

IMPLEMENTATION OF THE CONCEPT OF SPACE IN TRADITIONAL JAVANESE HOUSE TO THE SPACE OF VERTICAL HOUSING

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Abstract

Land limitations in big cities are problem that effect the availability of housing for some communities, these are caused by the high population as a result of the uncontrollable population growth. In fact that typical housing in big cities nowadays are multiple-storey housing, usually called as the vertical housing which are referring to a compact design. These vertical housings seem as they no longer consider about the concept of traditional (Javanese) houses because they tend to think that efficiency in case of fuction is more important.

The aim of this study is to prove that compact design which is applicated into vertical housing design essentially applying the space concept of traditional Javanese houses.

This research is a qualitative research which is described descriptively by using documents as primary data which is done trough literature studies, both books and journals and images or photographs that support this research.

The result of this study is a design concept for vertical housing based on traditional architectural space concepts.

Keywords: Traditional Javanese House, Space, Compact Design, Vertical Housing.

Abstrak

Judul: Implementasi Konsep Ruang Rumah Tradisional Jawa Pada Ruang Perumahan Vertikal.

Keterbatasan ruang di kota kota besar merupakan sebuah masalah yang mempengaruhi ketersediaan hunian bagi masyarakat, karena populasi yang tinggi akibat pertumbuhan penduduk yang tidak terkontrol. Pada kenyataannya hunian di kota besar yang ada saat ini adalah hunian bertingkat, biasa disebut dengan *vertical housing* yang mengacu pada desain kompak. Hunian vertikal ini seolah tidak lagi memperhitungkan terhadap konsep rumah tradisional (Jawa) karena yang dipentingkan adalah efisiensi dalam hal kegunaannya.

Tujuan dari penelitian ini ingin membuktikan bahwa desain kompak yang diaplikasikan ke dalam desain hunian vertikal ini secara esensial menerapkam konsep ruang dari rumah tradisional Jawa.

Penelitian ini merupakan penelitian kualitatif yang diuraikan secara diskriptif dengan menggunakan dokumen sebagai data primer yang dilakukan melalui studi literature, baik buku maupun jurnal dan gambar atau foto yang mendukung penelitian ini.

Hasil dari penelitian ini adalah sebuah konsep perancangan untuk hunian vertikal yang berbasis konsep ruang arsitektur tradisional.

Kata Kunci: Rumah Tradisional Jawa, Ruang, Desain Kompak, Hunian Vertikal

Introduction

As cited from *Pikiran Rakyat*, that the prediction of Ministry of Economic Coordinator Republic of Indonesia by the year of 2025 the urbanization level of big city in Java Island will reach at the number of 65%, as it increase by 4% per year since 2017. As the urbanization of the javanese rural residence to the urban area especially in the bigger city of Java Island that has been increasing for years, it brings impact to the decreasing of the land in urban area. As the result of it, urban area has reached the limit of development of the horizontal housings.

Therefore the development of horizontal housing then be forced to transform and becoming a vertical housing as the solution of land limitation. As the intention to solve the problem of the land limitation, to be compact is one of the main criteria on designing a vertical housing units. Unfortunately, a compact design that mostly adapted from outer culture for some reason does not suitable for our people, especially for some javanese people.

According to Rahmanu Widayat, (as cited in Djono, (2010) “ Traditional javanese houses that is varitive in shapes have a typical space classification that are consist of *pendapa*, *pringgitan* and *dalem*.” By that, for some people who are raised and grow in the javanese traditional residential has the strong mindset of the space classification in their house that has their own level of privacy and specific uses, which basically is contradictory with the basic of compact design that tries to preserve more open space to make more efficient use of space. In this study will try to analyze how traditional javanese housing might influence the design of an apartment units in Indonesia that has been chosen to be the sample of this study.

Method

This study will focus on learning about how far do the Indonesian apartments' units can be influenced by the traditional javanese housing. This study will use qualitative and descriptive method (Groat and Wang (2013), by using the theory of javanese traditional house as the basis of analysis. The study will use narative technique to explain how the apartment unit might be influenced by the javanese traditional house's space configuration as the way to meet market demand.

This study will also use verification technique to prove any kind of influence of the traditional javanese house to the vertical housing. The data used is the data that is collected in the form of paper documents and images obtained in the form of documentation of other researchers who have ever done, as well as the writings of experts' architecture as the way to show how the apartment units might be influenced by traditional javanese house.

By the change of housing typical, surely will make some differences as the amount of areas that will certainly reduced. The theory of spaces in traditional javanese house is used to be the basis of verification on the position, zoning, privacy level and function element of the space in the apartment unit. By analysing those elements we might find how the spaces on apartment units might create some differences in function by combining two or more activities in one

space, or even start to create intangible partition as the life adapting to the smaller area of living space.

By doing the verification between the spaces in traditional javanese house and the objects of study, hopefully that we can find some values of those elements contained in the object of study. Two bedroom apartment unit in Puri Orchard Cengkareng, Jakarta is chosen as the object of study as the object of analysis. The selection of the studied object based on the suitability of the basic function that is similar to the traditional javanese house, which is a house that can be occupied by minimum amount of a family member that consist of two parents and a child.

Materials and Study Case

House is one of the most important need for human survival. According to Sumardi dan Evers, 1982:vi (as cited in Hidayatun, (1999) “houses are one of the basic need that is very important, even become the part of their life quality and welfare”. More than that, “Houses are formed by culture and it takes a long time, at the beginning houses were functioned as shelter and provide protection, but as the culture, needs and technology start to evolve, houses functions are becoming increasingly complex. And houses start to carry on variety of function that can not be put together, therefore they need partition to separate each activity” (Setiprayanti, 2010). Moreover for some cultures try to separate each spaces of the house by using some hierarchy from the most public space to the most sacred space that is classified as private space. The application of hierarchy can be found in traditional javanese houses.

3.1 Space in traditional javanese house

Traditional javanese house are often linked to the existence of macro and micro cosmos which are relationships between the users and environment around the house. According to Hidayatun, (1999), “In the concept of javanese architecture, every each of spaces have their own functions that are determined by natural thought of micro and macro cosmos, thus certainly has logical consequences for the activities that occur in those spaces.”

In traditional javanese house itself is divided into three basic zoning which are the profane / public spaces, these spaces are made for the socializing purpose, the second one is the the sacred space / private where they do the family and religious rituals, which only several people are allowed to get into the private spaces. The last space is the service area which is separated from the main building. In some cases especially in Kota Gede, another unique element of public space that connect between the houses which is a door and has become a way to socialize with the neighbourhood is found in the yard, called as *pintu butulan*. “Their pure social and cultural life are seen from their willingness to help each other and their closer relationship can be witnessed from their *pintu butulan*, that is the door that connect each land border” (Rahmi, 2017).

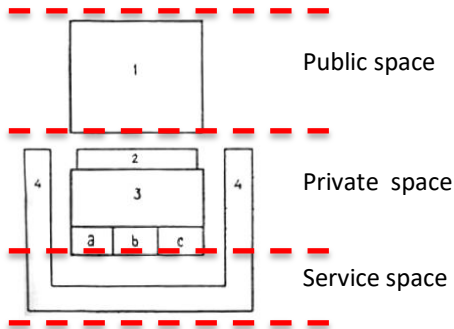


Figure 1. Zoning of space in traditional javanese house

Sources: <http://www.wacana.co/2009/01/filosofi-rumah-tradisional-jawa>

Basic configuration of the traditional javanese houses are consist of yard that has some doors on the sides which is the connection between house to house, *pendapa* (read as *pondopo*), *pringgitan*, *omah-njero / dalem*, where *dalem* is divided into four rooms, *pawon*, another room called as *gandhok* can be found in some cases of traditional javanese house specially in *rumah joglo*. This followings are discussions of the spaces that found on traditional javanese houses:

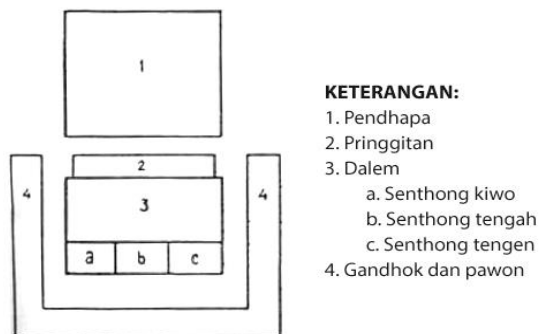


Figure 2. spaces configuration in traditional javanese house

Sources: <http://www.wacana.co/2009/01/filosofi-rumah-tradisional-jawa>

3.1.1 Pendapa

Pendapa or in indian language called as “*Mandapa*” means a pillared outdoor hall for public rituals. *Pendapa* is the area of the house that categorized as the public space. As it is the area that can be reached by the public, *pendapa* will always be the first space that can be found when someone start to enter the traditional javanese houses. “*Pendapa* as it was described before is a profane place or general in macro-cosmos called as real world, which means any form of activity to socialize with others, any form of activity to fulfill the necessities of people’s physical development in a literal sense, or necessities to fulfill the physical needs to be able to survive are suppose to be done in the *pendapa*” (Hidayatun, 1999). Most of the time *pendapas* are found in shape of square, in some places can be found in shape of rectangle depends on the house plan. *Pendapa*’s roof is created base on the shape of the plan, *joglo* roof is used if the plan of *pendapa* is square and *limasan* roof is applied when it is recatangular. Those shapes has it functional meaning that those four open sides of *pendapa*

symbolized as willingness of the hosts to accept and welcome one who come to them.



Figure 3. Pendapa as the public space of the traditional javanese houses

Sources: <https://coretanpetualang.wordpress.com/petualangan-budaya/budaya-jawa/keraton-yogyakarta-istana-budaya-dan-keindahan-jawa/>

3.1.2 Pringgitan

Followed by *pendapa*, the area that connect between *pendapa* as the public space and private places inside the real house it is called as *pringgitan*. *Pringgitan* basically is an additional space of the *pendapa* that is reduced, it creates a border between *dalem* and *pendapa* itself. It is made to balance out between the profane place and the sacred one. “In generally, *pringgitan* is a transition space to get into the *dalem*” (Setiprayanti, 2010).

As it is described *pringgitan* which is an additional space of *pendapa* but in smaller size, *pringgitan* usually functioned as a place to welcome limited amount of guests. Most of the time *pringgitan*'s floor is merged with *pendapa*'s, but in some cases they are separated by *longkangan* / place where horse stop. According to Tjahjono, (1989) (as cited in Setiprayanti, (2010.) said that “*pringgitan* is originally from javanese word called *ringgit* which means a traditional puppet / *wayang*”. As the name came from *wayang*, *pringgitan* is a space where people suppose to do the *wayang* show when a event is held in the traditional javanese houses.

3.1.3 Dalem / Omah - Njero

Dalem has the shape that is almost similar to *pendapa*. What makes it different is that *dalem* is mostly covered by wall as it is meant to be the private place for the owner of the house. *Dalem* is the one which symbolized the element of micro cosmos in the house that is basically means the relationship between the users themselves and the God. *Dalem* is divided in to four different rooms that have their own purpose. Those four rooms are called as *senhong kiwo* (left), *senhong tengen* (right), *senhong tengah* (middle) and the hall in front of the rooms that is used as their living room or some rituals.

Senhong kiwo is usually used for the bedroom of the owner and his wife, and *senhong tengen* is used as a storage room. In *dalem*, one of the most sacred room

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in this house is the *senhong tengah* which is made to accommodate their ritual activity to worship the one that they believe brings them prosperities in their agriculture work.

“Javanese people who depend their life on the agriculture sector believe this room is emptied for their ancestor’s spirit, the one who brings prosperities called as *Dewi Sri* or God of prosperity” (Musman, 2017). In some belief says that *senhong tengah* is the place where *Dewi Sri* reside, and they put some furniture in it. Someone need to get the permission from the house owner to get into this room , eventhough the closest family member itself.



Figure 4. inside dalem or omah – njero, white doors are the place of the senhong

Sources: <http://www.wacana.co/2009/01/filosofi-rumah-tradisional-jawa>

beside the usage to worship their ancestor, *senhong tengah* usually used by the head of family or the wife to meditate and pray when they were in trouble. In some houses, *senhong tengah* is used as the place to put their valuable stuffs inside. *Dalem* hall is always found in front of the *senhong*. As it is symetrical, four pillars called *soko guru* which support the joints of the *joglo* roof structure is always put right in front of the *senhong tengah*. In the middle between the *soko guru* is where the ritual of family usually done. Besides being the place where they do the rituals, *dalem* hall is used as their living room and only family member are allowed to enter this part of the house.

3.1.4 Pawon & Gandhok

Pawon and *gandhok* are service area in the house it located around the sides and behind the dalem. The left and the right side rooms of *gandhok* are used as the bedrooms of the children or family guests who stay for the night. On the other hand, *pawon* is located behind *dalem*. *Pawon* and *dalem* are seperated by a little opening area. But *pawon* and *gandhok* are always connected each other and devided by the wall as a partition. *Pawon* in literal meaning is a kitchen which used as the place to cook. The bathroom of the house is usually seperated with the main building it is located in left side of *pawon*, called as *pekiwan*. The *pekiwan* is seperated from the main building because of the hygiene reason, there is a well inside of the *pekiwan* area which is used as the source of water for bath, wash and cook.

3.2 Case Study

In this study takes a study case from Puri Orchard Apartment in Cengkareng, Jakarta. The reason of choosing the same of study from the apartment unit that is located in Jakarta is because Jakarta has the most population that is caused by urbanization. Being the capital city is one of the reasons why it is so easy to find an apartment that can accommodate a family.

The sample of study in general have a common spatial configuration with the traditional Javanese house. In some cases there are some changes of culture that have been adapted into this type of design. These changes might be caused by the limitation of area or change of the occupants' mindset. This following discussion is the description of the spaces that found in apartment unit.

3.2.1. Public Spaces

This apartment unit is also equipped with various types of facilities one of them is a sky garden that becomes the socializing space between the occupants or even the guest that come to visit them, which reflects the existence of the yard in the traditional Javanese houses. Those facilities are categorized as the public spaces that consist of the podium area, sky garden, etc; what makes different this apartment concept start to create a new space that can be categorized as semi-private which are the hallway, the living room and dining room.

3.2.2. Private & Service Spaces

Bedrooms are the only private space category in this concept. Which are barely connected with the service area and some of the semi-private areas. The only thing that separates between these spaces are the partitions of these rooms. These typical connections cannot be found in the traditional Javanese houses style which shows a strict boundary between one and another. And the last space is the service area that consists of the bathroom and the kitchen. What makes it different is the position of the service area that is located in the same place with the others in the apartment unit which in the traditional houses is supposed to be separated from the other area.



Figure 5. apartment units plan

Sources: <https://investproperti.com/puri-orchard-apartment-cengkareng-jakarta/>



Figure 6. Two bedroom apartment unit
Sources: <https://investproperti.com/puri-orchard-apartment-cengkareng-jakarta/>

As it can be seen in the fig. 5 that hallway is the only connection between the units and it can be used as the place to socialized too, therefore it might has the implementation of the *pringgitan*, and in the fig. 6 is showing that there is no partition that separate between the living room and the service area where in traditional concept it has to be seperated by an open space. This might be caused by the limited areas.



Figure 7. Sky garden in the apartment
Sources: <https://investproperti.com/puri-orchard-apartment-cengkareng-jakarta/>

Result and Discussion

The results of the analysis that has been done by using descriptive and verification methods in the discussion, it was found that the implementation of some of the spaces that contained in traditional javanese house are still can be found in the compact design houses such as the apartment unit. From what we see is that even in the compact design of apartment unit, we still can find that the concept of a public and private places are still applied as it was in traditional javanese houses. Eventhough there are some of location and users categories that

may be changed in the apartment concept. This might be caused the reason of efficiency of space and some changes might be caused by the acculturation factor.

4.1. Public Spaces

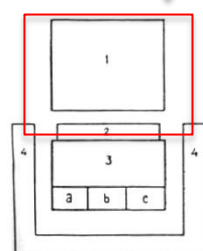
Started by the public spaces, in each traditional javanese houses has their own public space, while in apartment you can find your public spaces in the communal spaces such as sky garden that are provided, it can be used by every occupant of the apartment. As a open public spaces that connect between the neighbourhood, this place might be the implementation of the yard in the traditional javanese house. The difference that can be found is that this garden might not be located in the ground but become the outdoor spade element of the building. This might be caused by the land limitation that makes the ground area is more likely to be used as the circulation of transportations or other advantageous functions.

The second area which is the podium area, which is an indoor space that is used to socialize with the acquaintances or neighbour. This spaces might be the implementation of *pendapa* as it has the same fuction but with the other additional function such as retails and other functions might be found here. As it was described that the location of the yard might be changed and replaced by the podium area because of the function of podium that is more important nowadays. What may change is that "*pintu butulan*" which located in the yard may not be found in this case because the essence of the private yard has changed into a public yard by the sky garden.



Figure 8. Sky garden in the apartment has same concept as yard

Sources: <https://investproperti.com/puri-orchard-apartment-cengkareng-jakarta/>



KETERANGAN:

1. Pendhapa
2. Pringgitan
3. Dalem
 - a. Senthong kiwo
 - b. Senthong tengah
 - c. Senthong tengen
4. Gandhok dan pawon

Figure 9. Podium in the apartment has same concept as pendapa

Sources: <https://investproperti.com/puri-orchard-apartment-cengkareng-jakarta/>

4.2. Private Spaces

By entering the podium area, it start moving to the inside of the apartment, we can still find some spaces that is influenced by traditional javanese houses which are fuctioned as the private spaces such as living area, bed area. As it get into the more private areas, we can find the hallway which can be categorized as the *pringgitan* but no activity is held in this area which might be the difference between these two.

Moving into the apartment units another thing make a little bit different that as the culture slowly change for some people, the living room in the apartment unit has become a semi - private area where some acquaintances are allowed to enter this area. What stays the same is the essence of the of the privacy and sacredness of *senhong* or called as bedrooms which are influenced by the traditional javanese houses, but nowadays they get rid of the *senhong tengah*'s existence as their profession has changed from the farmer into another sector of businesses, but they still tend to use their bedroom as the place to pray instead. Even when they have more than 2 rooms, they tend to use the other room as another function such as storage or kids room.

4.3. Service Space

What stands out the most is the zoning of the service area in the apartment unit. In traditional javanese house, *pekiwan* and *pawon* which are categorized as service areas are placed seperately from the main building of the house.

According to Djono, (2012) "Gandhok is a sides area that located behind the left and right side of *dalem* and *pringgitan*. *Pawon* is a kitchen that located behind *dalem* that has the furthest position from most sacred room (*senhong tengah / krobongan*). Area that is fuctioned as a bathroom is *pekiwan*. These all rooms that is categorized as a "unhygienic" is placed far away from the main room such as *dalem* or *krobongan* which used as a place to worship *Dewi Sri*". But in apartment unit the service area is placed in the same area with the living room and bedrooms. What makes it keep the essence of service area is the position of the service area is commonly found behind the entrance door to keep it hid from the guests. The concept of the kitchen in the apartment unit is start changing to the dry kitchen which makes the kitchen has the cleaner impression than the traditional kitchen.

The difference of the spaces that have been found in these two cases might happen because of the transformation of the culture that turns into be more open and some acculturation factor. The other reason is that as the areas of the space get smaller people tend to combine two or more activities in the same room at the same time. As the culture of using the partition to split some activites fades away, people are start to create an imaginary spaces or intangible spaces that was created by activity that is done by one or more people.

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spaces and get rid of some spaces that they are used to get when they live in their village area. Therefore, there are several things that might be taken by the phenomena of the change of concept of spaces that happen to be considered, which are;

1. Compact design is not always about sacrificing their need of the space in a living place but more likely to prioritize their needs of space and start combining some activities.
2. A space isn't always about creating partition between every single activity but more likely to be created by the activity itself, that is what we call as an intangible space.

This theory has the advantage of doing readings, understanding, and explanation because a compact design for some reasons can be used to fulfill the needs of space by combining some activities into one single room, which accommodate the challenge of the land limitation in the big city. Compact design might be one of the idea to solve the land limitation but further that than can be considered as a step to create more sustainable design as it probably uses less materials to create. But still need more studies for this idea to be approved it or even create another design idea and approach in addressing the latest issue.

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