



Mapping of Livable and Unlivable Houses for the Priority of House Rehabilitation Beneficiaries in Sambiduwur Village, Tanon District, Sragen Regency

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Abstract

Houses are one of the basic needs of humans. A home is a place for humans to live and shelter from climate and weather's influence. As mandated in Pasal 28 H Amandemen Undang - Undang Dasar 1945, a house is the fundamental right of the people, so every citizen has the right to get a place to live in a good and healthy environment. The citizens' economic unpreparedness makes many Indonesians still live in unlivable houses. Based on BPS data, in 2010, there were 40.46% unlivable houses in urban and rural areas. For this reason, the Government continues to strive and protect the community so that they can live in appropriate places. The Government's desire to improve the socioeconomic level of low and middle-income people is demonstrated through the social rehabilitation program for housing. The limited availability of data on unlivable housing makes it difficult for the Government to determine the social beneficiary's priority. This study aims to map the livable and unlivable houses to determine the beneficiary's importance in Sambiduwur Village. The primary data collection method used was observing the house in Sambiduwur Village. The analysis technique used identified livable and unlivable houses with scoring which refers to the criteria and indicators from the module issued by the Minister of Public Works and Housing. Determination of the level of damage to the house is guided by Appendix V, Regulation of Minister No.33/Prt/M/2016, about Technical Instructions for The Implementation of Special Allocation Funds for Infrastructure. The study results showed that 979 houses in Sambiduwur Village, 79 (8.06%) houses were classified as unlivable, and 900 (91.94%) houses were classified as livable.

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INTRODUCTION

Humans have three basic needs to be met, one of which is a house. It is an essential thing for humans. The house becomes a place for humans to live their lives. The house also becomes a shelter from the influence of climate and weather. According to Law Number 1, 2011, concerning Housing and Settlement Areas, a house is a building that functions as a livable residence, a means of family development, a reflection of the dignity and dignity of its residents, and an asset for its owner.

According to the World Health Organization (WHO), a house is a building as a shelter and a valuable environment for physical and spiritual health and social conditions for family and individual health. In their construction, Houses must pay attention to users' eligibility criteria for occupancy. The economic level and social status often influence the meaning of home. Houses have varied meanings, ranging from the minimum level, which is only used as a shelter, to houses used as a symbol of prestige to maintain the image of a specific social class (Santoso & Riwanto, 2011).

A healthy home must meet the prerequisites so that it can be said to be a healthy home. According to Wislow and APHA quoted from (Kasjono, 2011), the requirements for a healthy home consist of three things, namely: Meet physiological needs; Meet psychological needs; Prevents the transmission of the disease.

The existence of a healthy house indicates the feasibility of living in it, and feasibility reflects the reality of welfare (Ayyubi et al., 2019).

Based on the Central Statistics Agency in 2020, there are 40.46% of unlivable houses in Indonesia spread across urban and rural areas. Meanwhile, unlivable houses in Central Java reached 32.07%. According to statistical data, most people build their houses independently. Houses that are built independently are built with the strength and ability of the community. Self-help houses are the fulcrum of most Indonesians. As mandated in Law Article 28 H of the 1945 Constitutional Amendment, the house is one of the fundamental rights of the people, so every citizen.

The country deserves a good and healthy place to live. This is reinforced by Law Number 39 of 1999 concerning Human Rights Article 40 affirms that everyone has the right to live and live a decent life.

The economic unpreparedness of citizens makes them build makeshift houses without thinking about fit or unlivable. A livable house is a

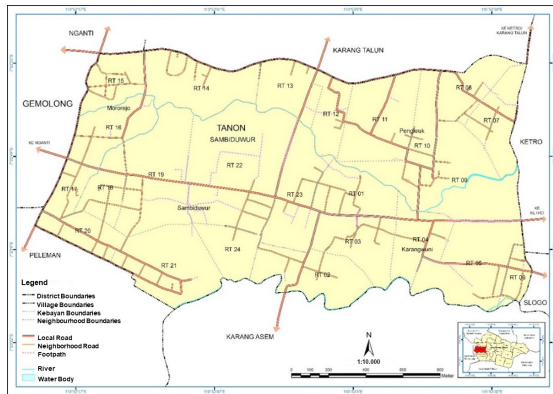
house that meets the requirements of building safety and the minimum adequacy of the building area and the health of its occupants (Minister of Public Housing of the Republic of Indonesia, 2008). Based on Law Number 1 of 2011 concerning Housing and Settlement Areas mandates that the state is responsible for protecting the entire Indonesian nation through the implementation of housing and settlement areas so that people can live and inhabit decent and affordable homes in healthy, safe, harmonious, and sustainable housing throughout Indonesia. For this reason, the Government continues to strive to protect the community to live in a decent place. Social assistance programs show the Government's desire to improve the socioeconomic level of low-middle-income people in the community.

For this reason, it is essential to have LH data collection. LH data collection is carried out to help the Government determine the number of citizens whose houses are not feasible. Unlivable houses data collection is an information collection activity that will later be used as material in preparing a plan to improve the house to be suitable for living.

Unlivable houses data collection can be done in a participatory manner by involving the entire community. Data is collected on databases that conform to the database format provided by the Central Government. In addition, unlivable house mapping is needed for village governments and communities to find out which houses are classified as livable houses and unlivable houses.

The scope of the area to be studied is Sambiduwur Village. Sambiduwur Village is one of the villages in Tanon District, Sragen Regency. Sambiduwur Village has an area of 294.60 ha, which is about 5.77% of the total area of Tanon District. This village is administratively divided into 4 Kebayanan, 12 Kampung, and 24 RT. Sambiduwur village is located in the western part of the Tanon District.

Sambiduwur is one of the villages in Tanon District where some residents live in unlivable houses. Residents living in unlivable houses significantly affect their survival, especially regarding health. Given the importance of housing feasibility for its residents, the Sragen Regency Government continues to innovate through social assistance programs for the community. With the aim of efficiency and effectiveness of the program, the Government urgently needs a database/database of unlivable houses on a micro (village) and macro (district) scale. The database is collected to obtain an overview of valid and up-to-date Unlivable houses.



(Source: Digital Map of RTRW Sragen Regency 2011-2031)

Figure 1. Administration Map of Sambiduwur Village

Based on the e-Rumah Tidak Layak Huni (e-RTLH) or e-Unlivable Houses Application developed by the Directorate of Self-Help Houses, Directorate General of Housing Provision, Tanon District, especially in Sambiduwur Village, there are no unlivable houses data. This is likely because the Regional Government still needs to validate/input/update unlivable houses data in Sambiduwur Village. Because the e-RTLH application in its input involves Regional Governments. In addition to the e-RTLH application, the Sragen Regency Government itself has an official website that displays data on the distribution and number of unlivable houses.

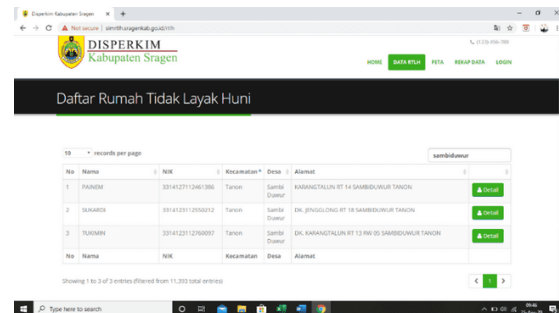
Kecamatan	Kode Wilayah	Desa/Kelurahan	Rumah Tidak Layak Huni	Jumlah
1	3014102002	DESA SLODO	0	1
2	3014102003	DESA JOND	0	1
3	3014102005	DESA NGOK	0	2
4	3014102008	DESA NGRO	0	2
5	3014102009	DESA NGAS	0	1
6	3014102011	DESA DARUSAN	0	2
7	3014102012	DESA SAMBIDUWUR	0	1
8	3014102014	DESA BOHARUNG	0	1
9	3014102015	DESA KALUPROK	0	1
TOTAL			0	12

(Source: Ministry of PUPR e-LH application)

Figure 2. Unlivable Houses Data of Tanon District

Based on the website of the Sragen Regency Disperkim, three houses in Sambiduwur Village are classified as unlivable houses. The data was sourced from the Unified Database Update (PBDT) in 2015. These unlivable houses add up over time. However, the Sambiduwur Village Government itself does not yet have valid data regarding unlivable houses data. For this reason, mapping livable and unlivable houses is very im-

portant as information for the Village Government to know how many residents of Sambiduwur Village still live in unlivable houses.



(Source: Disperkim Website Kab.Sragen)

Figure 3. Unlivable Houses Data of Sambiduwur Village

This study was conducted by mapping Livable Houses and Unlivable Houses and determining the priorities of recipients of house rehabilitation assistance in Sambiduwur Village. The goals used to achieve these goals are as follows: 1) Determining the number of houses in Sambiduwur Village; 2) Identify the existing condition of each house in Sambiduwur Village based on the following aspects: Building Safety Requirements; Home Health Requirements; Area Requirements and Space Requirements; Building Material Component Requirements; 3) Analyzing livable houses and unlivable houses in Sambiduwur Village; 4) Mapping livable houses and unlivable houses in Sambiduwur Village; 5) Determine the priority of recipients of house rehabilitation assistance in Sambiduwur Village

LITERATURE REVIEW

A house is a building that functions as a residence (residential) and a means of family development (Ministerial Decree No.829/Menkes/SK/VII/1999 concerning Residential Health Requirements, 1999). However, when viewed further, the house is not just a building but a house is a social place for its residents. For this reason, the house must also refer to the goals of its residents with all the values and norms they adhere to. The house must also be adjusted to the needs of its residents while remembering the criteria of a livable house. For the criteria for Decent and Unlivable Houses, one of them is regulated in Appendix V of the Regulation of the Minister of Public Works and Public Housing Number 33 / Prt / M / 2016 concerning Technical Guidelines for the Implementation of Special Allocation Funds in the Infrastructure Sector.

A livable house is a house that meets the requirements of building safety and the minimum adequacy of the building area and The health of its residents (Minister of Public Housing of the Republic of Indonesia, 2008). A house is said to be unlivable if the house does not meet the requirements of building safety and the minimum adequacy of the building area and the health of its occupants (Cheshmehzangi, A., Butters, C., Xie, L., & Dawodu, A, 2021). Based on Annex V of the Regulation of the Minister of Public Works and Public Housing Number 33/Prt/M/2016 concerning Technical Guidelines for the Implementation of Special Allocation Funds for Infrastructure, 2016, there are three aspects of Unlivable Houses. It is building safety, space adequacy, and health requirements. According to the data collection guidelines for unlivable houses issued by the Ministry of PUPR in 2016, the criteria for unlivable houses have many versions from each relevant agency/institution/agency. For this reason, you can compare each criterion in collecting data on unlivable houses.

METHODS

Data collection methods are divided into secondary data collection methods and primary data. The secondary data needed in this study were sourced from the Unlivable House Data Collection Module issued by the Ministry of PUPR, BPS Sragen Regency, Ministerial Regulations, Ministerial Decrees, Family Card Data, and other information obtained from books, journals, and the use of maps. The primary data collection method is carried out by two methods, namely the survey method and the observation method. The Survey Method is a primary data collection method that requires contact or a relationship between data takers and research subjects (respondents) to obtain the necessary data (Sugiarto et al., 2015). The observation method is a primary data collection method carried out through the process of recording the behavior of subjects (people), objects (objects), or events systematically without questions or communication with respondents. Collection of information by survey method regarding the information on each house is obtained from: Chairman Interview: Interviews were conducted with 24 RT Chairmen to ask for each homeowner's name; Community Questionnaire

The questionnaire aims to get responses from a selected group through the questions submitted. The questionnaires were distributed with the target of homeowners/representatives in

Sambiduwur Village. Respondents were selected based on the number of houses in Sambiduwur Village.

The formula calculates the number of respondents who became a sample:

$$n = \frac{NZ^2p(1-p)}{Nd^2 + Z^2p(1-p)}$$

Information:

n = Desired Number of Samples

N = Population

Z = Degree of Accuracy = 1.645

d = Max Error = 0.045

p = Sample Proportion = 0.5

The calculation of the Respondent Sample for the distribution of questionnaires in Sambiduwur Village is as follows:

$$\begin{aligned} n &= \frac{NZ^2p(1-p)}{Nd^2 + Z^2p(1-p)} \\ n &= \frac{979(1.645)^2 0.5(1-0.5)}{979(0.045)^2 + (1.645)^2 0.5(1-0.5)} \\ n &= \frac{979(1.645)^2 0.5(0.5)}{979(0.045)^2 + (1.645)^2 0.5(0.5)} \\ n &= \frac{979(2.706025) 0.5(0.5)}{979(0.002025) + (2.706025) 0.5(0.5)} \\ n &= \frac{979(2.706025)(0.25)}{662.29961875} \\ n &= \frac{2.65898125}{662.29961875} \\ n &= 249.0802139917 \end{aligned}$$

The number of respondents has obtained as many as 249 houses. Data in this study were obtained from interviews and questionnaires. Not all information about each house is obtained by questionnaire, so to complete the data collection, interviews were conducted with KB Village Cadres to find out information about sanitation and the use of clean water. This was done because the KB Village Cadres understood this condition.

The observation method is carried out directly, namely with observation equipment. Observation equipment is in the form of forms and maps of Sambiduwur Village, both printed and non-printed. Mapping serves to describe the distribution of specific conditions and locations. One form of mapping will be carried out in assessing every house in Sambiduwur Village. The location of the residents' homes is carried out using a GPS-based application. The observation method is done through direct observation and review of each house. Observations were made on each resident's house to determine the characteristics of each house.

After obtaining secondary and primary data, the next step is processing the data. This data processing stage helps prepare data so it is easy to analyze later.

The analytical methods used in this study are descriptive analysis, scoring analysis, and spatial analysis using Geographic Information Systems (GIS). Descriptive analysis is carried out to provide an explanation and picture of the existing circumstances in the study area. The results of the house data collection carried out are also described to make it easier to understand. This scoring analysis assessed the condition of each house in Sambiduwur Village. The house's condition is assessed based on the guidelines for livable and unlivable houses. The guidelines used to determine livable and unlivable houses in Sambiduwur Village refer to the Ministry of Public Works and Public Housing module. The determination of livable and unlivable houses is assessed based on four variables: safety, health, area and space requirements, and building material components.

The determination of livable and unlivable houses is based on scores from the assessment of the four variables, namely safety aspects, health aspects, aspects of area requirements and space requirements, and aspects of building material components. From the results of these scores, the highest total score is 69, and the lowest score is 26. Determination of the category of the home condition assessment score is carried out by determining the interval of each category. Determination of the interval is determined by subtracting the highest value from the lowest value; the result of the reduction is divided and then divided by two. Here are the calculation results :

$$\begin{aligned}\text{Interval} &= \frac{\text{High Score} - \text{Low Score}}{2} \\ &= \frac{69 - 26}{2} \\ &= 21.5\end{aligned}$$

Based on this interval, the determination of the categories of livable houses and unlivable houses is as follows: Unlivable Houses have score <47.5; Livable house have score >47.5

In determining the priority of recipients of home rehabilitation assistance, the level of damage to the building in each house classified as unlivable houses will also be considered. The assessment is carried out based on the assessment standards for the condition of unlivable houses contained in Appendix V of the Regulation of the Minister of Public Works and Public Housing Number 33/Prt/M/2016 concerning Technical Guidelines for Implementing Special Allocation Funds for Infrastructure. The damage assessment is assessed with different weights on each component of the building.

Damage to the components of the house is assessed by the number 0-5. The assessment depends on the condition of the damage suffered by the building. Damage conditions for roof, wall, door, window components, floors, and foundations are assessed based on the extent of damage experienced. The level of damage to the house will be classified into five categories, namely as follows: Lightly damaged category, damage rate 30% to <45%; Medium damaged category, damage rate 45% to <65%; Heavily damaged category, damage rate 65% to <100%; Category completely damaged, 100% damage rate; The category still needs to get home.

Spatial analysis is done by digitizing and

Table 1. House Condition Assessment Indicators

Variable	Indicator	Data	Label	Size	Score
Building Safety Aspects	Foundation	Foundation	a	Strong Forward Load to Base Soil	3
			b	Easy to Fragile	2
			c	Not available	1
	House Column Condition	House Column Condition	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1
	House Beam Condition	House Beam Condition	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1
	Roof Construction	Roof Construction	a	Permanent	2
			b	Unsafe, Not Permanent	1
	Construction Conditions of the House Roof	Construction Conditions of the House Roof	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1

Variable	Indicator	Data	Label	Size	Score
Health Aspects	Lighting	Windows	a	Area $\geq$ 10% of floor area	3
			b	Area $<$ 10% of floor area	2
			c	Not available	1
	Air conditioning	Air Ventilation	a	$\geq$ 5 % Floor Area	3
			b	$<$ 5% Floor Area	2
			c	Not available	1
	Sanitation	Ownership Status of Bathrooms and Latrines	a	Own	3
			b	Together/ Communal	2
			c	Not available	1
	Drinking Water Supply	Distance of Drinking Water Source Used to Fecal Landfill	a	More than 10 meters	2
			b	Less than 10 meters	1
			c	Not available	1
	Electrical Energy Supply	Drinking Water Source	a	PDAM, Pamsimas, Bottled Water/ Refill	3
			b	Wells, Springs	2
			c	Rainwater, and more	1
	Area and Space Requirements	Power Source	a	PLN with Meter, PLN without Meter	3
			b	Non-PLN Electricity	2
			c	Not Electric	1
Aspects of Area Requirements and Space Requirements	House Size	House Size	a	$>$ 9 m ² /person	3
			b	8 m ² /person-9 m ² /person	2
			c	$<$ 8 m ² /person	1
	Number of Occupants versus Number of Rooms	Number of Occupants versus Number of Rooms	a	Standard Compliant (One room for two persons)	2
			b	Not Up to Standard	1
	Environment Safety	Environment Safety	a	Guaranteed Home Environment Safety	2
			b	Lack of Home Environment Security	1
	Security and Supporting Infrastructure	Public/Social Facilities	a	Health facilities, educational facilities, adequate trade facilities	2
			b	Health facilities, educational facilities, and trade facilities are inadequate	1
	Infrastructure	Infrastructure	a	Adequate infrastructure	2
			b	Limited and poor infrastructure	1

analyzing data found in the study area. Digitization is done by applying image interpretation techniques; one example is used to determine building parcels. From this, digitization will produce a Map of the Distribution of Residents' Houses in Sambiduwur Village. Data obtained from the results of the census of ownership and characteristics of people's houses will be stored in the form of a database. Previously, the data had been grouped and identified which houses were classified as Livable Houses and Unlivable Houses.

RESULTS AND DISCUSSION

To find out the condition of each house, data regarding the conditions obtained will be processed through aspect assessment analysis.

Building safety, aspects of home health,

aspects of building area and space requirements, and aspects of building material components. This analysis is carried out to assess the house's condition based on indicators of the house's condition. The size and score are conditioned to indicate that the house is classified as livable or unlivable.

Analysis of the assessment of building safety aspects is aimed at determining the condition of the foundation and building construction. The construction of the building consists of columns, beams, and the roof of the house. The housing column serves to support the main load on it. The beams have a function to shoulder the roof and then channel it to the columns and foundations below. The roof protects the house from heat, rain, and other threats of weather changes. By knowing the condition of the house foundation, it can be known whether the foundation used by

Variable	Indica- tor	Data	Label	Size	Score
Com- ponent Aspects of Building Materi- als	Roof	Roof Material	a	Roof tile, asbestos	3
			b	Iron	2
			c	straw, leaves, tuber	1
		Roof Condition	a	Sturdy, Waterproof	2
			b	Fragile, flammable	1
		Roof Damage	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1
		Palate	a	>= 2.8 meters from the floor	2
			b	< 2.8 meters from the floor	1
	Wall	Wall Material	a	Wall, GRC	3
			b	Wood/Board, Woven Bamboo Plastering	2
			c	Bamboo, woven bamboo, rattan, leaves	1
		Wall Condition	a	Waterproof, roof support and support, resist wind and rain, protect from heat and dust	3
			b	Roof supports and supports protect from heat and dust	2
			c	Easily Damaged and Weathered, Not Water-proof, Flammable	1
		Wall Damage	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1
	Floor	Floor Material	a	Marble/Granite, Ceramics	3
			b	Tiles, Plaster, Wood	2
			c	Soil, Cement, Bamboo, Cheap Wood (Class IV)	1
		Floor Condition	a	Waterproof, Non-Humid	2
			b	Not waterproof, damp, slippery	1
		Floor Damage	a	Good Conditions	3
			b	Lightly Damaged to Moderately Damaged (partial)	2
			c	Heavily damaged (entirely)	1

Source: Ministry of PUPR, 2016 and modification, 2020

the house is sturdy and robust to continue the load to the base soil.

Analysis of the assessment of home health aspects aims to determine the condition of lighting, ventilation, sanitation, and the provision of drinking water and electrical energy. Lighting and air conditioning affect air temperature and humidity. A healthy and comfortable home will have air temperature and humidity that matches average body temperature. Less air can increase humidity and make the room feel stuffy (Bullen et al., 2008). For this reason, it is necessary to pay attention to air temperature and humidity under the activities of its inhabitants. House Lighting and air significantly affect its inhabitants. Because natural lighting, namely sunlight, cannot enter

the house. In addition, there is also no air circulation path.

Analysis of the assessment of aspects of area requirements and space needs aims to determine the area of each house, whether it is proportional to the number of occupants, environmental security, and the availability of supporting facilities and infrastructure. Environmental security is indispensable to ensure the safety of its residents. The availability of supporting facilities and infrastructure is aimed at measuring the range of facilities the community needs.

Analysis of the assessment of building material components is aimed at identifying the roof, walls, and floor. Things identified from the roof of the house are material, condition, dama-

Table 2. Standards for Assessing the Condition of Unlivable Houses (Wall Houses)

No	Building Components	Building Sub Components	Weight	
			Against the Entire Building	Maximum Damage
1	Roof	a. Roof Cover	12.40%	100%
		b. Roof Frame	13.65%	100%
		Sub Total	26.05%	
2	Wall	a. Columns & Beam-Ring	11.35%	100%
		b. Brick/Wall Filler	16.10%	100%
		Sub Total	27.45%	
3	Doors & Windows	a. Frame	2.81%	100%
		b. Door Leaf	3.02%	100%
		c. Shutters	6.30%	100%
		Sub Total	12.13%	
4	Floor	a. Bottom Structure	3.40%	100%
		b. Floor Coverings	10.52%	100%
		Sub Total	13.92%	
5	Foundation	a. Foundation	13.10%	100%
		b. Sloof	3.91%	100%
		Sub Total	17.01%	
6	Sanitation	a. Bathroom &; WC	2.01%	100%
		b. Dirty Waterways	1.43%	100%
		Sub Total	3.44%	
Total Amount			100%	

Source: Ministry of PUPR, 2016

Table 3. Standards for Assessing the Condition of Unlivable Houses (Non-Livable Wooden Houses)

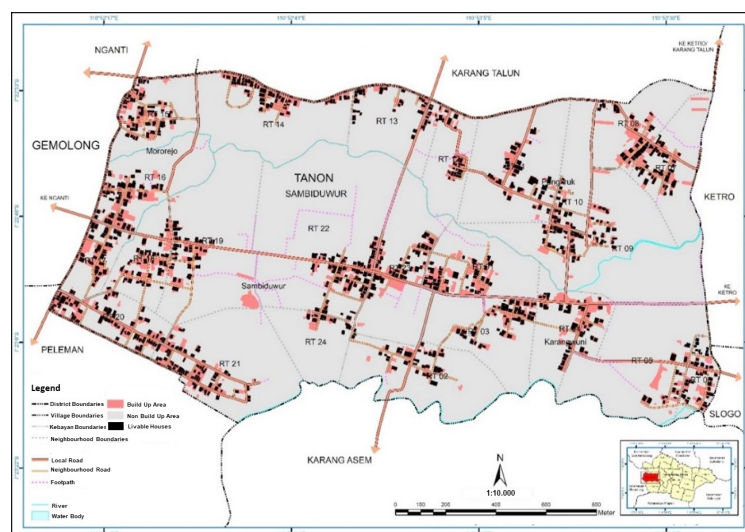
No	Building Components	Building Sub Components	Weight	
			Against the Entire Building	Maximum Damage
1	Roof	a. Roof Cover	15.19%	100%
		b. Roof Frame	3.39%	100%
		Sub Total	18.58%	
2	Wall	a. Basic Framework	11.65%	100%
		b. Board Wall	29.58%	100%
		Sub Total	41.23%	
3	Doors & Windows	a. Frame	460%	100%
		b. Door Leaf	1.08%	100%
		c. Shutters	1.09%	100%
		Sub Total	6.77%	
4	Floor	a. Bottom Structure	0.71%	100%
		b. Floor Coverings	4.49%	100%
		Sub Total	5.20%	
5	Foundation	a. Foundation	3.93%	100%
		b. Sloof	19.05%	100%
		Sub Total	22.98%	
6	Sanitation	a. Bathroom & WC	1.42%	100%
		b. Dirty Waterways	3.82%	100%
		Sub Total	5.24%	
Total Amount			100%	

Source: Ministry of PUPR, 2016

Table 4. Distribution of the Number of Livable and Unlivable Houses in Each RT in Sambiduwur Village

Kebayanan	Village	RT	Number of Houses (Units)	Number of Livable Houses (Units)	Number of Unlivable Houses (Units)
Karangwuni	Pengger	1	55	38	17
Karangwuni	Pengger	2	34	29	5
Karangwuni	Pengger	3	46	42	4
Karangwuni	Karangsigit	4	40	38	2
Karangwuni	Karangwuni	5	16	15	1
Karangwuni	Karangwuni	6	42	39	3
Pengkruk	Kenteng	7	32	32	0
Pengkruk	Kenteng	8	27	23	4
Pengkruk	Pengkruk	9	37	34	3
Pengkruk	Pengkruk	10	36	33	3
Pengkruk	Pengkruk	11	36	35	1
Pengkruk	Karangtalun	12	38	32	6
Pengkruk	Karangtalun	13	31	30	1
Mororejo	Karangtalun	14	48	46	2
Mororejo	Gandu	15	48	43	5
Mororejo	Mororejo	16	50	50	0
Mororejo	Mororejo	17	35	35	0
Sambiduwur	Jengglong	18	41	37	4
Sambiduwur	Jengglong	19	37	36	1
Sambiduwur	Manisrejo	20	67	62	5
Sambiduwur	Bogor	21	65	58	7
Sambiduwur	Sambiduwur	22	66	63	3
Sambiduwur	Sambiduwur	23	41	39	2
Sambiduwur	Sambiduwur	24	11	11	0
Total			979	900	79

Of the 979 houses, it was found that 900 houses (91.93%) were classified as livable houses. About 8.06% or 79 houses are classified as unlivable houses. There are many livable houses in RT 22. The following is a map of the distribution of livable houses in Sambiduwur Village:

**Figure 4.** Map of the Distribution of Livable Houses in Sambiduwur Village (Source: Observation, 2020)

Most houses classified as Unlivable Houses in Sambiduwur Village are found in RT 01; there are around 17 houses that are classified as unlivable. This number is the highest or even the highest compared to other RTs. However, no unlivable houses exist in RT 07, RT 16, RT 17, and RT 24. The following is a map of the distribution of livable houses in Sambiduwur Village :

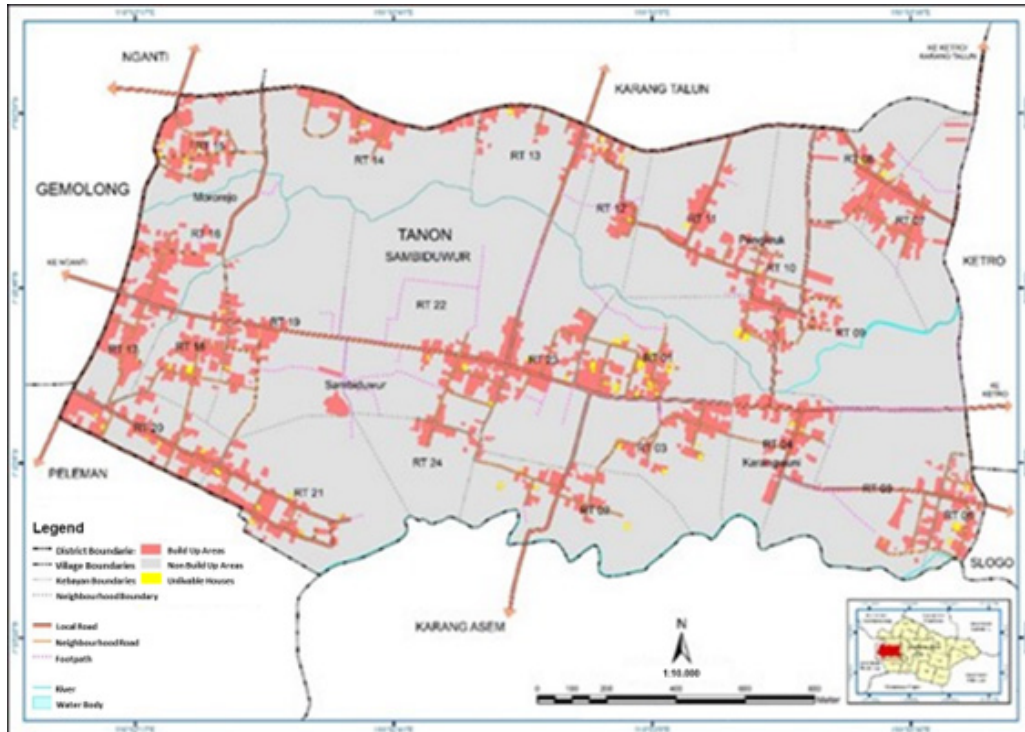


Figure 5. Map of the Distribution of Unlivable Houses in Sambiduwur Village
(Source: Observation, 2020)

ge to the roof, and ceiling condition (Chaves et al., 2021).

According to the standards of livable houses, the house's ceiling should be more than 2,8 meters high from the floor. For walls and floors, things that need to be identified are wall and floor materials, wall and floor conditions, and damage that occurs to walls and floors.

The results that can be taken based on Sambiduwur Village studies are 979 houses spread across 24 RTs. There, 44.23% of houses in Sambiduwur Village are built on easily fragile foundations, and 55.77% of houses with solid foundations pass the load onto the basic soil. 52.40% of houses with good column condition, 43.82% of other houses were lightly damaged, and 3.78% of houses with column condition were severely damaged. 54.55% of houses had beams in good condition, 43.92% had slightly damaged beams, and 1.53% had severely damaged beams.

The construction condition of the roof that suffered minor damage was around 56.59% of houses, and 1.43% of houses were severely damaged. 41.98% have roof construction that is still good. 45.25% of houses with roof construc-

tion are unsafe and easily fragile; another 54.75% have solid and secure roofs. 73.14% of homes have windows, and 26.97% of other homes do not have windows. In addition, 59.04% of homes have ventilation, and 40.96% have not.

All houses in Sambiduwur Village already have private bathrooms, and only. There are 600 houses (61.29%) with a distance of more than 10m of sanitation to the source of drinking water. Six hundred four houses (61.70%) use bottled water and PDAM/ pamsimas water for drinking water, 299 houses (30.54%) use well water, and 76 other houses are unknown. PLN has electrified all houses in Sambiduwur Village. 10.42% of homes have rooms that are not proportional to the number of occupants. As many as 85.50% of houses have met the building area requirements, and 6.74% of other houses still need to meet the building area requirements. All areas in Sambiduwur Village have a guaranteed level of home security. According to residents, health facilities, educational facilities, and trade and service facilities have been adequate in Sambiduwur Village.

Houses with clay tile and asbestos roof material as much as 99.80% of houses. Only two

houses (0.20%) with zinc roofing material. Houses with sturdy and waterproof roof conditions as many as 64.45% of houses and 35.55% of other houses have roofs with fragile and flammable conditions. There 47.09% of houses with good roof conditions, and 52.81% were damaged. 47.70% of houses in Sambiduwur Village have ceilings ≥ 2.8 meters from the floor, and 52.39% have ceilings < 2.8 meters from the floor. Houses use walls made of wall material as much as 55.26%, 41.27% of houses with wood material, and 3.47% of houses use woven bamboo with wooden frames. The condition of walls that suffered damage was as much as 60.67% of houses, and 39.33% of other houses were in good wall condition. There are 34.32% of houses with watertight wall conditions, roof supports, and supports resisting wind and rain, protecting from heat and dust. 42.49% of houses with walls that can only support and support the roof protect from heat and dust, and 23.19% with easily damaged and weathered conditions, not watertight, flammable. For houses with ceramic floor material, as much as 15.42% and 53.63% use cement, and 31.15% of others have damaged soil or cement. 44.33% of houses have heavily damaged floor conditions, and 33.50% have lightly damaged floor conditions. 48.11% of houses with floor conditions are waterproof and not damp, and 53.01% are not waterproof, damp, and slippery.

The following is a table of the distribution of the number of livable and unlivable houses in each RT in Sambiduwur Village based on the results of the analysis that has been carried out:

Prioritization of housing assistance recipients is carried out by assessing unlivable houses based on the level of damage. This assessment refers to Annex V of the Regulation of the Minister of Public Works and Public Housing Number 33 /Prt/M/2016 concerning Technical Guidelines for the Implementation of Special Allocation Funds for Infrastructure. The assessed building components include roofs, walls, doors and windows, floors, foundations, and sanitation. Assessment of the condition of unlivable houses is carried out to determine the priority of beneficiaries. This assessment is also carried out, one of which is to determine what type of assistance is more priority to get. The assistance that will be provided includes assistance with unlivable houses, lactonization, patronization, etc.

After determining whether the house is classified as unlivable, the house will be assessed as unlivable. The assessment is to determine the extent of damage to the house. The damage's extent will be a consideration in determining home

rehabilitation assistance. Based on Annex V of the Regulation of the Minister of Public Works and Public Housing Number 33 / Prt / M / 2016 concerning Technical Guidelines for the Implementation of Special Allocation Funds for the Field Infrastructure, the assessment of the level of damage is assessed with different weights on each component of the building.

Damage to the components of the house is assessed by the number 0-5. The assessment depends on the condition of the damage suffered by the building. Damage conditions for roof, wall, door, window components, floors, and foundations are assessed based on the extent of damage experienced. In contrast, the sanitation component, namely for bathrooms and toilets and dirty drains, is assessed based on conditions that are not common. These conditions include dirty and slippery bathrooms and clogged drains.

The level of damage to the house will be classified into five categories. The first category is to enter the level of minor damage. The second category is classified as moderate damage. The third category falls into the level of heavy damage, and the fourth category is total damage. Furthermore, lastly, there has yet to be a house. Categories The classification of this category is regulated in Annex V of the Regulation of the Minister of Public Works and Public Housing Number 33 / Prt / M / 2016 concerning Technical Guidelines for the Implementation of Special Allocation Funds for Infrastructure.

Furthermore, to determine the priority of beneficiaries, an assessment of the level of damage to the house is carried out. The assessment is carried out based on the standard assessment of the house's condition needs to be livable. The following are the results of the assessment of the level of damage to houses classified as unlivable:

Table 5. Results of the Damage Rate Category of Unlivable Houses in Sambiduwur Village

Category Damage Rate	Quantity (units)	Percentage
Heavily Damaged	4	5.06%
Medium Damaged	62	78.48%
Lightly damaged	13	16.45%

Source: Analysis, 2020

The assessment results of the condition of unlivable houses found houses with the category of heavily damaged houses, as many as four. As many as 62 houses were damaged houses with moderate damage levels. And unlivable houses with a category of minor damage, as many as 13

houses. Based on the assessment of the level of damage to the house carried out, it is known that the priority of beneficiaries is intended for houses with the largest level of damage, as many as four houses with severe damage categories. The following is a picture of the condition of the house with the category of severely damaged:



Figure 6 Condition of Houses with Heavily Damaged Category
(Source: Observation, 2020)

CONCLUSION

Based on the condition assessment and analysis results, it can be concluded that of the 979 houses, 79 are unlivable, and 900 are livable. To determine the priority of beneficiaries, 79 houses classified as unlivable were assessed for the level of damage. Based on the assessment of the level of damage to the house carried out, it is known that the priority of beneficiaries is intended for houses with the largest level of damage, as many as four houses with severe damage categories.

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