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Management system of simple rental flats study based on technical aspect and health in Medan city

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Abstract. Medan city is a metropolis city in Sumatera that has slums area. Simple rental flats have been built to overcome the problem. However the preliminary survey result showed that the physical and non-physical environment management of simple rent flats is very bad. This study conducted in 3 simple rent flats. It has observed the simple rent flats environment and has interviewed occupants and related agencies. Results of conducted research showed the occupant’s characteristics based on the largest percentage are Javanese; last education is senior high with self-employed work with average income Rp 1,000,000 – Rp 2,500,000. Waste retribution submitted to their cleanliness except for Amplas simple rent flats, their waste management system does not manage properly and the garbage littered. The number of family members of Wisma Labuhan and Amplas simple rent flats exceeds the regulation number of occupants, so it is crowded and noisy. Physical conditions of Amplas simple rent flats are bad, septic tank is full and are not vacuumed. Clean water sources derived from wells and artesian well are vulnerable to be contaminated by pollutants such as leachate and bad quality water. It is necessary to improve the physical, basic sanitation, and guidance for the simple rent flats occupants to the management system of Simple Rent Flats.

1. Introduction
Housing and settlement are two things which can not be separated and closely related to economic activity, industrialization, and development. Housing becomes one of the basic human needs, and its development becomes an integral part of the historical development of urban areas [2]. Housing and settlement are one of basic human needs, but it also has a strategic function as family education centers, coaching youth, and capital goods. The establishment of people’s welfare can be characterised into worthy housing and settlement fulfillment.

The main problems in the housing construction are affordability (housing expenditure ratio to revenues), adequacy (include the quality and density), environmental conditions, and availability [3]. Affordability becomes a major problem on the demand side while the availability of urban land that increasingly scarce is the main problem of availability. The problem between low affordability and land scarcity affect the quality of housing [8].
Indonesia is a developing country with the large population, so that demography aspect becomes the basis for all policies development and becomes the object. Housing and settlement are also confronting problems of population dynamics [9].

Housing and settlement condition can be seen from population growth, land availability, and government policy on housing. In 1950 up to 1970, population growth in Indonesia was 3%, in 1961 up to 1970 increased to 3.6%. In decade 1971 – 1981 reached 5% [6]. While in the next decade estimated at an average of 5%. Housing construction development data during the year 1993-1998, Realization of Healthy House (RHH) as much 680,000 units for 138 families per year while in 2000-2004, 250,000 units or an average of 50,000 units per year. For people with low income in urban areas requires considerable expense to obtain an affordable and livable house. So, the role of government as a provider of public housing are still important particularly in fulfilling the needs of adequate and affordable housing. Affordable rental housing in urban areas that have the problem with land availability can be realized through flats or vertical housing [5]. The conditions of slums which are usually tinged with unfit for habitation condition will lead to social and health problems in the community if not quickly addressed. Settlement issues are closely related to the lack of adequate basic sanitation such as clean water, healthy latrines, and good sewerage.

Technical aspects of building as not eligible as physical condition of the house such as lack of ventilation, indoor humidity risks creating scabies. Scabies is commonly attacking individual groups such as a dorm, correctional institution, hospital, dense settlement, flats, and nursing homes. One of the supporting factors in scabies is bad sanitation [1]. Based on the preliminary study, many residents have complaints which indicated a symptom of scabies. Hamonangan research result, one of some variables that associated with house sanitation is there is a relationship between the cleanliness of the floor with the occurrence of scabies. It is also confirmed with research that conducted by Rosetty; the result showed environmental sanitation variables such as clean water availability, humidity, occupant density, and floor condition associated with scabies.

In accordance to the 11th MDGs, achieving a significant improvement to improve the lives of poor people that living in slums until 2020. Implementation of those targets is by organizing Simple Rent Flats that has been initiated its implementation since 2013. In 2005, there was 45,9 million units house to 54,4 million household in Indonesia, and 13,4 million units of them are in unfit condition for human habitation. To resolve the problem, 195 twin blocks built in 2003-2009 and 40 twin blocks built in 2010-2011. Strategic Plan of Housing and Settlement Ministry throughout 2010-2014 will be built 250 twin blocks. 110 twin blocks built In 2010-2013, and the rest, 140 twin blocks will be built in 2013-2014.

Medan city as its capital is one of the major cities in Indonesia with high population density. It formed slums in Medan city which spread to Medan Utara, Medan Belawan, Medan Labuhan, Medan Marelan, Medan Tembung, Medan Kota, Medan Sunggal and Medan Johor. The slum in the northern city of Medan is fisherman housing that located along Deli river. The slum area in the city center lies along the river and railway utilized by bum and beggar. To resolve those problems, Simple Rent Flats built in 8 locations, such as 1 twin block in Martubung, 1 twin block in Sei Mati, 1 twin block in Tanjung Mulia, 2 twin block in North Sumatera University, 1 twin block in Medan Area Campus, 1 twin block in Islamic University, and 10 blocks in Suka Ramai.

2. Method
This study combines quantitative and qualitative research. Quantitative research conducted to Simple Rent Flats occupants while qualitative research addressed to Housing and Settlement Department, Health Department, and the manager by using opened interviews.
3. Results and Discussion
In this study against Simple Rent Flats based on technical aspects and health conducted in 3 flats, it was Kayu Putih, Wisma Labuhan, and Amplas Simple Rent Flats.

Table 1. Frequency Distribution of Respondents Characteristics in Management System of Simple Rent Flat Study based on Technical Aspects and Health

| No | Head of Family Characteristic | Kayu Putih | Wisma Labuhan | Amplas | Total |
|----|--------------------------------|------------|---------------|--------|-------|
|    | n    | %   | n    | %   | n    | %   | n    | %   |
| 1  | Age  |       |      |      |       |      |      |      |
|    | ≥20-30 | 12 | 13  | 15.2 | 3 | 3.3 | 29 | 31.5 |
|    | ≥30-40 | 18 | 19.6| 17 | 18.5 | 3 | 3.3 | 38 | 41.3 |
|    | ≥40-50 | 4  | 4.3 | 8 | 8.7 | 5 | 5.4 | 17 | 18.5 |
|    | ≥50-60 | 4  | 4.3 | 1 | 1.1 | 1 | 1.1 | 6 | 6.5 |
|    | ≥60   | 2  | 2.2 | 0 | 0 | 0 | 0 | 2 | 2.2 |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 2  | Gender |       |      |      |       |      |      |      |
|    | Man   | 22 | 23.9 | 20 | 21.7 | 1 | 1.1 | 43 | 46.7 |
|    | Woman | 18 | 19.6 | 20 | 21.7 | 11 | 12 | 49 | 53.3 |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 3  | Education |       |      |      |       |      |      |      |
|    | Primary | 4  | 4.3 | 3 | 3.3 | 2 | 2.2 | 9 | 9.8 |
|    | Junior High | 8 | 8.7 | 6 | 6.5 | 5 | 5.4 | 19 | 20.7 |
|    | Senior High | 23 | 25 | 30 | 32 | 4 | 4.3 | 57 | 62 |
|    | University | 5  | 5.4 | 1 | 1.1 | 1 | 1.1 | 7 | 7.6 |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 4  | Job |       |      |      |       |      |      |      |
|    | Mechanic | 2  | 2.2 | 1 | 1.1 | 0 | 0 | 3 | 3.3 |
|    | Labor | 5  | 5.4 | 8 | 8.7 | 1 | 2.2 | 5 | 5.6 |
|    | Employee | 8  | 8.7 | 7 | 7.6 | 0 | 0 | 0 | 0 |
|    | Unemployed | 6 | 6.5 | 8 | 8.7 | 3 | 3.3 | 17 | 18.5 |
|    | Fisherman | 0  | 0 | 3 | 3.3 | 0 | 0 | 3 | 3.3 |
|    | Trader | 1  | 1.1 | 1 | 1.1 | 0 | 0 | 2 | 2.2 |
|    | Scavenger | 0  | 0 | 0 | 0 | 2 | 2.2 | 2 | 2.2 |
|    | Servant | 1  | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Security | 0  | 0 | 1 | 1.1 | 0 | 0 | 1 | 1.1 |
|    | Sales | 1  | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Electronic service Driver | 1  | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Pedicab | 10 | 10.9 | 10 | 10.9 | 1 | 1.1 | 21 | 22.8 |
|    | Driver | 0  | 0 | 0 | 0 | 2 | 2.2 | 2 | 2.2 |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 5  | Income |       |      |      |       |      |      |      |
|    | ≤1.000.000 | 5 | 5.4 | 12 | 13 | 3 | 3.3 | 20 | 21.7 |
|    | 1.000.000-2.500.000 | 28 | 30.4 | 27 | 29.3 | 9 | 9 | 64 | 69.6 |
|    | 2.500.000-5.000.000 | 7 | 7.6 | 1 | 1.1 | 0 | 0 | 8 | 8.7 |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 6  | Ethnic |       |      |      |       |      |      |      |
|    | Batak | 4 | 4.3 | 4 | 4.3 | 7 | 7.6 | 15 | 16.3 |
|    | South | 1 | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | tapamuli batanese | 1 | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Chinese | 2 | 2.2 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Javanese | 20 | 21.7 | 13 | 14.1 | 3 | 3.3 | 36 | 39.1 |
|    | Mandailing | 5 | 5.4 | 3 | 3.3 | 1 | 1.1 | 9 | 9.8 |
|    | Malay | 4 | 4.3 | 15 | 16.3 | 0 | 0 | 19 | 20.7 |
|    | Minangkese | 3 | 3.3 | 3 | 3.3 | 1 | 1.1 | 7 | 7.6 |
|    | Sundanese | 1 | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
|    | Karones | 0 | 0 | 1 | 1.1 | 0 | 0 | 1 | 1.1 |
|    | Ambonese | 0 | 0 | 1 | 1.1 | 0 | 0 | 1 | 1.1 |
|    | Total | 40 | 100 | 40 | 100 | 12 | 13 | 92 | 100 |

Age of head family is at ≥30 – 40, 41.3%. It shows that they are still in their productive age. Education also a measure that can be used as a reference to determine how to care a person to their health. Data shows that 62% Simple Rent Flats occupants graduated from senior high. Most of the occupants work as entrepreneurs, 22.8%. From this study, known that 69.6% earn Rp.1,000,000 – Rp.
2,500,000. Most of Simple Rent Flats are Javanese particularly in Kayu Putih and Amplas Simple Rent Flats.

Table 2. Frequency Distribution of Technical Aspects of Physical Components in Management System of Simple Rent Flats Study based on Health Aspects

| No | Head of Family Characteristic | Kayu Putih | Wisma Labuhan | Amplas | Total |
|----|--------------------------------|------------|---------------|--------|-------|
|    |                                | n  | %  | n  | %  | n  | %  | n  | %  | n  | %  |
| 1  | Ceiling                        |    |     |    |     |    |     |    |     |    |     |
|    | There is, Dirty                | 3  | 3.3 | 7  | 7.6 | 12 | 13  | 22 | 22.9|
|    | There is, Clean                | 37 | 40  | 33 | 35.9| 0  | 0   | 70 | 76.1|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 2  | Wall                           |    |     |    |     |    |     |    |     |    |     |
|    | Not plastered                  | 0  | 0   | 0  | 0   | 12 | 13  | 22 | 22.9|
|    | Plastered                      | 40 | 43.5| 40 | 43.5| 0  | 0   | 80 | 87  |
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 3  | Floor                          |    |     |    |     |    |     |    |     |    |     |
|    | Plastered                      | 0  | 0   | 0  | 0   | 40 | 43.5| 0  | 0   | 40 | 43.5|
|    | Cement                         | 40 | 43.5| 0  | 0   | 0  | 0   | 40 | 43.5|
|    | Ceramics                       | 40 | 43.5| 0  | 0   | 0  | 0   | 40 | 43.5|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |

From that table, most of the opponent’s ceiling is clean, 76.1%. The wall of Kayu Putih and Wisma Labuhan Simple Rent Flats, 43.5% have plastered while Amplas Simple Rent Flats was the opposite. Most of the floor of Kayu Putih Simple Rent Flats have been made of ceramics.

Table 3. Frequency Distribution of Technical Aspects of Basic House Sanitation in Management System Rent Flats Study based on Health Aspects

| No | Observation Object              | Kayu Putih | Wisma Labuhan | Amplas | Total |
|----|--------------------------------|------------|---------------|--------|-------|
|    |                                | n  | %  | n  | %  | n  | %  | n  | %  | n  | %  |
| 1  | Clean Water                    |    |     |    |     |    |     |    |     |    |     |
|    | Water Resource                 | 0  | 0   | 0  | 0   | 12 | 13  | 22 | 22.9|
|    | Artesian Well                  | 40 | 43.5| 40 | 43.5| 0  | 0   | 80 | 87  |
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 2  | Water Quality                  |    |     |    |     |    |     |    |     |    |     |
|    | Good                           | 12 | 13  | 4  | 4.3 | 0  | 0   | 16 | 17.4|
|    | Bad                            | 28 | 30.4| 36 | 39.1| 12 | 13  | 76 | 82.6|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 3  | Distance to septic tank        |    |     |    |     |    |     |    |     |    |     |
|    | >10 no other pollutant         | 40 | 43.5| 0  | 0   | 0  | 0   | 40 | 43.5|
|    | >10 there is another pollutant | 0  | 0   | 0  | 0   | 40 | 43.5| 0  | 0   | 40 | 43.5|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 4  | Trash Can                      |    |     |    |     |    |     |    |     |    |     |
|    | Basket                         | 20 | 21.7| 20 | 21.7| 0  | 0   | 40 | 43.5|
|    | Plastic                        | 20 | 21.7| 20 | 21.7| 12 | 13  | 52 | 56.6|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 5  | Emptying trash                 |    |     |    |     |    |     |    |     |    |     |
|    | ≥1x24 hours                    | 39 | 42.4| 38 | 41.3| 12 | 13  | 89 | 96.7|
|    | <1x24 hours                    | 1  | 1.1 | 2  | 2.2 | 0  | 0   | 3  | 3.3 |
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 6  | Type of Latrine                |    |     |    |     |    |     |    |     |    |     |
|    | Non-water seal                 | 0  | 0   | 0  | 0   | 0  | 0   | 0  | 0   |
|    | Water seal                     | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 7  | Safe Latrines                  |    |     |    |     |    |     |    |     |    |     |
|    | Yes                            | 36 | 39.1| 39 | 42.4| 1  | 1.1 | 76 | 82.6|
|    | No                             | 4  | 4.3 | 1  | 1.1 | 11 | 11  | 16 | 17.4|
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
| 8  | No vector                      |    |     |    |     |    |     |    |     |    |     |
|    | Yes                            | 38 | 41.3| 34 | 37  | 2  | 2.2 | 74 | 80.4|
|    | No                             | 2  | 2   | 0  | 0   | 2  | 2   | 4  | 4.4 |
|    | Total                          | 40 | 43.5| 40 | 43.5| 12 | 13  | 92 | 100 |
Commonly, water resources came from the artesian well (87%). The water quality of each well are almost the same, it was colored, tasted, and odor. The distance of water resources with the septic tank have qualified, it was >10 meters while Wisma Labuhan and Amplas Simple Rent Flats were still possibly contaminated by other pollutants. Kayu Putih and Wisma Labuhan collected their waste by using the basket (50%) and Plastic (50%) while Amplas Simple Rent Flats collected their waste by using plastic and 96.7% of occupants emptied out their waste ≥1x/24 hours.

Based on that table, 82.6% latrines were free of the vectors such as rat and cockroach. Almost all of the latrines were the waterproof floor as much as 94.6% and easy flushing (92.4%). From all the latrines, 92.4% used soap. 83 from 92 occupants have water reservoir (69.6%) that free from mosquito larvae and 81.5% were not odor. Closed sewerage was 87% however Amplas Simple Rent Flats have opened sewerage, 37% sewerage were not free from insects, 48.9% were smell bad, and 53.8% were inundated the environment.

Table 4. Frequency Distribution of Technical Aspects of Building Utilization in Management System of Simple Rent Flats Study based on Health Aspects

| No  | Observation Object       | Kayu Putih | Wisma Labuhan | Amplas Simple Rent Flats | Total |
|-----|--------------------------|------------|---------------|--------------------------|-------|
|     |                          | n  | %     | n  | %     | n  | %     | n  | %     |
| 1   | Balcony with              | 14 | 15.2  | 1   | 1.1   | 0  | 0     | 15 | 16.3  |
|     | Potted Plants             | 26 | 28.3  | 39  | 42.4  | 12 | 13    | 77 | 83.7  |
|     |                          | 40 | 43.5  | 40  | 43.5  | 40 | 43.5  | 120| 100   |

(continued...
Table IV shows that 83.7% occupants did not use their balcony for potted plants by the applicable rules whereas the balcony is provided for hanging and potted plants. Stairs included in the general facilities so it can not be used personally. On the table, it shows 77.2% respondents did not use the stairs personally.

Table 5. Frequency Distribution of Physiological Aspects of Flats in Management System of Simple Rent Flats Study based on Health Aspects

| No | Physiological Needs | Kayu Putih | Wisma Labuhan | Amplus | Total |
|----|---------------------|------------|---------------|--------|-------|
|    | n | % | n | % | n | % | n | % | n | % |
| 1  | Lighting Enter No | 9 | 9.8 | 12 | 13 | 0 | 0 | 22 | 23 | 33 | 35.9 |
|    | Yes | 31 | 33.7 | 28 | 30.4 | 0 | 0 | 59 | 64.1 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 91 | 100 |    |       |
|    | Lighting Warm | No | 11 | 12 | 16 | 17.4 | 12 | 13 | 39 | 42.2 |    |       |
|    | Room | Yes | 29 | 31.5 | 24 | 26.1 | 0 | 0 | 53 | 57.6 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | Ventilation Good | No | 7 | 7.6 | 11 | 12 | 0 | 0 | 23 | 25 | 30 | 32 |
|    | Circulation | Yes | 33 | 35.9 | 29 | 31.5 | 0 | 0 | 62 | 67.4 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | YesVentilation | No | 26 | 16.3 | 15 | 16.3 | 0 | 0 | 41 | 44.6 |    |       |
|    | Bad | Yes | 14 | 27.2 | 25 | 27.2 | 12 | 13 | 51 | 55.4 |    |       |
|    | Circulation | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
| 3  | Humidity Wet No | 23 | 25 | 15 | 16.3 | 12 | 13 | 50 | 54.3 |    |       |
|    | Yes | 17 | 18.5 | 25 | 27.2 | 0 | 0 | 42 | 45.7 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | Humidity Mildew | No | 34 | 32.6 | 30 | 32.6 | 6 | 6.5 | 70 | 76.1 |    |       |
|    | Yes | 6 | 10.9 | 10 | 10.9 | 6 | 6.5 | 22 | 23.9 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | Noise | No | 15 | 16.3 | 14 | 15.2 | 7 | 7.6 | 36 | 39.1 |    |       |
|    | Noisy | Yes | 25 | 27.2 | 26 | 28.3 | 5 | 5.4 | 56 | 60.9 |    |       |
|    | Transportatio | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | tion | No | 21 | 22.8 | 34 | 37 | 12 | 13 | 67 | 72.8 |    |       |
| 4  | Occupant density > early | No | 34 | 37 | 29 | 31.5 | 7 | 7.6 | 70 | 76.1 |    |       |
|    | Yes | 6 | 6.5 | 11 | 12 | 5 | 5.4 | 22 | 23.9 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
|    | Occupant density 1 room> 2 people | No | 10 | 10.9 | 10 | 10.9 | 5 | 5.4 | 25 | 27.2 |    |       |
|    | Yes | 30 | 32.6 | 30 | 32.6 | 7 | 7.6 | 67 | 72.8 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |
| 5  | Occupant density Another | No | 31 | 33.7 | 17 | 18.5 | 5 | 5.4 | 53 | 57.6 |    |       |
|    | room switched function | Yes | 9 | 9.8 | 23 | 25 | 7 | 7.6 | 39 | 42.4 |    |       |
|    | Total | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |    |       |

Commonly, lights came in inside the room was 64.1%. 54.3% flats were not moist, and 76.1% respondents claimed that there is no growing mildew on household appliances, such as cupboard or chair. In Kayu Putih, 27.2% respondents felt noisy and 22.8% was being restricted by it. Room utilization from 72.8% respondents used their rooms more than two people and 57.8% respondents used another room as their bedroom.
Table 6. Frequency Distribution of Psychological Aspects of Flats in Management System of Simple Rent Flats Study based on Health Aspects

| No | Psychological Needs | Kayu Putih | Wisma Labuhan | Ampras | Total |
|----|---------------------|------------|---------------|--------|-------|
| 1  | Comfort             |            |               |        |       |
|    | Privacy Maintained  | Yes        | 39            | 42.4   | 30    | 32.6  | 8     | 8.7   | 77    | 83.7 |
|    |                     | No         | 1             | 1.1    | 10    | 10.9  | 4     | 4.3   | 15    | 16.3 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Problem Solved Well | Yes        | 37            | 40.2   | 30    | 32.6  | 7     | 7.6   | 74    | 80.4 |
|    |                     | No         | 3             | 3.3    | 10    | 10.9  | 5     | 5.4   | 18    | 19.6 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Togetherness        | Yes        | 37            | 40.2   | 32    | 34.8  | 5     | 5.4   | 74    | 80.4 |
|    |                     | No         | 3             | 3.3    | 8     | 8.7   | 7     | 7.6   | 16    | 19.6 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
| 2  | Obedience           |            |               |        |       |
|    | Waste Retribution   | Yes        | 36            | 39.1   | 25    | 27.2  | 4     | 4.3   | 65    | 70.7 |
|    |                     | No         | 4             | 4.3    | 15    | 16.3  | 8     | 8.7   | 27    | 29.3 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Electricity Bills   | Yes        | 3             | 3.3    | 17    | 18.5  | 5     | 5.4   | 25    | 27.2 |
|    |                     | No         | 37            | 40.2   | 23    | 25    | 7     | 7.6   | 67    | 72.8 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Training            | Yes        | 13            | 14.1   | 15    | 16.3  | 0     | 0     | 28    | 30.4 |
|    |                     | No         | 27            | 29.3   | 25    | 27.2  | 12    | 13    | 64    | 69.6 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Adding              | Yes        | 3             | 3.3    | 17    | 18.5  | 5     | 5.4   | 25    | 27.2 |
|    |                     | No         | 37            | 40.2   | 23    | 25    | 7     | 7.6   | 67    | 72.8 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Changing            | Yes        | 3             | 3.3    | 12    | 13    | 5     | 5.4   | 20    | 21.7 |
|    |                     | No         | 37            | 40.2   | 28    | 30.4  | 7     | 7.6   | 72    | 78.3 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Laundry             | Yes        | 39            | 42.4   | 17    | 18.5  | 0     | 0     | 56    | 60.9 |
|    |                     | No         | 1             | 1.1    | 23    | 25    | 12    | 13    | 36    | 39.1 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Parking             | Yes        | 40            | 43.5   | 38    | 41.3  | 0     | 0     | 78    | 84.8 |
|    |                     | No         | 0             | 0      | 2     | 2.2   | 12    | 13    | 14    | 15.2 |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
|    | Code of Conduct     | Yes        | 13            | 14.1   | 15    | 16.3  | 6     | 6.5   | 34    | 37   |
|    |                     | No         | 27            | 29.3   | 25    | 27.2  | 6     | 6.5   | 58    | 63   |
|    | Total               | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |

Table VI shows that 83.7% respondents felt that their privacy maintained well. 80.4% respondents claimed that they solved their problems well. 70.7% respondents dutifully and punctually pay the trash retribution. Commonly, electricity payment coincided with rent payment so that 72.8% of them did not pay punctually.

Training was very rarely held by the simple rent flats manager. It is by occupant recognition, 69.6% respondents did not follow the training held by the manager.

Table 7. Frequency Distribution of Diseases Transmission Prevention in Management System of Simple Rent Flats Study based on Health Aspects

| No | Diseases Transmission Prevention | Kayu Putih | Wisma Labuhan | Ampras | Total |
|----|----------------------------------|------------|---------------|--------|-------|
|    |                                  |            |               |        |       |
| 1  | Water availability               | Yes        | 38            | 41.3   | 25    | 27.2  | 10    | 10.9  | 73    | 79.3 |
|    |                                  | No         | 2             | 2.2    | 15    | 16.3  | 2     | 2.2   | 19    | 20.7 |
|    | Total                            | 40         | 43.5          | 40     | 43.5  | 12    | 13    | 92    | 100   |
respondents claimed that they had a closed trash can. The trash cover is needed to prevent flies and sometimes it was leaking, 52.2% recognizing that they did not maintain their sewage. Next, 19.6% recognized that the water flowed smoothly, 75% sewage also flowed smoothly even though water flowed smoothly. This is reinforced by the result of conducted interviews to respondents, 93.5% ventilated. 65.2% flats used water proof floor however Amplas Simple Rent Flats did not use to water proof floor.

Table VII shows that 79.3% respondents recognized that water availability in Kayu Putih Simple Rent Flats was from the artesian well. 58.7% respondents were free of vectors such as rat and cockroach. 82.6% respondents did not protect their flats by using wire netting to close their ventilation. 65.2% flats used water proof floor however Amplas Simple Rent Flats did not use to water proof floor.

Table 8. Frequency Distribution of Diseases Transmission Prevention in Management System of Simple Rent Flats Study based on Health Aspects

| No | Basic Sanitation | Kayu Putih | Wisma Labuhan | Ampras | Total | % |
|----|-----------------|------------|---------------|--------|-------|---|
|    |                 | n | % | n | % | n | % | n | % |
| 1  | Water          |   |   |   |   |   |   |   |   |
|    | Clean Consumed | Yes | 26 | 28.3 | 15 | 16.3 | 5 | 5.4 | 46 | 50 |
|    | No             | 14 | 15.2 | 25 | 27.2 | 7 | 7.6 | 46 | 50 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
|    | Smoothly       | Yes | 38 | 41.3 | 37 | 40.2 | 11 | 12 | 86 | 93.5 |
|    | No             | 2 | 2.2 | 3 | 3.3 | 1 | 1.1 | 6 | 6.5 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 2  | Sewerage Smoothly | Yes | 34 | 37 | 28 | 30.4 | 7 | 7.6 | 69 | 75 |
|    | Maintained     | Yes | 25 | 27.2 | 18 | 19.6 | 1 | 1.1 | 44 | 47.8 |
|    | No             | 15 | 16.3 | 22 | 23.9 | 11 | 12 | 48 | 52.2 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
| 3  | Trash can Permanent | Yes | 24 | 26.1 | 14 | 15.2 | 0 | 0 | 38 | 41.3 |
|    | Closed and Odorless | Yes | 15 | 16.3 | 3 | 3.3 | 0 | 0 | 18 | 19.6 |
|    | No             | 25 | 27.2 | 37 | 40.2 | 12 | 13 | 74 | 80.4 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
|    | Waste Separation | Yes | 9 | 9.8 | 6 | 6.5 | 1 | 1.1 | 16 | 17.4 |
|    | No             | 31 | 33.7 | 34 | 37 | 11 | 12 | 76 | 82.6 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |
|    | Emptied in ≥1x/24 hours | Yes | 25 | 27.2 | 21 | 22.8 | 7 | 7.6 | 53 | 57.6 |
|    | No             | 15 | 16.3 | 19 | 20.7 | 5 | 5.4 | 39 | 42.4 |
|    | Total          | 40 | 43.5 | 40 | 43.5 | 12 | 13 | 92 | 100 |

Based on conducted observation, 50% occupants had clean water and 50% colored and odor water. Water flowed smoothly. This is reinforced by the result of conducted interviews to respondents, 93.5% recognized that the water flowed smoothly, 75% sewerage also flowed smoothly even though sometimes it was leaking, 52.2% recognizing that they did not maintain their sewage. Next, 19.6% respondents claimed that they had a closed trash can. The trash cover is needed to prevent flies and keep out the odor. 17.4% recognized that they separated their waste and there were 57.6% who emptied their waste in ≥1x/24 hours.
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Table 9. Frequency Distribution of Diseases and Health Complaints in Management System of Simple Rent Flats Study based on Health Aspects

| No. | Diseases and Health Complaints | Kayu Putih | Wisma Labuhan | Amplus | Total | % |
|-----|-------------------------------|------------|--------------|--------|-------|---|
| 1   | Skin                          |            |              |        |       |   |
|     | Itchy                         | Yes        | 3            | 3.3    | 30    | 32.6 | 4  | 4.3    | 37 | 40.2 |
|     |                               | No         | 37           | 40.2   | 10    | 10.9 | 8  | 8.7    | 55 | 59.8 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
|     | Scabies                       | Yes        | 2            | 2.2    | 6     | 6.5  | 1  | 1.1    | 9  | 9.8  |
|     |                               | No         | 38           | 41.3   | 34    | 37   | 11 | 12     | 83 | 90.2 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 2   | Vector Borne Diseases         |            |              |        |       |   |
|     | DHF                           | Yes        | 0            | 0      | 1     | 1.1  | 0  | 0      | 1  | 1.1  |
|     |                               | No         | 40           | 43.5   | 39    | 42.4 | 12 | 13     | 91 | 98.9 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
|     | Diarrhea                      | Yes        | 3            | 3.3    | 9     | 9.8  | 9  | 9.8    | 21 | 22.8 |
|     |                               | No         | 37           | 40.2   | 31    | 33.7 | 3  | 3.3    | 7  | 7.2  |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 3   | Respiratory Complaint         |            |              |        |       |   |
|     | Breathless                    | Yes        | 2            | 2.2    | 5     | 5.4  | 10 | 10.9   | 17 | 18.5 |
|     |                               | No         | 38           | 41.3   | 35    | 38   | 2  | 2.2    | 75 | 81.5 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
|     | Tuberculosis                  | Yes        | 0            | 0      | 1     | 1.1  | 0  | 0      | 1  | 1.1  |
|     |                               | No         | 40           | 43.5   | 39    | 42.4 | 12 | 13     | 91 | 98.9 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
|     | Study Room                    | Yes        | 6            | 6.5    | 14    | 15.2 | 12 | 13     | 32 | 34.8 |
|     |                               | No         | 34           | 37     | 26    | 28.3 | 0  | 0      | 60 | 65.2 |
|     | Total                         | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |

Table IX shows that 59.8% did not feel itchy, however 30 respondents (32.6%) Wisma Labuhan Simple Rent Flats felt itchy and they claimed it as scabies. Scabies is caused by *Sarcoptes scabei* which can cause itching in the pleated body area even up to fester and perforated. In this study, 9.8% had suffered scabies. From 92 respondents, 1.1% of Simple Rent Flats had suffered DHF even though it was a small number, it was an outbreak and should be controlled.

Table 10. Frequency Distribution of Occupant’s Habits in Management System of Simple Rent Flats Study based on Health Aspects

| No. | Habits                  | Kayu Putih | Wisma Labuhan | Amplus | Total | |
|-----|-------------------------|------------|---------------|--------|-------|--|
| 1   | Sweeping                | Yes        | 36           | 39.1   | 36    | 39.1 | 6   | 6.5   | 78   | 84.8 |
|     |                         | No         | 4            | 4.3    | 4     | 4.3  | 6   | 6.5   | 14   | 15.2 |
|     | Total                   | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 2   | Clean Floor             | Yes        | 34           | 37     | 27    | 29.3 | 2   | 2.2   | 63   | 68.5 |
|     |                         | No         | 6            | 6.5    | 13    | 14.1 | 10  | 10.9  | 29   | 31.5 |
|     | Total                   | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 3   | Drain, Close, Pile Up   | Yes        | 37           | 40.2   | 28    | 30.4 | 9   | 9.8   | 74   | 90.4 |
|     |                         | No         | 3            | 3.3    | 12    | 13   | 3   | 3.3   | 18   | 19.6 |
|     | Total                   | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 4   | Cooperative             | Yes        | 35           | 38     | 21    | 22.8 | 0   | 0     | 56   | 60.9 |
|     |                         | No         | 5            | 5.4    | 19    | 20.7 | 12  | 13.6  | 39.1 |       |
|     | Total                   | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |
| 5   | Clean Bath Room         | Yes        | 38           | 41.3   | 36    | 39.1 | 5   | 5.4   | 79   | 85.9 |
|     |                         | No         | 2            | 2.2    | 4     | 4.3  | 7   | 7.6   | 13   | 14.1 |
|     | Total                   | 40         | 43.5         | 40     | 43.5  | 12   | 13 | 92     | 100|       |

Tables X shows 84.8% respondents swept their flats every day. 68.5% respondents had the clean floor. For doing drain, close, and pile up, 90.4% respondents agreed to do. Based on conducted
interviews, Medan City Health Department did not participate in the development planning of Simple Rent Flats. They will only participate when outbreak happens in the Simple Rent Flats. Housing and Settlement department must be responsible for simple rent flats management. At this time, Wisma Labuhan Simple Rent Flats was still restructuring when this study conducted so did Amplas Simple Rent Flats.

4. Conclusions
Kayu Putih Simple Rent Flats were in good condition based on technical aspects as well as health aspects. However, Wisma Labuhan and Amplas Simple Rent Flats were still needed to repair because they looked seedy and many occupants suffered by itchy. It is so recommended to intervene an education program for occupants and flats manager to carry out flats comprehensively and do a study with qualitative method towards Parliament, Medan City government, Health Department, and Housing & Settlement department.

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