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Evaluation of Malang City 100-0-100 Program Achievements in Efforts to Fulfill NMTDP Targets

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Abstract: ***Through the NMTDP, the Government of Indonesia has set a target of achieving 100% access to drinking water, reducing slum areas to 0%, and providing 100% access to proper. It called the "100-0-100 Action". Malang City has implemented the 100-0-100 program since 2015. This research aims to find out the achievements of the 100-0-100 program. The analytical technique used is the analysis of the measurement of the target achievement of 100-0-100 and the analysis of spider webs. It aims to determine the condition of the achievement of the 100-0-100 program in the city of Malang and evaluate the achievement of the target of 100-0-100 in the city of Malang. The achievements of the 100-0-100 movement in Malang City in 2021 are, 94.97% access to proper drinking water, 3.48% slum settlements, and 86.69% access to proper sanitation. If the achievements of the 100-0-100 program in Malang City in 2021 are compared with the targets in the policies by central government and local governments, it is concluded that they are above the target for drinking water and sanitation aspects.***

Keywords: 100-0-100-Program; Spider-Web-Analysis; Drinking Water; Slums Area; Sanitation

1. Introduction

The 100-0-100 program is one of the programs organized by the Ministry of Public Works and Public Housing. This program aims to create livable and sustainable settlements by meeting standards in the form of 100% access to drinking water, 0% slum areas, and 100% access to sanitation (wastewater, solid waste, and drainage). The targets set in the 100-0-100 program are in accordance with the 2020-2024 National Medium-Term Development Plan (NMTDP) and 2030 Sustainable Development Goals (SDGs).

The 2020-2024 NMTDP states that the fulfillment of basic services in Indonesia is still quite low. Public access to proper drinking water is still at 61.29%, while community access to proper sanitation is still at 74.58%. Indonesia also still has 57.70% slum areas. This indicates that further efforts are needed to achieve the targets set in the 100-0-100 program. Achieving the target for the 100-0-100 program requires synergistic collaboration, especially between the central government and local governments.

NMTDP has mentioned several programs that will support the realization of the 100-0-100 program. These programs include the development and management of DWPS through development (new construction, improvement and expansion) and management (operation, maintenance, and repair) of protected Piping and Non-Piping DWPS, development of a housing supply system that is compatible with spatial planning and integrated with services. basic infrastructure of settlements, and development of settlement sanitation infrastructure and services in accordance with the characteristics of regional needs through the development of sanitation infrastructure (domestic wastewater and garbage).

Law Number 1 of 2011 concerning Housing and Settlement Areas states that the implementation of housing and settlement areas is carried out in accordance with their respective authorities, namely the authority of the central government, provincial government, and district/city governments. So in the implementation of the 100-0-100 program, the provincial government and district/city governments are the masters in the implementation of basic service infrastructure such as drinking water management, providing access to decent, safe and affordable housing and settlements, and providing access to safe and proper drinking water in their respective jurisdictions.

Local governments can also help realize the 100-0-100 program, one of which is through the preparation of baselines. The purpose of the baseline preparation is to assist the government in obtaining data related to the 100-0-100 program and identify community needs in the realization of good and healthy settlements. Through the preparation of the baseline, the data collected is expected to be used in evaluating the achievement of the 100-0-100 target periodically every year.

Malang City has implemented the 100-0-100 program since 2015. This program is realized through policies written in the Malang City RMTDP. Through these policies, the condition of basic service infrastructure, especially drinking water and sanitation, has improved. In addition, the area of slum areas has also decreased. Data from Local Water Company (2021) shows that public access to safe drinking water has reached 86.84%. Data from the Environment Agency (2021) shows that community access to proper sanitation is 84.63%. Data from the Regional Development Planning Agency (2021) can also be seen that the area of slum settlements in Malang City is only 282.33 ha.

The importance of the role of the Malang City Government in the realization of the 100-0-100 program must be accompanied by the alignment of national policies that are used as a reference. Regional development is an integral part of national development. On the one hand, the principle of decentralization creates regional autonomy, on the other hand it is necessary to achieve alignment of regional development plans with national development plans

(Saksono, 2013). Development planning that is prepared systematically, directed, integrated, comprehensive, and responsive to change will affect the effectiveness of regional development planning (Alfian, 2014 in Tawaffal et al., 2020).

Based on this, it is necessary to carry out research on evaluating the optimal achievement of the 100-0-100 target based on the predetermined target. The target of the 100-0-100 program can be adjusted by each local government with the potential and characteristics of the region, but of course it also needs to be aligned with other higher policies. If the formulated regional policies are in line with national policies, the target of 100-0-100 in Malang City can be achieved effectively and efficiently. The realization of the targets that have been determined in the 100-0-100 program can make the residential environment of the people of Malang City a good and healthy environment.

2. Research Methods

This research is a quantitative study with data collection techniques in the form of observation, interviews, and agency surveys for secondary data needs. The analytical technique used is the analysis of the target achievement measurement of 100-0-100 to evaluate the achievements that are reviewed based on the variables of drinking water, slum settlements, and sanitation. Another analytical technique used is spider web analysis. The spider web analysis in this study will be used to compare the achievements of the 100-0-100 program in 2021 with the targets set in the policies of the central government and local governments. The policies considered include:

1) National Government
   - National Long-Term Development Plan (NLTDP) 2005-2025
   - National Medium-Term Development Plan (NMTDP) 2020-2024
   - Strategic Plan of the Ministry of Public Works and Public Housing 2020-2024
2) Local Government
   - Master Plan for Malang City Drinking Water Supply System 2014-2028
   - Plan for Prevention and Improvement of the Quality of Urban Slum Settlements Kota Malang
   - Malang City Sanitation Strategy 2021

The variables used in this study are as follows:

Table 1: Research Variables

Objectives	Variables	Subvariables
100-0-100 program achievements	Drinking Water	Water Clean/Standard Water Services
	Slum Area	Building Regularity
		Physical Feasibility Building
		Environmental Accessibility
		Drainage Environmental
		Garbage Management
		Safety Fire Hazards
		Livelihoods
		Use of Electricity
		Health Service
		Facilities Education Service Facilities
	Sanitation	Wastewater
100-0-100 achievements evaluation	100-0-100 achievement calculation result • Malang City 100-0-100 target achievement • National government 100-0-100 target achievement	

3. Results and Discussion

Overview

City is the second largest urban area after Surabaya City and is also one of the tourist destinations in the East Java Province, where its location ranges from 90 kilometers south of Surabaya City. Astronomically, Malang City is located at 112°06'-112°07' East Longitude and 7°06'-8°02' South Latitude. Malang city is located in the middle of Malang Raya area and makes this city has a strategic location, especially in supporting regional development and growth. Administratively, it can be seen on the regional administration map, that the Malang City area has the following boundaries:

West : Wagir District and Dau District
South : Tajinan District and Pakisaji District
East : Pakis District and Tumpang District
North: Karangploso District and Singosari District
District These sub-districts are all areas located in

Malang Regency. The area of Malang City is divided into 5 sub-districts and 57 urban villages with an area of 114.2616 km2. Based on the stipulation on regional division, Malang City is administratively divided into 5 (five) sub-districts with a total of 57 (fifty-seven) wards which are divided into 557 Hamlets and 4,286 Neighbourhoods.

Overview Malang City 100-0-100 Program

The 100-0-100 Program is a program that is implemented simultaneously throughout Indonesia, including in Malang City. Malang City has also implemented this program since 2015 until now. The Malang City Government supports this program by establishing various policies, such as the Malang City RMTDP 2018-2023, the Malang City Slum Settlement

Prevention and Quality Improvement Plan, and other policies. Based on the Malang City RPIJM 2021 and Malang City CSS 2021, there are several problems with the 100-0-100 program in Malang City including:

1) Drinking water
- The implementation of DWPS has experienced difficulties in funding for development, as well as operations and maintenance.
- Investment for DWPS development so far has been more dependent on foreign loans.
- Commitment and funding priorities from local governments in the development of DWPS are still low.

2) Slum Area
- Backlog in each District of Malang City
- The existence of settlements around the riverbank
- The existence of settlements located around the railroad tracks
- Problems with the road network, sewerage network, drainage sewer network in residential areas

3) Sanitation
- Limitations of the management agency to carry out supervision of waste water management.
- Domestic wastewater management system services in Malang City are currently in the range of 80.58%, namely the off-site system of 3.33% and the on-site system of 77.25%.
- Most of the domestic sewerage in the Malang City area is still one with the settlement drainage channel

Analysis of Program Achievement 100-0-100

Analysis of measuring the achievement of the target of 100-0-100 is an analysis used to evaluate the achievement of the target of the 100-0-100 movement in Malang City. Evaluation of achievement is viewed from three program variables 100-0-100, namely drinking water, slum settlements, and sanitation. Through this analysis, the achievement value of the 100-0-100 movement will be obtained for 57 urban villages in Malang City.

Drinking Water

Malang City in meeting the needs of drinking water utilizes water sources available in nature consisting of springs and ground water. The springs are flowed with the help of a pipeline network. Malang City Local Water Company helps meet the drinking water needs of the people in Malang City by utilizing water sources scattered in various locations. Malang City Local Water Company utilizes raw water sources with an installed capacity of 2,099 liters/second consisting of 10 springs and 9 deep wells with gravity and po,pa drainage systems. Based on the location of raw water sources, nearly 70% of raw water capacity comes from sources Wendit is located in Mangliawan Village, Malang Regency.

In the production process, Malang City Local Water Company uses a production system. Water Treatment Plant (WTP) is a system or facility that functions to treat water from contaminated raw water (influent) quality to obtain the desired water quality treatment according to quality standards. or ready for consumption. Usually this building or construction consists of 5 processes, namely: coagulation, flocculation, sedimentation, filtration, and disinfection.

Malang City has 42 reservoirs of Malang City Local Water Company which are spread in several areas of Malang City and have different elevation levels. The total water source capacity of Malang City Local Water Company reaches 40,271 m^3. In addition, Malang City has about 26 Local Water Company raw water sources spread across several sub-districts in Sukun District, Kedungkandang District and Lowokwaru District, Malang City. Although Malang City has abundant potential sources of drinking water, based on the findings of Malang City Local Water Company, it was found that several villages in Malang City were prone to water drought.

Slum Settlement

In Malang City based on SK Slum No. 188.45/86/35.73.112/2015, has an area of 608.60 Ha. The city of Malang again identified new slum areas in 2020 with an area of 282.33 ha of slum areas in Malang City.

City Malang City has a slum area with an area of more than 15 hectares spread over 5 sub-districts in Malang City. The total area of the slum area which is more than 15 Ha is 149.65 Ha. Based on the table, it can be seen that Malang City has a slum area with an area of 15-10 Ha spread over 3 sub-districts in Malang City, namely Klojen District, Lowokwaru District, and Sukun District. The total area of slum areas with an area of between 15-10 Ha is 51.37 Ha. Several issues related to infrastructure in slum areas in Malang City include:

a) Local Road

Road infrastructure in slum areas is not good enough and not well organized, there are still badly damaged environmental roads around slum areas. In addition, the distribution of environmental road locations in slum areas is not evenly distributed.

b) Water Supply

Residents in slum areas use Local Water Company water, but the distribution network is inadequate and uneven. The distribution network of drinking water in slum areas is not sufficient to meet drinking water services provided by Local Water Company. In addition, due to the location of residential areas which are densely built and densely populated, the distribution of Local Water Company water services has not been carried out optimally, including insufficient water discharge and water quality sometimes smells around slum areas.

c) Drainage

The slum area in Malang City uses a closed and open drainage system, the condition of the drainage channel network is not good. The drainage channel network in slum areas needs to be renovated or repaired to drain rainwater during the rainy season. The quality of the drainage network in slum areas needs to be improved because it can cause flooding or puddles at several points.

d) Sanitation

As for the sanitation infrastructure in slums, the sanitation conditions are poor and unorganized. The distribution of latrines in slum areas, mostly uses the existing sanitation system in each area. In addition, slum areas still use public wastewater network infrastructure.

e) Waste

Slum areas in Malang City do not have a good enough waste management concept. The distribution of waste network locations in Malang City is not evenly distributed in slum areas. Therefore, it is difficult to manage and overcome the impact of waste pollution in the city of Malang, especially in the watershed area where people still throw garbage in the river due to the inadequate waste system in slum areas.

f) Sanitation

Efforts to improve the quality of the environment by restraining the adverse effects of wastewater, namely by managing domestic wastewater. Domestic wastewater management consists of centralized treatment (off site) and local treatment (on site). On-site domestic wastewater system is a system in which the effluent generator treats its wastewater individually, for example by using a septic tank. Off site domestic wastewater system is a system in which wastewater is channeled through a wastewater collection channel, then enters a centralized treatment plant. The following is the achievement of access to domestic wastewater in Malang City.

Table 2: Access to Domestic Wastewater in Malang City

No	Description	Unit	Total
1.	Safe Access	15%	32.808 KK
2.	Decent Access	84,63%	183.176 KK
	Individual Decent Access	80,31%	173.824 KK
	Comunal Decent Access	2,14%	4.635 KK
3.	Not Decent Access	4,24%	9.195 KK
4.	Defecation	0	0
5.	Percentage of Open Defecation		

Sumber: Malang City Sanitation Strategy, 2021

Achievement of access to domestic wastewater in Malang City is good and improving, where access to proper wastewater has reached more than 84% of the total number of Family in Malang City. In addition, the achievement for open defecation cases in Malang City has reached 0%, which means that there are no open defecation cases in Malang City with the hope that it will still reach 0% even though there is an increase in population.

Malang City has 12 transportation facilities (stool trucks) which are still in good condition and can be operated. Of the 12 available stool trucks, 8 units of stool trucks have a capacity of 3 m^3 and 2 units of stool trucks with a capacity of 5 m^3. The average household served by the sewerage in Malang City is 32 Neighbourhood/day.

There is one STP unit owned by Malang City, namely Supit Urang STP. Supit Urang STP is located in Mulyorejo Village, Sukun District, Malang City. Supit Urang STP has a capacity of 25m3/day. Supit Urang STP has 2 units, one unit was built in 2000 and is no longer in operation, while the other unit was built in 2018 and is still operating today.

The measurement of program achievement of 100-0-100 is carried out by analyzing the measurement of achievement of the target achievement of 100-0-100. This analysis is an analysis used to evaluate the achievement of the 100-0-100 movement target in Malang City. Evaluation of achievement is viewed from three program variables 100-0-100, namely drinking water, slum settlements, and sanitation.

Table 3: Malang City 100-0-100 Program Achievements

Variables	100-0-100 Achievement Percentage
Drinking Water	94,97%
Slum Area	3,48%
Sanitation	86,69%

Based on table, it can be seen that the achievement of the movement 100-0-100 in Malang City in 2021 are, 94.97% access to proper drinking water, 3.48% slum settlements, and 86.69% access to proper sanitation. These results increased for access to proper drinking water and proper sanitation when compared to 2020. Access to safe drinking water had an increase in achievement of 8.13% compared to the achievement in 2020 which was 86.84%. Access to proper sanitation has an increase in achievement of 2.06% compared to 2020, which is 84.63%. Meanwhile, there was an increase in the achievement of slum settlements by 0.94% from the previous year of 2.54%. These results are certainly not in accordance with the target of the 100-0-100 Movement, where slum settlements must reach 0%. Variables that affect the increase in slum settlements in Malang City are environmental drainage as indicated by the number of inundation and flooding points in Malang City during the rainy season and the percentage of buildings without building permit.

Spider Web Analysis

Spider Web Analysis is used to compare the value of each of the variables studied (perceived quality) in order to facilitate the acquisition of data to make it more informative and interesting. The spider web analysis in this study will be used to compare the achievements of the 100-0-100 program in 2021 with the targets set in the policies of the central government and local governments. The following is the data used in the spider web analysis. This form of spider web diagram has symmetrical lines and an n-shaped line plot from the main axis that resembles a spider web.

Table 4: Spider Web Analysis

Aspects	100-0-100 Program Achievements	Target of 100-0-100 Program Achievement	
		National Government	Local Government
Drinking Water	94,97%	88%	94,01%
Slum Area	3,48%	2,6%	2,00%
Sanitation	86,69%	85%	85,17%

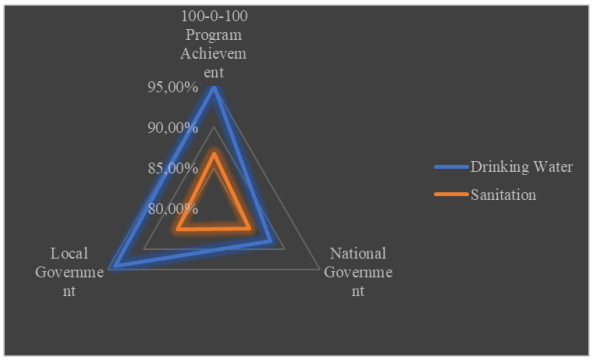

Figure 1: Drinking Water and Sanitation Aspect Spider Web Analysis

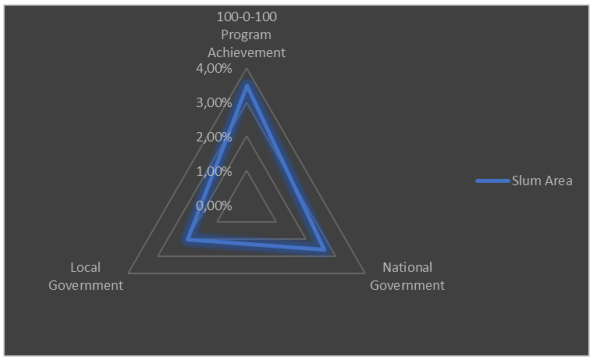

Figure 2: Slum Area Aspect Spider Web Analysis

The difference between the achievement of drinking water and the target of the central government is 6.97% and the local government target is 0.96%. The difference between sanitation achievement and the central government's target is 1.69% and the local government's target is 1.52%. For the achievement of slum settlements that are below the target, the difference in the percentage of slums achievement with the central government target is -0.88% and the local government target is -1.48%.

4. Conclusion

Through the NMTDP, the Government of Indonesia has set a target of achieving 100% access to drinking water, reducing slum areas to 0%, and providing 100% access to proper sanitation for Indonesian people by the end of 2019, the achievement target is called the “100-0-100 Program". The collaboration of all parties, namely the Regency/City Government, the community, the private sector and other concerned groups, from the stage of socialization, planning to implementation and evaluation of the program is very much needed in the realization of the 100-0-100 movement. The implementation of the collaboration of the 100 - 0 - 100 movement in Malang City can show how well the region is in serving the basic needs of the community, especially in the field of settlement infrastructure. The following are the conclusions of the research on Evaluation of 100-0-100 Program Achievements in Malang City are as follows:

- The achievements of the 100-0-100 program in Malang City in 2021 are 94.97% access to proper drinking water, 3.48% slum settlements, and 86.69% access to proper sanitation. Compared to 2020, access to sanitation and safe drinking water has a higher achievement. Meanwhile, the increase in the achievement of slum settlements was 0.94% from the previous year of 2.54%. Variables that affect the increase in slum settlements in Malang City are environmental drainage as indicated by the number of inundation and flooding points in Malang City during the rainy season and the percentage of buildings without building permit.
- If the achievement of the 100-0-100 program in Malang City in 2021 is compared with the targets in the policies set by the central government and local governments, it is concluded that they are above the target for drinking water and sanitation aspects. The difference between the achievements of drinking water with the central government's target is 6.97% and the local government's target is 0.96%. The difference between the sanitation achievement and the central government's target is 1.69% and the local government's target is 1.52%. Meanwhile, the aspect of slum settlements is still below the target with a difference of -0.88% with the central government and -1.48% with the local government.

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