Mapping of Occupation on Communal Spaces in a Flat Building: A Case Study in Indonesia

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Abstract: The increase in the number of slum and uninhabitable settlements in urban areas will gradually cause prolonged social problems, thus, their existence needs to be addressed wisely through proper handling that the growth rate can be suppressed. Procurement of rental flat buildings is one of the efforts which has been taken by the Indonesian government to overcome these problems. Although it is proven to bring benefits, its existence needs to be reviewed to provide comfort for its residents. This study aimed to study the phenomena in the flats for low-income people. This was a phenomenological deductive qualitative study involving 32 informants from different levels of the storeys as samples. Data were collected through interviews, observation and documentation and qualitatively analyzed through mapping the communal space, and an analysis matrix of daily activities of the residents. Result of the study indicated there were three different forms of occupation to communal space; 1) occupation in the corridor in the front of living place, 2) occupation in the hallway near the stairs and 3) occupation in the ground floor.

Keywords: occupation, communal space, rental flats

1. Introduction

Population in Indonesia, especially in big cities such as Medan, Jakarta, Semarang and Surabaya, has been growing very rapidly. If not managed properly, this growth of population may trigger other new social problems, including the emergence of other slum and illegal settlements. Therefore, procurement of housing is required. The recent lack of adequate housing facilities for low-income people has been one of the most serious challenges faced by the Indonesian government. In the city of Semarang, there are 10,942 uninhabitable houses (RTLH), yet, only 1,641 out of the total number of the houses were prioritized by the city government of Semarang for repair in 2021 (Disperkim Semarang City, 2021). In order to solve the issue, the city government constructed rental flat buildings in the previous years, and one of which was in the district of Gayamsari “rental flat building of Kaligawe”. Construction of this building was aimed to reduce the existence of surrounding slum and illegal settlements, and to provide decent housing for low-income people [1]. This building consists of 7 twin blocks divided into 3 twin blocks type 21 m² (block A, B, and C) and 4 twinblocks type 24 m² (block D, E, F, and G). Total number of residential units in the buildings is 684 units, divided into 288 units of type 21 m² and 396 units of type 24 m².

Evidences show that humans are able to adapt to a new living environment, including change of living place from horizontal to vertical [2]. Living in a flat has some positive sides, however, not everyone is willing to live in such neighbourhood. Most people, for various psychological, social and cultural reasons, still prefer to live in a residential area with a horizontal concept compared to the vertical one. Their reluctance can also be affected by the nature of top-down rental flat building construction. The shapes of flats in many places are almost uniformed, while the cultural background of the society...
in the places is definitely varied. Making people adapt from horizontal to vertical living place requires a thorough preparation especially in the aspect of socio-culture of the surrounding community. Therefore, construction of rental flat building needs a design which is capable of accommodating the characteristics of the surrounding community to prevent a negative impact from social interaction, [3]. The existing concept of rental flat building regards only the spaces generally needed by the residents without counting in their living behaviour before moving to a new place of the vertical house [4]. Economic reason is the main point for the people to keep living in a rental flat building. However, many of whom still want to live in low-rise buildings directly connected to the land to grow crops, raise animals, and play. Some residents disliked to be bound too much to the rules of flats [2].

Development aspect which failed to entirely meet the needs for the residents and the function of the building utilization has caused issues of inappropriate use of the spaces in the rental flat building. Good space arrangement should have regarded the existing space function. The recent condition on building arrangement indicates that it hardly fits to the modern architectural theory proposed by Sullivan (1986) on the concept of Form Follow Function as cited by Manieri-Elia and Sullivan [5]. The concept means, building should be designed in accordance with its function relevant to the needs for its residents [5]. In the rental flat building of Kaligawe, the building shape allowed other functions. The existing communal space was transformed into a private space for the residents. Communal space in the study referred to an area located in the corridor in the front of the living place; hallway near stairs, and ground floor. Occupants adapted themselves to the limited space in order that they can conveniently and comfortably live in the area. This study aimed to find out forms of the occupation in the communal space and find out reasons to occupy the existing communal spaces in the building.

2. Data and Methods

2.1 Occupation

The word occupation (noun) comes from an English word, means the result of occupying [6]. Occupation in the spatial context has the opposite meaning to the modern architectural theory proposed by Sullivan (1986) on form follows function as cited by Manieri-Elia and Sullivan [5]. This theory means, building shape must adapt to its function [5]. Space function must be adjusted to the kinds of its use, that the space can be optimally utilized. If the spaces are not employed in accordance with its function, problems will potentially arise, thus, may interfere with the primary activities of the space function.

2.2 Communal Space

Communal space is an area which can accommodate all social activities and can be utilized by the entire community without being influenced by personal interest of each party [7]. Communal space is social space aimed to meet the primary need for resident in order that they can develop their social life [8].

2.3 Flat

RI Law No. 20 of 2011 on flat building explains that buildings categorized into flat are divided into four types; 1) general flats, 2) special flats, 3) state flats and 4) commercial flats. Public flats are divided into two, simple owned flats and simple rental flats. The two types of public flats are organized to meet the housing needs of the upper middle-income and low-income people. The aim of building flats complying these regulations is to ensure the fulfillment of the needs of decent and affordable flats, especially for the low-income people in order that they can live in a healthy, safe, harmonious and sustainable living environment in an integrated housing and settlement management system. Simple rental flat is defined as a multi-storey building functioning as a living place for low-income people. Tenants rent a place to live where the rental fee includes social space facilities, shared facilities and shared buildings constructed using the funds from the Central Government and Regional Governments.
2.4 Research Method

This study employed a phenomenological deductive approach to reveal forms of communal space occupation carried out by the flat residents in term of adjusting themselves to their limited residential space. 7 twin-block communal spaces in the flat building were selected as the site of research. Sample of the study was selected using snowball sampling technique. Primary data were collected from the informants through interview, and repeated several times to different snowballed samples until data were saturated. In total there were 32 informants living in the 7 blocks coming from different levels of the residential storeys. This technique was utilized to find out deeper information from different sources. Of the samples, the informants were classified into 2 different kinds; first, the ones living in the space type $21 \text{ m}^2$ (Block A, B, C) and second, the one living in the space type $24 \text{ m}^2$ (Block D, E, F, G). To support finding of the primary data, secondary data focused on resident social characteristics and resident rules collected through observation and documentation. Once data collection was completed, these data were analysed using three different techniques of data analyses; mapping of communal space, qualitative descriptive and analysis matrix of daily based activities of the residents.

3. Results and Discussion

Data collection was carried out from January to March 2021 at Kaligawe rental flat building located in Kaligawe Village, Gayamsari District, Semarang City (Figure 1). Administratively, this place is bordered by Jalan Sawah Besar 13 in the north, Tanjung Mas – Sronodol Toll Road in the east, Jl. Banjir Kanal in the south, and Pasar Waru in the west. Below is the satellite map of the rental flat building area of Kaligawe, Semarang City.

![Figure 1. Satellite Map of Rental Flat Building of Kaligawe Per Block (Google Earth, 2021)](image-url)

The planning and construction of flats in Semarang City (Kaligawe, Pekunden, and Bandarharjo) and Surabaya City (Romokalisari, Dupak, and Sombo) only involved 50% of the total residents. However, in the process of maintenance and service, the involvement of residents was more than 50%,

represented, for example, in keeping their environment clean. Their involvement in this case can be in the form of energy, money, food and drinks. The residents expressed their satisfaction to the existing facilities, such as: kitchen, bathroom, sanitation, air temperature, lighting, stairs, and security of the parking area. Satisfaction on the services made them stay longer in the place with an average duration of stay of more than 15 years. Although in fact they still wanted to move to a horizontal house with a sufficient yard and a better environment. Those who still wanted to live in the flat were those who did not have enough money to buy a house, thus they expected to live in a living place with a low rental fee of between 2-4 dollars per month (Ramadhani, 2018).

Rental flat building of Kaligawe has 7 twin blocks divided into 2 types; type 21 m² in blocks A, B, C and type 24 m² in blocks D, E, F, G. Twin-block type 21 m² has 96 units of living spaces, each of which consists of 4 storeys, while twin block type 24 m² has 99 units of living space, each of which consists of 5 storeys. Residential unit type 21 m² is located in the second to fourth floor, while type 24 m² is located in the second to fifth floor. First floor is used for public facilities such as praying room and parking area. For type 24 m², there has been 3 additional residential units in the first floor.

Of the 32 informants, 17 of whom lived in the residential space type 21 m² in blocks A, B and C, while the rest of 15 informants lived in the residential space type 24 m² in blocks D, E, F and G. Each of whom represented every type of adaptation to their living environment. This study focused on 3 main issues: 1) the type of communal space in Kaligawe flat building, 2) activities of the residents in term of using the communal space, and 3) form of occupation by residents on the communal space.

3.1 Identification of Communal Space in Kaligawe flat building

The communal space in the rental flat building of Kaligawe is divided into two; the communal space inside the building and the communal space outside the building (Figure 2). The communal spaces outside the building (open communal spaces) were not included in the aspect for discussion. Meanwhile, the communal spaces in the building (closed communal spaces) consist of a lobby near the left and right sides of stairs, a hallway near the middle stairs, a corridor in the front of the residential unit, a praying room, a multipurpose room, a parking lot and a secretariat room. The following is a floor plan for the closed communal space in block A to represent the residential space type 21 m² and block E to represent the residential space type 24 m² (Figure 2-5).

![Figure 2. Distribution of Communal Space on the Ground Floor of Block A (Documentation, 2021)](image-url)
Figure 3. Distribution of Communal Spaces on the Second Floor, Block A (Documentation, 2021)

Figure 4. Distribution of Communal Spaces on the Ground Floor of Block E (Documentation, 2021)
3.2 Identification of Communal Space Utilization in the Rental Flat Building of Kaligawe

Communal space in this study referred to a public area in the flat (Table 1). This space consisted of the planned and the unplanned communal spaces. The planned spaces in this case included a parking lot, praying room and multipurpose room, while the unplanned space consisted of the corridor in the front of the residential unit, the hallway near the stairs and the ground floor. Below is the description of the communal space utilization based on the 32 informants.

Table 1. Communal Space Utilization in the Rental Flat Building of Kaligawe

| No. | Communal Space | Description of the Communal Space Utilization at the Rental Flat Building of Kaligawe |
|-----|----------------|-------------------------------------------------------------------------------------|
| 1   | Planned        |                                                                                     |
| a.  | Praying room   | a. Praying room in the building was used as a place for praying, learning to read the Koran, and for learning about Islamic teaching. |
| b.  | Parking area   | b. Parking lot at the building was used for parking motorbikes and bicycles, wedding reception activities, and circumcision activities |
| c.  | Multipurpose Room | c. Multipurpose room at the building was used as a meeting place and as a place for praying and showing respect for the corpse before burial. |
| 2   | Unplanned      |                                                                                     |
| a.  | Corridor in the front of residential unit | a) Occupation of corridor in front of residential unit |
| b.  | Hallway near stairs | • Occupants used the corridor in the front of the residential unit to receive guests |
| c.  | Ground floor   | • Occupants used the corridor to dry clothes |
|      |                | • Occupants who owned stalls took advantage of the residential corridor to place their items for sale |
|      |                | • Occupants put unused furniture or items in front their living place |
|      |                | • Occupants hanged their bird cage on the ceiling in the front of their house |
|      |                | • Occupants kept their belongings on the cable holders |
The form of the space

3.2 Findings

Findings of the discussion showed, the communal space in the research area had been occupied by the residents of the rental flat building of Kaligawe. Occupation took place in the corridor in the front of the residential unit; in the hallway near the middle and side stairs; and on the ground floor. The occupation was the impact of the environmental adaptation by the residents, this was in line with the theory of environmental cognition proposed by Holahan (1982) as cited by [9] which explains that residents will take the same action in a new housing as what they have done in previous place. The residents of this flat building previously lived in a horizontal living place. Due to economic problems they chose to live in a vertical space for living. Therefore, it was not surprising that the residents of the flat building carried out life habits like when they lived in a horizontal living place, where they could sit on a terrace, raise chickens and birds, put flower pots in front of the house and let children play in the front area of their house. The limited space in the building had urged the residents to use the communal space to meet their personal desires. This situation contradicted to the theory of form follow function proposed by Sullivan (1986) as cited by [5]. The theory asserts that form should follows function and so the form of the space in the building should have been utilized in accordance with its function. Corridor in front of the residential space was originally created as a circulation for residents to walk out or heading their house. Below is the explanation about the occupation taking place in the space:

3.3.1 Occupation of the Corridor Space in the front of the Residential Unit

The corridor space occupation in the front of living place consists of several forms are classified into several kinds:

a. To welcome guests

This issue appears from the way of the resident placed their chair in the front of their living place to receive guests (see Figure 6). This space was a communal space. The types of chairs allowed are the temporary ones. It means, the residents take out their chairs when there are guests, but after which these chairs have to be removed. The following pictures represent the conditions in block E and block F. The chairs were intentionally placed in front of their living space, the reason of which was because they did not feel like to bother lifting chairs and tables when guests were coming. The phenomena indicated that people of the living area required space to welcome guest.
b. *To dry clothes*

The balcony located behind the residence is an area provided for drying clothes (Figure 7). The space constraints make the area changes its function not only to dry clothes but also to put other household furniture, as a result, the space is no longer sufficient to accommodate clothes to dry. In addition to placing household furniture, in other places, the existing balcony has been converted into a warehouse, thus, the drying room for clothes is completely transferred to the front of the house. The following pictures describe the conditions in the research location. For the reasons of beauty, only 2 (two) out of 32 informants did not make use of the corridor as a place to dry clothes.

![Figure 7. Corridor as a place to dry clothes (Documentation, 2021)](image)

*c. As a place to sell items*

Economic activities should have not been carried out in the corridor in the front of the residential unit as it might distract circulation of other residents in the area due to the narrowing space in the corridor. Some residents did the selling activities to earn income to survive and to pay for daily needs. The following are pictures of the area used as a place for selling (Figure 8).

![Figure 8. Corridor area used as a place for selling (Documentation, 2021)](image)
d. **To place unused properties**

Considering that corridor is a public space, it should have been free from personal properties (Figure 9). Limited space was the primary reason for the residents to put their belongings in the front area of their living place. Placing any kinds of properties narrowed the corridor. The number of items in a house was influenced by the number of family members. The following is portraits of the conditions related to the problems as discussed in this section.

![Figure 9. Corridor as a space to place personal properties (Documentation, 2021)](image)

*Figure 9. Corridor as a space to place personal properties (Documentation, 2021)*

e. **To hang bird cages**

There is a hanging rack above the ceiling made of iron for placing cable installations in the front area of the residential unit. The rack has holes, and the holes in it were used to hang bird cages (Figure 10). Hanging bird cages in inappropriate places disturbed other residents passing by the corridor. The following is the pictures in the research location.

![Figure 10. Corridor as a place to hang bird cage (Documentation, 2021)](image)

*Figure 10. Corridor as a place to hang bird cage (Documentation, 2021)*

f. **To keep properties on the cable installation rack**

The iron rack above the corridor ceiling is used by residents to put the unused properties (Figure 11). These items should have been sold or disposed of, but the owner did not do. The accumulation of goods on the ceiling of the corridor increased the load on the cable installation rack which might bother the technical function of the rack. Below are pictures to illustrate the conditions.
Figure 11. Corridor as a place to keep personal properties (Documentation, 2021)

g. To place flower pots in front of the house and on the corridor fence

Placing flower pots in the front area of the residential unit was one of the things that the residents used to do when they lived in a horizontal house (Figure 12). Even though they lived in different contexts, they still wanted to do the same things as before. Results of the interviews explained taking care of plants was a hobby they believed to make surrounding around their house beautiful. However, placement of flower pots in the corridor narrowed the space for movement and certainly disrupted the circulation of the residents. The following pictures describe condition of the corridor.

Figure 12. Corridor as a place to put flower pots (Documents, 2021)

Results of the interviews suggested that the limited space in the residential unit became the main reason for the residents to occupy the communal spaces. What they did bring them comfort to live in the neighbourhood, even though this violated the rules of the flat. The use of corridors which did not comply to its functions might disturb circulation of the residents, especially when either natural or man-made disasters occurred such as earthquake, fire etc. The goods in the corridor space would possibly hinder the circulation during the rescue process. Therefore, there was a need for mutual agreement among parties regarding to the use of communal spaces, especially the ones in the corridor. Figure 13 is a site diagram of the block and the residential floor experiencing occupation, including the corridor in the front of the residential unit.
Based on the diagram, there are 7 forms of occupation in the corridors in the front of the residential units. This issue evenly took place to the entire blocks across the building levels from 2nd to 5th floor.

3.3.2 Occupation of hallway near the stairs

The hallway near the stairs is used a) to place bird cages; b) to keep unused properties; c) as a sleeping place; d) as a cooking place; and e) as a place to keep personal properties. To find the convenience of living, residents of the building did different things regardless to the existing rules (Figure 14). Occupation of the communal space (hallway) in the flat building of Kaligawe was triggered by the space limitation in the area (Figure 15).
Figure 14. Occupation of Hallway for personal interests of the residents (Documentation, 2021)

3.3.3 Occupation to the Ground Floor

Occupation to the ground floor was reflected through the following action: a) residents used the ground floor as a place to keep the unused properties; b) residents used the ground floor to place chicken cage; and c) residents used the ground floor to place flower pots. The ground floor was initially made for a parking lot, but at the time of the study, this place shared its function as a parking lot and as a place to keep the unused properties, place the chicken cages, and keep the flower pots. The following are the forms of occupation towards the communal space on the ground floor (Figure 16 and 17).
4. Conclusion

Occupation on the communal space by the residents of the flat building of Kaligawe reflected the adaptation process by the residents to the environment. The limited space in the neighbourhood made the residents use the communal space for different personal purposes, although it violated the rules. Communal space in the flat building of Kaligawe was divided into 3 (three): 1) Corridor in the front of the residential units; 2) hallway near the stairs; and 3) ground floor of the building. Those three communal spaces were occupied for keeping properties or doing routines. Forms of the occupations did not comply to the theory of “form follow function” by Sullivan (1986) in Manieri-Elia and Sullivan [5]. This theory argues that space should be designed in line with its function. Forms of the occupation in the communal space adjusted to the area and width of the space, such as 1) part of the corridor transformed into a living room, selling place, and a place for personal properties; 2) the middle side of hallway near the stairs became sleeping place, cooking place and storage for personal properties; and 3) ground floor becomes a place to keep personal belongings.
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