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Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía,
Lingüística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 36, 2020, Especial N°

26

Revista de Ciencias Humanas y Sociales

ISSN 1012-1537/ ISSN e: 2477-9385

Depósito Legal pp 198402ZU45



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Housing Transformation Review: A Case Study of Low Medium Cost Settlement

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Abstract

Good quality housing is a key element for ensuring a healthy environment. A good house design produces a favorable and comfortable environment. In a hot-humid climate country like Malaysia, the indoor environment often faces issue on heat gain reduction in building spaces due to the commonly increase in high air temperature, relative humidity and low air movement. This leads to thermal discomfort of building occupants. Thus, housing transformation, more often than not is done in order to improve the housing condition and to fulfill the needs of household. This paper discusses the factors influencing transformation and the implications of the transformation activities ensuing spatial qualities. A study was conducted at Taman Sourabaya Indah, Kuching. As a result, 18% of the residents still keep the original design of their houses, while 57% and 25% of houses had gone through horizontal and full transformation respectively. These transformations were done based on physical, social and economic factors. The study concludes that housing transformation occurs to be one of the means for the people especially from low or low medium income earners who strive to get access to housing supply. The intention for a house transformation

Recibido: 20-12-2019 •Aceptado: 20-02-2020

comes from the residents' desire to improve their dwelling place, taking into account the physical characteristics of the building in which they live but the ensuing changes can be assumed to have far reaching socio-economic implications.

Keywords: Design, Settlement, Transformation, Housing, Building.

Revisión de la transformación de la vivienda: un estudio de caso de liquidación de bajo costo medio

Resumen

La vivienda de buena calidad es un elemento clave para garantizar un medio ambiente saludable. Un buen diseño de la casa produce un ambiente favorable y confortable. En un país de clima cálido y húmedo como Malasia, el ambiente interior a menudo enfrenta problemas de reducción de la ganancia de calor en los espacios de los edificios debido al aumento común de la alta temperatura del aire, la humedad relativa y el bajo movimiento del aire. Esto conduce a la incomodidad térmica de los ocupantes del edificio. Por lo tanto, la transformación de la vivienda, la mayoría de las veces, se realiza para mejorar las condiciones de la vivienda y satisfacer las necesidades del hogar. Este artículo discute los factores que influyen en la transformación y las implicaciones de las actividades de transformación que resultan de las cualidades espaciales. Se realizó un estudio en Taman Sourabaya Indah, Kuching. Como resultado, el 18% de los residentes aún conservan el diseño original de sus casas, mientras que el 57% y el 25% de las casas habían pasado por una transformación horizontal y completa, respectivamente. Estas transformaciones se realizaron en base a factores físicos, sociales y económicos. El estudio concluye que la transformación de la vivienda es uno de los medios para las personas, especialmente de personas de bajos o medianos ingresos que se

esfuerzan por obtener acceso a la oferta de vivienda. La intención de una transformación de la casa proviene del deseo de los residentes de mejorar su lugar de vivienda, teniendo en cuenta las características físicas del edificio en el que viven, pero se puede suponer que los cambios posteriores tienen implicaciones socioeconómicas de gran alcance.

Palabras clave: Diseño, Asentamiento, Transformación, Vivienda, Construcción.

1. INTRODUCTION

Housing transformation could be defined as the changes in the appearance or character of building envelope components and rearrangement of internal layout to structural amendments (Kim et al., 2005; Popkin et al., 2012). These definitions described the transformation as the alteration of the original form of a dwelling unit or its spatial configurations by the occupants in order to meet their current needs and expectations. Some parts of a house are repaired, maintained or improved upon and might be replaced if the building is aging and no longer serves its purpose.

Understanding the transformation process is thus important as it expands knowledge on how the house functions and the relationship between household members, in particular, and the built environment in general. A body of knowledge relating to factors like housing transformation, emergence of house types and use of space provides a basis for understanding spatial qualities which contribute towards the improvement of living conditions. By analyzing housing

transformation processes, house types and uses of space, an opportunity is provided linking research knowledge, practice and design which is considered fundamental in providing shelter to people.

Due to that, the house owners or the residents find that their house are not to the level of their expectation or inappropriate to their household requirement. Therefore, they explore on physical adjustment of the units to suit their needs and lifestyle. In support of Rapoport's submission, Tamés (2004) also noted that transformations are common in public housing due to the uniformity and monotonous and offer limited opportunities for self-expression by the residents. On the other hand, Salama (1998) and Salim (1998) stated that the need of extra spaces for the household and for income generation is a key motivation for transformation.

It is believed that transformation activities not only contributed to increase housing supply for low-income earners but also contribute to improve housing quality in a neighborhood (Salim, 1998). This scenario happens in housing scheme in Malaysia where residents establish a volunteer committee called Neighborhood Watch or "Rukun Tetangga" for the purpose of community development. The role of Neighbourhood Watch is fostering the spirit of neighbourhood unity and to assist security aspects (Fig.1).



Figure 1: Community guard house

The positive impact from housing transformations is that it unites family, reduce commuting within the city, offers employment to those who need within the residential area and rejuvenate social and economic life of housing estates (Tipple, 2000a). In addition, Manalang et al (2002) also indicated that transformation activities have improved and increased residents' sense of pride towards their house, confidence and feeling the attachment to their house.

House is the first chain of education (Agus & Samuri, 2018). House is the first place that the family members are trained and where social relations are experienced in a controlled environment (Govindasamy & Lan, 2011). House is the first place where people learn to behave socially and become ready to mix and interact with other people. Housing formations in the city context build orders either totally conceived or spontaneously formed which impose people a way of life and teach how to be in harmony with it at every category.

House is an agent that plays an important role in articulation of social and cultural identity. It helps people to emphasize their status in the society. Mougnot (1988) stated that a house could be a social

status symbol by which people measure their position in the social structure. The residents can be identified with a social level that they can be either equal or superior to others. Thus, belonging to a social group means to have differences or putting a distance between group members and outsiders. The transformation of houses could give impact on society development. Therefore, the process of housing transformation should be taken seriously.

2. RESEARCH METHODOLOGY

The aim of this study is to explore the factors influencing transformation and the implications of the transformation activities ensuing spatial qualities. Main focus is on the process of housing transformation and factors contribute to transformation.

Taman Sourabaya Indah located in Petra Jaya, Kuching, Sarawak (Figure 2) is the only low medium cost housing development in Sarawak constructed based on cluster design is selected for this study. The total number of houses in this housing scheme is 434 units. One cluster consists of 4 units of houses. The original layout built in 1990 is shown in Figure 3. It consists of 2 bedrooms, toilet, kitchen and living area at the ground floor and attic area at the first floor. After almost 30 years, most of the houses have gone through a transformation process; be it vertically or horizontally; affecting interior or/and exterior part of the house.

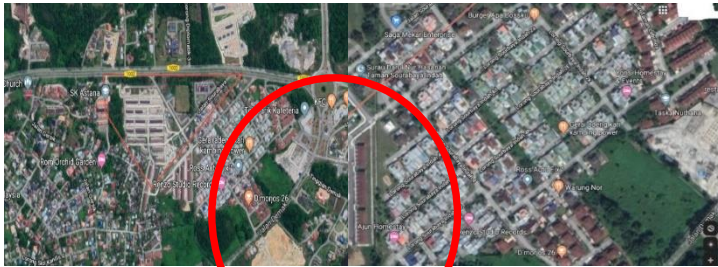
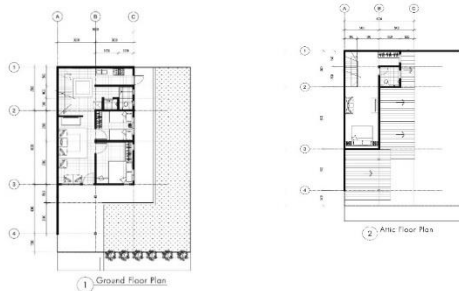


Figure 2(a): Left: Location of Taman Sourabaya Indah (marked with red line) and Right: Taman Sourabaya Indah areas



Figure 2(b): Original design of the house (Basic Unit)



Three different houses from the housing development are selected and classified as follows:

- (a) Basic Unit
- (b) Horizontal Transformation

(c) Full Transformation

The selection of the three (3) types of houses are based on the similarity factors of housing transformation, human behavior, or room function, floor layout, housing location or population. The evaluation of the transformation process focuses on three (3) factors; physical, social and economic factor.

3. RESEARCH FINDING

78 units (18%) of the houses in the area still retain their original design despite changes being made to their immediate neighbouring houses (Figure 4). The finding shows that the basic houses normally rented or homestay type of houses. Therefore, no stress factor will lead to housing transformation.



Figure 4: Basic house (right) which is next to the transformed house (left)

There is no or limited changes except for new painting for maintenance purposes as shown in Figure 5.

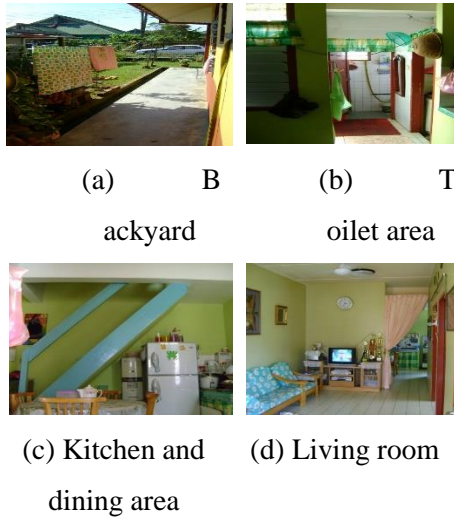


Figure 5: Internal area of the basic house

(a) Horizontal Transformation

Figure 6 shows the different between the original designs compared to one of the unit that had gone through transformation process. The wall up fence creates a sense of privacy area and symbolizes social status. This scenario is supported by Mougenot (1988), by doing so, the residents show the differences by putting a clear barrier between house residents and outsiders.



Figure 6 Exterior transformation (left side the original layout and right side had gone through transformation process)

Horizontal transformation took place when extra rooms or spaces added towards existing house horizontally. 247(57%) units of houses had gone through the horizontal transformation process. Figure 7 shows some example of houses that had been transformed horizontally.



Figure 7: Houses that have gone through horizontal transformation

The study shows that the number of residents in a unit keeps increasing. This scenario will lead to high usage of common facilities such as living area and kitchen. While transformation increases the interior space, the exterior has decreased. Most people tend to make the most of the outdoor space which makes it difficult to have an outdoor living space.

The fact that housing transformations took place without the guidance from municipal officials reveals that horizontal extension has led to houses becoming too close to each other. This results in dark, unused alleys that serve as waste dumps and create a dirty and poor living environment. The proximity of the houses also causes ventilation problems and inadequate natural light in the house. Horizontal transformation could maximize land use for transformation purposes (Figure 8).



Figure 8: Limited spaces left after transformation

The creation of expandable spaces based on the users' needs allow multiple usage and definition of spaces. The largest change is the transformation of a single-function space such as a living room to a multifunctional room as shown in Figure 9.

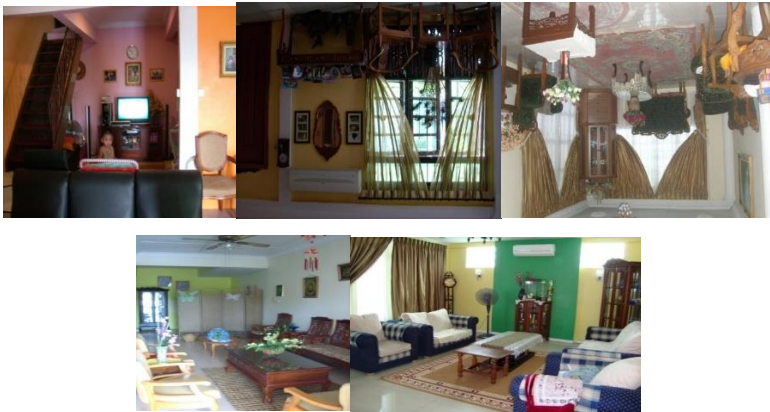


Figure 9: Extended living room (horizontal transformation)

(b) Full Transformation (Vertical and Horizontal)

Full transformation occurs when there is no space left for horizontal extensions. Another objective for full transformation is to facilitate cross ventilation and find more space to improve their housing conditions and meet the growing needs of the residents. From data observation, 108 units (25%) of the houses in this area have undergone a full transformation. Figure 10 shows some example of houses that have been transformed horizontally and vertically.





Figure 10: Full transformation

Kitchens and dining areas are the most common area for extension. Kitchen is treated as a communal area and is a vital component of any residence (Figure 11). Kitchen areas are not only for cooking purposes but also for entertaining informal guests such as close friends or neighbours. The dining and kitchen spaces have witnessed the common transformation activities.



Figure 11: Extended kitchen areas

Transformation of houses is not limited to structural changes of the outer part of the buildings only. Some changes are noted inside the house. Given the fact that in some other cases changes are conducted over a long period of time, the use of indoor space involves the residents shifting from one room to another. There are also situations where interior walls are demolished in order to increase the size of the room. Some residents have been making small but drastic

transformation of their houses with the intention of making the interior of the house invisible from the outside as shown in Figure 12. There have been various modifications but in general, the main idea underpinning the changes in the configurations or additions has been to optimize the existing spaces in the attic and transform it to a useful area.



Figure 12: Interior transformation

There are many factors motivating housing transformation. A combination of the social, economic and a great desire for modernization are factors unveiled by the residents. Extended families are common in Malaysia. Depending on the economic situation of the household, the house would be expanded or sub-divided to create new spaces. In this case, the house, like a living organism, would grow and adapt to the new conditions. Due to extended family factors in Malay culture, many children continue to live with their parents until they are capable to support themselves by renting or building their own houses. Occasionally, they live with their parents until their late twenties or beyond, even after marriage. As a result, parents feel obligated to expand and transform their houses to accommodate their children and their growing families and to provide more and better space.

Sometimes, the house can accommodate up to three generations, living together in the same house as shown in Figure 13. After a certain period of time and when the number of family increases, this will be reflected in the extended house space.



Figure 13: Different generations living in the same house

Many people cannot afford to develop larger houses for themselves to meet their immediate needs even when they need more space. Those who can afford to build houses, which are insufficient to meet social demands, struggle to bridge the gap by expanding their houses gradually. Transformation of houses has made it possible for some people to differentiate their houses from others as a symbol of prosperity and status. The scenario agreed with the statement by Mougenot (1988) that house is a criterion for social identification and belongings. It becomes a social status symbol by which people measure their position in the social structure. Houses give the necessary social and psychological support to them (Figure 14)



Figure 14: Transformation as a symbol of prosperity

There is a link between housing and income-generating activities. The importance of this link can be in the interaction between residential and income-generating activities. Thus, houses are not only used as shelter but also as a source of income as shown in Figure 15. Such extension is undertaken to provide space for home-based economic activities. Extension of houses located on main streets is often aimed at accommodating new demands including small businesses like shops, café and etc. The evidence in this study is in support of findings in literature on the nature of and motivations for transformation in public housing in the developing countries (Salim, 1998; Tipple, 2000). This clearly shows that the main motivations for transforming their dwelling units were to improve the economic status of their household as well as the value of their properties.

4. CONCLUSION

The study concludes that housing transformation being one of the means for the people especially low or low medium income earners strive to get access to housing supply. They deserve government support, particularly in the absence of alternative housing supply. The housing transformations are being carried out outside the established formal planning regulations. Therefore, there is a need of government intervention to guide housing development processes in informal settlements. A role for quality and sustainability shall be taken into consideration for professionals like planners and architects. The determination to change comes from the desire by the occupants to improve their surroundings, taking into account the physical characteristics of the building in which they live but the ensuing changes can be assumed to have far reaching socio-economic implications.

From the literature, the study identifies problems regarding the whole process of housing transformation as well as positive aspects associated with it. The positive aspects are those of increased interior space, increase of rooms and in other cases separation of functions. The problems emerging from this process include decrease of outdoor space, increase of housing density, blockage of ventilation and light in the transformed houses.

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Revista de Ciencias Humanas y Sociales

Año 36, N° 26, (2020)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.

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