

Kolaborasi Medan Berkah: An Effort To Realize an Eco-Friendly City in Handling Medan City Waste Management

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ABSTRACT

An eco-friendly city is one indicator of the development of people's living standards. Where they can live comfortably in it. The government of Medan city, through Kolaborasi Medan Berkah programmed, is committed to making Medan an eco-friendly city. This is evidenced that Medan City winning back the Adipura award in the Metropolitan city category after 12 years. Kolaborasi Medan Berkah programmed is a form of the city government's commitment to achieve Medan City's mission as a sustainable, clean, and conducive city. This is very interesting to discuss because the policies implemented by the city government impact the quality of people's life. The purpose of this study is to determine the opportunities and challenges of Medan City in Kolaborasi Medan Berkah programmed to achieve that Medan is an eco-friendly city and its impact on the quality of people's life in Medan. This research used qualitative methods with interviews as primary data and literature review from as a secondary data. Previous research showed that the responsibility of local government in waste management created community enthusiasm and active participation in waste segregation. The result of this research is Kolaborasi Medan Berkah programmed could have government to achieve Medan as an eco-friendly city because of the Medan City Government's commitment.

Keywords: *Kolaborasi Medan Berkah Programmed, Eco-friendly City, Waste Management.*

INTRODUCTION

The Indonesian government has established a national policy related to waste management through Law No. 18/2008 on Waste Management and various other supporting regulations (Kursia 2008). The Medan City Government seeks to align its local policies with national policies to create better waste management. One way to do this is to implement the reduce, reuse, recycle (3R) concept to reduce the amount of waste going to landfills (Pemerintah Kota Medan 2022b).

Household waste is one of the most pressing environmental issues in big cities, including Medan City. With rapid population growth and increasing urbanization, the volume of waste generated by households in Medan has also increased significantly (Zhou et al. 2022). This waste problem negatively impacts the city's aesthetics and has the potential to cause various health and environmental problems, such as water, soil, and air pollution.

The Medan City Government has initiated various programs and policies to manage waste more effectively and efficiently. One important step is implementing an

integrated waste management system that involves waste segregation at the source, collection, transportation, processing, and environmentally friendly final disposal (Pemerintah Kota Medan 2022c).

The Medan blessing collaboration manifests the Vision and mission of the Mayor of Medan, which is the realization of a blessed, advanced, and conducive Medan City community. All activity plans are based on the Regional Medium-Term Development Plan (RPJMD) (Hamzah 2024). Then, the RPJMD Regional Medium-Term Development Plan is poured into the Medan City priority plan. Waste management itself is included in Medan City's priorities. Waste enters into one big field, namely #Medan bercabang, which is the definition of Medan: bersih or clean, cantik or beautiful, and tanpa lubang or without holes. Clean shows that Medan is free from waste. Beautiful is realizing the availability of green open space, and without potholes, it is the realization of road stability (Hamzah 2024). Waste management enters into a branching field, and the big scope is #KolaborasiMedanBerkah.

Medan City won the Adipura trophy in 2023 as a manifestation of Medan City being clean from waste and Medan as an environmentally friendly city. (DetikSumut 2024). Collaboration with the private sector and non-governmental organizations also plays an important role in reducing household waste. Various initiatives, such as the development of waste processing technology, single-use plastic reduction programs, and support for environmental startups, are expected to provide innovative solutions in handling waste problems in Medan City, especially community participation in realizing Medan clean from waste. For this reason, the author conducts research related to how Medan City realizes waste management in Medan City.

METHODS

This research seeks to find a new understanding of the phenomenon studied, namely the role and capacity of the city government in realizing a clean and environmentally friendly Medan City. The method used in this research is qualitative, with data obtained through field studies and literature studies. Researchers conducted direct observation through interviews with resource persons who are part of the Medan City Government, which handles infrastructure and territorial areas of Medan City.

This research also explains a phenomenon based on the results of indirect observation, namely, researchers utilizing secondary data from previous studies. Data collection was done through internet searches. The data collected were articles published in national and international journals, books, government and international agency documents, electronic newspapers, and the official website of the Medan city government.

The data were collected and analyzed using a qualitative approach, with the aim of gaining an in-depth understanding of the phenomenon in question through interpretation. So that researchers are not trapped in overly narrative and conventional

discussions, this research also seeks to explain causal, conditional, and contextual factors, as well as elements that are components of events from the object of research.

RESULT AND DISCUSSION

Development Strategy of Solid Waste Management in Medan City through Kolaborasi Medan Berkah

The Medan City Government has a vision for a blessed, advanced, and conducive community. Medan City's first mission is Medan Berkah, which means realizing Medan City as a blessed city by upholding religious values and making Medan a livable and quality city for all levels of society (Hamzah 2024). Second, Medan Maju is advancing the people of Medan City through the revitalization of modern, affordable education and health services. Third, Medan Bersih is Creating social justice through clean, professional, accountable, and transparent bureaucratic reforms based on the spirit of serving the community and creating excellent, fair, and equitable public services.

Fourth, Medan Membangun is building facilities and infrastructure that support the improvement of the economy and local potential of the community equitably in order to create jobs, a healthy entrepreneurial climate and improve the quality of human resources. Fifth, Medan Kondusif is realizing comfort and a conducive climate for all people of Medan City through increasing the rule of law based on community participation. Sixth, Inovatif Medan is realizing Medan City as a creative and innovative economic city based on strengthening human capital and socio-cultural digital technology. Seventh, Medan with Identity, namely Realizing Medan City is civilized, polite, harmonious, and tolerant in democratic pluralism and love for the country.

Realizing the Vision and Mission of the Medan City Government through the development of household waste management in Medan City requires a comprehensive and integrated strategy. The following are some of the strategies that can be implemented (Hasbi et al. 2022): First, Improve the Integrated Waste Management System, namely Waste Segregation at the Source. Conduct an intensive campaign to encourage Medan residents to separate organic, inorganic, and hazardous waste at home. The city government can facilitate the provision of separate waste bins in each household. Scheduled Collection: Optimize waste collection schedules with GPS technology and citizen reporting applications to ensure waste is collected on time and does not accumulate in temporary shelters (TPS). Infrastructure Development: Construction of more Temporary Shelters (TPS) and Integrated Waste Management Sites (TPST) in various sub-districts, as well as capacity and technology upgrades at existing landfills to reduce environmental impacts.

Second, Implementation of Waste Management Technology, namely Recycling and Composting (Read 1999): Establish compost centres in each ward and promote household-scale composting. Building modern recycling facilities in the city to process inorganic waste. Waste-to-energy: Implementing waste-to-energy technology through

waste power plants to convert waste into energy, reduce waste volume and generate electricity for the city. Another waste-to-energy is Derived Fuel (RDF) technology, which processes waste into biomass energy that is then used as a low-emission renewable energy source to replace coal in the combustion process in cement industry plants and Steam Power Plants.

Third, Waste Bank Utilization, namely Waste Bank Development: Establishing waste banks in each sub-district and providing training and operational support. Encouraging communities to save waste and gain economic benefits from the waste they collect. Training and Support: Provide regular training programs for waste bank managers and communities on sorting, recycling, and composting techniques.

Fourth, Education and Socialization(Pak, Ismail, and Alwi 2023): the Public Campaign: Conduct a massive campaign on the importance of the 3Rs, namely reduce, reuse, and recycle, through social media, radio, television, and community activities. Use local public figures to attract more people. Education Program: Collaborate with schools to include waste management programs in the curriculum and hold competitions or projects involving waste management.

Fifth, Regulations and Policies, namely Regional Regulations: Develop regional regulations that require waste segregation in households and provide sanctions for violators. Also, incentives such as reduced waste retribution should be provided for residents who actively reduce reuse and recycle. Incentives and Disincentives: Implement an incentive system in the form of points or awards for residents who contribute greatly to waste reduction and provide disincentives for those who do not comply with the rules.

The sixth is Collaboration and Partnership with the Private Sector(Hasbi et al. 2022): Encourage companies to invest in waste treatment facilities and green technologies and establish partnerships with restaurants, hotels, and shopping centres to manage their waste. Seventh, Partnership with NGOs and Communities: Work with non-governmental organizations and local communities to run education and waste management programs and support their environmental initiatives.

Eighth, Monitoring and Evaluation, namely the Monitoring System: Establish a technology-based monitoring system that monitors the volume of waste generated, treated, and disposed of. Use this data to make better decisions and improve existing policies. Ninth, Reporting and Transparency: Make regular reports on the status of waste management accessible to the public and open discussion forums or community meetings to receive input and suggestions.

Medan City has made various innovations in handling waste. Some of the things that have been implemented in Medan City are increasing waste generation managed in Waste Banks, Compost Houses, Private Sector waste sorters, and recycling centres, and

the PS3R system, a waste disposal site with the concept of reducing (reduce), reuse (reuse), and recycle (recycled).

In Medan City, landfills are already available and will be transported regularly 3 times a day; this can certainly optimize the accumulation of waste in residents' homes. Then, in Medan City, waste to energy has been applied, such as waste power plants that are already running well, and Refuse-derived fuel has been applied. The waste reduction commitment in Medan City to reduce the negative impact on public health is very necessary to be realized in order to create a clean Medan City and realize Medan City as an Eco-Friendly City. To realize this, the support of the community and various stakeholders is needed, but at least waste management in Medan City is good. The performance of waste management in Medan City in 2023 is shown in the table below.



Chart 1. Waste Management Performance of Medan City in 2023
 Source of Bapedda Medan City

From the data above, 13.64% of unmanaged waste that the community may dispose of is outside the right trash can. Waste services are also still not maximally implemented. This can be seen from the mandatory waste retribution (WRS) of Medan City, which is still 102,063 WRS. Considering the number of households in Medan City, which is 523,097 RTs, only 20% of the community is served by the Medan City Government for waste collection. The rest is still managed by the private sector, which is only affiliated with disposal at the Landfill (TPA).

To increase waste reduction at the household level and reduce waste handling in landfills, several Waste Banks, TPS3R, and startups have existed to manage waste in Medan City. Some of these are the New Normal Main Waste Bank, which is a grant from the Japanese Consulate in Medan, TPS 3R Mahkota, Kepul, which is a startup that exists in Medan City, and Roda Hijau. Of course, the effectiveness of waste management is realized in an eco-friendly city with the contribution of all the people of Medan City.

Opportunities and Challenges for Waste Management in Medan City Towards an Eco-Friendly City

Eco City commonly referred to as Green City, is a concept that offers a healthy, environmentally friendly and sustainable city. This concept teaches us to return to nature and save energy, encourages cities to present as much green open space as possible, and balances city management on environmental, economic, natural resources, and human aspects. Eco City is not just about expanding green spaces and being energy efficient; human behaviour is also a concern. This concept is indeed vulnerable to social challenges, with a minimum green space requirement of thirty per cent; of course, this clashes with today's population growth, causing a narrow urban area.

Medan City's realization of its eco-friendly status has become a commitment, along with the city government's commitment to increasing green open space. To achieve the status of an eco-friendly city, the ideal percentage of Green Open Space (RTH) must meet certain standards.

In Indonesia, in accordance with Law No. 26 of 2007 on Spatial Planning, it is stipulated that an ideal and environmentally friendly city must have a minimum of 30% green open space of the total area. The details of 30% Green Open Space are, first, 20% public Green Open Space, which is green areas that can be accessed by the public in general, such as city parks, green lanes, urban forests, and green open spaces in settlements. Second, 10% of private green open space is green areas in private neighbourhoods, such as home yards, parks in office buildings, or commercial facilities.

Green open spaces play an important role in maintaining air quality, reducing temperatures, and supporting healthier urban ecosystems. Cities with an adequate proportion of green open space tend to be cooler, cleaner, and more comfortable for their residents. In addition, green open spaces also serve as water catchment areas, which are important in preventing flooding and reducing carbon dioxide emissions generated by urban activities. Of course, to realize an environmentally friendly city, at least 30% of its area must be allocated for green open space in accordance with these provisions. Opportunities for Medan City to realize Eco-Friendly City from direct interviews to Bappeda Medan City, related to green open space in Medan City, has reached 40%. The Medan City Government is in the process of revitalizing the old city of Kesawan Medan by returning the terrain to its former face, which is friendly for pedestrians and provides open space for the community to enjoy Medan City, which is friendly for the people of Medan City and becomes a tourist destination.

The arrangement of the Kota Lama Kesawan area is carried out by the Directorate of Settlement Area Development through the North Sumatra Regional Settlement Infrastructure Center (BPPW) of the Directorate General of Cipta Karya starting July 8, 2022, and completed on November 29, 2023 (medcom.id 2024). Director General of Cipta Karya Diana Kusumastuti explained that the revitalization of the Kota Lama Kesawan area includes the arrangement of pedestrian paths, landscaping, replacement of road surface layers, arrangement of light, arrangement of drainage channels and construction of integrated utility network channels (SJUT). Thus, the Kesawan area

offers a new face that combines historical elements with the convenience of modern facilities.



Picture 1. Revitalization of Old Town Kesawan Medan
Source: Pemko Medan



Picture 2. Revitalization of Old Town Kesawan Medan
Sumber: Photo of the Ministry of PUPR

Kesawan is one of the oldest areas in Medan, known as the centre of economic activity in the late 19th to early 20th century. There are a number of historical buildings that are important icons reflecting the glory of the past. The arrangement of this area is an effort to restore the glory of Kesawan as the centre of trade and culture in Medan City while providing a more organized and comfortable environment for the community and tourists (Dera Fitri 2024). The revitalization of Kesawan will not only focus on the physical improvement of buildings but also on developing sustainable cultural and economic programs. Culinary festivals, art exhibitions, and community activities will be part of the regular agenda in the area, providing a space for the community and tourists to interact and enjoy Medan's rich culture.

In addition to the revitalization of Kesawan, the Medan City Government is also revitalizing parks in the city of Medan with the help of funds from CSR; the Mayor of Medan inaugurated Cadika Park on September 12, 2024 (Anisa Rahmadani 2024), the

new look of this park as a Child-Friendly Lung of Medan City, as for the sports facilities that we provide are a soccer field, roller skating arena, basketball court, horse riding arena, archery, lake for kayaking, rock climbing and skate park.

The new look of Medan City is expected to be clean of waste and have a friendly environment. The Medan City Government, in handling waste, already has a special allocation fund from the ministry and does not rule out the possibility of receiving external assistance in waste management; one of the grants received by Medan City is the New Normal Waste Bank from the Consulate General of Japan in Medan. The Medan City Government has also applied the principles of good governance (Andrews 2008) in the context of waste management, and the application of these principles aims to create a sustainable, fair, and responsible waste management system.



Picture 3. Motorized Tricycles Transporting Garbage in Medan City
Source: Photo taken by the author

The principle of good governance (Bjerkli 2013) requires transparency, where information about waste management must be open and easily accessible to the public. This includes data on the volume of waste generated and managed every day, the process of waste segregation, collection, transportation, and disposal, and funds allocated for waste management, including budget utilization, contracts with third parties (e.g., waste management companies), and the mechanism for using funds from Waste Bank proceeds.

Waste management should also be conducted fairly and inclusively, meaning that all levels of society in Medan City, including vulnerable groups, should have equal access to waste management services. The waste management system should place a manageable burden on certain groups, such as scavengers or low-income communities.

Some of the challenges of the Medan City Government that researchers highlight are related to the first regulation (Hamzah 2024), the regulatory problem is the thing that most determines the success of waste management; several indicators that must be met are the Study of waste management strategies, such as waste sorting, waste incineration, Study of the obligations of residential area managers to collect, sort and process waste, Study of the obligations of each stakeholder in reducing and sorting waste, Study of the obligations of the local government as a waste management organizer at each stage of waste management such as collection, transportation and final processing, an optimal waste management information system is needed to optimize waste management.

The next challenge is financial. Waste management has a large budget but lacks benefits for local governments because waste is fairly sold at low prices, and the government must bear a large burden. The city government needs to conduct a mapping study of potential financing in the context of investing in waste management facilities from sources other than the Regional Budget (APBD) and then conduct a study of waste's economic potential.

The next challenge is that the selection of the right technology in waste management has not been optimal; Medan City has collaborated with the Netherlands in the utilization of Co-firing (Fitria Astuti Firman 2022), for solid fuel as a waste solution in Medan City but solid fuel, for the results of co-firing is utilized by the cement industry, steel mills, pulp and paper, and biomass power plants, for the results of this co-firing energy Medan City can only sell it to State Electricity Company (PLN).

The last challenge is Civic engagement (Pemerintah Kota Medan 2022a), which is the community's concern and commitment to helping the City government keep Medan clean from waste by not littering; then there are External challenges; the Medan city community totals 2.5 million people recorded, Medan city as one of the largest cities in Indonesia becomes a place of employment from outside Medan city or called Commuter. Commuters, when going to work, bring their waste from home and dispose of their waste on the side of Medan city roads; this certainly needs attention to be resolved immediately.

CONCLUSION

Kolaborasi Medan Berkah is the embodiment of an eco-friendly city with the commitment of the Medan city government to realize Medan's blessing, progress, and conduciveness. Of course, the role of the community is very important, especially in the waste sector. The community can help the city government by sorting waste and not throwing waste into the river. The Medan city government has also revitalized the new face of Medan city, which is more environmentally friendly and friendly for local, regional and foreign tourists. The Medan city government is committed to making Medan clean and environmentally friendly with the readiness of funds and opening the

widest possible partnership with startups and outside assistance; this is expected to realize the #KolaborasiMedanBerkah program.

The long-term goal of this policy is to create a cleaner and more sustainable Medan City by reducing the amount of waste going to landfills and increasing the recycling rate. Overall, the Medan Berkah policy is a comprehensive effort that promotes multi-stakeholder collaboration, technology, and changes in people's behaviour to address waste issues and create a healthier and more sustainable urban environment.

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