

Social Capital Contribution and Community-Based Waste Management in the City of Cirebon

Eko Handoyo^a, Dewi Liesnoor Setyowati^b, Dewi Nurkomalasari^c,
^{a,b}Lecturer at the Faculty of Social Sciences, Universitas Negeri Semarang,
^cTeacher at SMAN 9 Cirebon, Email: ^aeko_pkn@yahoo.co.id,
^bliesnoor2015@mail.unnes.ac.id, ^cdewinurkomalasari05@gmail.com

The rapid population growth in the last decade, was followed by an increasing amount of waste. Community-based waste management becomes one alternative solution to reduce the waste run by the government and society. This study aimed to analyse the implementation of waste management and social capital contribution to waste management. A qualitative approach was chosen to solve the problem. The research location is in the “Secerah Pagi” Community in Merbabu Asih Village, Cirebon City. Community-based household waste management already using the concept of 3R i.e.: Reduce Reuse and Recycle. Waste management activities are coordinated by the “Secerah Pagi” community, which includes composting, manufacturing an organic-waste craft, greening, Trash Bank, making biopori and education. Social capital such as trust, norm, and social networks, which is owned by the society and the Secerah Pagi Community had a significant contribution in creating a healthy and clean environment through community-based waste management. The values developed in the community binds a sense of trust, commitment, and a profitable relationship that waste management is being conducted. The existence of institutional capital, in the form of adequate support from the government of Cirebon, motivates citizens in waste management.

Key words: *Social Capital, Waste Management.*

Introduction

Nowadays, the issue of waste has become a major environmental problem in almost every urban area in the world. The waste problem in the cities occurred due to population growth which led to an increase in the level of consumption, especially in the urban communities. Indonesia is the second-largest country in the world that dumps plastic waste into the sea. As many as 1.29 tons are thrown yearly. On the national level, there are 184,000-tonnes of garbage per day in Indonesia; while Jakarta produces 6,270 tons of garbage (TEMPO, June 19, 2015). Data published by the Ministry of Environment and Forestry (KLHK) states that the average amount of waste production in Indonesia in 2018 will reach 175,000 tons per day, equivalent to 64 million tons per year (Fatah (ed), 2019). Almost 73% of waste is disposed of in the Bantargebang Landfill and 27% were not transported (Muhdhar, 2011). In the 2000s the world's cities produced around 1.3 billion tons of solid waste annually (World Bank, 2012). This volume is expected to increase to 2.2 billion tonnes by 2025. Garbage can have negative impacts on the environment, public health, social and economic life of the community if not properly managed.

Cirebon is a city that has a serious problem of waste issues (Mariana, 2012; Cirebon City Government, 2017; Suryadi, et al., 2019). Other big cities also experience similar problems (Setiyono & Sri Wahyono, 2002; Yogiesti, et al., 2010). Even developing countries in the world face serious problems in managing their solid waste (A. Khajuria, et al., 2008; Asian Productivity Organization, 2007). The problem of waste management in the Cirebon City includes the increased waste volume, waste management infrastructure limitations, lack of public awareness, sanctions are not firm, as well as lack of cooperation among stakeholders. The volume of waste in Cirebon increased from 600 m³ per day in 2000 to 850 m³ per day in 2012. The infrastructure of waste management barriers for landfill 'Kopiluhur' became increasingly crowded and there was no place to replace it. Lack of public awareness of waste management, which is less strict sanctions against people who throw rubbish indiscriminately, as well as waste management issues within the Cirebon cooperation, among stakeholders, in waste management that impact on the complexity of the problem of waste in the city of Cirebon. Harjamukti Subdistrict in Cirebon City has a community that is managing household waste, called the 'Merbabu Asih'. One household waste management community called "Secerah Pagi", established in May 2010, is committed to the management of household waste. The activity of "the Secerah Pagi" community is pretty solid, not just physically doing household waste management, but also educating the community.

Cebu Philippines has formed a community that involves community participation in waste management, which is called "the Cebu Environmental Sanitation Enforcement Team (CESET)". CESET system Barangay Environmental Officers (BEO) managed to educate people to manage waste properly, especially organic waste, by sharing information about

composting household waste (Ancong et al, 2012). ILAMAZIQ a non-profit organisation, formed in Ilala, Tanzania managed to mobilise community participation in waste management, from collecting rubbish, storing, disposing of, and making compost (Golwike, 2007). Of the activities of managing the waste, income citizens who are members of ILAMAZIQ increased. Research on the "Study of Waste Management Community Based at Kampung Urban in Yogyakarta," Setiadi (2014) concluded that community participation in waste management has been going well, especially those conducted in households respectively, but have not been entirely using the 3R method, i.e. Reduce, Reuse, Recycle. Initially, people trashed and burned the waste in landfill. Women are already actively involved in waste management, ranging from the village, and the district.

Waste management aims to reduce, manage, and supervise the production of waste and improve the condition of the environment (Abdul and Syafrudin, 2018; Setyowati, et al., 2019). We are obliged to implement, develop, manage, monitor, and evaluate the waste management system according to the principles of conservation and provide facilities that support the implementation of waste management policies (Setyowati, 2015; Sakawi, 2011). Implementation of the waste management process involves community participation and strengthening of social capital as supporters (Kofoworola, 2007; Kusrina, et al., 2017). Resources in the community are considered instrumental in mobilising social capital. Waste management efforts involving community participation will be related to social capital. Togetherness and trust are important social capital in building a partnership that is familial, and it can happen in community waste management. Social capital has a significant influence on community participation and society empowerment (Hadi, 2014; Fadilah, 2016; Fathy, 2019). High social capital will have an impact on people's participation in various forms. The research objective is to explore the implementation of household waste management and analyse the contribution of social capital on the waste management of "the Secerah Pagi" community and society in Larangan Village, Harjamukti Sub-District, Cirebon.

Research Methods

This study used a qualitative approach as the research method. The data collecting process was taken through special observation (inductive). Data developed into a broader concept, so the data and theory can interact. Qualitative research was selected on the grounds that the data about the attitudes and behaviour of real people, especially the attitude and awareness in managing waste was more approachable with these methods. The location of research is in the Merbabu Asih society and the "Secerah Pagi" community, administratively located in Larangan Village, Harjamukti Sub-District, Cirebon. Data were taken by purposive sampling, with a specifications' informant who has knowledge of "Secerah Pagi" community activities. Primary data and secondary data are used in this research. The primary data of information and feedback from "the Secerah Pagi" community, RW, PKK, community leaders, and other

parties are related to the management of household waste. Secondary data such as documents are related to waste management.

Data were collected through interviews, observation, and documentation. Interviews were conducted with the primary data source to obtain data on the contribution of social capital, while the observation was made to observe the waste management activities to processing into material goods of economic value. The data was validated using triangulation techniques, especially source triangulation. Data source triangulation involves the collection of data from different types of people, including individuals, groups, families, and communities, to gain multiple perspectives and validation of data (Nancy Carter, et al., 2015). To obtain data from various sources, in-depth interviews were conducted with Secerah Pagi members and management.

Analysis of the data used is qualitative data analysis from Creswell (Creswell, 2009; Sugiyono, 2019). The steps of qualitative data analysis are: (1) organising and preparing data for analysis, conducted based on all the raw data collected through interviews, observations, and documentation; (2) read or look at all the data, namely to obtain data in its entirety and determine which data matches the purpose of the study and which do not; (3) start coding all of the data, which is useful for producing themes as research findings (4) use the coding process to produce a description and interpretation of what RW 08 residents do in managing household waste coordinated by Secerah Pagi; and (5) an interrelating theme, starting with classification, interpreting data or giving meaning to data, looking for themes related to one another, especially with regard to household waste management and what social capital elements contribute to waste management in RW 08.

Results and Discussion

Implementation of Community Waste Management

The “Secerah Pagi” Community in the Harjamukti District, Cirebon City, is a diverse and multicultural society in terms of religion and ethnicity. They are still developing positive cultural values. The habits and behaviour of society are reflected through warm association based on kinship, deliberation, and the value of inter-religious tolerance. This is reflected in the community's efforts to implement the program in collaboration with household waste management. The willingness of society to participate in the management of household waste with the “Secerah Pagi” community is more influenced by social and cultural factors rather than economic factors.

Society founded the community management of household waste that called “Secerah Pagi”, which stands for “wish our yard would be clean, beautiful and sparkling”. This community was born from a sense of concern for the unresolved garbage problem. The activity of the

Secerah Pagi community not only economically motivated them to seek profit, but engaged them in voluntary social findings to help the community and assist the government in managing waste. As the result, the Secerah Pagi community reduced 3.60 m³ (15%) of household waste with the amount 24 m³ per week of household waste generated. The Merbabu Asih society consisted of 6 m³ of inorganic trash and 18 m³ of organic.

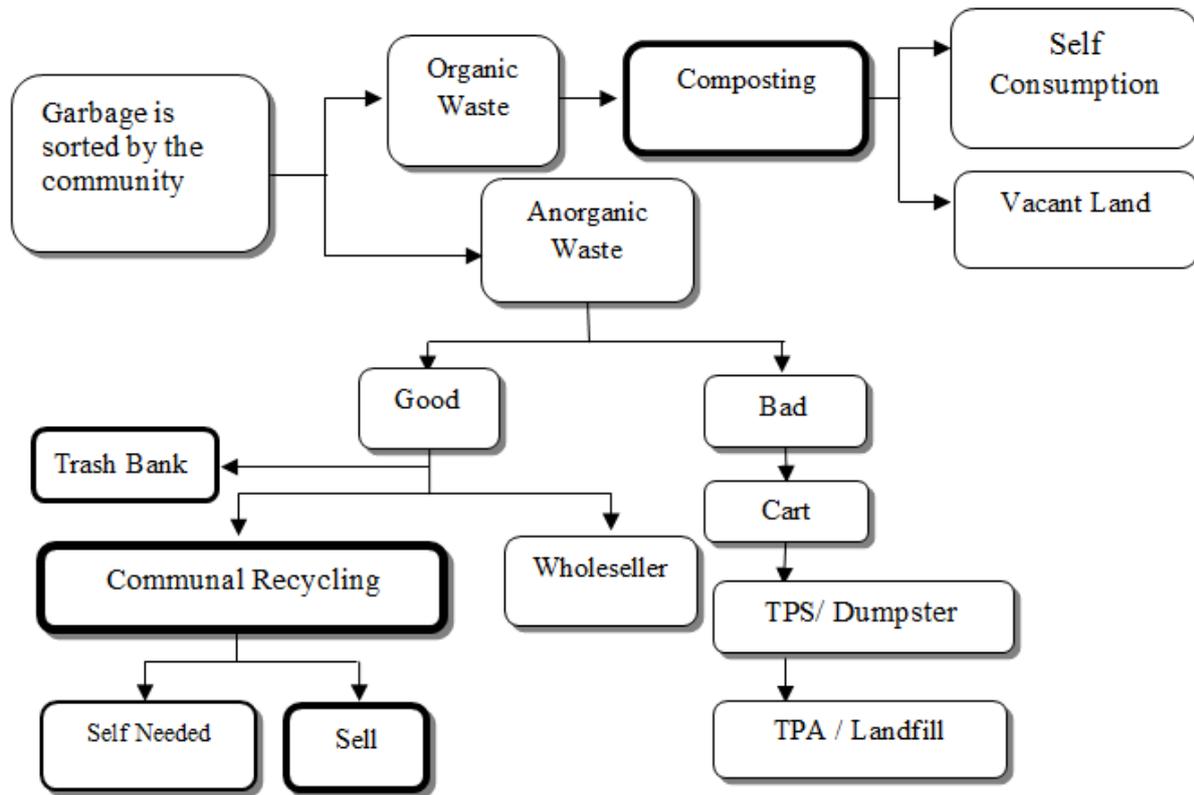
For more than 5 years, the “Secerah Pagi” Community has been making fairly rapid progress and achievements. However, the implementation does not escape from the problems or challenges, for example, some residents are still being apathetic and sometimes pessimistic about the implementation of activities. Meanwhile, the support of the government of Cirebon and the private sector to access and publish the results of the production of an organic waste recycling, caused the “Secerah Pagi” community to be still active in waste management.

Management of household waste is carried out by the “Secerah Pagi” community that uses the 3R concept of *Reduce*, *Reuse* and *Recycle*. The philosophy of community-based household waste management with the 3R concept is aimed at reducing household waste from the source and waste management at the time the product is used, to be rubbish, then returned to the environment in ways that are environmentally friendly. Several community activities with the 3R concept that has been implemented by the community include:

- a. Community sorting organic and inorganic waste then placed in different places. An organic waste was sold to “the Secerah Pagi” bank officer for recycling.
- b. Organic waste is recycled into compost and used for reforestation in homes and public places as well as vacant land in the Merbabu Asih neighborhood. Organic waste recycling is done on a household scale.
- c. Recycling organic trash into an organic waste craft is done on a communal scale that is processed by the board of “the Secerah Pagi” community, who have the expertise and skills and willingness.
- d. Marketing of products of recycling organic waste crafts has been done, but only focused on direct sales when there is a visit to Merbabu Asih or when there is an exhibition or special event in the city of Cirebon. Marketing through new media is done via “the Secerah Pagi” blog. Unfortunately, the publication activities of household waste management have not been carried out intensively.

Here is presented a flow diagram of the household waste management model.

Figure 1. Flowchart of Household Waste Management RW 08 Merbabu Asih



Household waste management activities carried out in detail is by composting, organic waste crafts, greening, waste banks, biopori, and education, and is further described as follows.

a. Composting

Around August 2010, three villages in the district of Harjamukti have become trainee household waste management villages, including the Merbabu Asih region. Cirebon City Health Office provides an assistant composter in each village to get as many as 56 units. After getting help from the composter, administrators and the “Secerah Pagi” community together begin to practise composting. This statement is in accordance with the opinion of the following sources.

"The government provides assistance composter as many as 56 units, and given to the first 25 teams, the rest is left to the RT to be distributed to residents in RT respectively, provided residents who receive assistance composter should really make compost. So, the people who really want to make compost are given assistance composter" (Interview with Dani Komara, April 26, 2019).

The production of composting, is currently only used by the community itself for greening in the neighbourhood. The process of composting is done in a household that is not communal.

This is caused by the limited number of personnel who will manage as well as the limitations of facilities and infrastructure.

b. Crafts Inorganic Waste

Recycling of an organic waste is initially expected to create jobs for people who do not have jobs and is expected to increase revenue for the community. However, in its development, a product of recycling organic waste is still difficult to get a place in the market. Marketing is done by citizens of Merbabu Asih. It is more concentrated directly (direct sale) and marketed when there is an exhibition (event) specified in the city of Cirebon or when there is a visit from an outsider to the region of Merbabu Asih while indirect marketing is done through the media blogs created by the “Secerah Pagi” community.

Another obstacle in the production of an organic waste recycling handicrafts is a limitation in facilities and infrastructure in producing handicrafts. However, over time, people try to find support from Merbabu Asih’s provision of facilities and infrastructure to the private sector. Besides obstacles in marketing and infrastructure, other constraints also appear, that there are a limited number of people who are capable and expert in making crafts.

c. Greening (replanting)

Greening activities (replanting) in Merbabu Asih are already performed before the formation of the “Secerah Pagi” community. Greening activities are to be encouraged after the formation of the “Secerah Pagi” community, with a reforestation program that is not only done in their respective homes but also in a public place and on vacant land. The explanation is reinforced with the opinion of the following respondents:

"... Greening done by RW 08 Merbabu Asih residents is minimal for their own homes and all residents of RW 08 Merbabu Asih are required to plant at least 1 tree in their home." (Interview with H. Agus. S, Mei 18, 2019).

At first, this program is doing the plantation of flowers and then developed into a medicinal plant family (TOGA) and is now starting to be developed into food crops such as passion fruit, melon, and red beans. So far though, the program is required for greening in each house. There is only a moral sanction and no sanction in writing if people do not do this.

Greening in public places such as on public roads, around *Baperkam*, mosques, sports fields and in uncultivated land the riverbank is the responsibility of the RW staff and “Secerah Pagi” administrators both in procurement and maintenance. Greening in public places uses

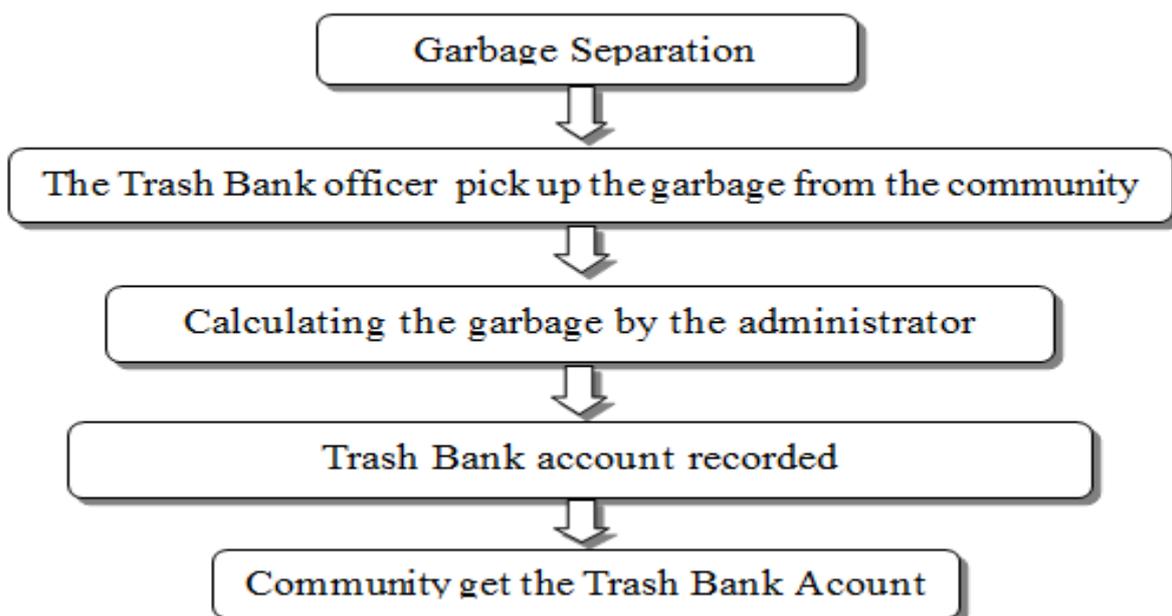
some kinds of vine plants such as passion fruit and *Bougainville* with the aim to shade the road.

Meanwhile, in accordance with the opinion of respondents above, determining which plants will be planted in RW 08 Merbabu Asih, the RW administrators and “Secerah Pagi” staff conducted deliberations with the community, especially people who live around the point to be made green. The goal is that there is no necessity for the community and then going together to care for plants.

d. Trash Bank

Trash Bank is a concept to collect organic waste that has been sorted and collected by each household with management like banks but is accommodated as rubbish. Trash Bank in Merbabu Asih is “Secerah Pagi Trash Bank”. Garbage Bank in Merbabu Asih is "Garbage Bank as Bright as Morning". This activity has been carried out since 2011 and is managed by 4 people, 2 as field workers who take garbage to the house and 2 people as administrative registrants. The benefits of Trash Bank is rising incomes and increased awareness of citizens to care more about the environment. The existence of Trash Bank in Merbabu Asih received a positive response from the community. This is evident from the enthusiastic citizens to become customers of the garbage collection mechanism through trash banks, which can be seen in figure 2.

Figure 2. Flowchart of Secerah Pagi Trash Bank mechanism at Merbabu Asih



e. Biopori

Biopori is a hole-shaped pore, which is empowered by the activity of soil animals. The benefits of biopori are to accelerate the infiltration of groundwater, prevent flooding, erosion, as well as diseases and the creation of a safe and sustainable environment (Setyowati, 2015). Biopori are located in existing public facilities on public roads in Merbabu Asih and manufacturing becomes the responsibility of the board and administrators RW “Secerah Pagi”. Meanwhile, biopori located in the front yard of the house or houses is the responsibility of each household. Almost all residents make biopori around the house.

f. Internal and External Education

Internal education is a form of education in household waste management conducted by “Secerah Pagi” to all the communities in Merbabu Asih, ranging from children, adolescents and adults. Efforts are being made to:

- 1) *Graffiti*; it was a moral message strategies about the environment addressed to adolescents and youth. Moral messages of interest to add to the beauty of physical appearance in the neighbourhood of Merbabu Asih, and publications to the public outside of the integrated and sustainable waste management activities.
- 2) *Early education*; targets children aged less than 12 years to motivate and provide learning for a child's love for the environment and teach them how to manage waste as early as possible. Forms of the contest: waste sorting according to its kind, the race to make poetry about hygiene, composting, and make an organic waste craft.
- 3) Education in adulthood; performed by socialising household waste management activities through the medium of religion, a monthly newsletter, PKK (woman group) meetings, Kampung Siaga and Posyandu (mother and child care) activities.

Figure 3. Education activities for children and adolescents



External Education: independent waste management education efforts undertaken by “Secerah Pagi” Community intended for people outside the community, in the formal and informal educational settings. One of the activities to establish cooperation with the school (SMPN 6 Cirebon) is providing training to the students to make a composter and crafts of the inorganic waste. Educational efforts in non-formal educational settings to be guest speakers and tutors in training in waste management in other places outside the community, especially facilitated by DKK Cirebon. Communities also provide education to visitors who come to visit the “Secerah Pagi” community environment by providing explanation and training.

Contributions of Social Capital to Waste Management in Marabou Asih

There are many references to the concept of social capital. Bourdieu interprets social capital as a set of potential and actual sources associated with the ownership of the public network of relationship introductions and mutual recognition; more or less institutionalised (Promnil, 2019; Wijayanti, 2015; Permana, et al., 2017). Coleman looked at social capital as a relationship institutionalised in social structures that facilitate certain actions of individuals in the social structure (Hauberer, 2011; Myeong & Hyungjun Seo, 2016). Keywords of social capital of Bourdieu is a network of relationships, while the social capital of Coleman (in Tzanakis, 2013) is a social structure that can endure, for their social norms are adhered to and the actions of individuals to maximise utility are controlled.

Fukuyama understands social capital as the ability arising from the lack of trust in a community (Field, 2010; Suharto, 2008). Trust is built with honesty, loyalty, and cooperation. In social capital, social networking is an important element. A social network exchanging reciprocally, not solely based on the principle of profit and loss (Handoyo, 2012). Social

capital, in particular elements of social networks, has three functions: informative, access, and coordination. The informative function allows every stakeholder in the network to find information related to the problem, opportunity, or anything related to business activities. Access function, provides networking opportunities with others in the supply of goods or services that cannot be filled internally by the organisation. Coordination function helps overcome the impasse caused by the limitations of government bureaucracy (Faith and Iwan, 2012).

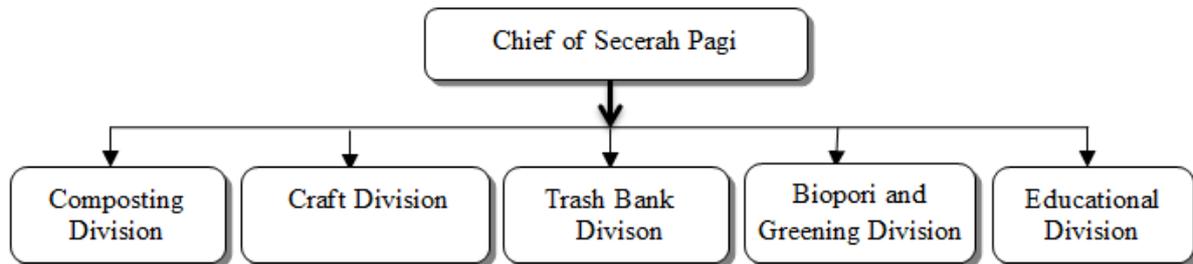
The characteristic of social capital is that it can be measured and reproduced in certain forms and contributes to economic development (Humnath Bhandari and Kumi Yasunobu, 2009). The existence of social capital is very important in development and empowerment in order to achieve sustainable development. Household waste management is the empowerment of the people who need social capital in empowering and mobilising the potential of the community, and requires the organisation of social capital. Organisational social capital is defined as a resource reflecting the character of social relations within the organisation (Carrie & Harry JVB, 1999). Merbabu Asih is a community group agency interested in managing household waste. Social capital built and developed related to the management of household waste are:

a. The Establishment and Development of Household Waste Management Organization

The foundation of the organisation “Secerah Pagi” is based on the concerns of the garbage problem in RW 08. This community was formed in May 2010. The vision of this activity is Go Clean and Go Green, while the mission of this community is the "Save Our Homes, Save the Environment and Save School". The purpose of establishing this “Secerah Pagi” community is to create an environment that is neat, clean, beautiful, sparkling and to change public attitudes and ways of thinking in managing household waste.

An early initiative of this community is to carry out the community-based household waste management in the Merbabu Asih, spearheaded by the Chairman of RW 08 Merbabu Asih supported by the RW administrator. The idea was followed up with the support of the Cirebon City Government, with the training of household waste management. Secerah Pagi community organisation structure as shown in Figure 4.

Figure 4. Organisational Structure of the “Secerah Pagi” Community



The partnership between members of the organisation is always based on shared values, such as a sense of belonging and trust of each other, on the basis of principles of mutual respect, honesty, openness, sincerity and proactive community to be actively involved in the management of household waste.

b. Implementation of Household Waste Management Program

In conducting waste management activities, “the Secerah Pagi” community has a major social capital that is trusted by citizens. Their shared feelings about the importance of a healthy and clean environment make the community have a light load in the call for people to manage their waste together, on the basis of a feeling of belonging and responsibility towards the environment. As Coleman said (1990) (in Silvia Rogošić and Branislava Baranović, 2016), the utility pursued or maximising the usefulness by citizens is also a driving factor for the communities to manage household waste. The existence of the Garbage Bank motivated citizens to manage waste properly according to the principles of 3R.

Social networks that were built between “Secerah Pagi” communities with other social organisations, such as the Posyandu (mother and children community), PKK, Kampung Siaga, and Religious Organisations make this community be accepted by society. Linking Social Capital developed by organisations and government agencies, to make communities able to work, that makes “Secerah Pagi” beneficial for the environment as well as expanding into other areas. Here are some of the activities carried out “Secerah Pagi” communities to manage waste (Figure 5), including the manufacture of buckets’ composter, a visit from Australia looking to craft recycling and monitoring garbage saving.

Figure 5. “Secerah Pagi” Community activities in waste management



c. Evaluation of Program Implementation Household Waste Management

The successful implementation of the household waste management program at Merbabu Asih depends on the synergy of all parties, from the “Secerah Pagi” community, citizens, a group gathering, Posyandu, the private sector and state-owned enterprises to the government. Internally, waste management programs, ranging from composting to educational activities, evaluated jointly by the Secerah Pagi community with residents, community leaders, and government. Evaluation and monitoring are generally done informally, for example, if something is missing or incorrect, it can be submitted by entries. As a social organisation, the Secerah Pagi community make their own evaluation and reporting activities.

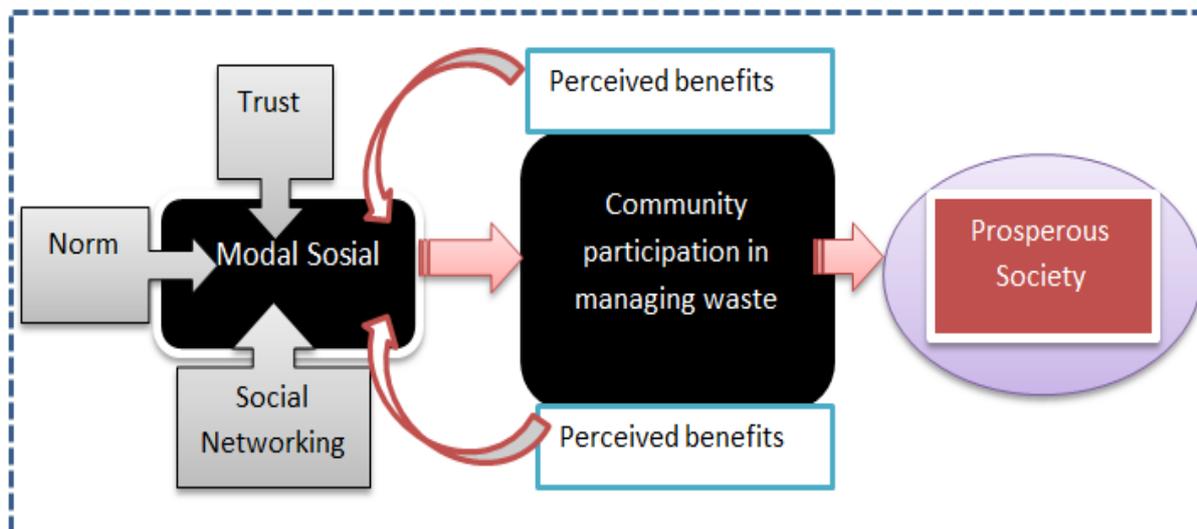
Social capital owned by citizens of Merbabu Asih, which are *trust, norm, and networking* as Putnam stated, proved instrumental in raising public awareness of a healthy and clean environment, by managing waste in accordance with the 3R method, i.e. *Reduce, Reuse, and Recycle*. The principle of the exchange took place between members of the community who do not have the expertise composting with activists bright as the morning, who have expertise in waste management. Citizens collect garbage and send it to the Trash Bank managed by the Secerah Pagi community. Residents who collect trash to the Waste Banknote get the savings of the Secerah Pagi community. It's a bit much to increase revenue on its own citizens and their welfare increases.

Social networks are built by the Secerah Pagi community with the private sector and the government to get a response in the form of support on waste management. The support comes not separated from the success in mobilising the Secerah Pagi community participation-based managing waste 3R principles. Similarly, the support and facilitation from the government through DKP Cirebon motivate citizens to maintain and create a healthy

and clean environment. The convergence of commitment, enthusiasm, and spirit of community members, facilitated by the community Secerah Pagi with the commitment and support of the Cirebon government through the DKP had an impact on the success of waste management. Generally, the city or regency government has a commitment and is responsible for the waste problem in their area (Agarwal, et al., 2015; Mulasari, et al., 2016; Asian Development Bank, 2017; Schlueter, 2017; World Bank, 2018; Yukalang, et al., 2018). However, community participation is a key element of successful waste management in large cities and small cities (Muller, M.S, et al., 2002; Squires, 2006; Handoyo, 2012; Manurung, 2013; Aliyu Baba Nabegu & Adamu Mustapha, 2014; Setiadi, 2015; Wulandari, et al., 2017; Humaedi, et al., 2018; Yustiani, et al., 2019; Sinthumule, N., & Mkumbuzi, S., 2019). People are involved in managing waste because there are shared norms that must be obeyed (Sankar, 2019).

The success of household waste management in RW 8 is influenced by social capital owned by the community and the tangible benefits of waste management which are also driving the population to properly manage waste. The benefits felt by the population contribute to their welfare. The following figure clarifies how social capital and the benefits of citizen is involved in managing waste.

Figure 6. Linkages of Social Capital and Participation in Managing Waste



Conclusion

Community-based household waste management in RW 08 Merbabu Asih has been implemented using the 3R concept: Reduce, Reuse and Recycle. Forms of independent waste management activities include composting, manufacturing of craft from inorganic waste,



greening, waste bank management, making biopori and education. Education should apply early and among children and adolescents.

Social capital such as trust, norm, and social networks owned by the community can contribute significantly to creating a healthy and clean environment through community-based waste management. The existence of institutional capital, in the form of financial support from outside the group, can increase the motivation of citizens to manage their waste independently. Community social capital and government institutional capital contribute to community participation in managing waste and indirectly increasing community welfare.

Conflict of Interest

No conflict of interest existed in this study.



REFERENCES

Book, Article

- Abdul, M. & Syafrudin, S. (2018). "The Importance of Integration Waste Management Aspect as a System in Good and Sustainable Waste Management." in *E3S Web of Conference, Vol. 73, p. 07012. EDP Sciences.*
- Agarwal, Raveesh, Mona Chaudhary, & Jayveer Singh. (2015). "Waste Management Initiatives in India for Human Well Being." in *European Scientific Journal, June 2015, Special edition, pp. 105-127.*
- A. Khajuria, Y. Yamamoto, & T. Morioka. (2008). "Solid waste management in Asian countries: problems and issues." in *WIT Transaction on Ecology and the Environment, Vol. 109, 200, pp.: 643-653.*
- Aliyu Baba Nabegu & Adamu Mustapha. (2014). "Enhancing awareness and participation of municipal solid waste management in Kano Metropolis, Nigeria." in *World Scientific News 5 (2014), pp. 46-53.*
- Ancong, RC., Archival D, & Rebanco CM. (2012). "Institutional Arrangements for Solid Waste Management in Cebu City, Philippines." in *Journal of Environmental Science and Management 15 (2), December 2012, pp. 78-82.*
- Asian Development Bank. (2017). *Integrated Solid Waste Management for Local Governments A Practical Guide*. Metro Manila, Philippines.
- Asian Productivity Organization. (2007). *Solid Waste Management: Issues and Challenges in Asia*. Tokyo: APO.
- Carrie R.L. & Harry J.V.B. (1999). "Organizational Social Capital and Employment Practices." *The Academy of Management Review, Vol. 24, No. 3, July 1999, pp. 538-555.*
- Cirebon City Government. (2017). *Dokumen Informasi Kinerja Manajemen Lingkungan Daerah Kota Cirebon Tahun 2017*. Cirebon.
- Creswell, John W. (2009). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches*. California: SAGE Publication, Inc.

- Fadilah, A.Z. 2016. Hubungan Modal Sosial dengan Partisipasi Masyarakat dalam Pengelolaan Hutan bersama Masyarakat (PHBM) (Kasus LMDH Rimba Mulya, Desa Kalimendong, Kecamatan Leksono, Kabupaten Wonosobo). *Skripsi pada Departemen Sains Komunikasi dan Pengembangan Masyarakat, IPB Bogor*.
- Faith, Halwatul and Iwan, Kustiwan. (2012). "Sustainability Community-based Waste Management in Bandung Tamansari Urban Village". in *Journal of Urban and Regional Planning B SAPPK Vol.2 No. 2, pp. 283-290*.
- Fathy, Rusydan. 2019. "Modal Sosial: Konsep, Inklusivitas dan Pemberdayaan Masyarakat." Dalam *Jurnal Pemikiran Sosiologi Volume 6 No. 1, Januari 2019, hlm. 1-17*.
- Field, John. (2010). *Modal Sosial*. Terjemahan Nurhadi. Bantul: Wacana Kreatif.
- Gelwike Patrick, Mgongolwa. 2007. "Evaluation of A Community-based Solid Waste Management Project in Iringa Municipality, Tanzania". *Thesis at the Community Economic Development, The Open University of Tanzania and Southern New Hampshire University*.
- Hadi, S. (2016). Profil Modal Sosial Dan Tingkat Partisipasi Peternakpada Pengembangan Sapi Potong Di Kabupaten Tebo Propinsi Jambi. *KANAL: Jurnal Ilmu Komunikasi, 2(2), 107*. <https://doi.org/10.21070/kanal.v2i2.293>.
- Handoyo, Eko. (2012). "Eksistensi Pedagang Kaki Lima Studi tentang Kontribusi Modal Sosial terhadap Resistensi PKL di Semarang." *Disertasi Program Doktor Studi Pembangunan, Program Pasca Sarjana, UKSW Salatiga*.
- Hauberer, Julia. (2011). *Social Capital Theory Towards a Methodological Foundation*. Germany: VS Research.
- Humaedi, Sahadi, Yulinda Adharani, & Yussly Kurnia Herliani. (2018). "Pengembangan Kapasitas Masyarakat dalam Pengelolaan Limbah Mandiri dan Pemetaan Sosial." dalam *Jurnal Penelitian dan PPM, Vol. 5, No. 1, April 2018, hlm. 56-60*.
- Kofoworola, O.F. (2007). "Recovery and Recycling Practices in Municipal Solid Waste Management in Lagos, Nigeria." in *Waste Management, 27(9), pp. 1139-1143*.
- Kusrina, T., Suyahmo, Setyowati, D.L., & Masrukhi. 2017. "Role of Community Activities PKK District in the West City Tegal." in *International Journal of Applied Business and Economic Research, 15 (7)*.

- Humnath Bhandari & Kumi Yasunobu. (2009). "What is Social Capital? A Comprehensive Review of the Concept." in *Asian Journal of Social Science, Volume 37, Number 3, 2009, pp. 480-510.*
- Manurung, Reny Astuti. (2013). "Peran Masyarakat dan Sektor Swasta dalam Pengelolaan Sampah di Kota Kecil Jawa Tengah (Studi Kasus: Wilayah Kupang Kidul, Kota Ambarawa)." dalam *Jurnal Wilayah dan Lingkungan, Vol. 1, No. 3, Desember 2013, hlm. 227-244.*
- Mariana, Yosica. (2012). " Keterlibatan Masyarakat Kota dalam Pengelolaan Sampah Rumah Tangga." dalam *ComTech Vol.3, No. 2, December 2012, hlm. 729-739.*
- Muller, M. S., Iyer, A., Keita, M., Sacko, B., & Traore, D. (2002). Differing interpretations of community participation in waste management in Bamako and Bangalore: Some methodological considerations. *Environment and Urbanization, 14(2), 241–258.* [https://doi.org/10.1177/095624780201400219.](https://doi.org/10.1177/095624780201400219)
- Muhdhar, Mimien Henie Irawati Al. (2011). "Integrated Waste Management through Public Education based 6M Civilizing". *Inauguration Speech in the Field of Environmental Science Faculty of Education Sciences, State University of Malang. Date December 14, 2011.*
- Mulasari, Asti, Adi Heru Husodo, & Noeng Muhadjir, (2016). "Analisis Situasi Masalah Sampah Kota Yogyakarta dan Kebijakan Manajemen." dalam *Jurnal Kesehatan Masyarakat KEMAS 11 (2) (2016), hlm. 96-106.*
- Myeong, Seunghwan & Hyungjun Seo. 2016. "Which Type of Social Capital Matters for Building Trust in Government? Looking for a New Type of Social Capital in the Governance Era." in *Sustainability 2016,8, 322, pp. 1-15. DOI:10.3390/su804032.*
- Nancy Carter, Denise Bryant-Lukosius, Alba DiCenso, Jennifer Blythe, & Alan J. Neville. 2015. "The Use of Triangulation in Qualitative Research." in *Oncology Nursing Forum, Vol. 41, No. 5, September 2014, pp. 545-547.*
- Permana, S.A., Setyowati D.L., Slamet A., & Juhadi. (2017). "Society Management in manage Economic after Merapi Disaster." in *International Journal of Applied Business and Economic Research, Vol. 15, No. 6, pp. 1-10.*
- Promnil, Niramol. (2019). "Human Capital in Exploration Stage of Community-based Homestay Nawatwithi." in *International Journal of Innovation, Creativity, and Change, Vol. 7, Issue 1, 2019.*

- Sakawi, Z. (2011). Municipal Solid Waste Management in Malaysia: Solution for Sustainable Waste Management. in *Journal of Applied Sciences in Environmental Sanitation*, 6(1).
- Sankar, Ashwini. 2019. *Changing Recycling Behavior through Social Capital: Evidence from Minnesota*. Department of Applied Economics, University of Minnesota. Unpublished paper.
- Squires, Clairvair O. (2006). *Public Participation in Solid Waste Management in Small Island Developing State*. A Research Paper.
- Setiadi, Amos. (2014). " Studi Pengelolaan Sampah Berbasis Masyarakat di Desa Urban di Wilayah Yogyakarta." *Makalah disampaikan dalam Konferensi Nasional Teknik Sipil ITB ke-8, 16-18 Oktober 2014*.
- Setiadi, Amos. (2015). "Studi Pengelolaan Sampah berbasis Masyarakat di Daerah Permukiman Perkotaan di Yogyakarta." dalam *Jurnal Wilayah dan Lingkungan*, Vol. 3 No. 1, April 2015, hlm. 27-38.
- Setiyono & Sri Wahyono. (2002). "Sistem Pengelolaan Sampah Kota di Kabupaten Bekasi, Jawa Barat." dalam *Jurnal Teknologi Lingkungan*, Vol. 2, No. 2, Mei 2002, hlm. 194-198.
- Setyowati, D.L. (2015.) "The Realization of Conservation in Semarang State University Campus." *Proceedings Number 30: International Conference on Conservation for Better Life (ICCBL), on 11-13 September 2015*.
- Setyowati, D.L., Arsal, T., Hardati, P., & Prabowo, K.Z. (2017). Morphococervation analysis on Kaligarang as a River Conservation Effort. in *IOP Conference Series: Earth and Environmental Science*, Vol.99, No. 1, p. 012005. IOP Publishing.
- Silvia Rogošić & Branislava Baranović, (2016). "Social Capital and Educational Achievements: Coleman vs. Bourdieu." in *C-E-P-S Journal*, Vol. 6, No. 2 (2016), pp. 81-100.
- Sinthumule, N., & Mkumbuzi, S. (2019). "Participation in Community-Based Solid Waste Management in Nkulumane Suburb, Bulawayo, Zimbabwe." *Resources*, 8(1), 30. <https://doi.org/10.3390/resources8010030>.
- Schlueter, Rachel. (2017). *Solid Waste Management in the Developing World: The Role of Local Government in Kisumu, Kenya*. Kenya: Urbanization, Health, and Human Rights.
- Suharto, Edi. (2008). *Kebijakan Sosial sebagai Kebijakan Publik*. Bandung: Alfabeta.



- Suryadi, S., Bustomi, T., Nariyah, H. (2019). "The Factors Affecting the Employment Placement Policy in Cirebon City." *International Journal of Innovation, Creativity, and Change*. Volume 7, Issue 3, 2019.
- Tzanakis, Michael. (2013). "Social capital in Bourdieu's, Coleman's and Putnam's theory: empirical evidence and emergent measurement issues." in *Educate*, Vol. 13, No. 2, 2013, pp. 2-23.
- World Bank. (2012). *What a Waste A Global Review of Solid Waste Management*. Washington DC, USA.
- World Bank. (2018). *Indonesia Marine Debris Hotspot, Rapid Assessment Synthesis Report April 2018*.
- Wijayanti, D.R., & Suryani, S. (2015). Waste bank a Community-based Environmental Governance: A Lesson from Surabaya." in *Procedia-Social and Behavioral Sciences*, 184, pp. 171-179.
- Wulandari, Dwi, Sugeng Hadi Utomo, & Bagus Shandy Narmaditya. (2017). "Waste Bank: Waste Management Model in Improving Local Economy." in *International Journal of Energy Economics and Policy*, 2017, 7(3), pp. 36-41.
- Yogiesti, Setiana Hariyani, & Fauzul Rizal Sutikno. (2010). "Pengelolaan Sampah Terpadu Berbasis Masyarakat di Kota Kediri." dalam *Jurnal Tata Kota dan Daerah Volume 2, Nomor 2, Desember 2010*, hlm. 95-102.
- Yukalang, Nachalida, Beverley Clarke, & Kirstin Ross. (2018). "Solid Waste Management Solutions for a Rapidly Urbanizing Area in Thailand: Recommendations Based on Stakeholder Input." in *International Journal of Environmental Research and Public Health*, 2018, 5, 1302, pp. 1-23.
- Yustiani, Yonik Meilawati, Anni Rochaeni, & Elva Aulia. (2019). "Konsep Pengelolaan Sampah di Desa Babakan Kabupaten Bandung." dalam *Enviro Scientiae Vol. 15 No. 1, April 2019*, hlm. 121-126.



Magazine, Newspaper, Internet/Web:

Fatah, Darul (ed). 2019. Indonesia Produksi 64 Juta Ton Sampah per Tahun. <https://indopos.co.id/read/2019/07/07/180601/wow-indonesia-produksi-64-juta-ton-sampah-per-tahun/>. Accessed December 23, 2019.

TEMPO. July 13 to 19, 2015.