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Urbanization Challenges In Cipinang Besar Utara: A Study On Slum Conditions And Mitigation

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ABSTRACT

Urban regions across the globe have a multitude of issues arising from the presence of slums, which are further intensified by the rapid process of urbanization. The exponential growth of informal settlements has detrimental effects on the well-being of the populace and hinders socio-economic advancement. This paper examines these challenges in Cipinang Besar Utara sub-district, East Jakarta, DKI Jakarta Province-Indonesia, which is also one of the main growth centers in Indonesia. This study aims to assess the level of slum settlement conditions in accordance with the Regulation of the Minister of Public Works and Public Housing Number 14 of 2018 (Permen-PUPR No.14/RT/M/2018). The research proceeded through five stages: data collection, questionnaire design, data collection for slum settlement assessment, valuation calculations, and strategy formulation. Direct observation and interviews built on the existing profile and informed the questionnaire design. Data collected from questionnaires, assisted by local representatives, facilitates the assessment of slums against regulatory guidelines. The results of the study show that RW 12 is a non-slum area, while RW 01, RW 04 to RW 11, RW 13 and RW 14 are categorized as mild slum areas. In addition, RW 02 and RW 03 are classified as moderate slums. The suggested mitigation strategy is in accordance with Permen-PUPR No. 14/RT/M/2018, offers recommendations to address slum conditions. This study provides insights to limit the development of slum settlements in North Cipinang Besar Sub-district, contributing to its environmental improvement. This finding has implications for broader urban development policies in DKI Jakarta Province and its surroundings.

INTRODUCTION

The issues associated with slums present substantial barriers for both governments and populations in urban regions, particularly in the context of rapid urbanization (Lloyd-Jones & Rakodi, 2014) (Fernandes, 2004). The presence of slums has been found to have adverse impacts on the overall well-being of people and act as a barrier to the progress of social and economic development. Cipinang Besar Utara sub-district, a locality situated in the eastern part of Jakarta, within the DKI Jakarta Province, encounters a range of formidable obstacles. This region functions as a crucial hub for both economic development and expansion within the country of Indonesia.

The aim of this research is to assess the level of slum conditions in the area of Cipinang Besar Utara and devise efficient approaches to mitigate them, in line with the guidelines outlined by the Ministry of Public Works and Housing, Republic of Indonesia, particularly Regulation of the Minister of Public Works and Public Housing Number 14 of 2018 (Permen-PUPR No.14/RT/M/2018) (Hamid et al., 2018). This regulatory framework offers extensive criteria pertaining to the development, execution, and assessment of slum improvement initiatives in Indonesia.

The research approach employed in this study aligns with the principles delineated in Permen-PUPR No.14/RT/M/2018. The process entails carrying out field surveys to evaluate the physical and sociological circumstances of the slum region, as well as conducting interviews with inhabitants to gain insight into their

requirements and ambitions. Furthermore, the utilization of secondary data analysis is employed as a means to supplement the original data that has been gathered.

The data that has been gathered encompasses a range of factors, such as the state of the physical environment, the quality of housing, the availability of essential services, educational attainment, healthcare provision, and rates of poverty. These features have been included in accordance with the requirements stipulated by the law. The study will employ both quantitative and qualitative studies to ascertain the elements that contribute to slum conditions in the area and assess the efficacy of the recommended methods.

The analytical results will be utilized to design a slum mitigation strategy that aligns with the aims and principles specified in Permen-PUPR No.14/RT/M/2018. The proposed plan will prioritize the enhancement of housing quality, the upgrading of infrastructure, the improvement of access to essential services, the promotion of livelihood options, and the reinforcement of community engagement and empowerment. The planning and implementation of the proposed strategies will be guided by the regulation's focus on community involvement and sustainable development.

The results of this study, in accordance with Permen-PUPR No.14/RT/M/2018, are anticipated to support evidence-driven decision-making for urban planners, policymakers, and stakeholders engaged in slum improvement initiatives (Perlman, 1976). The research endeavors to guarantee the efficient execution of the offered methods by complying with the legislation, with the ultimate goal of achieving durable enhancements in the living conditions of slum residents in Cipinang Besar Utara. Therefore, this research study assumes a crucial role in the identification of the extent of slum conditions in Cipinang Besar Utara and the formulation of efficient methods to mitigate them, in alignment with the provisions outlined in Permen-PUPR No.14/RT/M/2018. The research endeavors to make a contribution to the sustainable development of slum areas and enhance the general well-being of their residents by incorporating the concepts and rules outlined in the legislation.

METHOD

The study consists of five distinct phases. The initial phase is conducting on-site direct observation to collect data pertaining to the subject under investigation. The outcome of this phase encompasses the extant profile of the research participant, encompassing information pertaining to human resources, social demographics, land legality, and facilities and infrastructure (Turner et al., 2003) (Sampul, n.d.). The subsequent phase of the study is the development of a questionnaire with the aim of assessing the extent of slum conditions. The design of the questionnaire can be found in Appendix 2 of Permen-PUPR No. 14/RT/M/2018. The design of the questionnaire adheres to the technique proposed by (Yani et al., 1995). The outcome of this phase is a questionnaire that will be utilized in the succeeding phases.

The third phase encompasses the gathering of data to evaluate the extent of slum conditions. The primary objective of this step is to gather data or information to facilitate the process of data processing. The techniques utilized during this phase encompass observation and interviews. The research team engages in direct interviews with the respondents, employing the questionnaire that was developed in the preceding phase. Throughout the interview process, the researcher receives support from a representative affiliated with the local sub-district, namely the Head of the local RW. This individual also assumes the role of a responder within the context of the study. This stage also involves an external assessor who independently collects data, which will be compared with the data collected by the researcher to validate the findings. The fourth stage entails assessing the level of slum conditions in the research location, specifically Cipinang Besar Utara Sub-district, using the mathematical formula (Eqn-1) outlined in Permen-PUPR No. 14/RT/M/2018. This formula is applied to calculate the assessment scores for each RW (neighborhood unit), and then the scores are further processed using Eqn-2, Eqn-3, and Eqn-4 to determine the level of slum conditions in each RW, based on the classification intervals provided in Box-1 of the regulation.

$$\mathbf{Si} = \frac{\sum \mathbf{Bi}}{\sum \mathbf{P}} \qquad \text{(Eqn-1)}$$

Si = Total Score Of Each Indicator

Bi = Sub Criteria Score

P = Number of Sub Criteria

$$\mathbf{N} = \sum \mathbf{Si} \qquad \text{(Eqn-2)}$$

N = Total Value

Si = Total Score of Each Indicator

N-min = Total Value x Skor min (0) (Eqn-3)

N-max = Total Value x Skor max (5) (Eqn-4)

Intervals = $\frac{Nmax-Nmin}{Number\ of\ Class}$ (Eqn-5)

Not Slum Area	*: 0 – 8,75*
Light Slum Area	*: 8,76 – 17,50*
Medium Slum Area	*: 17,51 – 26,25*
Heavy Slum Area	*: 26,26 – 35*

(Box-1)

The fifth stage involves designing slum mitigation strategies based on the methods described in Permen-PUPR No. 14/RT/M/2018 and conducting discussions with practitioners or experts. The output of this stage is a set of recommendations for addressing slum conditions in the research location, following the guidelines provided in Appendix 3 of Permen-PUPR No. 14/RT/M/2018.

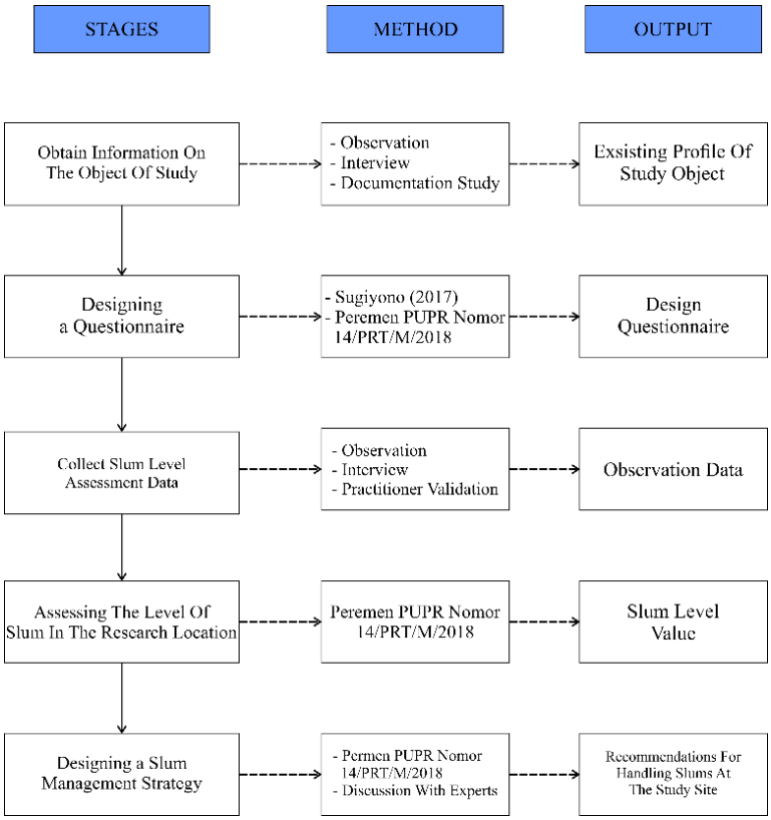

Figure 1. Flowchart of the methodology

RESULTS AND DISCUSSION

The following are the results of research and discussion of the results of this study:

A. Sub-district profile

1. Human Resources

According to the sources provided by the local authorities, the Cipinang Besar Utara Subdistrict is comprised of 14 Neighborhood Units (RW) and 178 Neighbor Units (RT). The population of this particular region is 42,550, consisting of 12,438 families.

Table 1. Total Population of North Cipinang Besar Sub-District

Rw	Total Population (Person)	Male Population	Female Population	Number of Heads of Families
1	3057	1438	1619	450
2	2048	1019	1029	598
3	2232	1168	1064	744
4	5130	2412	2718	1241
5	2781	1424	1357	881
6	3869	1856	2013	1069
7	1994	1015	979	658
8	3452	1632	1820	1121
9	2219	1110	1109	935
10	2360	1190	1170	783
11	3200	1581	1619	1019
12	4038	1457	2581	1028
13	2542	1107	1435	980
14	3628	1804	1824	931
Total	42.550	20.213	22.337	12.438

2. Population Social Data

Based on the data acquired from the sub-district, it was found that the highest population density was seen in RW 04, amounting to 912.81 individuals per hectare. Conversely, the lowest population density was recorded in RW 07, with a total of 199.40 individuals per hectare.

Table 2. Population Density of North Cipinang Besar District

Rw	Total Population (Person)	Built-Up Area (Ha)	Population Density (Person/Ha)
1	3057	6,37	479,91
2	2048	7,39	277,13
3	2232	6,61	337,67
4	5130	5,62	912,81
5	2781	10	278,10
6	3869	9,71	398,46
7	1994	10	199,40
8	3452	9	383,56
9	2219	8,37	265,11
10	2360	7,36	320,65
11	3200	7,53	424,97
12	4038	10	403,80
13	2542	7,73	328,85
14	3628	8,31	436,58
Total	42.550	114	5,447

3. Land Legality

The findings from interviews conducted with local officials indicate that the prevailing condition of land ownership is legally established. This assertion is supported by the presence of documentation, such as ownership letters, which encompass various forms including certificates of ownership, building use rights, and business use rights.

4. Social and Educational Facilities

The results of field observations also show that there are a number of facilities and infrastructure in the North Cipinang Besar Village area, namely: 1 unit of Child-Friendly Integrated Public Space (RPTRA), 14 playgroup schools, 4 kindergartens (TK), elementary schools (SD) totaling 20 institutions, junior high

school (SLTP) totaling 5 institutions, senior level high school (SLTA) totaling 3 institutions, and tertiary institution totaling 1 institution.

B. Questionnaire Design and Assessment Data

The design questionnaire encompasses various key components, including inquiries pertaining to the profile of the respondents, the profile of the research location, the conditions of the building, the environmental conditions of roadways, the availability of drinking water, the state of environmental drainage, the management of wastewater, the management of waste, and the provisions for fire protection (Habitat, 2013)(Habitat, 2013). The collection of assessment data was conducted in situ, utilizing specifically prepared questionnaires as instruments. The collected assessment data is input material in data processing to obtain the level of solidity of the study object.

C. Slum Level

The next table, Table-3, presents the recorded values of slum levels in each RW, derived from the data processing conducted using the aforementioned methodological methodology.

Table 3. Recapitulation of The Calculation of The Total Slum Level Value

Rw	Total Value	Built-Up Area (Ha)	Classification Level
1	16,9	6,37	Light Slum Area
2	23,3	7,39	Medium Slum Area
3	23,5	6,61	Medium Slum Area
4	10,8	5,62	Light Slum Area
5	11,5	10	Light Slum Area
6	11,5	9,71	Light Slum Area
7	14,8	10	Light Slum Area
8	13,8	9	Light Slum Area
9	11,7	8,37	Light Slum Area
10	13,3	7,36	Light Slum Area
11	10,0	7,53	Light Slum Area
12	4,0	10	Not Slum Area
13	11,3	7,73	Light Slum Area
14	8,8	8,31	Light Slum Area

Based on the data presented in Table-3, two specific places, namely RW 2 and RW 3, have been categorized as intermediate slums, encompassing a combined land area of 14 hectares. Furthermore, a total of 11 places have been discovered and designated as light slums, encompassing a combined area of 90 hectares. According to the data presented in Table 3, it can be observed that the housing conditions in the sub-district of Cipinang Besar Utara, located in East Jakarta City, predominantly exhibit characteristics of mild slum regions.

D. Handling Patterns Based on Causes of Slums

Based on PUPR Ministerial Regulation Number 14/PRT/M/2018, a reference is obtained for the pattern of handling slum locations based on descriptions of the causes of slums (Davis, 2006). The following are suggestions for dealing with slums in the Cipinang Besar Utara sub-district, East Jakarta City. In Table-4 to Table-9 below are recommendations for handling slums based on their causes.

Table 4. Handling of Slums Based on The Quality of Building Conditions

Rw	Indicators of Slums	Treatments Recommendations
1	Building Conditions	Rejuvenation
2	Building Conditions	Rejuvenation
3	Building Conditions	Rejuvenation
4	Building Conditions	Rejuvenation
5	-	-
6	Building Conditions	Rejuvenation
7	-	-
8	-	-
9	-	-
10	Building Conditions	Rejuvenation
11	-	-
12	-	-

13	Building Conditions	Rejuvenation
14	-	-

Rejuvenation referred to in Table-4 is renovation and rearrangement so that slums can be minimized and improve the quality of buildings at the study site. This aims to create better living conditions and improve the welfare of low-income people.

Table 5. Handling of Slums Based on The Quality of Environmental Road Conditions

Rw	Indicators of Slums	Treatments Recommendations
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	Environmental Road Conditons	Rejuvenation
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-

The rejuvenation referred to in Table-5 is carrying out road repairs and adding environmental road services so as to improve the quality of roads at the research location in order to create good environmental road conditions.

Table 6. Handling of Slums Based on Quality of Environmental Drainage

Rw	Indicators of Slums	Treatments Recommendations
1	-	-
2	Environmental Drainage Conditions	Rejuvenation
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-

Rejuvenation referred to in Table-6 above is to make improvements to the drainage and replace the existing channel material (stone masonry) to the channel with a concrete structure. This is expected to improve the quality of drainage channels so that there is no inundation at the intended location.

Table 7. Management of Slums Based on The Quality of Waste Water Management

Rw	Indicators of Slums	Treatments Recommendations
1	-	-
2	-	-
3	Waste Waters Conditions	Restoration
4	-	-
5	-	-

6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-

The restoration referred to in Table-7 above is repairing and rebuilding private and public toilets, as well as constructing sewage canals. So that the environment is expected to be cleaner and well-organized.

Table 8. Handling of Slums Based on The Quality of Waste Management

Rw	Indicators of Slums	Treatments Recommendations
1	-	-
2	Waste Conditions	Restoration
3	Waste Conditions	Restoration
4	-	-
5	Waste Conditions	Restoration
6	-	-
7	Waste Conditions	Restoration
8	Waste Conditions	Restoration
9	Waste Conditions	Restoration
10	Waste Conditions	Restoration
11	Waste Conditions	Restoration
12	-	-
13	-	-
14	-	-

The restoration referred to in Table-8 above is carrying out repairs or rebuilding private waste bins or public waste collection points, as well as adding waste transportation facilities at the said location (Angel et al., 2005).

Tabel 9. Handling of Slums Based on the Quality of Fire Protection

Rw	Indicators of Slums	Treatments Recommendations
1	Fire Protection Conditions	Restoration
2	Fire Protection Conditions	Restoration
3	Fire Protection Conditions	Restoration
4	Fire Protection Conditions	Restoration
5	Fire Protection Conditions	Restoration
6	Fire Protection Conditions	Restoration
7	Fire Protection Conditions	Restoration
8	-	-
9	Fire Protection Conditions	Restoration
10	Fire Protection Conditions	Restoration
11	-	-
12	-	-
13	Fire Protection Conditions	Restoration
14	Fire Protection Conditions	Restoration

The restoration referred to in Table-9 above is conducting counseling regarding fire protection or repairs at locations affected by fires, as well as assistance in the form of light fire extinguishers (APAR) in mitigating fire incidents, especially at these locations.

E. Recommendations for Handling Slums

Based on a comprehensive review of relevant literature and extensive consultations with practitioners and local village officials, a set of recommendations has been derived for the North Cipinang Besar Sub-district

of East Jakarta pertaining to the management of slums. These recommendations encompass the following aspects:

1) The imperative for the government to engage in effective socialization efforts aimed at raising awareness among residents residing in areas designated as slums about the detrimental effects associated with slum housing and slum conditions.
2) There is a necessity for the government to engage in socialization efforts aimed at educating residents in slum areas about effective ways for managing slum housing and addressing the challenges associated with slums.
3) Facilitate and empower the community to autonomously address the challenges arising fro the presence of slums in the North Cipinang Besar - East Jakarta Village locality.
4) The village level government is proactive in overcoming slum problems through procedures for proposing strategic projects in handling slums at the DKI Jakarta Provincial government.
5) The village level government must support the City Without Slum Program (KOTAKU) according to the direction of the Directorate General of Job Creation of the Ministry of Public Works and Public Housing of the Republic of Indonesia.

CONCLUSION

The following are the conclusions drawn from the findings of this study The profile of the sub-district area of North Cipinang Besar in East Jakarta can be characterized as follows: The designated region encompasses a total land area of 114 hectares, comprising 14 community units known as RWs and 178 neighboring units referred to as RTs. The total population of the area under consideration amounts to 42,550 individuals, exhibiting a population density of 373.25 individuals per hectare. One community unit (RW) has been classified as a non-slum area, specifically RW 12, including a total land area of 10 hectares. There are a total of eleven community units, specifically RW 01, RW 04 to RW 11, RW 13, and RW 14, that have been recognized as light slum zones. These community units collectively cover an area of 90 hectares. The investigation yielded two community units (RW) that were categorized as medium slum areas, specifically RW 02 and RW 03, encompassing a combined area of 14 hectares. Several strategies and recommendations for handling were produced in an effort to reduce the level of slums and their impact on the environment of the Cipinang Besar Utara – East Jakarta sub-district in particular, and DKI Jakarta Province in general.

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