



Architectural Styles and Developments of Apartments in Putrajaya, Malaysia

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ABSTRACT

This paper discusses development of architectural styles in Putrajaya, Malaysia which can be categorised into three styles namely traditional, colonial and modern design. Traditional architecture is an adaptation to the local climate which evolves to the condition of the place, local material, environment, native ways and culture. Colonial architecture is an adjustment of imported architecture to the local climate, a primary expression of classical style introduced by the European through colonisation and a result of cross cultural architecture with the local built environment as well as architectural styles brought by the Chinese, Arabs, Indian Muslims and Indian Hindus immigrants. Modern architecture is an adjustment of universal style to the local climate, compatible with a large number of mass-produced housing and building units since Industrial Revolution taken place in Europe. The study finds these three styles have progressed to each own identity and character in forming the architectural landscape in Putrajaya.

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1. Introduction

This study discusses on high rise apartment facade design in Malaysia. High rise apartments are under tall category of multi-storied building equipped with elevators (Cheung, Fuller, & Luther, 2005). The first high rise apartment was built in 1930s in the United States and in 1950s in the United Kingdom. In Malaysia, high rise apartments are introduced in 1970s (Hoffman, 1996). Today, high rise apartments are popularly built in urban area because they are able to provide a large numbers of apartment units. The construction solves problem of land's scarcity in urban area to house the city population. By year 2000, slightly more that 2 million people live in high rise apartments in Malaysia. The first high rise apartment built in Malaysia is Sulaiman

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Courts slightly before 1957 while the second one is 17 stories Pekarings Flats built at 1964. Figures 1 and 2 show the percentage of apartment from the total houses types and number of the apartment units (Flat, Apartment and Condo). Building high rise apartment is crucial as apartments in Putrajaya are the most popular house types which represent 73% of the total house units (Malaysia, 2010). Flats are categorized under low-income house type, apartments under middle-income house type while condominiums are house type for high-income families.

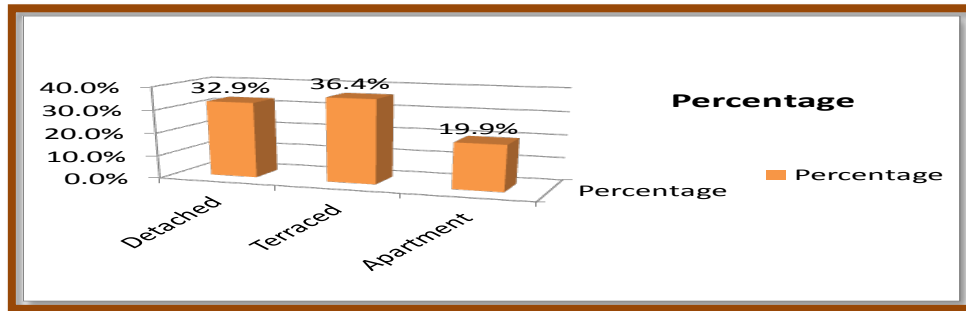


Figure 1: Apartments (apartment/flat/condo) percent 19.9% of the total house type.

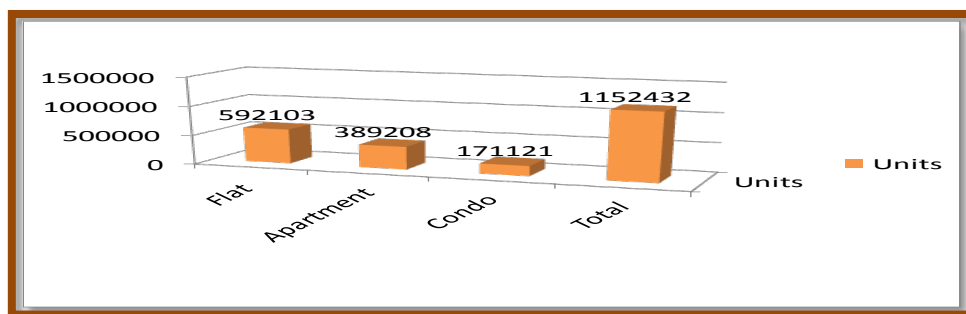


Figure 2: Apartment units' number by category of flat, apartment and condominium.

2. Putrajaya

In the early 1990s the Malaysian government had decided to build Putrajaya to be the administrative capital for the federal government of Malaysia. (Moser, 2009). It is considered the latest new city in Malaysia with post-modern style buildings which exhibit a range of complex geometric elements blending with colonial, modern and traditional architectural style (Hassan, 2005). The city of Putrajaya is considered to be the newest in a tradition of postcolonial master planned cities, and was designed to be the garden ideal city and the first intelligent city to house 250000 people (Scott, 1998) . The city located about 25 km south of Kuala Lumpur on the highway between Kuala Lumpur and the International Airport and this location gave her extra importance and viability as a new city (Ariffini, 2003).

3. Development of Apartment Façade Design

Cities in Malaysia generally have witnessed a huge development of building variation of architectural styles, which goes from 1950s until the current time. The apartment's façade design can be categorized into 4 categories:

1. Apartment façade design before independence in 1950 to 1970,
2. Apartment façade design from 1970 to 1990,
3. Apartment façade design from 1990 to 2010, and
4. Apartment facade design from 2010 to current.



Figure 3: The Early Modern Apartment style (Example 1).

3.1 Apartment façade design before independence from 1950 to 1970

The Early Modern Apartment was popularly built between 1950s to 1970s, this type of apartment were found with mass-produced standard building form to cater for the country's housing shortage for vast rural-urban migration due to development of modern capitalist economy as the government was aiming to offer housing affordable for low-income people since it is one of the basic human needs (Labin, Che-Ani, & Kamaruzzaman, 2014), and in order to build a large number of mass-produced residential units. The design reconciles the principles underlying architectural design with rapid technological advancement in the apartment design. The design was simple and emphasis on straight lines and module units, which helps for fasten and increase the efficiency of production (Badir, Kadir, & Hashim, 2002). Figures 3 and 4 show examples of the simplicity in the design, colours and construction materials which basically were: concrete, bricks, wooden frame glass window etc. This type was towards flat or nearly flat roof with modern construction design. Most apartment built during this period are under flat category.



Figure 4: The Early Modern Apartment style (Example 2).

3.2 Apartment façade design from 1970 to 1990

The second category is the Modern Apartment Architectural style. This style expresses the essence of purity in basic geometric design like square, rectangle, triangle, circle, ellipse etc. This style had evolved with technological and engineering developments but it had lacked the meaning and the characteristics of the region which made it universal style (internationalized) which can be built at all places without an expression of cultural identity. This kind of architectural style broke with the traditions. its design was simple and unornamented, which made it emphasize on functional, logical and impression of the extreme simplicity (Figure 5). Modern style was known by architecture using glass for the facade (usually a curtain wall) with wall and windows, steel for exterior support, and concrete for the floors and interior supports, aluminium frame and bright colour combination, the roof was flat or nearly flat roof (Hassan & Arab, 2014).



Figure 5: Modern Architectural Style apartment.

3.3 Apartment design from 1990 to 2010

The third apartment type was common in the period from 1990 to 2010. It had complex geometric elements not with simple square, rectangle, triangle, circle, ellipse. This style was more concern on the cultural identity of the region. It had a style with a mixture between modern, colonial and traditional elements color's expression (Chun, Hasan, & Noordin, 2005). This style was against the formalism of the international styles in modern architecture. As a result, it was replaced by diverse aesthetics: collision of styles together in one building design and it was an introduction to a functional purpose integrated with climatic approach (Figure 6&7) (Hassan & Arab, 2014).



Figure 6: Traditional Style Apartment (Example 1).



Figure 7: Traditional Style Apartment (Example 2).

3.4 Apartment design from 2010 to current

This Neo-Minimalist Architectural style have been adopted to the design by the architects

since 2010 till the current time. The characteristics of this style are defined as "geometrics in design, efficient concept, open plan and simple house" (Aryani, 2011). The Neo-Minimalist style famous with the simplest and fewest element creating the maximum effect, it depends on the multipurpose in functional design which makes it an impression of extreme simplicity, by enlisting every element and detail to serve multiple visual and functional purposes. The Neo-Minimalist style mostly uses white with cool grey tones to black, and aluminium and steel as the main materials with glass wall and windows, steel, concrete and brick (Figure 8).



Figure 8: Neo-Minimalist Architectural Apartment Style.

4. Conclusion

Facade Apartment design before 1970s typifies an idea of art deco style which expresses with no cultural identity. In 1980s, the design typifies an idea of simple geometric style and is influenced by modern architectural style. From 1990s to 2000s, the design exhibits a range of complex geometric elements blending of modern, colonial and traditional elements with colourful styles on the house facade. The design after 2010 connotes minimalist architectural style in which the simplest elements are used to create the maximum effect on space function.

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6. References

- Ariffini, S. B. (2003). Putrajaya, Malaysia. *Australian Planner*, 40(3), 40-42.
- Aryani, S. M. (2011). Minimalist Architecture; Discussion of Its Sustainability in Indonesia. *International Journal on Advanced Science, Engineering and Information Technology*, Vol. 1(6), PP. 679-682.
- Badir, Y. F., Kadir, M. R., & Hashim, a. A. (2002). Industrialized Building Systems Construction in Malaysia. *Journal of Architectural Engineering*, Vol. 8(1), PP. 19-23.
- Cheung, C., Fuller, R., & Luther, M. (2005). Energy-efficient envelope design for high-rise apartments. *Energy and Buildings*, Vol. 37(1), PP 37-48.

- Chun, H. K., Hasan, A. S., & Noordin, N. M. (11-14th September 2005). An influence of colonial architecture to building styles and motifs in colonial cities in Malaysia. *8th International Conference of the Asian Planning Schools Association*.
- Hassan, A. S. (2005). *Konsep rekabentuk bandar di Semenanjung Malaysia: Kuala Lumpur dan bandar-bandar di sekitarnya*. Penang: Universiti Sains Malaysia Press.
- Hassan, A. S., & Arab, Y. (2014). The Extent of Sunlight Penetration Performance on Traditional Style's Apartment Façade in Putrajaya, Malaysia. *Modern Applied Science*, Vol. 8(2), PP. 132-142.
- Hoffman, A. v. (1996). High ambitions: The past and future of American low-income housing policy. *Housing Policy Debate*, (Vol. 7(3)), PP. 423-446.
- Labin, A. M., Che-Ani, A. I., & Kamaruzzaman, S. N. (2014). Affordable Housing Performance Indicators for Landed Houses in the Central Region of Malaysia. *Modern Applied Science*, Vol. 8(6), PP. 70-86.
- Malaysia, D. o. (2010). *Characteristics of Living Quarters 2010*. Putrajaya: Department of Statistics Malaysia.
- Moser, S. (2009). Putrajaya: Malaysia's new federal administrative capital. *Cities*, Vol. 27(4), PP. 285-297.
- Scott, J. C. (1998). *Seeing like a state: How certain schemes to improve the human condition have failed*. New Haven: Yale University Press.
- Simon, S. J. (1998). An Interview with Dr. Mahathir bin Mohamad Prime Minister of Malaysia. *Journal of Global Information Technology Management*, Vol. 1(3), PP. 3-7.



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