

Investigating Clutter in Domestic Spaces for Better Interior Health and Comfort

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Abstract

The size of houses in big cities in Indonesia in the past years keeps shrinking due to housing affordability and land availability. There are more people from mid-range society whose houses are smaller than their parent's houses where they were used to live in. The problem arises when they have adapted the behavior in domestic space from their parents, but their space is limited. Thus, clutter is found in many houses and affects the interior health and comfort. However, interior health and comfort (IHC) is one of the aspects that contribute to building's sustainable design and worth a concern from the domestic level. This paper investigates the spots of clutter in domestic spaces with using an empirical research method. There are 30 participants in the research who volunteered in finding unused material belongings in their houses that have become clutter and documenting the process to create a before-and-after evidence. In the end, it is found that kitchen and communal areas are prone to become places of clutter.

Keywords:

Clutter; Domestic Space; Interior Health and Comfort

4.1. Introduction

Minimalist houses in Indonesia have received a huge interest especially in capital cities or other big cities. The houses arose as a response to land scarcity in urban areas and to the decreasing financial capacity of the current generation. With sizes ranging between 36 to 45 square meters, minimalist houses tend to have smaller sizes than houses in common, which makes them more affordable and receive a lot of attention in the housing market. With such a small size, minimalist houses usually accommodate two bedrooms, a common room or a living room, a bathroom, and a kitchen, which can be separated from other rooms or inserted together in the common room (Putra et al., 2016). Regardless of the size, minimalist houses still need to serve occupants' activities just like any other houses, such as resting after daily work, sleeping, doing interaction between occupants, working and studying, and many other home activities, all of which also demand interior comfort (Evans, 2020; Fessel, 2020; Stănciulescu, 2020).

The more activities inside the house are usually followed by items to support those activities (Adediran et al., 2020; Rogers & Power, 2020). We need a bed to sleep, we need sheets for our beds, we need plates and cutleries to eat, we need a desk to work, we need a stove and utensils to cook, etc. Gradually, we accumulate items and store them inside the house. When the size of the house is limited, then the problem arises. If the item accumulation is not balanced by sorting out the used item off the house, the house will become overloaded by material possessions, untidy or even chaotic. The occupants might feel that their house is too small and plan to make a house renovation to add the second layer of the floor. However, renovation takes another cost and is not suitable for all occupants equally. Moreover, when the house mass is enlarged after renovation, it will impact its surrounding as well. The visual will change and the mass might block the sunlight to their neighborhood.

Overall, the comfort of the house is affected and needs to be addressed as an issue (Fivanda & Ismanto, 2021; Rusyda et al., 2018; Stănciulescu, 2020; Suryo, 2017). When it is not treated, it may threaten the health of the occupants. Therefore, a sustainable concept is required in approaching this matter.

Sustainable design is a design approach that focuses not only on the building and its surroundings on a large scale, but also on the comfort of the interior level of a building in the long term. Sustainable design in Indonesia is rated by Green Building Council Indonesia (GBCI) and has a specific category for homes, called Green ship Rating Tools Homes. The tools evaluate a house in terms of its achievements towards green design, consisting of criteria: Appropriate Site Development, Energy Efficiency and Conservation, Water Conservation, Material Resources and Cycle, Indoor Health and Comfort, and Building and Environmental Management (Green Building Council Indonesia, 2014). The evaluation on Interior Health and Comfort holds the highest percentage to score the rate as it directly impacts the users of the building. The most frequent case that occurs when a building lacks this aspect is a temporary disease called Sick Building Syndrome (SBS). SBS is a syndrome when occupants feel sick in their physical body, such as sneezing, headache, or some other symptoms of allergies, when being inside the building for a certain time, but the sickness disappears soon after they get out (Adiningsih & Hairuddin, 2021; Aditama & Sita L. Andarini, 2022). It happens as a result of pollutants or pathogens that are trapped inside the building due to poor air circulation, unsuitable interior materials on furniture or finishings, wrong placements of openings, or too many items inside the rooms that become places for bacteria or fungi. In a small house, the placement of openings does not really affect the interior when the area is less than 10 square meters (Edge, 2019), but the more crucial thing lies on the existence of material items.

Material chaos inside the house usually happens as a result of accumulative material possession (Akhmadi & Setiamurti Rahardjo, 2020), which tends to happen unconsciously or prone to negotiation by the occupants. Unlike unwanted noises or thermal and lighting discomfort, the existence of material possession does not disturb the occupants directly. But when the accumulation is neglected, there comes dust, fungi, or even pests that may create Sick Building Syndrome (SBS). So, prevention is necessary by treating material possessions accordingly. Keeping the room tidy and clutter-free is mandatory in order to keep the interior of the house healthy. However, keeping the entire house tidy is challenging for busy occupants, especially those who cannot afford hiring a domestic helper. So we investigate house samples to find out which rooms are prone to clutter and require priority to take action.

4.2. Method

This research involved 30 respondents who were guided to investigate their own houses. From those respondents, we collected data from houses ranging from sizes 21 to 45 square meters. Since different houses have different numbers of rooms, we only observed rooms found in every house, such as bedrooms, common room, living room, dining room, and kitchen, all of which represent private, public, and service areas. Each side of the room was documented through photos to get the picture of visual composition between the circulation space and the size of material items. The data were analyzed using empirical methods based on anthropometric comfort, and grouped based on the level of clutter to identify which rooms are prone to chaos and what possibly become the reasons behind the clutter.

4.3. Result and Discussion

Most houses from our respondents are placed inside a neighborhood, designed by a housing developer. Generally, those houses have similar sizes to their neighbors as well as typical layouts and facades. Some samples of the house had been modified or renovated. These happened to houses with more numbers of households compared to houses that are still in their original forms. Modified houses usually already have more areas for rooms, but to keep the research focused, we only discuss the rooms that are found in either modified or original houses. From the collected data, it is found that there are three areas inside the houses where clutter exists; (1) living room, (2) master bedroom, and (3) kitchen area.

Living room in a small sized house is usually placed in a public area. Although its main function is to accommodate the occupants when they want to gather and have interaction between each other, which should be private, but, welcoming guests by inviting them into the house is a part of Indonesian culture. When the house does not have a separated room spared for this, then the living room also serves this function. So, we usually find this room as the first room right after the main entrance. Mixing the purpose of being public and private at the same time is not ideal. Therefore clutter is easily spotted in this area.

The second room is the main bedroom. No matter how small the house is, the housing developer usually keeps inserting two bedrooms to get to the selling market. As a result, the size of the bedrooms can be less than the standardized requirement. When the sizes of the bedrooms are equal, usually the main bedroom is the one placed in the front of the house. And when the sizes are different, the main bedroom is the one with a slightly bigger size than the other one. In our sample, the sizes of the main bedroom

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are ranging between 7 to 9 meter squares. With such a limited size, it serves not only as a place to sleep. Since there is not much space available in the other rooms, homeowners usually store their private belongings inside their bedrooms, such as clothes, jewelry, documents, and some private collections. When the living room feels too public, some people also like to work inside the bedroom to get privacy. So it is common to have a desk with the workstation inside the bedroom.

The last room with clutter is the kitchen area. Depending on the size and layout, some houses have it separated with the dining area, but some houses merge kitchen and dining into the same room. Houses with total areas ranging from 36 to 46 square meters usually have both kitchen and dining area, even though the dining area might only fit for a half-sized dining table, but the houses around 21 meter squares only provide the kitchen, so the homeowners eat in the living room or modify the space to make a dining area.

From three areas as mentioned above, we collected items inside the room which created clutter and measured the volume. Next we measured the size of the circulation area. From those data, we could see how clutter affects interior circulation inside the house. The simulation is seen on the graphic below:

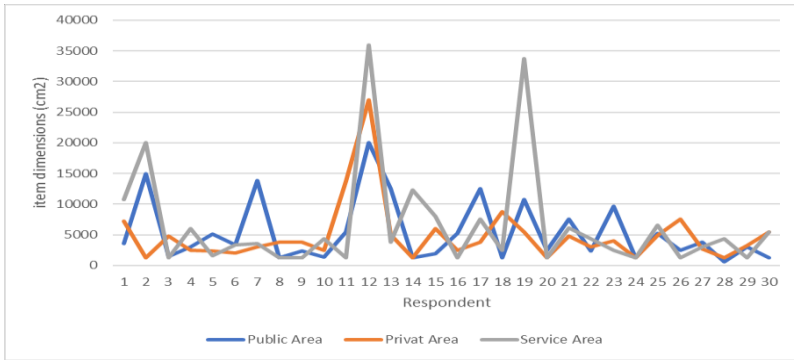


Figure 4.1 Dimensions of clutter in the circulation area

It is seen from the graphic that the service area, represented by the kitchen and dining area, seems to experience more chaos. The accumulation measurement of the clutter's size can reach to 35000 cm² or equal to 3.5 meter squares that block the circulation in that area. Meanwhile the average size of the clutter is 6500 cm² or equal to 10 boxes of instant noodle carton packaging. According to the homeowners, the service area is like a practical place when they need to find a place to store something and they cannot think of any other specific room. They tend to search for an area which is not really seen and will not disturb an aesthetic part of the house when it becomes untidy. So, they instantly go to the service area where apparently only the kitchen is there.

Even so, the public area, represented by the living room, also has a significant accumulative size of clutter. Its size on average is 5400 cm² or as big as 8 boxes of instant noodle carton packaging. The reason behind the clutter is that the house does not have a designated spot or compartmentalized furniture to store private things that are not accommodated in the private area. Several also mention the difficulties to sort items as the main issue between occupants, especially when the room has to become multifunctional as a guest room, family room, and dining room at the same time.

The private area has the smallest accumulative size of clutter, which is 4800 cm² or equal to 7 boxes of instant noodle carton packaging. The private area, represented by the master bedroom usually has compartments that makes the storage of material possessions tidy. A bedroom is usually complemented by a cupboard that can be a wardrobe and miscellaneous storage. The furniture has a vertical model that saves a lot of circulation space. So even though there are numerous categories of items, people can still move more comfortably inside the bedroom compared to in the living room or in the kitchen. So, comparing three areas in our research samples, the service area, especially the kitchen, needs more attention in the aspect of planning the storage.

4.4. Conclusion

Chaos in small houses occurs as a result of clutter that unconsciously remains inside the houses when the homeowners rarely use their material belongings. It creates indoor pollution from dust, fungi, virus, bacteria, or pests that bring discomfort when doing activities inside the house and may impact occupants' health. The existence of clutter also disturbs indoor circulation as it blocks the area of movements, and it is majorly found in the service area, especially in the kitchen, or kitchen and dining room when they are merged together. This area is usually placed at the back of the house and is easily neglected by the homeowners. The next area where clutter is found is in the living room as a public area due to its lack of compartmentalized furniture to store items accordingly. However, there is only a slight difference in accumulation of clutter size in this area compared to the kitchen area and the bedroom, the room with the least amount of clutter that blocks the circulation. In conclusion, managing material possessions and planning the storage system in the kitchen, living room and bedroom are crucial to support interior health and comfort.

4.5. References

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