

# The Contribution of Social Capital to Waste Management for Street Vendors in Semarang City, Indonesia

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## Abstract

Garbage is a serious issue faced by all governments in the world. If a government does not handle waste well, then it will become a much bigger problem. The city of Semarang has this problem. This research is conducted to solve (1) what efforts street vendors use to manage their waste and (2) how social capital contributes to waste management. This study is conducted with quantitative and qualitative methods. Quantitative methods are used to answer the first research problem, and qualitative methods are used to answer the second research problem. The results of this research show that (1) street vendors' efforts to manage their waste only involve disposing of waste and focusing on reducing waste and (2) social capital, which is a social norm that contributes to waste management by street vendors, includes commitment and obedience from street vendors to dispose of their trash and keep their areas clean.

## Keywords

culinary; government; social capital; street vendors; waste management

## INTRODUCTION

Research on street vendor's waste management is rarely conducted because studying waste generated by street vendor activity is seen as lacking contribution to economic development because street vendors (PKL) are part of the informal sector, which is an area of economics (Becker, 2004; Pitoyo, Agus Joko; Utami, 2010; Brotosunaryo, Wahyono, Hadi & Sariffudin, 2013; Martinez & Estrada, 2017; Walsh, 2010). Research on waste as a by-product of street vendors is not intensively performed. This type of waste is different from the waste generated by industries and households. Bangkok (Thailand) and Chongqing (China) are examples

of cities experiencing severe problems due to industrial landfills (Singkran, 2020; Niu et al., 2020). Studies on industrial waste are numerous. For example, research on tofu industry waste was carried out by merchants (Kaswinarni 2007; Adack 2013; Azmi et al., 2011; Dewa & Idrus 2017; Nur Pangestika 2018; Saenab, Al Muhdar, Rohman, & Arifin 2018). These studies showed that tofu waste could be used to make tofu crackers, soy pulp tempeh, animal food, and fertilizer. Unfortunately, tofu waste is also suspected

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of polluting the environment.

Research on street vendors' waste management can be identified, especially research related to the awareness, participation, and attitudes among street vendors of their waste. Some studies show that street vendors are concerned about and participate in waste management (Yulianto, 2016; Lampus, Y, Wangke, Welson M, Sendow, Martha M, 2017). Their education level influences street vendor's or merchants' participation in managing waste, the length of time they have been merchants, the conditions of their areas, and their attitudes towards the environment (Mandailing, 2001; Rahayu, 2015). Merchants have positive attitudes towards their waste because it can be sold to earn more money (Efendi et al., 2012). However, it has been found in some cases that some merchants do not adequately dispose of their waste. Others even threw their garbage on the side of the road (Januarto, 2015; Lestari, 2016).

Research on waste is interesting because waste has not only received national and international attention, but there have also been many studies on waste managed by the community (Mavropoulos et al., 2014). Waste is also a global problem because it is traded as a commodity even though this is done illegally (Lewis & Chepesiuk, 1994; Willén & Johansson, 2008). This situation has caused conflicts among countries (Sembiring, 2019). Nevertheless, international attention on dealing with waste has increased (Skinner, 1994).

Waste becomes a severe problem for governments because its volume increases over time. In some places, public spaces are piled up with garbage, even though national and regional regulations have been issued to make people aware of managing their waste (Khajuria et al., 2008). Research results from Sustainable Waste Indonesia (SWI) in South Jakarta and Ambon city in 2017 showed that 1.3 million tons of plastic packaging per year are not well managed and potentially damage the environment. In ASEAN, Indonesia ranks highest in producing urban waste, namely 64 million tons per year (UNEP, 2017). By comparison, India's cities are estimated

to produce 960 million tonnes of waste per year (Sharma et al., 2021). Research results from SWI also showed that 60% of urban waste comes from organic material, 14% comes from plastic, 9% comes from paper, 4.3% comes from metals, and 12.7% comes from other materials, including glass and wood. Nationally, Indonesia's landfill waste in 2016 reached 65.2 million tons per year (Iriana et al., 2018).

This study aims to study the role of street vendors in waste management because of trade activities. Street vendors who are engaged in trade are often referred to as culinary street vendors. These culinary street vendors are suspected of producing both dry and wet waste (Brigita & Rahardyan, 2013).

Many culinary street vendors in Semarang carry out their trade activities in public spaces, such as in Sampangan, Sam Poo Kong, Simpang Lima, Menteri Soepeno, hospital areas, schools, and college campuses. During a car-free day event, such as that around the Indonesia Kaya Park area, large volumes of trash are scattered around after trade activities. It is estimated that the daily waste generated by community and government activities reaches 1,000 tons (Anonymous, 2020; Yuda, S.I., 2018).

This study is focused on the activities of culinary street vendors who run businesses in Simpang Lima Roundabout, Menteri Soepeno Street, and Sampangan Park. In this study, culinary street vendors' concerns regarding managing their waste are examined to determine whether there are social capital factors involved, especially social norms and networks, that play some role in waste management.

### **Culinary Street Vendors in Semarang**

The formal job sectors of Semarang city, especially property and hospitality businesses, are overgrowing. Still, many prospective workers are eliminated because of strict labor regulations because they do not meet the requirements. This situation leads to an informal job sector because the formal one cannot provide enough jobs for everyone. Increased inequality also hinders job creation in the formal economy (Nazara, 2010).

However, the legal sector's growth also influences the development of the informal sector (Adam, 2014).

Economic, social, artistic, and cultural complexities make the types of businesses in the informal sector that migrants can enter vary rapidly due to development in Semarang. The trade, industry, and service centers (textiles, food/culinary, education, and others) in Semarang encourage the informal sector's growth, especially food businesses. In almost all places in Semarang, culinary street vendors can be found selling food day and night. In the informal sector, in addition to food, there are many developing businesses, such as retail petrol trading businesses; tire patching services; welding services for cars and motorcycles; freight car rental services; sewing clothes; carrying luggage services; shoe repair services; stamp making; making motorcycles; car plate, vehicle registration certificate and driver license management services; sales of used goods; mobile vegetable sellers; and various other types of informal sectors.

The rapid development of Semarang as a metropolitan city is attracting street vendors. The number of street vendors has overgrown recently. Street vendors who occupy public spaces in Semarang include organized street vendors (following local regulations) and unorganized street vendors (not following local rules). According to Semarang City Market Service's data, the number of street vendors in 2009 reached 11,414, with 7,419 following Regional Regulation No. 11 of 2000, Semarang Mayor Decree Number 130.2/339 of 2000 and Mayor Decree Number 511.3/16 of 2001, and 3,995 street vendors not following the Regional Regulation and Decree of the Mayor.

In 2012, the number of street vendors (PKL) in Semarang city increased to 11,981, increasing 567 street vendors from 2009. The details of the increasing number of street vendors who follow the Regional Regulation or not, are unknown. The Market Office does not consider the high mobility of illegal street vendors who do not follow local regulations in calculating the increase in the number of street vendors. Therefore,

the number of street vendors in 2012 could exceed the number of street vendors compiled by the Market Service of Semarang City. In 2019, the number of street vendors will increase with the development of the city of Semarang as a metropolitan city.

Various street vendors have grown and developed in Semarang. The 11,981 street vendors can be divided into at least two groups besides Organized Street Vendors and Unorganized Street Vendors. These groups are mobile or mobile street vendors and immobile or permanent street vendors. Mobile street vendors are street vendors who run their businesses using transportation, such as cars or motorcycles. This type of street vendor has been developing quite rapidly in Semarang, especially in the last eight years. Their numbers are hard to define because of their high mobility. These street vendors can be found on the sides of roads. Items sold by this type of vendor vary, such as vegetables, various bread, snacks, drinks, fruits, rice, herbs, and other household needs. Some vendors sell clothes, and lately, some vendors sell goods that are not commonly sold on the streets, such as phone credits for cell phones, motorcycle tires, and satellite dishes.

Immobile or permanent street vendors are street vendors who occupy permanent kiosks or locations. The goods sold by these vendors vary widely from vendor to vendor. Some sell grocery items, glasses, clothes, bird food, phone credits, cell phones, magazines and newspapers, books, and some sell food and beverages. Most immobile street vendors sell food and drinks or are culinary street vendors. Street vendors who sell food and drinks are often found at night. Studies conducted by WIEGO also show the same trend in that street vendors provide easy access to a wide range of goods and services in public spaces in cities worldwide (Roever, 2014). This culinary trade provides jobs and income for low-income households. Therefore, the local government must recognize and protect its existence (FAO, 2003).

The foods and drinks sold by mobile street vendors and permanent street vendors (immobile) vary, including "pecel"

(traditional Javanese salad), fried rice, oxtail soup, mixed tofu, Javanese noodles, chicken noodles, chicken satay, chicken “soto,” round fried tofu, cuttlefish, and many others. Unfortunately, the production and consumption activities carried out by culinary vendors are suspected of producing both dry and wet waste, called food waste (BSR, 2014). The city of Semarang faces a severe waste problem related to these street vendors. Similar issues are also experienced by large cities in Asia, such as Bangkok (Singkran, 2020).

Waste has a positive value and has a negative impact if it is not managed correctly. Trash produced by culinary street vendors from food and beverage packaging and food and beverage residue can cause pollution and harm public health. As Kuncoro (2009) stated in Lampus, Wangke, & Sendow (2017), waste damages the environment and causes decay. Pollution caused by waste includes water pollution, odor pollution, and soil pollution.

### Social Capital and Waste Management

The concept of social capital has long been discussed by economists, starting from around the 19th century (Castiglione, 2008). The term social capital first appeared in 1916, when Lyda Hudson Hanifan wrote about The Rural School Community Center. Of all the views on social capital, social capital researchers frequently use the sources from Coleman, Putnam, Fukuyama, and Bourdieu. The researchers chose Putnam’s concept of the four authors, which was considered more appropriate for this study).

As part of social organizations, social capital, such as beliefs, norms, and networks, can increase community efficiency by facilitating coordinated actions (Putnam, 2000; Sirven, N., & Dourgnon, P, 2010). Using an institutional approach, in his research in northern and southern Italy, Putnam concluded that north Italy’s institutional performance was relatively prosperous due to the reciprocal relationship between the government and civil society. In the north of Italy, autonomous guilds can self-regulate and contribute to civil society’s

maturity, which helps support the policies and programs of the northern Italian government. Civil society support and local government institutions’ effectiveness have led Italy north to have a higher level of prosperity than southern Italy. Social capital, such as education, openness, and effective institutions, contributes significantly to citizens’ satisfaction with local governments. Life satisfaction is associated with trust and networks that may create or support belief (Helliwell, 2006). Citizens’ satisfaction with the government in northern Italy, which contributes to prosperity, builds excellent community trust.

Social capital gives character to a group or community. There are two types of social capital attached to the PKL association: bonding social capital and bridging social capital. This social capital contributes to waste management (Hasbullah, 2006). However, there is another type called linking social capital (Pargal et al., 1999). This type is characterized by the relationships between different power levels and social statuses, which are cross-sectional, such as linkages between political elites or individuals from other classes (Woolcock 2001; Claridge 2018; Hawkins & Maurer 2010; Jordan 2015).

Bonding social capital tends to be exclusive and inward-looking (Leonard, 2004; Graham, 2016). Individuals who are members of groups tend to be homogeneous and conservative. Solidarity takes precedence over more tangible things, and groups follow the demands of society’s values and norms. Groups with more social capital bonding will have strongly connected, positive, and reciprocal (Oh, Hong Seok, 2006). The trust built among members is powerful, and in such groups, social exchange networks are well-created. This closed group is powerful and has advantages, such as greater cooperation, greater conformity to agree on shared norms, and greater information sharing. Still, it tends to be less involved with things outside the group. However, despite their disadvantages, bonding-type groups tend to be more effective. The typology of closed groups with bonding social capital can be seen in street vendors’ character in the city



of Semarang. Street vendor groups tend to be loyal and solid within their groups, but they lack attention or involvement with other street vendors. Bonding social capital is similar to a thick trust, which is a social capital formed due to the presence of trust among groups of people who know each other (Hasbullah, 2006). Groups with social capital bonding, such as the Batan Miroto area, the Simpang Lima Roundabout, the Menteri Soepeno area, the Sampangan Park area, and the Barito area, have dense social networks (internal groups) and norms to which they adhere.

Bridging social capital is a modern form of grouping, association, or community. The principles adopted are based on universal values, such as equality, freedom, pluralism, humanity, openness, and independence (Hasbullah, 2006). The intermediary mechanism in this bridging relationship breaks the gap between unconnected members. Structural holes in bridging social capital presuppose the existence of a two-dimensional type, namely, horizontal dimensions and vertical dimensions (Oh, Hong Seok, 2006). The first dimension shows whether individuals are vertically differentiated, such as between those positioned as leaders and those placed as followers. The second dimension shows whether individuals are horizontally differentiated, such as individuals with different functions within groups or subgroups. This bridging social capital contributes significantly to society's development, progress, and strength, such as better control of corruption, more efficient government work, more effective poverty reduction, and increasing quality of life. In the context of street vendors, this bridging social capital is needed to access information sources related to their future and provide a path for street vendors to strengthen their bargaining power when dealing with authority. Within the group of street vendors with either strong social bonding capital or bridging social capital, group members have a high level of trust, adherence to norms, and social networking, enabling them to exist.

Culinary street vendors are suspected of producing a large amount of rubbish from food residue and food or beverage packages. The following studies show how street vendors or traditional market traders behave concerning waste management. Januarto (2015) indicates that Culinary Street Vendors in the Tembalang Undip Region produce 74.25% organic waste, while Non-Culinary Street Vendors produce 25.75% inorganic waste. In Bandung, the waste produced from catering and hospitality activities is 73% organic waste, and the problem that arises is the low awareness among food and hotel businesses of sorting waste (Brigita & Rahardyan, 2013). Research on the Sukaramai market in Medan also shows similar patterns to Bandung's, with low awareness among traders and buyers about maintaining cleanliness (Sipangkar, 2018). Unlike the research results on Bandung, research on waste management in Yogyakarta found that environmental awareness among traders about managing waste is relatively high (Panggayuh, 2018). This difference is due to regulations on environmental management from the local government. The same study also concluded that the mayor's hygiene maintenance rules became a determining factor for street vendors in maintaining ecological cleanliness, including waste management (Benjamin, 2013).

Waste generated by street vendors generally causes pollution and environmental degradation (Cabaltica, Nguyen, & Pham, 2016; Association, 2018; Bormann, 2017). The pattern of waste management among culinary vendors who use a direct disposal pattern appears more frequently than the correct patterns, such as reduce, reuse, and recycle. However, much research on the contribution of social capital to waste management has been carried out by the community (Argentiero et al., n.d.; Jones et al., 2011; Tsai, 2008; Wang et al., 2020). The results show that social capital has positive contributions, such as the energy to drive community participation in managing waste (Amalia, 2019).

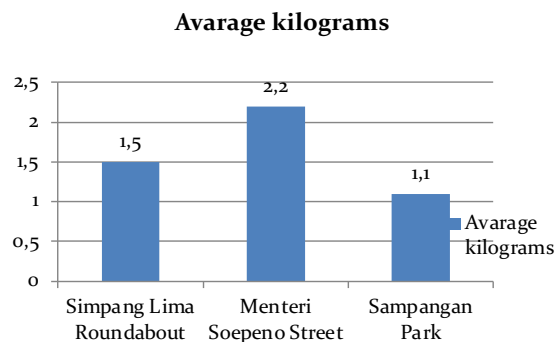
## METHODS

This paper is based on quantitative research methods, specifically descriptive statistics. Descriptive research methods interpret objects as they are (Sukardi, 2004; Nicholas, 2006). These descriptive statistics include ways to collect, arrange, process, present, and analyze numerical data. Therefore, descriptive statistics can provide an orderly, concise, and clear picture of a phenomenon, event, or condition to obtain meaningful information, which is realized in charts, graphs, or diagrams (Sholikhah, 2016; Floyd, 2010). The study population was the street vendors who traded food and beverages at the study sites: the Simpang Lima roundabout, Menteri Soepeno Street, and Sampangan Park. The total number of street vendors was 250, with 100 people from the Simpang Lima roundabout, 100 people from Menteri Soepeno Street, and 50 people from Sampangan Park. The sample was acquired by simple random sampling (Sedarmayanti, 2011), and 10% of the population was sampled, with as many as ten people from the Simpang Lima roundabout, ten people from Menteri Soepeno Street, and five people from Sampangan Park. Data were collected using questionnaires, interview guides, and observations. A questionnaire was used to obtain data about waste production. Interview guides were used to obtain data about street vendors' efforts in managing waste. Observations were used to collect street vendors' trading data and control waste behavior. Data were analyzed quantitatively with descriptive statistics, especially data on waste production, types of waste, and waste disposal infrastructure. The statistical tool used was a statistic to measure central tendency using a mean count (Sedarmayanti, 2011; Singh, 2006). Qualitative data were analyzed qualitatively, including data on the contributions of social capital to waste management.

## RESULT AND DISCUSSION

### Description of Waste Production at the Research Location

Waste produced by street vendors in three research locations, Simpang Lima roundabout, Menteri Soepeno Street, and Sampangan Park, varies from 0.5 kg to 9 kg per street vendor. The average waste generated by each street vendor is 1.5 kg from the street vendors from Simpang Lima roundabout, 2.2 kilograms from the street vendors from Menteri Soepeno Street, and 1.1 kg from the street vendors in Sampangan Park. The results of the garbage data can be seen in the following figure.



**Figure 1.** Waste generated by street vendors from Simpang Lima Roundabout, Menteri Soepeno Street, and Sampangan Park (Source: primary data)

Waste generated by street vendors from the three research locations varies with the type of service or goods sold. The waste produced by the street vendors at Simpang Lima is plastic waste, waste from fruits and vegetables, waste from food scraps, and paper. At Simpang Lima, the most widely produced waste is plastic, fruit, and vegetable waste. These types of trash can be categorized as organic and inorganic waste.

Waste produced by street vendors from Menteri Soepeno Street is plastic waste (plastic cups, spices and pea packaging, food cans), milk cans, water waste from soaked chicken, fruits (durian skin, jackfruit seeds), the inner barks of fermented cassavas, banana leaf litter, corn husk, styrofoam, skewers, and greaseproof paper. This waste

can be categorized as organic and inorganic waste.

Waste produced by street vendors from Sampangan Park includes the skin and pits of young mangoes, eggshells, coconut skins, orange peels, and plastics (used as sausage wrappers). As is the case with that from Simpang Lima and Menteri Soepeno Street, the garbage from Sampangan Park also consists of organic and inorganic waste.

There is no toxic or hazardous waste (B3). However, there is styrofoam waste in the research locations, which is harmful to human health, primarily when used to wrap hot food.

### Street Vendors' Efforts in Managing Waste

Street vendors' efforts in managing waste include knowledge of waste regulations, the parties involved in waste management, the responsibility for managing waste, and waste utilization. The Semarang city government has conducted socialization of local laws from waste from street vendors. However, this socialization is not performed routinely or continuously. Therefore, socialization has no significant impact on street vendors' knowledge about waste, especially managing waste. Even in the Sampangan Park area, there is no socialization or assistance given to street vendors because they are illegal and not registered with the local Office of Trade or Urban Village Office. Some vendors do not know the rules regarding waste at the Simpang Lima roundabout at another research site, such as throwing garbage in the space provided. They do not carry out any waste processing activities that can add economic value.

The government has provided landfills at the two research locations, namely, the Simpang Lima roundabout and Menteri Soepeno Street. However, these landfills do not allow the ability to sort organic, inorganic, and hazardous waste. The cleaning facilities at Simpang Lima roundabout and Menteri Soepeno Street are deemed sufficient by street vendors. There are also water facilities with adequate sanitation; however, complete landfill availability is still insufficient, so

some places look dirty. In Sampangan Park, no landfills are available. The following picture shows the availability of waste facilities at the three research locations.

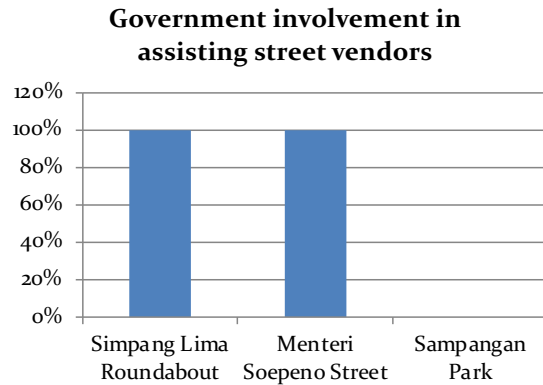


Figure 2. Government involvement in assisting street vendors. (Source: primary data)

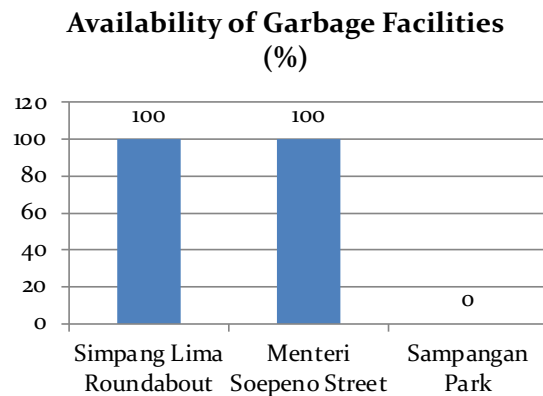


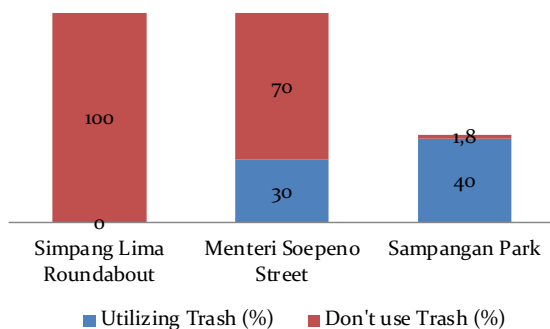
Figure 3. Availability of Garbage Facilities (Source: primary data)

Individually, each street vendor is aware of and responsible for the waste produced from the trade activities. The street vendor community, especially at Simpang Lima roundabout and Menteri Soepeno Street, obey the community's suggestions and invitations to clean up the environment during and after trading activities. In addition to the street vendor community, other parties involved in handling waste are the city government, the Sanitation Office, and the local Village Office. However, the government's lack of assistance makes handling waste at the three research locations not optimal. There is an impression that

street vendors carry out waste management partially or individually.

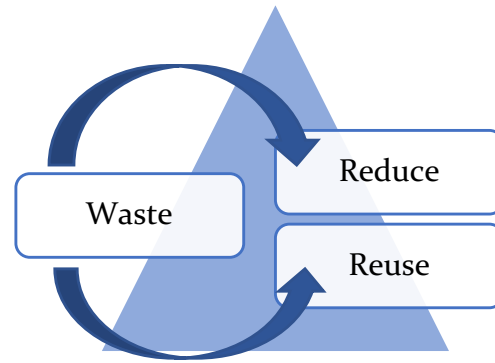
In general, street vendors are responsible for the waste that they generate. Some street vendors, especially in Sampangan Park, even bring their garbage home because the bins in the area cannot accommodate all the waste generated by the approximately 30 traders.

Most street vendors do not know the different types of waste due to the government's lack of assistance and non-governmental organizations engaged in waste management. However, street vendors know the functions and benefits of waste. Mixed ice sellers, for example, know that coconut shells can be used to grow plant seeds or as material for making crafts for elementary school children. Likewise, Martabak sellers know that eggshells can be used as materials for making crafts for elementary school children. Street vendors know the benefits of waste, but they also take advantage of waste; for example, mixed ice sellers use coconut shells to plant seedlings, boiled noodle sellers use the vegetable residue to feed animals, and "martabak" sellers use cans of milk as seasoning containers. Profiles of waste or waste utilization can be seen in the following figure.



**Figure 4.** Utilization of Waste by PKL  
(Source: primary data)

The research results obtained information that the street vendors in the three research locations regarding waste management are limited to reducing and reusing activities, not recycling.



**Figure 5.** Waste Management by Street Vendor

### Contribution of Social Capital in Waste Management

The contribution of social capital to waste management can be seen in social norms and social networks in waste management. Of the three research locations, only two have community groups that manage waste: the Simpang Lima roundabout and Menteri Soepeno Street. At Simpang Lima, street vendors recognize the community's role in waste management, including the part of the Semarang city government. As informant A1 said: "I have learned a lot from Kelurahan employees about how to manage waste properly and am reminded to keep the environment clean" (Interview, 15 July 2019).

Although the efforts to process waste into new material goods that are beneficial for improving street vendors' sales have not been attempted, street vendors know how to sort waste and dispose of it in the space provided. Most respondents in Simpang Lima have received information and assistance from the Department of Sanitation and Gardening in Semarang, as did street vendors on Menteri Soepeno Street. However, due to the lack of intensity of meetings and mentoring, street vendors carry limited waste disposal, such as garbage disposal. They do not adequately handle waste management and do not apply the 3R principles, which are reduced, reuse, and recycle.

The lack of community involvement and assistance from the government or non-government organizations does not mean there is no social capital tied up in street



vendors' interactions, as stated by informant A2. "Even though I am not accompanied by a community association, I keep the environment where I trade clean because if it's clean, buyers will come to buy the food I sell." (Interview, 15 July 2019). Of the three elements of Putnam's social capital, which are trust, social norms, and social networking, social capital still appears in social relations among street vendors. Waste management is a social norm. Although associations and the city government do not provide a solid basis for enforcing street vendor compliance with waste management, street vendors from the three study sites are committed to organizing clean environments. The street vendors always keep the environment clean before and after trading. The resulting garbage is disposed of at the provided locations (at Simpang Lima roundabout and Menteri Soepeno Street). In the area that does not have a garbage dump (Sampangan Park), the street vendors put their garbage in a plastic bag and take it home. In addition to compliance with unwritten norms, street vendors are also morally bound by the existence of associations, especially at Simpang Lima roundabout and Menteri Soepeno Street. At these two locations, associations help the government by reminding street vendors to maintain the cleanliness of the business premises. Street vendors also follow the invitations and advice given by the community. At these two locations, there are social networks that serve as supervisors of the street vendors' social behavior.

The study data show that no social capital from the community plays a role in regulating street vendors' behavior, including managing waste. Associations do not make meaningful contributions to waste management. Associations only handle the compliance of street vendors in carrying out obligations, especially paying contributions. The absence of intensive assistance from the city government causes street vendors to be uncoordinated in managing waste. Compliance with social norms, especially commitments and unwritten rules, such as keeping the environment clean, is shown by individual street vendors. Street vendors who sell

at Simpang Lima roundabout and Menteri Soepeno Street obediently dispose of their garbage in landfills, and street vendors at Sampangan Park take their garbage home. They want to properly dispose of their waste because they will feel bad for the other street vendors if they keep their trash there. They think that buyers will be more interested and comfortable buying food if their place is clean. Street vendors consider rational ideas in managing waste, especially in disposing of garbage.

This research concludes that social norms contribute to waste management carried out by street vendors, especially with commitment and compliance in disposing of waste and maintaining the trading place's cleanliness. Social norms make street vendors aware and committed to managing the waste they produce. Social norms also encourage street vendors' participation in managing waste, even in a limited context, such as reducing or limiting the source of waste. The influence of social norms on managing waste can be seen when street vendors are indifferent to cleaning up trash. Other street vendors reprimand and remind street vendors to be mindful of their trash. Social capital is bound by the social interaction of street vendors in social capital bonding without being influenced by the street vendor community.

Waste is a common problem in the community, government, and private sector (World Bank, 2012). Cities mainly face the issue of a high population density (Kumar, 2016). If managed improperly, waste can negatively impact, including the emergence of unpleasant odors, creating a dirty environment, causing acute respiratory infections, causing pollution, causing floods, and other negative impacts (Ejaz et al., 2010; Ferronato & Torretta, 2019; Triassi et al., 2015). Conversely, if it is appropriately managed, waste has positive impacts, such as becoming compost material, students' craft materials, and biogas, creating economic benefits (Babalola, M. A., 2020; United Nations Environment Program, 2015).

Waste is the responsibility of individuals, families, communities, governments,

and the private sector. Waste is the responsibility of individuals, families, communities, governments, and the private sector. Merchants who produce waste daily are also responsible for managing their waste. However, the government is more responsible for managing waste because it has more resources than individuals and communities, especially financial resources. The waste problem in Semarang is a joint problem between the community and the government. Still, control, governance, and assistance remain in the hands of the city government. Semarang City Regulation Number 6 of 2012 regulates waste management based on responsibility, sustainability, benefits, justice, awareness, togetherness, safety, security, and economic value (Article 3). Article 4 states that waste management aims to improve public health and environmental quality and make waste a resource. In connection with the government's role, Article 5 says that the Regional Government is tasked with ensuring proper and environmentally sound waste management, following the objectives of Regional Regulations. The tasks of the government as referred to in Article 5 are further specified in article 6, which are:

- We are fostering and increasing public awareness of waste management.
- We are conducting research and development for waste reduction and handling technology.
- We facilitate, develop, and implement waste reduction, handling, and utilization efforts.
- We are implementing waste management and facilitating the waste management facilities and infrastructure.
- We are facilitating and developing the benefits generated from waste management.
- We facilitate the application of locally specific technologies developed in the local community to reduce and deal with waste.
- We are coordinating Inter-Regional Work Units of the community and business world to integrate waste management.

Unfortunately, the government task stipulated in Article 6 of the Regional Regulation is not going well, especially in waste management in the three research locations: the Simpang Lima roundabout, Menteri Soepeno Street, and the Sampangan Park. In those three locations, street vendors' knowledge of waste management is low. However, it is interesting that their awareness and commitment to cleaning the environment is relatively high, but assistance from the government is not intensive. In Sampangan Park, there is no assistance at all. The lack of support from the government causes some traders to care less about waste, and some traders are busy with their work instead of managing their waste correctly. This situation also exists in Surabaya, as found in studies conducted by Dhokhikah et al. (2015) and Brigita & Rahardyan (2013). Government facilitation expanding the knowledge and skills of street vendors in waste management will raise street vendors' awareness of managing waste and environmental cleanliness (Sinthumule & Mkumbuzi, 2019). Policy, commitment, support, and facilitation from the government towards street vendors will support street vendors to survive while also increasing their concern for environmental cleanliness (Castro & Lawrence, 2006).

The environment shows the commitment of street vendors to managing waste they sell before and after trading activities. Street vendors dispose of and bring home garbage. Street vendors who dispose of garbage show have high moral awareness and an obligation to clean the environment. This finding is in line with Kant's view that carrying out a commitment is a highly ethical behavior (Low & Brendan, 2009).

Environmental hygiene takes place at the level of the street vendors in managing the waste and at the level of the road sweepers paid by the government. These street sweepers play the most significant role in cleaning up the street vendor's environment (Kuehl, Renae; Marti, Michael; Schilling, 2008; Tobin & Brinkmann, 2002).

The associations at the Simpang Lima roundabout and Menteri Soepeno Street do

not have the power to regulate street vendors, especially in managing waste. However, solicitations, appeals, and suggestions to maintain the cleanliness of business are followed by street vendors. The motivation to clean the environment is not merely to obey the community but also to attract buyers so they do not buy from other sellers. They obey the agreement to clean the environment and dispose of waste not because they follow the city government or community's orders but rather to arrange a comfortable business place for buyers. There is no sound waste management system at the three research sites because social capital, which is social networks in the form of organizations or communities, does not have the power to regulate street vendors' behavior. However, according to various studies, a waste management system will be effective if it is based on social capital (Syahli & Sekarningrum, 2017), which means that in the future, the city government needs to empower the community through social capital to help street vendors carry out waste management properly (Hao, 2017). If waste management is carried out correctly, then the waste can be turned into useful material for street vendors. The following impact is that street vendors are more concerned about the waste they generate because they also benefit economically roundabout.

## CONCLUSIONS

Based on the results of and discussion about this study, the conclusions are as follows. First, efforts by street vendors to manage waste are limited to waste disposal activities. Waste management is limited to reducing activities, such as waste sources that can interfere with cleanliness and environmental damage. Some vendors have applied the recycling principle, reusing waste for other benefits, such as animal feed, planting, and seasoning containers. Second, social capital, namely, social norms, contributes to the waste management carried out by street vendors, especially the commitment and compliance of street vendors in disposing of their waste and maintaining the tra-

ding place's cleanliness. Social norms bind the street vendors to be aware of and committed to managing the waste they produce. Social norms also encourage street vendors' participation in managing waste even in a limited context, such as reducing or limiting materials that can damage the environment. The government's presence is urgently needed to encourage street vendors to manage their waste professionally, which results in higher selling points. Socialization about proper waste management is not enough. It must be accompanied by routine assistance and facilities that enable street vendors to manage their economic waste. The implication of this research is the need for further research on the role of social capital, especially social networks, in managing street vendors' waste.

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