

The Role of Voluntary Communities in Tackling Environmental Problem in Samarinda, Indonesia

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Abstract

Waste management is a problem in Samarinda, Indonesia. The local government has limited capacity to transport the garbage meanwhile some people put the garbage into rivers, ditches, and illegal spots. Some citizens then organize themselves to build voluntary communities to intervene in this issue. This paper aims to search for the public value creation that is made by the voluntary groups. The data are collected in three ways, including interviews, observation, and secondary data. This study employs Stoker's four prepositions to public value management. This study finds out that the environmental problem in this city is caused by three issues, such as lack of capacity in transporting the waste, poor awareness among some people, and the law enforcement and omission by the local government. Second, voluntary communities create an ecological value to save the environment. Although at the earlier time the volunteers got negative responses from some people, recently they get support from some stakeholders, such as some people, officials, politicians, and the private sector. Strengthened by publication through social media, the volunteers promote their programs and activities to save the environment in the city. Third, citizen involvement from outside of the groups is still limited therefore developing collaboration along with citizens' involvement is urgent to accelerate the effectiveness of this voluntary works. Finally, generating capacity and law enforcement by the local government needs to be implemented to reduce the scattered waste in the city.

Keywords: Voluntary Community, Public Value, Environmental Problem, Ecological Value

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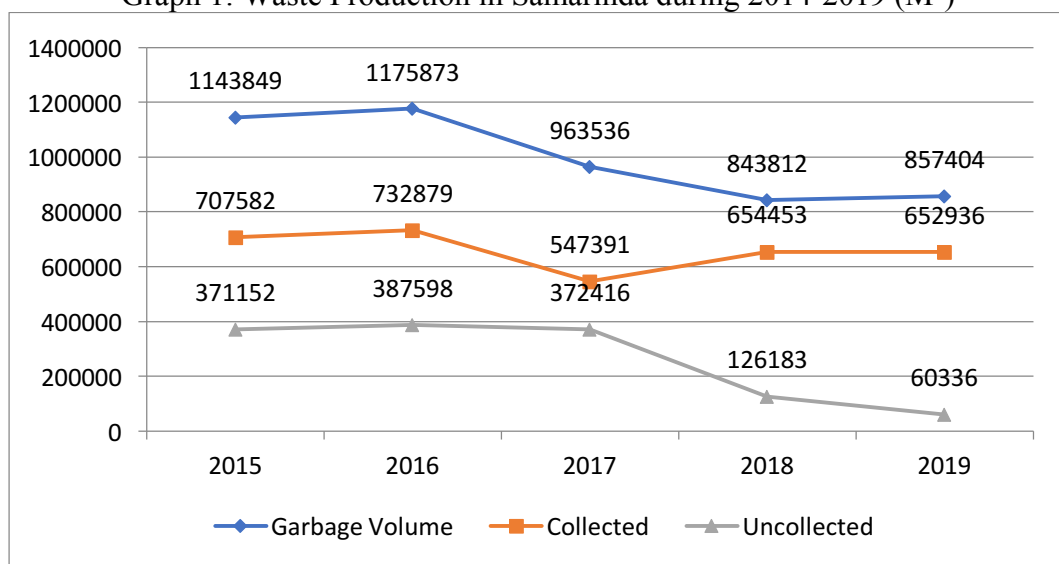
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Introduction

Samarinda city, the capital city of Kalimantan Timur Province in Indonesia, has been struggling to face a waste problem, one of many problems in this city. The waste management issue is a critical problem in this city. It is not only about what the local government performs to manage the waste, but also the citizen participation in this issue. Citizen participation has a strategic role to make the city clean because one of the waste productions is from the household. Household contributes to producing daily waste, both organic and inorganic variants. Moreover, the citizens' awareness to put their waste in the right places is a part of good waste management. It will potentially reduce the environmental problem in the city and it will contribute to saving the earth.

It is estimated that in 2025 Indonesia will contribute 7.42 million metric tons (MMT) of mismanaged plastic waste and some of them flow down into the ocean (Jambeck, et al., 2015a) (Jambeck, et al., 2015b). In Samarinda, waste production is higher than the local government's capacity to collect it. Graph 1 demonstrates the comparison between annual production, collected and uncollected garbage volume in this city for several years. In 2019, more than 60 thousand meter cubic cannot be transported by the city cleanliness authority. Although the uncollected number tends to decrease in the last three years, the total number is still high. The uncollected garbage is not well managed, meanwhile, some people put their waste into the rivers, ditches, and illegal spots. Consequently, some of the rubbish flow down to rivers (Karang Mumus and Mahakam Rivers) and then they go to the ocean. Some of them cannot naturally decompose itself and it consequently creates an environmental problem.

Graph 1: Waste Production in Samarinda during 2014-2019 (M³)



Source: BPS Kota Samarinda (2020, p. 169)

On the other hand, the city population tends to increase year to year and it consequently increases waste production. In 2019, this city has a population of 872,770 people and a territory area of 718,000 km² (BPS Kota Samarinda, 2020). It means that each citizen in this city produces annual waste by 0.069- meter cubic on average.

The waste management problem has attracted some citizens to intervene. They build voluntary groups and clean up Karang Mumus River, a creek of Mahakam River, and ditches in the city. A voluntary community or voluntary group¹ is defined as a group of people who conduct voluntary actions. Smith (1975) argues that it is not easy to formulate a definition of voluntary action because it has a huge range of scope. But it refers to the action of individual, collectivities, or settlements that is characterized by seeking psychic benefits and it has discretionary characteristics in nature. It is argued that the role of the voluntary community potentially creates advantages for people in the city and the environment.

Public value creation by citizens can occur in various fields. Vanleene, Voets, & Verschuere (2019) argue that public value is created in co-productive community development in Ostend, Belgium, at the level of personal and community. Therefore, in this research, public value is understood as created value to the public sphere whoever creates it. Furthermore, Duijn and Van Popering-Verkerk (2018)(2018) present public value creation by citizens' communities in the Netherland. Drawing on Stoker's public value management, public value creation emerges in two cases of Dutch Water Management (Duijn & Popering-Verkerk, 2018). This paper will search for the value that is created by the citizens' initiatives through their voluntary groups in Samarinda.

The Concept of Public Value

The concept of public value was firstly introduced by Mark Moore in 1995 (Moore, 1995). In this concept, he puts concern on the government's role only in creating public value. Various standards can be adapted for reckoning public values, such as achieving mandates objectives efficiently and effectively, politically nature competence, an analytic technique for assessing public value, and focusing on customer service and client satisfaction. He then presents an example of the work of a municipal sanitation agency in collecting garbage. He argues that "since citizens feel better about clean cities, public value is created by making them cleaner" (Moore, 1995, p. 40).

A strategic triangle is then developed to assess the necessary conditions for the production of public value in the public sector. The strategy by the public manager will create public value if it meets three broad tests. First, it is substantively valuable. It means that anything is produced by the government organization provides value for overseers, clients, and beneficiaries at a low cost of money and authority. Second, it is legitimate and politically sustainable. It must be continually applicable and get support from political authorities. And third, it is operationally and administratively feasible. It means government agency with support from others can execute it to achieve the goals (Moore, 1995, p. 71).

The emerging of public value management challenges the previous paradigms in public administration, i.e. traditional public administration and new public management. According to Stoker (2006), public value is central to the management challenge and it has a strong sense of the public realm which is different from that of

¹ The term of voluntary community and voluntary group have similar meaning and therefore they are used interchangeable in this paper.

the private sector. Stoker (2006, pp. 47-49) offers four propositions to flesh out the concept of public value in the recent governance system. They are consist of: (1) public interventions are defined by the search for public value; (2) there is a need to give more recognition to the legitimacy of a wide range of stakeholders; (3) an open-minded, relationship approach to the procurement of services is framed by a commitment to a public service ethos; and (4) an adaptable and learning-based approach to the challenge of public service delivery is required.

Benington (2011, p. 31) redefines the concept of public value. It is not just in terms of “What does the public most value?” but also in terms of “What adds value to the public sphere?” Public value can be best understood and achieved within a democratic “public sphere”. It focuses on processes and outcomes about what value is added to the public sphere, not just inputs and outputs. Public value therefore can be created by many actors, such as the private sector, voluntary sector, informal community organization, and the government as well (Benington, 2011, p. 46). Therefore, citizens also have the opportunity to create public value, not only government agencies. Alford (2011, p. 144) makes it clearer when he says that public value is not ‘public’ because of the government’s work, but because it is ‘consumed’ collectively by the citizenry. Again, the works of actors outside of the government agencies can create public value as long as they can create benefits or advantages for citizens.

Method

This study uses a qualitative approach with a case study strategy to search for a public value that is created by civic groups. The cases are two voluntary communities or groups that have concerns about an environmental issue in Samarinda. The data are collected in three ways. First, the author makes interviews with key informants who are involved in voluntary groups’ activities. Second, doing site observation where the activities are performed. And finally, secondary data are collected to complete the required information in this study. In analyzing data, adapting Stoker’s four propositions is applied to search for the public value.

Waste Problem and Citizens’ Responses

The waste problem is a common issue in many cities and various responses are made by the citizens. For example, in Yogyakarta, some voluntary communities put concern on the Winongo River problems. They gather to build a *Forum Komunikasi Winongo Asri* (FKWA) or Communication Forum on Beautiful Winongo. The forum becomes a bridge between the citizens and the local government to solve various problems to create a beautiful Winongo. This mission is set into six steps that involve local citizens, such as assessment, planning, lobbying, implementation, monitoring, and evaluation (Firianti, 2019). Then in Bandung, at least 52 communities intervene to participate in dealing with Cikapundung River management (Radjabaycolle & Sumardjo, 2014). Local figures have a strategic role to generate people engagement in Bandung so that many citizens and communities are then involved in this movement. They have a similar willingness to make a change and an improvement in the Cikapundung area (Sekarningrum & Yunita, 2015). Citarum River, a creek of Cikapundung River in Bandung, also has a similar problem. Citizens’ movement in Cikapundung is then adapted to solve the problem in the Citarum River area and this effort involves many stakeholders (Halimatusadiah, Dharmawan, & Mardiana, 2012).

In Samarinda, there are at least two policies concerning waste management. First, the local government issued a local law, namely *Peraturan Daerah* (Local Government Regulation) No. 02/2011 concerning *Pengelolaan Sampah* (Waste Management). Second, the local law has been cascaded to *Peraturan Walikota* (Mayor Regulation) No. 16/2012 concerning *Implementasi Pengelolaan Sampah* (Waste Management Implementation). However, the policies are not well implemented and violation of the local law occurs in this city at any time. Poor policy implementation and lack of public education make the policy does not effectively affect to create the city clean. Adapting a WPR (What's the problem represented to be?) approach to policy analysis, Wahyudi (2016) argues that the waste problem in this policy is firstly considered as a waste management problem, therefore the policy concerns to the management issue. And the second is the citizen obedience or awareness problem therefore some punishments are set in the policy document.

The local government is powerless to enforce waste management policies, especially in facing citizens' behavior when littering in illegal places. The limited capacity of garbage transportation by the local government agency causes illegal spots to become worse. They are arguably scattered in various places, such as rivers, ditches, and so on. It consequently makes the city dirty and bad smell. The emergence of GMSS SKM and GEMMPAR contributes to filling this gap. GMSS SKM (*Gerakan Memungut Sehelai Sampah Sungai Karang Mumus*), or The Movement of Picking up a Piece of Rubbish in The Karang Mumus River, puts concern on the environmental problem in the Karang Mumus River area. The volunteers pick up rubbish out from this river throughout the downstream area before Mahakam River until Benanga Lake. Meanwhile, GEMMPAR (*Gerakan Merawat dan Menjaga Parit*), or The Movement of Ditch Keeping and Maintenance, puts concern on ditches in the city. The volunteers clean up ditches with limited resources in a certain area.

GMSS SKM was born many years earlier than GEMMPAR. Misman, one of the GMSS SKM founders, told that he firstly worked by himself to clean up the river. He picked up solid waste in the river and transported it by his motorcycle to a nearby trash collector. It was intended to attract people, but nothing happened. Writing essays about the river problem in local newspapers was another way to attract people. "I have talked much on the newspaper, but nobody will care of it unless we do real action," said Misman, the founder of GMSS SKM (Misman, 2017). Then publication through social media has been done and it creates results to attract some people. Almost all activities are uploaded to social media, such as Facebook and Youtube². Step by step it finally becomes popular and gets responses from people and local government officers as well.

"In social media, students and government officers have 100% changed their concept of the river. But common people who put rubbish into Karang Mumus River, in this city are about 30-40%, have not been touched," interview with Misman, the founder of GMSS SKM (Misman, 2017).

This voluntary organization has a vision to save the river and its environment. From picking up the solid waste from the river, the agenda is then developed. This

² They can be accessed at <https://www.facebook.com/profile.php?id=100008783867043> and <https://www.youtube.com/channel/UCNjyn0-d5e8lvvWfgycmhHw>

organization also educates people through an informal school and forestation. Adapting from CLEAR (Can do, Like to, Enable to, Ask to, and Responded to) model, Wahyudi and Hidayah (2019) identify several characteristics of this entity (see Table 1). The developed vision is stated by the founder of this organization as below:

“We have four agendas. First, we educate people by picking up rubbish. Second, we build tourism. Third, we build river forest conservation. And fourth, we build river school,” interview with Misman (Misman, 2017).

Table 1: Characteristics of GMSS SKM

Aspects	Characteristics
Initiator	GMSS SKM is purely a citizens' idea. It was initiated by Misman and then he got support from his friends. Now, it is operated by the citizens.
Resources	Individuals' knowledge, experiences, materials, and network to support the movement. Supporting comes from others after its activities are publicly exposed on social media.
Organization	It was firstly an informal entity with few members. Then it was formalized as an NGO in 2016.
Activities	It conducts actions in four kinds of activities, such as picking up rubbish in the river, promoting river tourism, creating a river forest, and building a river school.
Other Citizens' Responses	People were firstly apathetic and some other people criticized the movement. Then many people started to support it later on when the activities are known and give the result.
Local Government's Response	No formal response from the local government at first. Then the local government agency involves picking up rubbishes in the river on a certain spot (on Sutomo Street) when the movement gives the result and is publicly exposed. Some local officials and parliament members individually also support GMSS SKM's activities on behalf of themselves, not institutions.

Source: Wahyudi and Hidayah (2019)

The second voluntary community is GEMMPAR and it was formally built in 2017, but the activities had been done before the organization was formed. This second group correlates with the previous one because it was found by the volunteers of GMSS SKM. While the first group focuses on Karang Mumus River, the second group focuses on maintaining ditch cleanliness in the city. The reason is that rivers and ditches are connected because rubbish and pollutant in the ditches will flow down into the river. The effort to keep the ditches clean potentially will reduce the pollutant in the river.

The emergence of GEMMPAR along with its activities has created responses from local government and some citizens. Tanjung (2020) says that the local government has run some of GEMMPAR's programs therefore this volunteer group reduces its activity frequency. Meanwhile, few people are involved in its activities, some other people think that the volunteers are part of the local government. Consequently, people often call for volunteers to clean the ditches when they got stagnant.

“We did it once a week earlier, but recently we reduce the frequency because the local government has started to run our program. So, that is our focus, we are not officials. It must be noted. So far, people think that GEMMPAR manages all problems concerning the ditches, they call us. But we would like to change this perception that we are not cleaning service officials. Our aim is public education, to endorse people and local government,” interview with Khairil Tanjung, the founder of GEMMPAR (Tanjung, 2020).

Since those volunteer groups are publicly known, some donations come to support them from citizens, politicians, government officers, and the private sector. They individually support volunteer groups in various forms. For instance, GMSS SKM got donations of wooden boats, boat engines, post building, and so on so forth. Meanwhile, GEMMPAR got a three-wheel motorcycle for transporting rubbish. Furthermore, supports from some citizens and organizations also come to pick up rubbish in the river incidentally.



Figure 1: Wooden Boats on the Karang Mumus River behind the GMSS SKM's Post.



Figure 2: Post of GMSS SKM located on Abdul Mutholib Street.



Figure 3: Motorcycle for Transporting Rubbish belongs to GEMMPAR

Public Value Creation

The activity of the voluntary community is contextual. It means that each voluntary community might have a different approach to achieving its mission and it depends on the problem, place, and time. The volunteers will learn about the best approach in dealing with their issues. For that reason, it is highlighted that the public value creation in this paper is in the context of the two voluntary communities' work in this city and its nature.

1. The Search for Public Value

What value is created by those voluntary communities? The four agendas that have been set by GMSS SKM above and also GEMMPAR' programs of maintaining ditches are purely initiated by the citizens. Drawing on Benington's (2011) redefinition of public value, it is argued that activities that are done by the volunteers produce benefits for people and the environment in the city. As part of citizens in the city, the volunteers have a concern about an environmental issue and they care about the city cleanliness. Although picking up rubbish out from the river and ditches in the city is not their obligation, but they do it with their limited resources before getting support from others.

Moreover, as the older group, GMSS SKM has developed its activities. The volunteers also plant some trees around the upstream area of the river. The trees can absorb carbon dioxide and produce oxygen for people and other living creatures in the city. Benington (2011, p. 46) argues that ecological value is created by reducing pollution and waste in the public realm. Environmental impact emerges after the river and some ditches are cleaner than before and the circumstance at the river upstream area is still maintained in a limited scope. The process and results of the volunteers' activities then create ecological value for the citizens and the environment in the city.

2. The Legitimacy of a Wide Range of Stakeholders

Stakeholders' support to the volunteers is a focal point to search for the legitimacy of their activities. Stoker (2006, p. 47) argues that the public value management paradigm relies on a stakeholder conception of legitimacy in its governance arrangements. Supports from a wide range of stakeholders started to come when the volunteers' activities are well known. Social media is recently a strategic medium to share any information. Almost everybody can make use of it to socialize themselves freely. The volunteers also use it to socialize their activities and to campaign environmental awareness. Before they use social media, only a few people knew their activities and some people even called it a crazy action.

“When I commenced to pick up the rubbish, many people said that I was crazy. Some of them said it sowed salt on the ocean, and some others said it pained the sky. Because making Karang Mumus River as a rubbish bin is a habit here, it is not a secret, it is a common thing,” interview with Misman (Misman, 2017).

Once the community and its activities become popular through social media, many people started to support it. The strength of social media has affected individuals' sympathy among the people to support the volunteers. They come from various backgrounds and professions, and they support the volunteers in various forms. It is argued that such support is proof of legitimacy that is gained by the volunteers. Moreover, the local government then built a team, namely *Hantu Banyu* or Water Ghost, to clean up the river at a particular spot near Sutomo Street (Wahyudi & Hidayah, 2019). And recently the local government removes some illegal wooden houses on the river at the Segiri Market area. Furthermore, The Ministry of Environment and Forestry also supports it by supplying tree seeds for reforestation effort which is done by GMSS SKM.

3. Open-minded and Relationship Approaches

Voluntary communities have different challenges in dealing with their activities. But one of the voluntary characteristics is that it is opened to any participation. The two voluntary groups firstly faced apathetic and cynical responses from some people. Supported by a few group members only, the groups prefer to do real action rather than talking on seminars or discussion meetings. Participation from other people then come after they see the groups' activities and the results. Real action supported by publication has attracted other citizens and the local government to be involved without opening any vacancy formally. Moreover, the effort to develop a relationship with others produces the result when the communities receive material aids from the government agencies, such as wooden boats, post building, tree seeds, and motorcycle.

The groups' leaders have strategic roles to drive the organization and the activities to be sustainable in the future. Some individuals and organizations often get involved in the volunteers' activity incidentally. However, the challenges of public value creation, in this case, are the existence of illegal houses around the river and the ignorant of some people who still get rid of their waste into the river, ditches, and many other spots. Law enforcement over those breaches is the local government's authority. When the local government fails to solve those problems, the slum area and dirty environment remain critical problems in the city. And the voluntary groups consequently remain dealing with a similar problem in the future.

4. Adaptable and Learning-based Approach

The journey of the two voluntary groups gives some lessons about how to run a voluntary group and the way to participate in a particular solving problem effort. First, what they do is their way to respond to a particular issue in their city. The earlier failure to attract people has created a lesson about the way to run the group. Writing in newspapers is not an effective effort to persuade people to care about the river because only a few people read it. Otherwise, doing real actions and publish them on social media are the most effective ways to attract people and the local government. Second, since the river is connected to surrounding ditches then it is impossible to make the river clean without an effort to clean the ditches too. For that reason, the volunteers built the second group, namely GEMMPAR. Real action and publication are two important lessons that the groups learn about.

Table 2. Integrated Public Value Creation in the Two Voluntary Groups

Propositions	Key Points
The search for public value	Ecological value is created by reducing pollutants and waste in the city river and ditches. It produces benefits for citizens and the environment in this city.
The legitimacy of a wide range of stakeholders	Various supports come from officials, politicians, some citizens, and the private sector individually. The supports come especially after the community activities are publicly known due to publication on social media.
Open-minded relationship approach	The voluntary groups welcome any citizen, community, and organization in the city to participate in their activities. And publication through social media is done to socialize its activities and to attract people.
An adaptable and learning-based approach	The transformation process of work from individual to community work and the way to run the groups remain to survive. And the volunteers realize that creating a clean river also needs to care about ditches because they are connected so that a new group was created.

Compared with similar community movements in Yogyakarta and Bandung, only a few active communities take a part in the case of Samarinda. The citizens' participation occurs incidentally and some people remain littering in the river and ditches. Citizens' perspective towards the existence of the river influences their behavior to treat the river, such as littering in the river (Sekarningrum & Yunita, 2015). Therefore, developing a strategy to deal with the problems needs to involve other relevant communities and the citizens around the river.

GMSS SKM and GEMMPAR have started to initiate and run their programs to achieve the goals. It will be their contribution to creating a clean and healthy city. However, they need support and collaboration not only from the local government but also from the citizens. Because the two communities much more tackle the downstream problem, meanwhile the citizens create the upstream problem. The waste problem in this city will never be ended if the citizens remain to create the upstream problem.

Conclusions

In conclusion, the environmental problem in Samarinda is caused at least by three issues, such as lack of capacity in transporting the waste, poor awareness among some people, and law enforcement and omission by the local government. The efforts of the two voluntary groups to clean up the river and ditches are their contributions to tackle some of the problems.

Second, ecological value is created by voluntary groups to make a better circumstance. Their works have made especially the river becomes cleaner through their activities although not completely at all parts. It does not only create advantages for people but also a better environment in the city. The volunteers spend a long time ensuring people and the local government about the importance of a clean

environment. Real actions along with publication through social media are focal points to nudge citizens and the local government.

Third, citizen involvement in the movements from outside of the groups is still limited therefore developing collaboration especially with citizen involvement is urgent to accelerate the effectiveness of the volunteers' works. Citizen involvement will allow a better public education to build citizens' awareness concerning the waste problem in the city. Creating a clean environment in this city is not an easy job because of the ignorant attitude among people. The citizens produce waste and some of them put their waste in illegal places. Tackling this issue will potentially reduce the number of scattered rubbishes in the city.

And finally, generating the garbage collecting capacity and performing law enforcement by the local government needs to be implemented. The omission from the local government toward the breaches against the waste management law makes the citizens feel free to break the law and it becomes a habit among some people to put rubbish into the river or ditches. The poor law enforcement and the omission has created slum areas due to illegal houses around the river. It is the local government's authority to do law enforcement and to relocate the illegal houses.

Implications

Activities of the voluntary groups become their way to educate people in the city. Then it is the local government's job to increase the garbage collecting capacity and to perform the law enforcement of the waste management law and to relocate the illegal houses around the riverside. The houses around the riverside area have added slum areas in the city. The implication is that the local government intervention potentially creates a conflict with the dwellers. Furthermore, relocation policy will costly burden the local government budget. On the other hand, if the local government remains to ignore the illegal dwelling and the breaches, then the volunteers' work will never finish. The volunteers tackle the downstream side of the problem, while the upstream side of the problem is the citizens' behavior that needs intervention from the local government.

Limitations

This study is a preliminary study on creating public value in environmental issues by the voluntary groups. The key informants in this study come from the voluntary groups only and it might not completely present the local government and citizens' perspectives concerning the voluntary groups' activities. For that reason, further research is needed to conduct to search for information from various informants outside of the volunteers, such as citizens and the local government officers. Complete information from various informants will potentially grasp a comprehensive perspective in searching for public value in this case.

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