

Scavengers As an Alternative Waste Management Project: a Study On The Civil Society of Kiringan Village in Sustainable Development Goals 15 through 3R Waste Management

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ABSTRACT:

Keywords:
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Management.

This research aims to determine the role of scavengers in Kiringan Village, Magelang City, within the framework of civil society concerning their livelihoods, namely managing and recycling waste, which contributes to Sustainable Development Goals (SDGs) 15. Waste itself has become a national problem, with the volume of garbage reaching 35,000. Ninety-three million tons in 2022 can be broken down further, with Central Java Province coming at 5.76 million tons and Magelang City at 80.51 tons per day. This condition becomes problematic amidst demands regarding the universal norm SDG 15, namely "Protecting terrestrial ecosystems". The role of scavengers is a concrete alternative solution in solving this problem. The role of scavengers will be reviewed using Tocqueville's conception of civil society, namely an organized area of social life characterized by voluntary, self-generating, and self-supporting, which is synthesized with SDGs 15, namely waste management and recycling through 3R (reuse, reduce, recycle). Interpretive analysis of field and literature studies examines and draws conclusions from research findings. The 3R activities of scavengers make waste manageable and can mitigate the waste volume. With volunteerism, self-sufficiency, and self-sufficiency, reuse activities are carried out by reusing used plastic bottles, reducing by collecting plastic waste in village areas, and recycling through the implementation of training from the Sandal Flip-flops Community so that the scavenger community can produce handicrafts from recycled waste—plastic bottles. Waste management by the scavengers of Kiringan Village has an essential role in protecting the land ecosystem from garbage.

INTRODUCTION

The waste problem requires collaboration and synergy from government, public and private organizations, the business world, and society. A sustainable and current waste management system can refer to the 3R concept, namely reduce or reduce, reuse or reuse, recycle or recycle. Apart from the management system and waste policy pursued by the

Magelang City Environmental Service, the community needs to take a role in implementing this waste management. Society is important because society represents a system of culture, procedures, authority and cooperation between various groups, classification, and supervision of human behavior and habits (MacIver and Page in Soerjono, 2006: 22). One element of society that can play an important role in waste management in Magelang City is scavengers. Scavengers come from the community and earn their daily income by searching for and collecting rubbish from the streets, TPA, TPS, and TPSA.

One of the scavenger communities in Magelang City is in Kiringan, North Tidar Village, South Magelang District. Kiringan, which is inhabited by 18 families, is a village with semi-permanent houses where the people make their living as scavengers and daily search for scrap to make ends meet. The location of Kiringan Scavenger Village, which cannot be accessed by two-wheeled or four-wheeled vehicles, is one of the reasons why this village has not been touched by adequate community empowerment, and some groups actually consider Kiringan Village to be an area that has potential to add new slum areas to Magelang City. In reality, the presence of scavengers can contribute to waste management in Magelang City.



Picture 1. Kiringan Village scavenger community

Source: Ferri

The issue of waste and its management has actually become a universal problem, including in Indonesia. The large population is a factor in the emergence of complex multisectoral problems such as social, economic, cultural, technological, and environmental problems, which in this case is the volume of waste. Basically, human existence and its living environment become a large building, and in it, there are reciprocal activity relationships between various people in all their activities. From economic activities, offices, households,

industry, hotels, tourism, and so on, of course, the remaining waste contributes every day. Indonesia 2022 will produce 35.93 million tons of waste, and only 62.51 percent of the waste is managed, while unmanaged waste is 37.49 percent (SIPSN). The waste problem is a problem and requires attention because it is caused by the posture of the region and the activities of the community itself, namely the level of population density that continues to increase, waste management that is not yet optimal, and limited land.

For example, Central Java Province, as of 2021, is the third-ranked province with the largest population and the fifth-highest population density (BPS RI, 2023). This fact is linear with environmental problems, especially waste. In fact, Central Java will become the province with the largest waste in Indonesia in 2022, producing 5.76 million waste (Annur). It is important to look in more detail, specifically at this waste problem from the community level, so that solutions can be reached at the grassroots level.

One area in Central Java that has a waste problem is Magelang City. The city of Magelang, which has the slogan "City of a Million Flowers," apparently still has problems with waste and its management. The population of Magelang City in 2022 is 121,675 people, with a population density of 6,895 people per km² (Magelang City Communications & Statistics Service, 2022). With this composition, the total volume of waste in Magelang City per day reaches 80.51 tons per day (SIPSN), and not all of this volume can be transported every day or regularly, meaning that there is still waste that is not transported at temporary waste disposal sites (TPS), in every sub-district. If waste is not transported regularly, it can cause various problems regarding the sustainability of terrestrial environmental ecosystems or human and environmental health conditions.

Related to Sustainable Development Goals (SDGs), the waste problem is included in efforts to achieve SDGs 15. SDG 15 is "Protecting terrestrial ecosystems," which aims to protect, restore, and promote sustainable ecosystem management. The waste problem requires handling to overcome desertification, namely stopping land degradation and supporting the restoration of land affected by degradation. Awareness, starting from the individual level, is needed to keep land ecosystems healthy and productive.

The spirit of SDG 15 is challenged by this waste problem. One of the impacts of the waste problem on the environment is that inorganic waste in the form of plastic does not decompose in the soil, causing plastic waste to clog waterways and rivers and disrupt the ecosystem around river basins. Waste production is expected to continue to increase every day, considering that Magelang City is developing in terms of social activities and population

mobilization from the household, industrial, market, tourism, and office sectors. In addition, land for managing waste in Magelang City is still limited and relies on the Final Waste Disposal Site (TPSA) in Banyuurip, Tegalrejo District, Magelang Regency, with an area of 6.1 hectares which can only accommodate 400 tons of waste and has experienced overload since 2017. Furthermore, the waste problem in Magelang City is not only due to limited land but also from the waste management or service management system, which still adopts the old paradigm, which is limited to a linear pattern." end of pipe" as written by (Kurniaty et al.). This cycle limits waste management to collecting, transporting, and disposing of waste without being balanced with community participation and adequate facilities and infrastructure. This management model makes it difficult for waste management in Magelang City to develop.

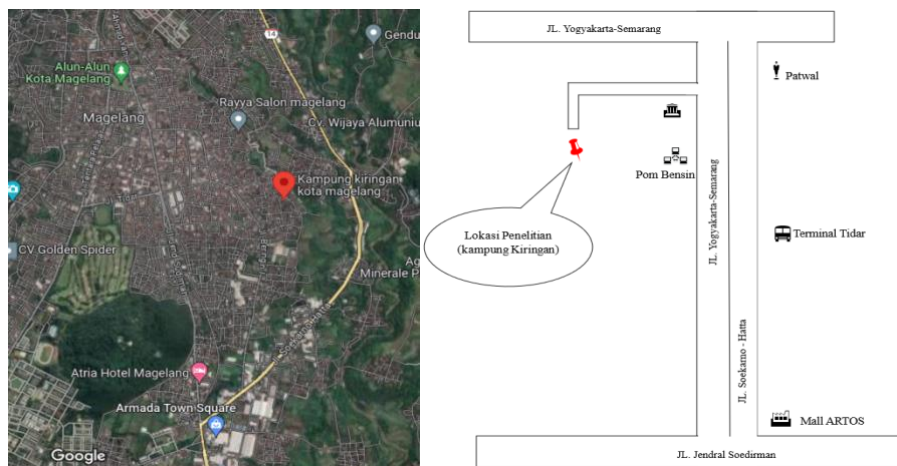
Departing from the waste problem in Magelang City, namely that not all waste can be accommodated in TPSA and the old paradigm "end of pipe "In waste management so that biodegradable and non-degradable waste is not separated, the scavengers of Kampung Kiringan can take part as civil society in waste management activities. Daily activities related to waste and being a primary source of livelihood have simultaneously aligned individual interests, namely earning income from scavenging waste with common interests through waste management, which can contribute to efforts to maintain terrestrial ecosystems in accordance with SDGs 15. The abilities of these scavengers will be elaborated through the conception of civil society.

The scavengers of Kiringan Village have a role in 3R activities, one of which is the waste recycling process (recycling) by pursuing the manufacture of handicrafts from plastic waste, which can reduce the volume of waste from the source as well as an action towards zero waste in Magelang City by turning waste into a source of income with economic value in meeting the needs of the people of Kiringan Village. Therefore, we are interested in knowing the role of scavengers in Kiringan Village, Magelang City, within the framework of civil society regarding their livelihoods, namely managing and recycling waste.

METHOD

The research method used is qualitative research. Data was obtained from field studies and document studies aimed at analyzing the classification of Kiringan Village scavengers as civil society. Based on the classification of Kampung Kiringan scavengers as civil society, we next examine the contribution of scavengers to SDGs 15 through waste management^{3R}.

Qualitative research is a research method based on postpositivist philosophy to examine the condition of natural objects (Soegiyono, 2011). Researchers are key instruments in carrying out data source triangulation activities, analyzing data, and providing meaning for conclusions through research findings. This research aims to determine the role of scavengers in waste recycling management in the community of Kiringan Village, Magelang City.



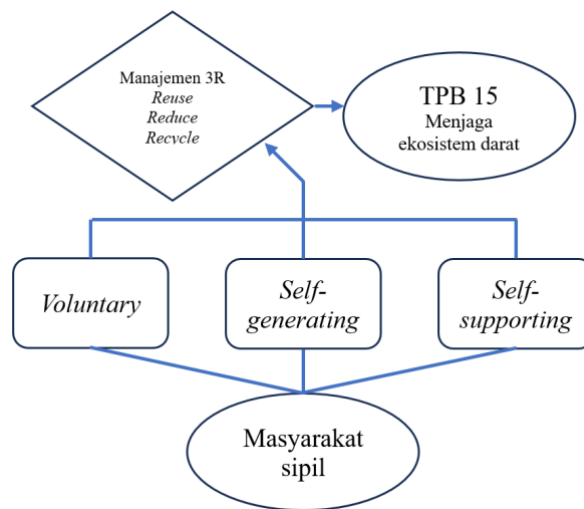
Picture 2. Location of Kiringan Village

Source: Processed by researchers

Data collection was carried out through observation, interviews, and documentation. The research informants were scavengers in Kiringan Village RT02/RW02, North Tidar Village, South Magelang District. Informants are determined using the technique of purposive sampling, and we chose the scavenger community because this group of people is made up of informants who have been involved for a long time and intensively with the activities being studied. These field data will be strengthened by literature studies and online literature from scientific journal articles, books, and other sources relating to research topics in accordance with our needs related to the role of Kampung Kiringan scavengers as civil society in 3R waste management to contribute to the SDGs 15.

This research was analyzed using a framework resulting from the synthesis of the concept of civil society, 3R waste management, and sustainable development goals 15. The concept of civil society became an analytical tool for the scavengers of Kampung Kiringan who carried out 3R waste management in support of SDGs 15. Civil society was present in

connection with awareness of limited state capacity in dealing with grassroots problems, which have different and specific contexts in each community. Authorities need a social support base to access these issues. In this case, civil society mediates authority with community awareness to achieve empowerment and equality, including in political, educational, spiritual, and togetherness matters.



Picture 3. Analysis Framework

Source : Processed by researchers

Civil society is a society that collectively carries out voluntary initiatives (volunteering), self-generating (self-sufficiency), and self-supporting (self-sufficiency) with awareness of achieving one's own rational interests and identity (Asrida et al.). (Asrida et al.) explained that voluntary is a collective commitment to achieving goals without state intervention. Self-generating is the freedom of public space to be empowered independently and integratively without authority intervention. Self-supporting is an effort to strengthen the involvement of every element of society so that it becomes a social movement that simultaneously applies systems, values, and cultural norms as the basis for creating togetherness.

Every indicator of civil society will be seen in the 3R waste management activities by Kiringan scavengers. 3R waste management consists of reduce (reduce), reuse (reuse), and recycle (recycle). Reduce In the civil society concept, Kiringan scavengers are carried out with volunteerism, independence, and community concern to utilize and reuse waste or used goods into goods that have added value. Reuse In civil society, Kiringan scavengers are carried out with community independence in their activities of searching for and collecting rubbish, which

contributes to breaking down rubbish that cannot all be transported by the relevant agencies. Recycle In civil society, Kiringan scavengers are carried out by community movements to process waste that has been collected and sorted into goods that have economic value. The civil society initiative of Kiringan scavengers contributes to SDGs 15, which the United Nations describes as protecting, restoring, and encouraging the sustainable use of land ecosystems in an effort to prevent and stop land degradation, which is translated into 3R waste management activities by Kiringan scavengers.

RESULTS AND DISCUSSION

Kiringan Village is located on the edge of the Dadali River, RT02/RW02 Kiringan Baru, North Tidar Village, South Magelang District, Magelang City. Kiringan Village is inhabited by 44 residents from 18 head families; the majority of the working-age population earn their living as scavengers. The existence of Kiringan Village is proof of the community's participation and role in waste management in Magelang City. The first thing that can be observed is the structure of the house, which was built from used pallets, namely used wood made in residential conditions, which are close to piles of recycled waste. The community's efforts to fulfill their living needs go hand in hand with their livelihood, namely collecting rubbish and, at the same time, playing a role in mitigating the volume of rubbish. The scavenger community of Kampung Kiringan shows independence and effort to be empowered through their efforts and community collectivity.

Meanwhile, processing waste through 3R requires a change in the perspective of society towards waste. There needs to be a change in the way waste is viewed, namely that it is no longer only seen as leftover goods that cannot be reused, but waste must be seen as a resource that can have economic value and can be reused if managed properly. Scavengers play an important role in the waste recycling process (recycling) as one part of handling urban and rural waste (Kartika and Setyono). In addition, scavengers are important actors with a positive role in the waste management sector in developing countries, especially in the aspect of waste sorting (Kartika and Setyono). By collecting and processing waste materials, scavengers gain profits from selling recycled waste (Sembiring and Nitivattananon).

The scavengers of Kiringan Village as a civil society: voluntary, self-generating, and self-supporting

Scavengers in Kiringan Village, Magelang City, can play a role in the development of their own community through their position as part of civil society in waste management and recycling activities. The scavenger community takes the opportunity through a collective willingness to participate in the midst of various limitations as a group that is outside the structure so that, in practice, there are limitations both in terms of knowledge and finances amidst the demanding need to utilize waste as a source of income. The waste management process is carried out in solidarity, supported by the majority of the workforce who work as scavengers.

The processes and activities of Kampung Kiringan scavengers can be classified as civil society. Tocqueville described civil society as a social entity whose existence is able to break through class boundaries and act as a counterweight to tendencies toward state intervention (Asrida et al.). From these characteristics, civil society becomes a form of social life that is organized with characteristics that are voluntary (volunteering), self-generating (self-sufficiency), and self-supporting (self-sufficiency).

The role of scavengers in waste management and recycling is carried out voluntarily through the willingness of the community to collect waste from the source, then sort various types of waste, which can later be reused and sold to collectors, and some of it is used as waste recycling material in the form of crafts through a process Clean up the trash first. This desire has become an everyday norm for the people of Kiringan Village, the majority of whom work as scavengers, both heads of families and housewives, so reducing waste at the source is a strategic target for them.

The scavenger community of Kampung Kiringan carries out waste management activities ranging from collecting, sorting, and cleaning to recycling the waste in a self-sufficient manner. This community self-sufficiency skill emerged after support from external parties through the initiation of training provided by the Sendal Jepitan Bareng Community. This collaboration is able to increase the level of community independence in improving waste recycling processing skills.

The aspect of self-sufficiency can be seen from the beginning of the Kampung Kiringan settlement, which was inhabited by 44 residents from 18 heads of families, with the majority making their living as scavengers. The community built semi-permanent houses as settlements by purchasing 2,000 m of land² with a price of 180 million rupiah independently with joint

venture capital. The mechanism is that the price of the land is divided by as many heads of the family into plots measuring 10 x 10 m². This self-sufficiency extends to scavenger activities in waste management and recycling. This activity is carried out jointly between the community by traveling from one area where scavenging is carried out to another area and to a temporary rubbish dump using rubbish carts and sacks.

Voluntary, self-generating, and self-supporting dalam manajemen sampah 3R

Voluntary, self-generating, and self-supporting aspects can be observed in waste management activities by the Kiringan scavenger community. Around Kiringan itself, there is a TPS in Tidar Utara Subdistrict, which is one of the centers of Kiringan scavenger activity. The first waste management carried out by scavengers is selecting waste. Waste selection is the separation of organic and inorganic groups or types and then placed in different containers (Sujarwo et al.). The aim of selecting waste is to find out whether a piece of waste can still be used or utilized. It is better to select waste from the source, such as from households, schools, industries, offices, and public facilities. The scavengers of Kiringan Village have voluntarily and self-sufficiently collected or picked up waste at TPSs, especially at Tidar Utara Subdistrict TPSs and surrounding areas. The scavengers have brought their own special containers for plastic bottles, sachets, cardboard, used cartons, and glass bottles.

In this context, scavengers sort types of inorganic waste with the aim of using and reusing them into goods of selling value. This means that the scavengers of Kiringan Village, as civil society, have played a role in participating in solving public problems. The issue of waste management in Magelang City is not limited to the exclusive area of the Magelang City Government, but there is a movement based on volunteerism, self-reliance, and self-sufficiency initiatives, which at the same time increases the capacity of the community itself to be empowered through waste management. The Magelang City Government, through the Environmental Service, picks up rubbish, but in reality, not all rubbish can be picked up, so scavengers can fill the gap, which also has a positive impact on the conduciveness and comfort of the surrounding environment, the results of which support educational, business and social activities as a whole. This waste sorting activity by Kiringan scavengers has economic value, namely that the waste that is sorted first can be valued at IDR 3,500 per kg compared to IDR 1,500 per kg if sold without being sorted. The interest in sorting waste is what also encourages Kiringan scavengers to apply the 3R concept, namely reuse (reuse), reduce (reduce), and recycle (recycle).

Reuse or reuse is implemented by utilizing certain waste that can still be used for some purpose (Sujarwo et al.). In this case, the scavengers of Kampung Kiringan reuse previously obtained rubbish, such as waste in the form of plastic bottles and glass bottles, or it is not uncommon for scavengers to find used items that are deemed to still be reusable. If the waste obtained previously is cleaned first, the price will be IDR 2,500 per kg, which is more expensive to the collector compared to if it is directly deposited to the collector, which is only worth IDR 1,500 per kg. Apart from the economic side, scavengers also do this by reusing items obtained from scavenging for reuse, for example, planting media or even drinking containers and water reservoirs. Furthermore, they often reuse used banners that are unused or have been thrown away to be reused as sitting mats and to cover livestock pens.

Reducing or reducing is reducing the use of everything that can produce waste and reducing existing waste (Sujarwo et al.). The activities carried out by the scavengers of Kiringan Village to reduce waste are related to the daily activities of the scavengers going around the TPS. This effort is a concrete step to break down plastic waste from its source. Plastic waste needs to be managed because its non-degradable nature has the potential to cause pollution of terrestrial ecosystems and, within a certain period of time, can cause environmental problems such as floods, clean water crises, disease, and even social problems such as the absence of cleanliness education models and a good business climate. Not conducive.

Recycling or recycling is the stage of using certain waste to be processed into goods that have use or economic value. In this stage, the role of the Kiringan Village scavengers can be seen through the recycling activities of waste that were previously collected, sorted, and not sold to collectors with the intention of recycling it into handicraft products. Activityrecycle This was inspired by a movement initiated by Budi Darwanto from the Sendal Jepitan Bareng Community, who provided assistance and training to housewives in Kiringan Village to utilize plastic waste into various kinds of craft products such as bags from sachet drink packaging and flower vases from used plastic bottles on the market. Priced at IDR 10,000 per craft bottle. Through activity recycling, the community is independently able to manage plastic waste and turn it into an economic opportunity based on a circular economic system. This training shows that Kiringan scavengers are willing to carry out volunteerism and self-sufficiency after learning that the activities that have been running so far actually have the potential to empower the community.

Civil society and waste management in SDGs 15

The role of the Kiringan Village scavengers in carrying out waste management is a form of improving waste management problems, which are still based in Magelang City end of pipe or limited to transport, collection, and disposal without involving further sorting and management stages. Waste management can be said to be optimal if all aspects of management can go hand in hand and support each other. Waste management by the Magelang City Government, which is handled by the Environmental Service, needs to be balanced with the involvement and active role of the community. This collaboration is crucial to reducing and cutting the rate of waste production to mitigate waste through the 3R activities of the civil society scavengers of Kampung Kiringan. More broadly, this movement is in line with SDGs 15.

Civil society activities by the scavengers of Kampung Kiringan in waste management represent the community's willingness to solve the waste problem according to the community's capacity and abilities. With civil society principles, Kiringan scavengers demonstrate SDGs 15 efforts, especially in preventing land degradation that can be caused by plastic waste. Plastic waste is a type of waste that cannot be broken down by the soil, so it will damage the function of the soil as a physical buffer, air provider, water provider, temperature regulator, control of toxic materials, and nutrient provider (Utomo et al.).

Based on the results of an interview with one of the community leaders in Kiringan Village, Mr. Suroso, it is known that the existence of waste is something that exists very closely; in fact, the majority of women out of a total of 50 people are involved in managing or utilizing waste every day. The implementation of 3R as a routine activity in his livelihood as a scavenger is also proof of the principle of volunteerism, self-sufficiency, and self-reliance by the scavengers of Kampung Kiringan to protect the land ecosystem. The inorganic waste that can be collected and sorted by the scavengers of Kiringan Village is a form of ecological contribution because the result is to reduce the volume of waste dumped on the ground from each source.

The voluntary ability, self-sufficiency and self-sufficiency of the scavengers of Kampung Kiringan is also a circulation of the practice that 3R activities have economic value, namely the price of scavenging results, which is higher if it has gone through at least one of the stages of reuse, reduce, recycle. For example, a type of junk that was initially only priced at IDR 1,500 per kg can increase to around IDR 3,500 per kg to IDR 5,000 per kg. After realizing that the implementation of 3R can support the empowerment of scavengers, the

activities carried out continuously are realized as a form of waste mitigation effort in the framework of SDGs 15, namely preserving the condition of terrestrial ecosystems, the health of land or soil degradation, and the health of the community environment.

CONCLUSION

The role of Kiringan Village scavengers as civil society in 3R waste management can be an alternative solution to land ecosystem problems caused by waste. A waste management system that adopts a paradigm *of pipe* in Magelang City is still a classic problem that requires alternative solutions so that waste management is linear with the universal norm of sustainable development goal 15, namely protecting terrestrial ecosystems. The role of Kampung Kiringan scavengers reflects the capacity of civil society to play a role in problems that have not been fully resolved by the competent authorities, namely the volume of waste that cannot all be accommodated in the TPSA and processing that is not yet based on sorting organic-inorganic and biodegradable-non-degradable waste.

In relation to the SDGs, the scavengers of Kiringan Village contribute to helping prevent land degradation and protecting water and land ecosystems. The scavengers of Kampung Kiringan have tried to implement the 3Rs in managing waste from the source. *Reuse* or reuse is done by using used items for reuse, such as plastic bottles for water cisterns, flower vases, and decorations. *Reducing* it is done by decomposing waste in the community environment. *Recycling* or recycling is carried out through a waste recycling process through the initiation of a movement by the Sedal Jepitan Bareng community. In its implementation, 3R is able to reduce the volume of waste in the community and surrounding TPS or TPA. In formal waste management, the scavengers of Kampung Kiringan work independently outside formal systems and structures.

The 3R activities of Kampung Kiringan scavengers show the characteristics of civil society, namely voluntary (volunteering), *self-generating* (self-sufficiency), and self-supporting (self-sufficiency). The emergence of the role of scavengers in waste management is one way that civil society is starting to play a role in accessing problems that have so far not been able to be handled thoroughly by competent authorities. The new thing that is a breakthrough for the Kampung Kiringan scavengers is that the scavengers are not just collecting rubbish or used goods and then selling them but are also managing and processing the waste so that it has added economic value and contributes to the environment. With limited resources and access, the scavengers of Kampung Kiringan are able to provide real change for

the environment in the use and management of waste, which is often considered a social obstacle by the community, but through waste management, which is their daily activity, it turns out that the scavengers of Kampung Kiringan actually contribute even though they are still in local level in the sustainable development goal "Protecting terrestrial ecosystems."

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