dormitories, detention centres/prisons, hospitals, clinics, health centres.
4. public facilities: terminals, harbours, airports, public vehicle stops, parks, roads,
5. Industry.
6. Results of cleaning public open channels, such as rivers, lakes, beaches.

#### B. Types of Waste

Waste in general can be divided into three parts, namely;

##### 1. Organic Waste

Organic waste (commonly called wet waste) and inorganic waste (dry waste). Organic waste consists of plant and animal materials taken from nature or generated from agriculture, fisheries or other activities. This waste is easily broken down by natural processes. Household waste is mostly organic material, such as waste from the kitchen, leftover flour, vegetables and others.

##### a. Water pollution

Water pollution can be caused by factory waste, as well as household waste. Factory waste and household waste that pollute this water can reduce water quality. Because the colour, taste, pH and content of the water is very much different from unpolluted water, so that water that has been polluted by waste cannot be used for human life needs at all so that this situation can result in a reduced supply of clean water for survival. Excessive use of pesticides is also an act of pollution, because the remains of pesticides in the form of sediment will flow into the river which will eventually kill the fish in the river.

## b. Air pollution

Still about the factory. Usually a factory that produces an item will have leftover raw materials that are no longer useful, so the factory will burn them. In addition, in the production process, sometimes a factory also requires a combustion process. In both processes, namely burning waste, and burning when producing an item, both produce smoke from the combustion. The smoke is what causes air pollution. Apart from the colour that disturbs the vision, the smell is also very unpleasant to inhale so that it interferes with the breathing process.

Apart from factories, smoke can also be generated by vehicles. According to a recent study, the white smoke produced by vehicles using petrol fuel is more harmful than vehicles using diesel fuel, even though vehicles using diesel fuel have black smoke, but this is not too dangerous for breathing, only the colour of the smoke is very disturbing to the vision process. No less dangerous is cigarette smoke. As reported in health.india after conducting an experiment for 5 weeks, cigarette smoke is far more dangerous 16 times than the smoke caused by vehicles. This is because the smoke caused by cigarettes can cause fine particles to multiply in number which will later settle in the lungs..

## c. Soil Pollution

One of the most influential types of waste in soil pollution is plastic waste, this is because plastic waste takes a minimum of 20 years to decompose, and even a type of plastic bottle and other thicker plastic materials take 100 years or more. Just imagine if just 1 person throws away 1 plastic waste per day, then it is certain that there are 250 million plastic waste produced by the Indonesian state. And that waste can only disappear after 100 years, but not even 100 years, the next day there are already 250 million more waste, and it continues to grow every day. So you can't imagine how much rubbish has littered the earth.

## Inorganic Waste

Inorganic waste comes from non-renewable natural resources such as minerals and petroleum, or from industrial processes. Some of these materials do not exist in nature such as plastics and aluminium. Some inorganic substances are completely undegradable by nature, while others can only be decomposed over a very long time. This type of waste at the household level, for example, includes bottles, jars, plastic bags. And cans, paper, newspapers, and cartons are exceptions. Based on their origin, paper, newspaper, and cardboard belong to organic waste. But because paper, newspaper, and cardboard can be recycled like other inorganic waste (such as glass, cans, and plastic), they are included in the inorganic waste group.

## 3. Hazardous Waste

B3 (Hazardous and Toxic Material) waste is any waste that contains hazardous and or toxic materials which, due to their nature or concentration and or amount, either directly or indirectly can damage or pollute the environment and or endanger human health. Types of B3 waste, namely:

- a. Hazardous waste from non-specific sources; i.e. hazardous waste that originates not from the main process but from equipment maintenance activities, washing, corrosion inhibitors, scale dissolution, packaging, and others.
- b. Hazardous waste from specific sources; i.e. B3 starting materials, products or residual processes of a particular industry or activity.
- c. Hazardous waste from expired chemicals, spills, used packaging, and discarded products that do not meet specifications.

## C. The Impact of Waste on Humans and the Environment

We have realised that environmental pollution caused by industry and households is very detrimental to humans, both directly and indirectly. Through industrial and technological activities, it is expected that the quality of life can be improved. But often the increase in technology also causes negative impacts that are not small.

## 1. Impact on health

Inadequate waste location and management (uncontrolled waste disposal) is a suitable place for some organisms and attracts animals such as flies and dogs that can cause disease. The potential health hazards are as follows: Diarrhoeal diseases, cholera, typhoid spread quickly because viruses originating from improperly managed waste can mix with drinking water. Haemorrhagic fever can also increase rapidly in areas with inadequate waste management. Fungal diseases can also spread (e.g. skin fungus). Diseases that can spread through the food chain. One example is a disease caused by tapeworms (taenia).

## 2. Impact on the Environment

Liquid seepage of waste into drainage or rivers will pollute the water. Various organisms including fish may die so that some species will disappear, resulting in changes to the biological aquatic ecosystem. The decomposition of rubbish dumped into water will produce organic acids and organic gases, such as methane. Apart from smelling bad, this gas in high concentrations can explode.

## 3. Impact on social and economic conditions

Poor waste management will create a less pleasant environment for the community: unpleasant odours and a bad view because waste is scattered everywhere. Negative impact on tourism. Inadequate waste management leads to low levels of public health. Important here is the increase in direct costs (to treat sick people) and indirect costs (missed work, low productivity). Disposal of solid waste into water bodies can cause flooding and will impact public service facilities such as roads, bridges, drainage, and others. Other infrastructure can also be affected by inadequate waste management, such as the high costs required for water treatment. If waste collection facilities are lacking or inefficient, people will tend to dump their waste on the street.

## D. Causes of Human Littering

The main reasons why littering behaviour can form and persist in our behaviour include:

1. In the subconscious mind, people think that littering is not a wrong and natural thing to do.
2. Norms from the surrounding environment such as family, school, community, or even workplace. Environmental influence is a big factor in the emergence of behaviour. For example, environmental influences such as littering will be a big factor in the emergence of littering behaviour.
3. A person will perform an action that they feel is easy to do. So, people will not litter if there are many rubbish bins available.
4. A place that is dirty and already has a lot of rubbish. A place where there is a lot of rubbish in the first place, can make people believe that littering is allowed in that place. So, local residents will not hesitate to throw their rubbish there.
5. Lack of rubbish bins. Lack of rubbish bins makes it difficult for people to dispose of their rubbish. So, people will easily litter.

## E. Utilise waste by

### 1. Recycle and Reuse

In developed countries, such as America and Europe, they are implementing "Go Green" programmes by reducing the use of plastic. When we buy snacks there, we will be given a brown recycled paper bag to put our food in, although this recycled paper is safe enough to put food in. In addition, if people there need to use plastic, for example when shopping, then they will bring their own plastic bags from home, and they will reuse the plastic bags until they cannot be used anymore.

In Indonesia, these paper bags have been used, but only in stores that sell clothes and accessories, and have not yet spread to small traders. In addition, in South Korea, if people finish shopping from the supermarket, they will pack their groceries with cardboard, so that way, people there can reduce the use of plastic.

## 2. Utilising animal dung

We can use dung from cows, goats, and chickens as organic fertiliser. Of course, this fertiliser is very safe to use because it does not contain chemicals, such as fertilisers sold in the market. In addition, by utilising existing technological developments, cow and pig manure can be processed into a fuel, either for engines or for cooking fuel.

## 3. Impose strict penalties for people who litter and make it a habit to dispose of waste in its place from an early age.

Surveillance cameras are installed in places that are prone to littering in Singapore. If they are caught, they will be fined 500 Singapore dollars (around 5 million Rupiah) in addition to being imprisoned, receiving counselling, and also their faces will be plastered in print and electronic media. Then in Thailand, if they litter chewing gum, the culprit will be fined around 6 million rupiah. Maybe this can be applied in Indonesia so that everyone wants to throw rubbish in its place. And the most important thing about the punishment is to accustom someone from childhood to throw garbage in its place, so that when they grow up they are used to throwing garbage in its place. In addition to disposing of waste in its place, we must also separate waste between glass bottles, cans, plastics and organic waste, so that it is easier to recycle or decompose it later.

## 4. Reducing the use of private vehicles and not smoking

By using public transport we can reduce the production of fumes from petrol, so we can reduce air pollution and keep our ozone from depleting. Not smoking is also very helpful in reducing pollution, because cigarette smoke is much more harmful than vehicle fumes.

## CHAPTER III. RESEARCH METHODS

### Types of qualitative research through phenomenological approaches

## CHAPTER IV DISCUSSION

### A. Solid waste services on the participation of clean living in Makassar City

Every city in Indonesia experiences similar problems in waste management, namely the lack of waste collection services. Many people complain to the government to overcome this problem but it is still not resolved. In Panakkukang Sub-district, the level of service to the community is still low, both in terms of service area, number of customers, and the amount of waste that can be handled. The waste collection fleet is slow to remove waste that has accumulated in temporary landfills (tubs, containers and vacant lots), resulting in waste spilling over into the street and clogging sewers. The analysis of waste collection facilities and infrastructure includes collection equipment and temporary storage facilities.

From the results of field observations, waste collection equipment/vehicles in one sub-district, namely Panakukang sub-district, Makassar City, consists of garbage rickshaws and garbage carts. The pattern used in waste collection using waste carts and waste rickshaws is an indirect collection pattern. With this pattern, waste is collected using waste carts or rickshaws to be temporarily accommodated in the nearest TPS or transfer depot before being taken to the landfill (Syahriartato, 2013).

Based on the analysis of collection and transfer infrastructure above, it can be concluded that the use of waste rickshaws has more advantages and is more efficient than waste carts, so the use of waste rickshaws in Panakkukang Sub-district, Makassar City is appropriate.

Above, it can be concluded that the use of waste rickshaws has more advantages and is more efficient than waste carts, so the use of existing waste rickshaws in Panakkukang Sub-district, Makassar City is appropriate. From the current use of TPS, the container system has many advantages over the brick TPS, so it can be concluded that the use of containers is appropriate for Panakukang Sub-district, Makassar City. The waste collection pattern implemented in Makassar City currently uses two systems, namely a waste collection system using dump trucks

and a waste collection system from containers using arm roll trucks. The dump truck vehicle is currently used to transport waste in the transfer depot (where it is transferred from the waste cart to the dump truck) as well as the door to door system.

From the brick TPS as well as the door to door system from the shopping area. Based on observations in the field, each dump truck requires 4-5 people to transport the waste from the transfer depot to the transfer station. 4-5 people are needed to move waste from the TPS into the truck. According to SK SNI T-13-1990-F, dump trucks have the advantage that they are only suitable for handling waste in the market. Only suitable for handling waste in the market, can go door to door, can do 2-3 rounds/day, and is fast. 2-3 rits/day and fast in unloading operations.

Thus it can be concluded that the use of dump trucks that serve waste collection in market areas and shops with a door to door system in Makassar City is currently quite appropriate. In addition to the above advantages, dump truck vehicles also have disadvantages, namely that in its operation it requires quite a lot of labour, namely 4 people. This is because to move waste from TPS to dump trucks requires a lot of personnel. In addition, to prevent waste from flying around when being transported by dump truck to the landfill, a cover is still needed.

By considering these advantages and disadvantages, the use of dump trucks is currently not recommended, especially for residential areas that have narrow roads. residential areas that have narrow roads. An arm roll truck is a truck used to transport waste containers. This type of vehicle has many advantages, namely having high mobility and a small workforce (2 people) and being able to do 3-4 rits per day. The arm roll truck vehicle, which is a series with a container, is suitable for serving residential and non-residential areas, so its use is highly recommended. residential areas so its use is highly recommended. Compared to dump trucks, arm roll trucks are more efficient in operation.

## **B. Efforts to build clean living motivation in the people of Makassar City**

The implementation of the Makassar not dirty Movement Programme aims to change the mindset of the community so that they are not rantasa (dirty) in their daily lives and always live clean. To achieve this, the Government has made activities both at the City, Sub-district, Village and RT / RW levels.

- 1) Community Service The Makassar City Government established a community service schedule aimed at familiarising the community with cleaning the work environment, homes and the environment around themselves. Conceptually, the implementation of the community service is divided into 3 days, namely clean Friday, clean Saturday and clean Sunday.  
All elements must play an active role in the implementation of the community service, including government, private employees and the community cleaning in the neighbourhood. Friday clean is aimed at government employees and private employees cleaning at work, Saturday clean is aimed at schools both students, and teachers to clean their respective schools. Sunday clean is aimed at all communities to go down to clean up the neighbourhood or the hallways of the house. This community service activity is one of the activities made by the City Government to always make the community clean the environment and live not in a hurry.
- 2) Socialisation of Gemar MTR, Socialisation of the Makassar not dirty Movement is intended to provide information to the community so that people can get to know and understand what is meant by Makassar not dirty and can apply it in their daily lives. The socialisation of the Makassar not dirty Movement is the responsibility of the kelurahan. The form of socialisation is carried out from house to house by distributing brochures.
- 3) Garbage for Rice Movement This movement is carried out to improve waste management and change the behaviour of people who like to throw garbage carelessly. This programme is in line with the 3R programme (reduce, reuse and recycle), where the community sorts organic and inorganic waste. And after that the inorganic waste can be collected and exchanged at the waste bank and become savings for the people who exchange their waste. With the existence of the Rice Exchange Waste Movement Programme, the community will be less likely to dispose of waste in any place and will instead sort the waste that has economic value. Involvement of Supporting Elements In the design of the Makassar'ta no Rantasa Movement, the involvement of supporting elements is one of the keys to success in its implementation. Cooperation between supporting elements is needed in achieving the goals of Gemar MTR.

- Conceptually, the co-operative relationships that can be carried out in achieving these goals are:
  - 1) The cooperation of residents and the government is the most important thing in the success of Gemar MTR. To realise this, conceptually there is a forum to accommodate this cooperation, the forum is called FORKASIH, which is the Clean Village Forum, which is the initiator or supervisor of the implementation of MTR activities in their respective village areas in order to create a clean village;
  - 2) Cooperative relations between governments are also important in the success of Gemar MTR. The Makassar City Government, in this case the Mayor of Makassar, issued Decree Number 660.2/1087/Kep- /V/2014 concerning the Division of Fostered Areas of Regional Work Units (SKPD) Implementing the Makassar not dirty Movement Programme. Each SKPD in Makassar City has 2-3 sub-districts that become fostered areas. This division of work areas is made in order to optimise implementation;
  - 3) Community Organisations also have a role in the implementation of the Gemar MTR program. In this case, CSOs have a role in making MTR supporting activities such as community service, hallway arrangement and socialisation of Gemar MTR itself;
  - 4) Private cooperation is something that cannot be forgotten. In this period, there was a rice exchange programme where this programme received assistance from the private sector in processing and selling inorganic waste that had been collected in the waste bank.

#### ➤ **Makassar Health Office Socialisation and Guidance on Clean and Healthy Living Behaviour**

Makassar City Health Office held a socialisation and coaching activity on Clean and Healthy Living Behaviour (PHBS) on Tuesday (13/7/2022) at the Makassar City Health Office Hall. The activity was attended by each Promkes Officer of Puskesmas in Makassar City. In her direction, the Head of Public Health Division Sunarti S.ST said that everyone really wants to have a clean and healthy body but is often faced with obstacles so that it is delayed.

"Everyone must want a body that is always clean and healthy. Because by having a clean and healthy body, every activity carried out will run optimally and as expected. But often we are faced with situations that are less likely so that the activities we do are delayed.

Sunarti continued, One of the obstacles we often face is health problems. Consciously or not health is one aspect that is directly related to human life, we often hear about clean and healthy living behaviour (PHBS). "he said In this activity he also hopes that all Promkes Officers will play an active role in socialising and coaching Clean and Healthy Living Behaviour to the community. As well as paying attention to the tourist aisle environment in their respective areas as an effort to support tourism in the city of Makassar.

"I hope that all Promkes Officers will play an active role in socialising and conducting Clean and Healthy Living Behaviour Guidance to the community. so that health in the community environment can be maintained and avoid various diseases, I also remind you that the Tourism Aisle in each region can be considered from the aspect of environmental health as an effort to support Tourism in the city of Makassar starting from the alley." he explained. Clean and healthy living behaviour is a set of behaviours carried out on the basis of awareness as a result of learning that makes a person or family able to help themselves in the health sector and play an active role in realising public health.

### **C. Waste service strategy towards the clean living culture of the Makassar City community**

#### ➤ **Community participation**

Community participation in waste management is needed to reduce the amount and volume of waste. There is a perception that waste management is the responsibility of the city government, thus reducing personal responsibility to maintain cleanliness. Community participation in waste management is not supported by adequate programmes and budgets from the Department of Hygiene and Environment. A special unit of the city's sanitation management that is responsible for the preparation and implementation of extension

programmes, motivating community participation, and developing alternative waste management models that are socially, economically and environmentally beneficial:

1. Policies that Guarantee Citizen Participation waste management and environmental programmes in Makassar city are still top-down. The need for community participation in waste management.
2. Scavenger-style Participation The city residents who have the highest level of participation in addressing waste management issues in Makassar are the scavengers. Poylema (2005) categorises waste pickers into four categories, namely:
  - (a) street scavengers who are able to collect an average of 13.6 tonnes of scrap a month;
  - (b) permanent landfill scavengers collect an average of 14.8 tonnes of scrap a month;
  - (c) seasonal scavengers collect an average of 8 tonnes of scrap a month;
  - (d) invisible scavengers 1.7 tonnes a month.

It is currently estimated that there are more than 1,000 waste pickers in Makassar city. From morning to night, they collect, sort, and use waste as a source of income. It is appropriate that the strategy of involving citizens in waste management learns from the experience of waste pickers. The supporting policies in handling waste are:

#### 1. Makassar City urban spatial plan

The urban spatial plan has regulated the layout of the city, with the With the rapid growth of the city, the space for urban movement is getting narrower, which can have an impact on traffic, traffic congestion, and the reduction of green open space to counteract existing pollutants. This can have an impact on traffic, traffic congestion, and reduced green open space to counteract existing pollutants, the existing RT and RW we consider not maximally running because other development policies have not been able to run properly.

Because other development policies have not been able to run properly. RT RW in sub-districts in Makassar City in handling waste should provide land for temporary waste disposal sites (TPS) so that the problem of waste that is generated in the sub-districts in Makassar City can be solved.(TPS) so that the waste problem that occurs in urban villages in each sub-district can be resolved.

#### 2. Retribution for Waste/Cleaning Service

The principle of retribution is equality between rights and obligations. The government provides a service and therefore, the recipient of the service is obliged to pay for the government's government services. However, retribution is "take and give" in nature. Big-the amount of return received by the government is determined by the level of satisfaction of the service users.satisfaction of service users. So far, Makassar city government collects retribution from garbage collection service, household service, entertainment venue, doctor's practice house, pharmacy, and other services.entertainment, doctor's office, pharmacy, shophouses, beauty parlour, barber shop, tailors, and workshops, stalls/shops.

With the supporting and inhibiting factors in handling waste handling in Panakkukang Sub-district, the waste management policy that has been implemented so far such as carrying out socialisation about the importance of the importance of cleanliness and its benefits to health as an anticipatory step so that the disease can be avoided and can provide benefits to the beauty of Panakkukang Sub-district. beauty in Panakkukang Sub-district. However, this does not seem to have been maximized However, this does not seem to be optimal because there is still a lot of rubbish that is often found around us.This happens because there is still a lack of public awareness to improve healthy lifestyles. The behaviour of some people who have been accustomed to ignoring the unclean lifestyle makes them not respond to policies related to cleanliness or health that already exist. The alternative policy that we offer is a policy on the importance of maintaining cleanliness accompanied by a deterrent effect on people who are usually undisciplined to be more aware of the application of a healthy lifestyle.

## CHAPTER V. CONCLUSIONS

In building the cleanliness and beauty of the city of Makassar, the most dominant factor is to build a clean culture of the people of the city of Makassar, garbage is born from the community, so the community should be smart



and wise in managing garbage so that it is not scattered, for this reason the government needs to provide waste services, starting from landfills, door to door garbage collection and pickup, in addition, the government needs to motivate and educate the public every day so that they participate fully in building a clean culture in the city of Makassar.

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