

Collaborative Management of Medan City Waste and Deli Serdang Regency in the Mebidangro Concept

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Abstract: Waste management is a challenge for many cities in Indonesia, including Medan. It is because of the increase in waste, the burden on the city budget as a result of the high costs associated with its management, the lack of understanding of diversity, the factors that influence the various stages of waste management and solutions enable the entire waste handling system in Medan to be immediately implemented in the form of policy. This research is a qualitative research with a critical paradigm. The purpose of this study is to determine the behavior of stakeholders who have role in the waste management process and analyze the factors that influence the challenges of waste management in Medan. Data is collected from structured interviews with relevant professionals, field observations, books and scientific journals. The findings of this study that challenge the management of waste management in Medan City are collaboration between stakeholders in handling through institutional collaboration in the concept of Mebidangro institutional.

1 BACKGROUND

Inter-regional cooperation strategies are now a leading program in many regions of the world. Not only in developed countries but also developing countries that are developing in an effort to get out of the problems they face. The policy argument based on the inter-regional cooperation presented is that collaboration is very relevant and capable to improve regional competitiveness in the conditions of the global economic order (Parsons, 2005).

The role of Inter-Regional Cooperation (KAD) in increasing regional competitiveness is in terms of increasing the effectiveness and efficiency of resource management, including in terms of policy levels related to investment, marketing and regional promotion (Chul, 2016).

Waste problem is an actual problem faced by many regions in various regions in Indonesia including Medan City. This problem arises by increasing population, technological advances and transportation in urban areas which is directly proportional to the increasing amount of waste produced (Ferronato et al., 2017). This is a consequence of Medan city as the most efficient and effective location for productive activities related to industry, transportation and other activities. The problem has a bad effect because of the negative

impacts caused, such as; environmental damage, pollution of clean water sources, flooding to various diseases that are born (Dunn, 1998).

According to data from the Medan City Sanitation Office in 2018, the amount of waste in Medan in the last 3 (three) years continued to increase, namely in 2016 the amount of waste was 1,595 tons per day, in 2017 amounted to 1,675 tons every day and year 2018 of 2,000 tons per day (Badan Pusat Statistik Medan, 2018).

Based on Presidential Regulation No. 62 of 2011, the administrative areas of Medan City, Binjai City, Deli Serdang Regency and parts of the Karo District (Mebidangro) have been designated as one of the National Strategic Areas (KSN). KSN itself is an area whose spatial planning becomes a national development priority, both in terms of economic, social, cultural, environmental and other aspects (Ismail, 2000).

Related to rubbish in Medan City is a comprehensive problem that can be resolved through the collaboration of Medan City Government and Deli Serdang Regency Government in the Mebidangro scheme, which until now has not been effectively and efficiently implemented. Previously there were 2 (two) locations that were used as landfills (TPA) in the city of Medan, namely the landfill TPA in the North Medan location and the

TPA Namo Bintang in the village of Yet Bintang, Pancur Batu District, Deli Serdang Regency. However, until now the existing landfill site is still not functioning optimally. This is due to the limited area of landfills which also affect the technical operational management and waste disposal services.

The impact of uncontrolled waste management in Medan has begun to be felt by the community, such as; the narrowing of the river basin (DAS), pollution of water sources and flooding in the city of Medan. This means that the collaboration of waste management between Medan City Government and Deli Serdang Regency Government in the Mebidangro secretariat is something urgent to be implemented. Because territorially, Medan City borders and divides Deli Serdang Regency directly. Moreover, large rivers in the city of Medan are experiencing damage and a source of problems for the community due to the accumulation of waste, such as; Denai River, Babura River and Deli River when viewed upstream and downstream watershed are in Deli Serdang Regency.

The extent of the governor's authority as a representative of the central government is expected to be much cleaner, more effective, efficient and can provide maximum public services for the community, including in the case of implementation of inter-regional cooperation (Mebidangro). The complexity of the issue of governance in North Sumatra Province illustrates that the meaning of cooperation between regions should be carried out with a comprehensive approach covering all elements, planned, measurable, participatory, sustainable implementative, and taking into account the principles of cooperation.

This research is based on the problem of the poor implementation of the Mebidangro RTRW in 4 Cities/Regencies in the Province of North Sumatra. The research " Collaborative management of Medan City Waste and Deli Serdang Regency in the Mebidangro Concept" very well conducted in an effort to overcome the waste problem in Medan.

2 METHODS

This research method is qualitative with a critical paradigm by conducting direct interviews with informants, observations, interviews, journals, books and documents related to Mebidangro. Determination of informants as sources of data in this study is determined on research subjects who have the knowledge and experience needed by

researchers according to then expressing their experience related to research needs. Data collected from initial observation, pre-research to direct interviews with informants in government, academics to practitioners in perfecting research.

3 DISCUSSION

3.1 KSN Mebidangro Priority

Law Number 26 Year 2007 regarding Spatial Planning related to strategic areas is an important part of national development. The reason is that there are activities that have a great influence on spatial planning in the surrounding area, other activities in the same field and activities in other fields, and/or improving the welfare of the community. Strategic area arrangements are included in both the 2015-2019 National Medium-Term Development Plan (RPJMN) and the National Spatial Planning (RTRWN) and are intended to reduce regional development disparities between Western Indonesia and Eastern Indonesia. In addition, the determination of strategic areas also aims to improve competitiveness. There are several factors that need to be improved in order to support the competitiveness of an area, namely infrastructure, innovation, technology and workforce competence. The support of logistics systems, infrastructure, policies, regulations, spatial and regional management, and the national transportation system needs to be considered comprehensively, including to increase the competitiveness of a strategic area (Shazwin and Nakagoshi, 2010).

Policy of the central and regional governments are also needs to be synchronized so that they don't obstruct or overlap one another. The availability of infrastructure and connectivity in the transportation and logistics system is one of the supporters. The main regulation in the Mebidangro area concept is Perpres No. 62 of 2011 concerning Spatial Planning for Urban Areas of Medan, Binjai, Deli Serdang and Karo (Mebidangro) with 6 aspects; policy, physical, economic, infrastructure, socio-cultural and institutional.

3.2 Waste Management Collaboration in Medan City in the Mebidangro Concept

Empirically the process of collecting and transporting waste in Medan uses two ways: first, it

is carried out from a source of waste generation (household waste) collected and transported by a garbage cart/trickshaw to the TPS that has been provided after it is transported using an Arm roll truck to a Final Disposal Site (TPA). Then, *secondly*, from the source of the generation (household waste, shops, the rest of the construction, the market) is transported using a Tipper truck directly to the Final Disposal Site (TPA).

In the early situation the Medan City Sanitation Department conducted garbage collection from each source on the streets of the protocol using direct transport. As for the road that cannot be passed directly by the transporter to the residential areas, it is done by using a garbage cart or a garbage tricycle. This activity is carried out twice a day, morning and afternoon.

Table 3: Number of garbage carriers in Medan City 2018.

No.	Type of Carrier	Number of Units
1	Truck Container	16
2	Truck Arm Roll	15
3	Dump Truck	2
4	L300 Pick Up	10
5	Tipper Truck	200
6	Concrete Truck	33
7	Road Sweeper Bil Up	5
8	Road Sweeper Car Body	7
9	Toilet Trucks	13
10	Feces Trucks	11
11	Trucks Sozialization	1
12	Water Tank Trucks	3
13	Heavy Equipment	22
14	Trash Can	276
	Total	576

Source: Medan City Sanitation Office 2019

Functionally, Medan City has 2 (two) landfills (TPA) which are TPA Terjun which is located in Medan Marelan District with an area of approximately 14 Ha and TPA Namo Bintang located in Pancur Batu District, Deli Serdang with an area of 25 Ha. However, operationally the only landfill that operates is TPA Falls which holds all the garbage from 21 sub-districts in the city of Medan. TPA's garbage landfill is operated from the beginning using an *open dumping system*. The current constraint related to the problem of garbage at the site is not yet optimal.

This is due to the overall lack of adequate heavy equipment so that for processing and for the destruction of waste while waste production from

time to time has increased which is expected in the next few years the TPA Falls will not be able to accommodate the increasing volume of waste given the technology and the equipment used today is not optimal and there are no regulations on the joint management system with the Deli Serdang Regency Government.

This cooperation is related to the sorting of waste carried out after the garbage arrived at the final disposal site whether it will be reprocessed using technology or just dumped. The sorted waste is in the form of plastic from mineral drink bottles and used aluminum cans or rubbish that has economic value and can be sold quickly. The number of scavengers who use waste at the final disposal site is relatively small. These scavengers are indigenous people who have a place to live around the final disposal site (Olbering, 2002).

Cooperation in waste management

Strategic steps to resolve this problem are as stated by observers of regional autonomy, Universitas Sumatera Utara, Muhammad Arifin Nasution:

"In order for the Medan garbage problem to be resolved, coordination efforts are commanded by the North Sumatra Provincial Government in accordance with the authority granted by Law Number 23 of 2014 concerning Regional Government. Article 91 to Article 93 regulates the authority of the Governor as the representative of the central government, including the task to provide guidance and supervision of the implementation of co-administration tasks in the Regency / City, conduct monitoring, evaluation and supervision, evaluate the Regional Budget, can cancel Local Regulations and give approval to the regency / city regional regulation, as well as impose sanctions on regents / mayors."

In the condition of coordination between Medan City Government and Deli Serdang Regency Government is stagnant, according to Arifin it is important to establish a new institution under the coordination of the North Sumatra Provincial Government in implementing the KSN Mebidangro, including in handling cross-regency/city waste.

A synergistic and conducive collaboration format can be formulated by placing the Medan City waste problem as a cross-regency/City problem, thus requiring the North Sumatra Provincial Government to intervene. According to the Head of North Sumatra Provincial Government Administration Bureau for Meydina Arhan, the North Sumatra Provincial Government has started to initiate the growth of cooperation forums between regencies / cities through the holding of District / City Government Apparatus Coordination Meeting on

24-26 June 2018 by presenting speakers from the Ministry of Home Affairs, Professor University of North Sumatra and the Chamber of Commerce and Industry (KADIN-Indonesia Chamber of Commerce). Regarding the collaboration format, there are various choices of regional cooperation models that can be considered. According to Muhammad Arifin Nasution:

"To determine the right collaboration format, there are several choices. It can be in the form of a Joint Secretariat (Sekber) like in Kartamantul (Yogyakarta-Sleman-Bantul), it can also be in the form of Regional Management such as in Barlingmascakeb in Central Java and Jonjok Batur on Lombok Island, or other forms. The important thing is that the initiation steps for cooperation must be started immediately and so on intensified and even institutionalized through Regional Regulations, so that not only the problem of waste can be solved but also other problems such as health services, environmental balance, transportation and spatial planning".

Alternative solutions outside collaboration and cooperation between regions are also worth considering. However, when alluding to alternative solutions in the form of privatization of waste management, Medan City Sanitation Department Operational Head said:

"There have been several prospective foreign investors who have conducted a survey to look at investment opportunities in the waste sector in Medan, including from Japan, South Korea and China, but afterwards we did not receive news about the (follow-up) from them, so we can only guess what factors caused potential investors to postpone their investment in the field of waste in the city of Medan."

The uncertainty situation regarding waste management opportunities through foreign investment schemes is certainly not a wise choice to be followed up, therefore Arifin argues that the most logical concrete steps should be taken to prepare as soon as possible the formation of institutions that facilitate the implementation of collaboration and cooperation between regions.

Furthermore, in an effort to complete and perfect the Mebidangro Inter Regional Cooperation Agency (BKAD). In the future, an Integrated Management Institution will be established as a model of inter-regional cooperation that is managed jointly between the regional government members and professional parties under the auspices of the Province of North Sumatra.

In the Integrated Management Institution model, the main activities that are collaborated are managed by the City/Regency member SKPD, while the professional party chosen by the member regional

head through *afit and proper test* istasked with coordinating between member regions. Institutionally Integrated is managed by the Deputy Governor of North Sumatra, the City/Regency Secretary, Assistant I, Tata praja, Government Section, and Bappeda. The main function of the Integrated Management Institution is to assist coordination, facilitation, mediation, monitoring and evaluation as well as operational implementation in the framework of implementing cooperation. The focus of cooperation in the field of providing basic facilities and infrastructure as well as solving the problem of waste (depends on local needs).

The source of funding for the Integrated Management Institution comes from the post of the grant, the post of program activities from each SKPD of the City/Regency in North Sumatra, the donor agency and the benefits obtained from the joint work project. This means that the problem of waste in Medan can become an institutional priority sector which is the focus of cooperation between the two regions, including the issue of the impact that garbage might present; cooperation in clean water, roads, transportation, drainage, waste water and solid waste and spatial planning. In implementation, this collaboration model has almost the same constraints as the BKAD institutional model, because the implementers are mostly from the bureaucracy, making it less flexible in its implementation and sometimes distrust from each of its member regions namely Medan City and Deli Serdang Regency.

4 CONCLUSIONS

Cooperation policies between local governments, especially Medan City and Deli Serdang Regency also need to be synchronized so that they do not obstruct or overlap policy. The availability of infrastructure and connectivity in the transportation and logistics system is one of the supporters. The main regulation in the Mebidangro area concept is Perpres No. 62 of 2011 concerning Spatial Planning for Urban Areas of Medan, Binjai, Deli Serdang and Karo (Mebidangro).

In the Integrated Management Institute model, the main activity that is collaborated is related to waste management in Medan City in collaboration with Deli Serdang Regency. This specifically must lead to more efficient and effective goals which in the future will be in the form of regulations governing cooperation agreements in the agreed development fields that contain what fields are

cooperated, who are the actors of the collaboration, rights and obligations of each of the cooperating parties. , the sanctions mechanism for violating the agreement, allocation of funding sources and the deadline for the agreement to be carried out. With this kind of regulatory framework, it is expected to guarantee the certainty of cooperation activities and the results that will be achieved. In the future, with the formation of the Inter-Regional Cooperation Agency (BKAD) Mebidangro the need for strong interaction and integration in the Mebidangro region must support development, that is, each region must be able to make a positive contribution that is complementary to each other.

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