

## ADDRESSING THE MANAGEMENT OF AREAS AND SLUMS IN MOJOKERTO IN ACCORDANCE WITH THE SDG's FRAMEWORK

Donny Setyaelvanda Julkarnain<sup>1\*</sup>, Mohammad Bisri<sup>2</sup>,  
Moh. Khusaini<sup>3</sup>, Andy Fefta Wijaya<sup>4</sup>

<sup>1-4</sup> Environmental Science Doctoral Program, Graduate School, Universitas Brawijaya  
E-mail: <sup>1)</sup> [donnysetyaelvanda@yahoo.com](mailto:donnysetyaelvanda@yahoo.com)

### *Abstract*

*This study aims to analyze the existing conditions of handling areas and slums in Mojokerto in accordance with the SDG's framework, and determine the dominant factors that influence the handling of areas and slums in the region. The research method used is Mix Method. The results of the analysis show that the existing condition of slum areas in Kedungmaling Village, Sooko Sub-district, Mojokerto District falls into the Moderate Slum category. However, there are no factors that can be included in the logistic equation model in multivariate analysis with logistic regression on the analysis parameters for safe and resilient cities/settlements. In the context of the SDG's framework, the handling of slum areas and settlements in Mojokerto needs to be evaluated by taking into account the dimensions of sustainable development compiled in the SDG's concept, as well as the indicators used to measure (Sustainable Cities and Communities) in the SDG's. Thus, a strategy for handling slum areas and settlements in Mojokerto can be developed. Thus, strategies for handling slum areas and settlements can be developed that are more in line with the principles of sustainable development included in the SDG's.*

**Keywords:** Sustainable Development Goals (SDG's), Slum Areas, Settlements

### 1. INTRODUCTION

The new direction in the current development process is the implementation of the Sustainable Development Goals (SDGs). The concept of sustainable development is organized into four dimensions, namely economic, social, environmental and institutional development (Indrawan & Munandar, 2022). The Sustainable Development Goals come with 17 goals and a number of indicators for their measurement. The United Nations (UN) in 2015 formulated these 17 Sustainable Development Goals (SDGs) to tackle the world's problems, such as poverty, global warming, and address social, economic and environmental issues in cities. One of the goals contained in the SDG's is goal no. 11 (eleven) which is Sustainable Cities and Communities. One of the world's problems discussed in this goal is slums which are found in Target 11.1 points, namely: "Ensure access to decent, safe and affordable housing and basic services for all and improve the quality of slums", where this problem is still widely found in the world, one of which is in Mojokerto District. In analyzing population settlements, indicators are often used by calculating the area of slums in a city divided by the total population of the city and expressed as a percentage.

The 2019-2024 Regional Medium-Term Development Plan (RPJMD) of East Java Province, the handling of slum areas in East Java Province is also an important concern, mentioned in Chapter II on Regional Overview in East Java, the condition has a need for handling slum areas covering 1,792.59 Ha, in the 2016-2018 period the handling of urban slum areas covering 1,382.42 Ha, so there is still a need to handle slum areas covering 410.17 Ha spread across East Java.

Various slum upgrading efforts have been implemented by the government, as the party constitutionally responsible for the provision of housing and settlements. The slum upgrading program has also evolved, from the concept of the Kampung Improvement Program (KIP) in 1969 to the preparation of the 100-0-100 baseline (100% access to drinking water, reduction of slum areas to 0%, and 100% access to proper sanitation) in 2015 and the national-scale KOTAKU (*Kota Tanpa Kumuh*) program in 2016 which continues to this day. In addition to improving the quality of slums and preventing the emergence of new slum areas, the KOTAKU program also makes efforts to improve access to basic infrastructure and services, the formation of District / City PKP Working Groups, and integrate community development through participation.

In Mojokerto District itself, from the data we obtained, the Slum Decree has been issued by the Mojokerto District Government several times, since 2015, 2016, 2019 and finally 2020. The handling of slum areas and settlements in Mojokerto district from year to year has not made significant progress or can be said to be incomplete, it can be seen that from 2015 to 2016 with the same area and the same location but still continued by changing the composition of the area in these locations. What is worse is that from 2019 to 2020 there was a drastic jump in the slum area, from 81.22 Ha to 314 Ha, with the emergence of many new locations that require Slum Area handling.

Based on the description above, the objectives of this study are divided into 2 major objectives, which will later become a reference for compiling the research methodology, namely analyzing the existing conditions of handling slum areas and settlements in Mojokerto in accordance with the SDG's framework. As well as determining the dominant factors that influence the handling of Slum Areas and Settlements in Mojokerto, based on the results of the analysis of the existing conditions above.

In research on sustainable development and slum upgrading, the international journal literature provides deep insights. For the SDG agenda, studies by (Patel et al., 2017) and (Hitesh & Tathagarta, 2020) highlight local responses to this global agenda (Participatory Slum Upgrading Program., 2020) also present an important framework for sustainable urban development. Regarding slum upgrading through relocation and stimulus, studies by (Arandel & Wetterberg, 2013), (Viratkapan & Perera, 2006), (Nakamura, 2017), and (Kim et al., 2019) provide diverse perspectives on the successes and failures of various approaches.

Studies on slums and their social problems are presented by (Bogaert, 2011), (Carpenter et al., 2004), and (Semba et al., 2009), which discuss social dynamics, beliefs, and health issues in the neighborhood. Meanwhile, the identification of slum characteristics and factors is explained by (Fitria & Setiawan, 2014), as well as (Zulkarnaini et al., 2019). In the context of slum typology and handling patterns, the works of (Setiadi, 2014) and (Barbara & Umilia, 2014) provide a view of the various approaches in dealing with the issue. Regarding urban slum management planning and strategies, research by (Wijaya, 2016), (Erviyanto & Felasari, 2019), and (Arisa et al., 2021) highlights the importance of management and development strategies.

In terms of infrastructure provision as a solution, (Kusumawardhani et al., 2016), as well as (Pramantha, 2019) discuss the importance of infrastructure in slum upgrading. Finally, community participation, as described by Anton S., Rosyadi, and Suandi (2019), plays a crucial role in improving the quality of slum environments. All of this literature provides a comprehensive overview of the various aspects and approaches to addressing slum issues in various geographical and social contexts.

## **2. RESEARCH METHODS**

This research method uses Mix Methods between quantitative methods and qualitative methods, the reasons for using qualitative methods, and also discusses how the research process using qualitative methods.

The general scope of this research is Mojokerto district. The research was focused by taking a case study of one of the areas that has been determined in the Mojokerto Regent Decree related to Slum Area Handling, namely Kedungmaling Village, Sooko Sub-district, Mojokerto District.

While the Land Status variable and the Population Density variable are assessed from the results of field data collection and secondary data. The assessment of each infrastructure item uses a range of values/scores with large differences, namely values of 5, 3, and 1. This is done so that in the slum value obtained, there is a clear difference between the condition of the slum with the category of severe slum area, moderate slum area and light slum area.

## **3. RESULTS AND DISCUSSION**

### **3.1. Existing Condition Of Slum Area And Settlement Management In Mojokerto District**

#### **1. Division of Authority and Slum Reduction Calculation**

In the Mojokerto District Medium-Term Development Plan (RPJMD) 2021-2026, the initial stage of regional development planning begins by analyzing development results and problems.

##### **1.1. Division of Authority in Slum Management**

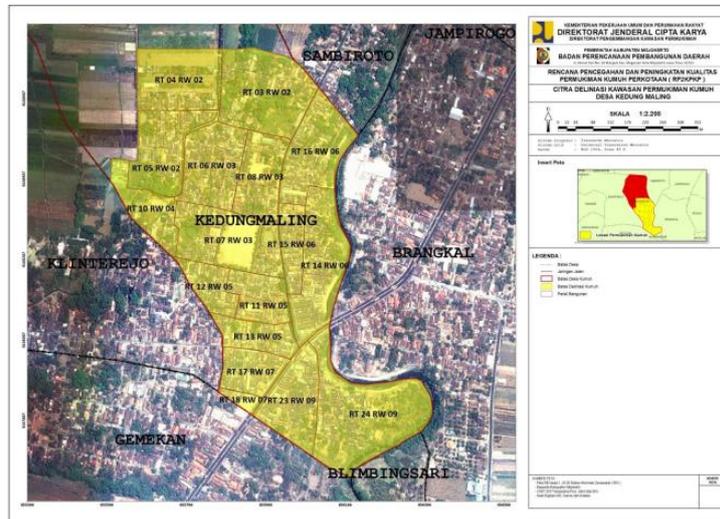
Collaboration between the Central Government, Provincial Government and District Government will certainly make the implementation of activity programs more orderly, there is no overlapping infrastructure development budget. Further, division of concurrent authority according to Law no.23 of 2014 is divided by each affairs namely, Housing, Residential, and Residential Area.

From the Affairs division, it is continued by designing a chart that regulates the division of Government Roles in Slum Handling, so that it is clear later how the roles taken by the Central Government, Provincial Government and District Government in handling slums so that each other can carry out their duties according to their task (*tupoksi*), there are no overlapping programs with each other, realize the right Output and finally be able to handle slums with good collaboration. Furthermore, a sequence of activities was presented, starting with the preparation of slum regulations, location identification, location assessment, location determination (SK), preparation of handling plans, determination of handling plans, and facilitation of slum area management that has been handled.

#### **2. Existing Slums in Kedungmaling Village, Sooko Sub-district**

Kedungmaling village is one of the villages in Sooko sub-district that has a slum area of 14.98 hectares. There are 6,232 people in the village with 160 low-income households. Other livelihoods that are widely practiced by the community are small

industries in the form of industrial production of wet cakes and pastries, shoe industry, traditional herbal medicine and sound boxes which also provide employment for Kedungmaling villagers and outside the village, this is the potential that exists in Kedungmaling Village (PJM Pronagkis LKM Sejahtera Mandiri 2012).



**Figure 1. Delineation Image of Slum Settlement Area of Kedungmaling Village**

### 2.1. Condition of Buildings and Structures in Kedungmaling Village

The condition of residential buildings in Kedungmaling Village is seen based on the regularity, density, and feasibility of the buildings (minimum floor area of 7.2 m<sup>2</sup> per person and the condition of the roof, floor, walls). The following is the condition of residential buildings in the Kedungmaling area:

**Table 1. Kedungmaling Village Residential Building Condition**

Number of buildings	Irregular buildings		Building inadequacy				Building density level (unit/Ha)
	Total	Percentage (%)	Total	Percentage (%)	Total	Percentage (%)	
1.509	583	38,63%	0	0%	315	20,87%	101

The status of ownership and building construction by the community in Kedungmaling Village is that 69% of residential land has a valid letter/certificate recognized by the government in the form of either SHM (Certificate of Ownership Rights) or HGM (Building Rights Title), while 31% of residential land does not yet have a valid certificate. Meanwhile, the status of IMB ownership is that 18% of residential buildings have IMB (building construction permit), while 82% of residential buildings do not have IMB.

### 2.2. Condition of Neighborhood Roads in Kedungmaling Village

Based on the verified 100-0-100 baseline data, the condition of the decent neighborhood road network (based on the indicator 'length of neighborhood road with width >1.5 meters whose surface is hardened) in Kedungmaling Village is 83% of the

total length of neighborhood roads. Meanwhile, the percentage of road lengths that are in accordance with technical requirements (based on the indicator 'length of neighborhood roads with a width of >1.5 meters equipped with side drains and length of neighborhood roads with a width of >1.5 meters whose surfaces are hardened and not damaged) is 51.49% of the total road length.

### 2.3. Condition of Drinking Water Supply in Kedungmaling Village

Kedungmaling Village is not yet served by PDAM, but drinking water needs are met from well water/pumps and gallon water, so there are no problems in the Final Report - RP2KPKP Mojokerto District (p. 3-70) regarding drinking water supply in Kedungmaling Village. Availability of Safe Access to Drinking Water 652 households. Unmet Drinking Water Needs 285 households.

### 2.4. Environmental Drainage Condition in Kedungmaling Village

The drainage system is relatively inadequate in terms of condition and function. In Kedungmaling Village, each neighborhood road has a tertiary drainage channel, which is a ditch in the residential area located in front of and behind residents' houses. The physical condition of the channels in each RT is mostly inadequate.

Based on the verified 100-0-100 baseline data, the total drainage network in Kedungmaling Village is 7,656 meters, of which 5,531 m is not maintained. Drainage construction quality of 1,780.50 m is inadequate.

### 2.5. Waste Management Condition in Kedungmaling Village

The final waste disposal system (sanitation) has an integrated system, namely a household disposal system that is integrated with sewerage (septic tanks and infiltration wells). For MCK (mandi, cuci, kakus) or known as Water, sanitation and hygiene (WASH) needs, it is fulfilled by private MCK and Public MCK located in RT 4,6.

Based on the verified 100-0-100 baseline data in Kedungmaling Village, the percentage of people who have access to family/shared latrines is 85% of the total number of households with latrine facilities. Although this percentage is quite high, there are still latrines that do not meet the technical requirements (having a gooseneck toilet connected to a septic tank) at 12.62%, so there are still many family/shared latrines that have low quality (unhealthy). The low quality of family latrines is caused by unavailable land, economic factors and the behavior (habits) of the population. Wastewater Management Infrastructure and Facilities Not in accordance with Technical Requirements amounted to 23.96%.

### 2.6. Waste Management Condition in Kedungmaling Village

In Kedungmaling Village, each RW has 1 garbage cart as a means of transporting waste from each resident's housing, as well as garbage bins that are already available in each house. The following is the waste management system in Kedungmaling Village:

- a. Waste disposal services by paying monthly fees to the head of each neighborhood.
- b. Dumping waste into the river c. Burning waste in the yard.
- c. Based on the verified 100-0-100 baseline data, the percentage of domestic waste transported to TPS/TPA is 0%, the remaining 100% of the community processes their domestic waste by dumping it in the river or burning it.

### 2.7. Fire Protection Condition in Kedungmaling Village

The condition of the fire protection network in slums is still limited to handling fire hazards. In residential areas there are areas that are prone to fire hazards. This condition causes that in the event of a fire in this area, almost all of the settlements are affected by the fire. There are no adequate fire protection facilities and infrastructure. The unavailability of Fire Protection Infrastructure is 100%.

### 2.8. Overview of Local Institutions

BKM/LKM stands for *Lembaga Keswadayaan Masyarakat*, which is a "generic" name or term for a community institution with a position as the collective leader of a community association at the Kelurahan/Village level. In other words, it can be said that BKM/LKM is a collective leadership institution of a community association at the kelurahan/village level with the main role as a decision-making council in which the decision-making process is conducted in a participatory manner. In addition to being a decision-making council, BKM/LKM also mobilizes potential and resources, both those owned by the community and those sourced from outside (channeling), in an effort to overcome various development problems in the village/kelurahan area.

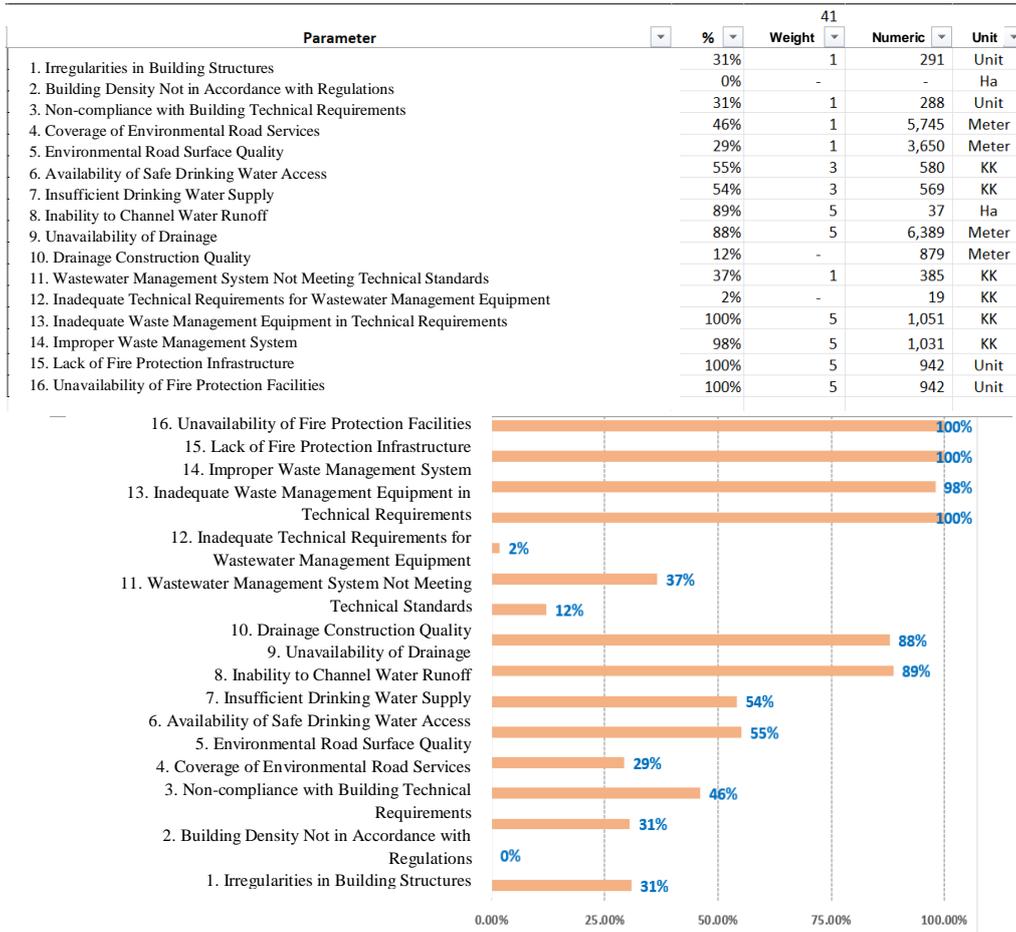
BKM/LKM is also a bridge between the aspirations of the community and the village government and fights for the needs of the community at the village level in musbangdes/ kelurahan. In the slum areas of Mojokerto district that have been assisted by the KOTAKU team, BKM/LKM has been formed in each area. Their role is very important in assisting the Facilitator and the Kotaku Team, as well as liaising with the Mojokerto District Housing and Permukiman Office, it can be said that they are the spearheads in the field who facilitate the process of collecting field data, formulating policies based on community aspirations and the latest conditions of slum areas in Mojokerto District in general and in Kedungmaling Village, Sooko Sub-district in particular.

### 3. Numerical Slum Calculation (R0) in Kedungmaling Village, Sooko Sub-district

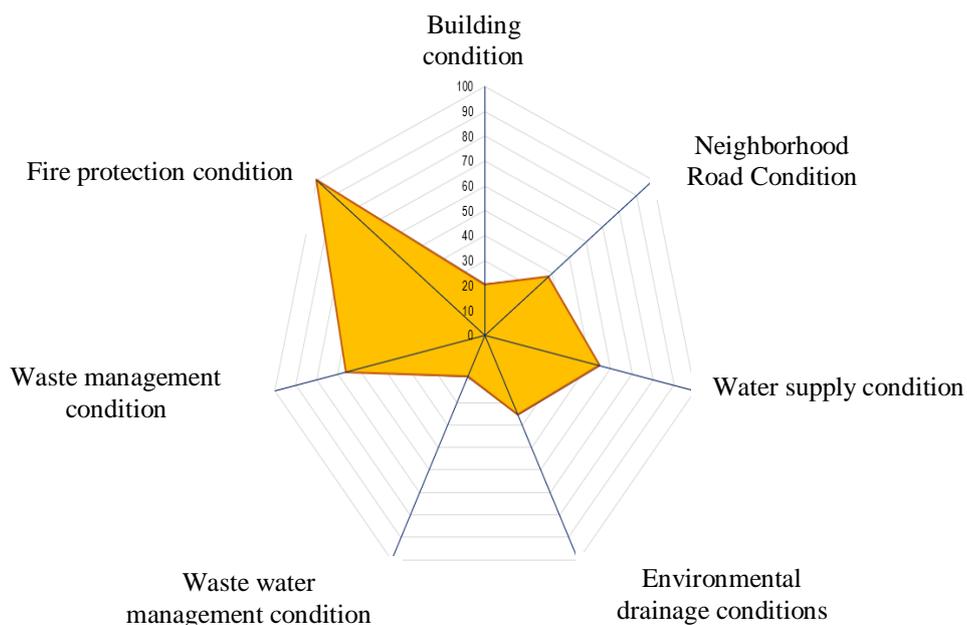
In the initial stage of data collection for the calculation of Slum Numeric (R0), it begins with the collection of general population data from all residents of Kedungmaling Village separated according to each RT and RW where they live.

The population data that has been recapitulated is a reference for recording the existing conditions of each of the 7 aspects of slum condition variables. Furthermore, the data that has been collected from the 7 aspects of the slum is included in the formula to then obtain the Numerical Data of the Slum Parameters of each RT at the location of Kedungmaling Village, Sooko District, Mojokerto Regency.

From the discussion of the results of the Slum Numerical Data calculation above, it can be concluded that the existing condition of the Slum Settlement Area in Kedungmaling village, Sooko sub-district, Mojokerto district is categorized as Moderate Slum. Further handling will be planned by looking at what are the Dominant Factors of slums when viewed from the aspects of the Sustainable Development Goals (SDG's) which will be discussed in the next chapter.



**Figure 2. Initial Slum Issue**



**Figure 3. Spider Web Graph of Slum Management Achievements**

### 3.2. Dominant Factors Influencing The Handling Of Slum Areas And Settlements In Mojokerto

In determining the dominant factors influencing the handling of slum areas and settlements in Mojokerto district, a field survey was conducted at the research location, namely Mojokerto district by distributing questionnaires, the target of which were of course residents of Mojokerto district from various professions and different educational backgrounds.

**Table 2. Distribution of questionnaire answers**

Items	Score			
	1	2	3	4
<b>Housing access</b>				
The condition of housing provision in Mojokerto district is appropriate in terms of comfort	4 (12,9%)	25 (80,6%)	2 (6,5%)	
The condition of housing provision in Mojokerto district is appropriate in terms of Health	2 (6,5%)	26 (83,9%)	3 (9,7%)	
The condition of housing provision in Mojokerto district has met the requirements for safety as housing	2 (6,5%)	24 (77,4%)	5 (16,1%)	
Housing prices in Mojokerto district are affordable and in line with local purchasing power	5 (16,1%)	17 (54,8%)	9 (29,0%)	
<b>Transportation</b>				
Transportation in Mojokerto district can already serve the daily needs of the community	6 (19,4%)	9 (29,0%)	10 (32,3%)	6 (19,4%)
Public transportation in Mojokerto district costs are in line with people's income	4 (12,9%)	17 (54,8%)	8 (25,8%)	2 (6,5%)
Transportation system in Mojokerto district is already women-friendly	1 (3,2%)	19 (61,3%)	9 (29%)	2 (6,5%)
Transportation system in Mojokerto district is already child-friendly	2 (6,5%)	20 (64,5%)	7 (22,6%)	2 (6,5%)
Transportation system in Mojokerto district is already friendly to people with disabilities	1 (3,2%)	11 (35,5%)	15 (48,4%)	4 (12,9%)
Transportation system in Mojokerto district is already senior-friendly	2 (6,5%)	13 (41,9%)	12 (38,7%)	4 (12,9%)
<b>Inclusive urbanization</b>				
Urbanization in Mojokerto district has a good impact on the community	2 (6,5%)	12 (38,7%)	14 (45,2%)	3 (9,7%)
Urbanization flows that occur in Mojokerto district have received good settlement planning and management	2 (6,5%)	8 (25,8%)	17 (54,8%)	4 (12,9%)
<b>Cultural heritage</b>				
Cultural Heritage in Mojokerto district has been well preserved by the community	6 (19,4%)	18 (58,1%)	6 (19,4%)	1 (3,2%)
Cultural Heritage in Mojokerto district is well protected by the local government.	5 (16,1%)	20 (64,5%)	4 (12,9%)	2 (6,5%)
<b>Reduced mortality</b>				
The impact of economic losses that occurred in Mojokerto district has been well addressed	1 (3,2%)	18 (58,1%)	10 (32,3%)	2 (6,5%)
Death rates due to economic problems that occur in Mojokerto district have been resolved well	2 (6,5%)	13 (41,9%)	13 (41,9)	3 (9,7%)
<b>Reduce environmental impact</b>				
Adverse impacts on the urban environment in Mojokerto district are well addressed	1 (3,2%)	11 (35,5%)	16 (51,6%)	3 (9,7%)
Air quality in Mojokerto district is now good and in line with health standards.	3 (9,7%)	19 (61,3%)	5 (16,1%)	4 (12,9%)

Sewage Treatment Management in Mojokerto district is currently good and supports the feasibility of residential settlements	1 (3,2%)	9 (29%)	12 (38,7%)	9 (29%)
Public space access				
access to public spaces in Mojokerto district is good and beneficial to people's lives	3 (9,7%)	10 (32,3%)	17 (54,8%)	1 (3,2%)
access to public spaces in Mojokerto district is already women-friendly	1 (3,2%)	23 (74,2%)	7 (22,6%)	
access to public spaces in Mojokerto district is child-friendly	1 (3,2%)	24 (77,4%)	5 (16,1%)	1 (3,2%)
access to public spaces in Mojokerto district is senior-friendly	1 (3,2%)	21 (67,7%)	8 (25,8%)	1 (3,2%)
access to public spaces in Mojokerto district is friendly to people with disabilities	1 (3,2%)	16 (51,6%)	12 (38,7%)	2 (6,5%)

**Table 3. Descriptive numerical value of the total score of each analysis parameter**

Parameter analysis	n	Mean ± Standard deviation	Median (min - max)
Housing access	31	8,19 ± 1,642	8 (4 – 12)
Transportation	31	14,74 ± 3,715	14 (6 – 23)
Inclusive urbanization	31	5,32 ± 1,275	6 (2 – 8)
Cultural heritage	31	4,16 ± 1,293	4 (2 – 8)
Reduced mortality	31	4,97 ± 1,278	5 (2 – 8)
Reduce environmental impact	31	7,94 ± 1,896	8 (3 – 12)
Public space access	31	11,68 ± 2,400	11 (5 – 18)

Parameter analysis	n	%
Housing access		
Very good	3	9,7
Good	24	77,4
Fair	4	12,9
Transportation		
Very good	3	9,7
Good	17	54,8
Fair	9	29
Poor	2	6,5
Inclusive urbanization		
Very good	3	9,7
Good	11	35,5
Fair	16	51,6
Poor	1	3,2
Cultural heritage		
Very good	6	19,4
Good	21	67,7
Fair	3	9,7
Poor	1	3,2
Reduced mortality		
Very good	2	6,5
Good	18	58,1
Fair	10	32,3
Poor	1	3,2

Reduce environmental impact		
Very good	1	3,2
Good	10	32,3
Fair	15	48,4
Poor	5	16,1
Public space access		
Very good	1	3,2
Good	21	67,7
Fair	8	25,8
Poor	1	3,2
Safe and resilient cities and settlements		
Highly secure and resilient	3	9,7
Safe and Resilient	24	77,4
Insecure and Resilient	4	12,9
Well-sustainable cities and settlements		
Very good	2	6,5
Good	14	45,2
Fair	15	48,4
Parameter analysis	Not good	Good
Housing access	4 (12,9%)	27 (87,1%)
Transportation	11 (35,5%)	20 (64,5%)
Inclusive urbanization	17 (54,8%)	14 (45,2%)
Cultural heritage	4 (12,9%)	27 (87,1%)
Reduced mortality	11 (35,5%)	20 (64,5%)
Reduce environmental impact	20 (64,5%)	11 (35,5%)
Public space access	9 (29%)	22 (71%)
Safe and resilient cities and settlements	4 (12,9%)	27 (87,1%)
Well-sustainable cities and settlements	15 (48,4%)	16 (51,6%)
Condition of handling areas and slums	14 (45,2%)	17 (54,8%)
Area and settlement management strategy	22 (71%)	9 (29%)

**Table 4. Relationship of Analysis parameters to safe and resilient cities and settlements**

Parameter analysis	Safe and resilient cities and settlements			Spearman correlation coefficient (r <sub>s</sub> ) P value
	Highly secure and resilient	Secure and resilient	Insecure and resilient	
Housing access				
Very good	2 (66,7%)	1 (33,3%)		0,566 (0,001)
Good	1 (4,2%)	21 (87,5%)	2 (8,3%)	
Fair		2 (50%)	2 (50%)	
Transportation				
Very good	2 (66,7%)	1 (33,3%)		0,510 (0,003)
Good	1 (5,9%)	15 (88,2%)	1 (5,9%)	
Fair		7 (77,8%)	2 (22,2%)	
Poor		1 (50%)	1 (50%)	
Inclusive urbanization				

Very good	2 (66,7%)	1 (33,3%)		
Good		11 (100%)		0,472
Fair	1 (6,3%)	12 (75%)	3 (18,8%)	(0,007)
Poor			1 (100%)	
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Cultural heritage				
Very good	2 (33,3%)	4 (66,7%)		0,277
Good		18 (85,7%)	3 (14,3%)	(0,132)
Fair	1 (33,3%)	2 (66,7%)		
Poor			1 (100%)	
<hr/>				
Reduced mortality				
Very good	1 (50%)	1 (50%)		0,340
Good	1 (5,6%)	16 (88,9%)	1 (5,6%)	(0,061)
Fair	1 (10%)	7 (70%)	2 (20%)	
Poor			1 (100%)	
<hr/>				
Reduce environmental impact				
Very good	1 (100%)			0,442
Good	1 (10%)	9 (90%)		(0,013)
Fair	1 (6,7%)	12 (80%)	2 (13,3%)	
Poor		3 (60%)	2 (40%)	
<hr/>				
Public space access				
Very good	1 (100%)			0,647
Good	2 (9,5%)	19 (90,5%)		(0,001)
Fair		5 (62,5%)	3 (37,5%)	
Poor			1 (100%)	

The Spearman correlation test results show that there is a relationship between access to housing, transportation, inclusive urbanization, reducing environmental impacts and access to public space with safe and resilient cities/settlements ( $p < 0.05$ ). The strength of the relationship between access to housing, transportation, inclusive urbanization, and reducing environmental impacts with safe and resilient cities/settlements falls into the medium category (0.4 - 0.6). The strength of the association of access to public space with safe and resilient cities/settlements falls into the strong category (0.6 - 0.8).

**Table 5. Analyze parameter relationships with sustainable cities and settlements**

Parameter analysis	Well-sustainable cities and settlements			Spearman correlation coefficient ( $r_s$ ) P value
	Very good	Good	Fair	
Housing access				
Very good	1 (33,3%)	1 (33,3%)	1 (33,3%)	0,260
Good	1 (4,2%)	12 (50%)	11 (45,8%)	(0,157)
Fair		1 (25%)	3 (75%)	
Transportation				
Very good	2 (66,7%)	1 (33,3%)		

Good		10 (58,8%)	7 (41,2%)	0,513
Fair		3 (33,3%)	6 (66,7%)	(0,003)
Poor			2 (100%)	
<b>Inclusive urbanization</b>				
Very good	2 (66,7%)	1 (33,3%)		0,685
Good		9 (81,8%)	2 (18,2%)	(< 0,001)
Fair		4 (25%)	12 (75%)	
Poor			1 (100%)	
<b>Cultural heritage</b>				
Very good	2 (33,3%)	4 (66,7%)		0,626
Good		10 (47,6%)	11 (52,4%)	(< 0,001)
Fair			3 (100%)	
Poor			1 (100%)	
<b>Reduced mortality</b>				
Very good	1 (50%)	1 (50%)		0,556
Good	1 (5,6%)	11 (61,1%)	6 (33,3%)	(0,001)
Fair		2 (20%)	8 (80%)	
Poor			1 (100%)	
<b>Reduce environmental impact</b>				
Very good	1 (100%)			0,772
Good	1 (10%)	9 (90%)		(< 0,001)
Fair		5 (33,3%)	10 (66,7%)	
Poor			5 (100%)	
<b>Public space access</b>				
Very good	1 (100%)			0,568
Good	1 (4,8%)	13 (61,9%)	7 (33,3%)	(0,001)
Fair		1 (12,5%)	7 (87,5%)	
Poor			1 (100%)	

The results of the Spearman correlation test show that there is a relationship between transportation, inclusive urbanization, cultural heritage, reducing mortality, reducing environmental impacts and access to public space with well-sustainable cities/settlements ( $p < 0.05$ ). The strength of the relationship between transportation, reduced mortality, and access to public space with well-sustainable cities/settlements falls into the medium category (0.4 - 0.6). The strength of association of inclusive urbanization, cultural heritage and reducing environmental impacts with sustainable cities/settlements well falls into the strong category (0.6 - 0.8).

**Table 6. Relationship of Analysis parameters to safe and resilient cities and settlements**

Parameter analysis	Safe and resilient cities and settlements		Chi Square Test p value	Coefficient of Contingency (C) p value
	Insecure and resilient	Secure and resilient		

<b>Housing access</b>				
Not good	2 (50%)	2 (50%)	0,018	0,392
Good	2 (7,4%)	25 (92,6%)		(0,018)
<b>Transportation</b>				
Not good	3 (27,3%)	8 (72,7%)	0,115	0,303
Good	1 (5%)	19 (95%)		(0,077)
<b>Inclusive urbanization</b>				
Not good	4 (23,5%)	13 (76,5%)	0,107	0,330
Good		14 (100%)		(0,052)
<b>Cultural heritage</b>				
Not good	1 (25%)	3 (75%)	0,442	0,138
Good	3 (11,1%)	24 (88,9%)		(0,439)
<b>Reduced mortality</b>				
Not good	3 (27,3%)	8 (72,7%)	0,115	0,303
Good	1 (5%)	19 (95%)		(0,077)
<b>Reduce environmental impact</b>				
Not good	4 (20%)	16 (80%)	0,269	0,274
Good		11 (100%)		(0,112)
<b>Public space access</b>				
Not good	4 (44,4%)	5 (55,6%)	0,004	0,516
Good		22 (100%)		(0,001)

The contingency coefficient test results show that there is a relationship between access to housing, and access to public spaces with safe and resilient cities/settlements ( $p < 0.05$ ). The strength of the relationship between housing access and safe and resilient cities/settlements falls into the weak category (0.2 - 0.4). The strength of the relationship between access to public space and safe and resilient cities/settlements was moderate (0.4 - 0.6).

**Table 7. Analyze parameter relationships with sustainable cities and settlements**

Parameter analysis	Sustainable cities and settlements		Chi Square Test p value	Coefficient of Contingency (C) p value
	Not good	Good		
<b>Housing access</b>				
Not good	3 (75%)	1 (25%)	0,333	0,201
Good	12 (44,4%)	15 (55,6%)		(0,254)
<b>Transportation</b>				
Not good	8 (72,7%)	3 (27,3%)	0,044	0,340
Good	7 (35%)	13 (65%)		(0,044)
<b>Inclusive urbanization</b>				
Not good	13 (76,5%)	4 (23,5%)	0,001	0,526

Good	2 (14,3%)	12 (85,7%)		(0,001)
<hr/>				
Cultural heritage				
Not good	4 (100%)		0,043	0,369
Good	11 (40,7%)	16 (59,3%)		(0,027)
<hr/>				
Reduced mortality				
Not good	9 (81,8%)	2 (18,2%)	0,006	0,444
Good	6 (30%)	14 (70%)		(0,006)
<hr/>				
Reduce environmental impact				
Not good	15 (75%)	5 (25%)	< 0,001	0,583
Good		11 (100%)		(< 0,001)
<hr/>				
Public space access				
Not good	8 (88,9%)	1 (11,1%)	0,006	0,460
Good	7 (31,8%)	15 (68,2%)		(0,004)

The results of the contingency test show that there is a relationship between transportation, inclusive urbanization, cultural heritage, reducing mortality, reducing environmental impacts and access to public space with well-sustainable cities/settlements ( $p < 0.05$ ). The strength of the relationship between transportation, and cultural heritage with well-sustainable cities/settlements falls into the weak category (0.2 - 0.4). The strength of the association of inclusive urbanization, reduced mortality, reduced environmental impact and access to public space with well-sustainable cities/settlements falls into the medium category (0.4 - 0.6).

- a) Multivariate analysis with logistic regression on the analysis parameters (category data) of safe and resilient cities/settlements showed no variables that can be included in the logistic equation model.
- b) Multivariate analysis with logistic regression on the analysis parameter (category data) for sustainable cities/settlements also shows no variables that can be included in the logistic equation model. - Multivariate analysis with logistic regression on the analysis parameter (variable score data) for safe and resilient cities/settlements shows no variables that can be included in the logistic equation model.
- c) Multivariate analysis with logistic regression on the analysis parameters (variable score data) of sustainable cities/settlements also showed no variables that could be included in the logistic equation model.

#### 4. CONCLUSION

Based on the research, the existing condition of the slum area in Kedungmaling Village, Sooko Sub-district, Mojokerto District is included in the Moderate Slum category. This shows that there are still problems in handling slum areas in the area. The results of this analysis will provide an overview of the dominant factors that influence the handling of slum areas and settlements in the area. In the context of the SDG's framework, the handling of slum areas and settlements in Mojokerto needs to be evaluated by taking into account the dimensions of sustainable development compiled in the SDG's concept,

as well as the indicators used to measure the goals (Sustainable Cities and Communities) in the SDG's. Thus, a strategy for handling slum areas in Mojokerto can be developed. Thus, a strategy for handling slum areas and settlements that is more in line with the principles of sustainable development included in the SDG's can be developed.

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