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Spatial Patterns on Traditional Houses in Java as an Effort to Preserve Historic Buildings

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Abstract

Java Island can be divided into several cultural areas (7) Banten and Sunda in West Java, while in Central Java and East Java there are Pesisir Kilen, Pesisir Wetan, Banyumas, Bagelen, Negarigung, Mancanegari, Surabaya, Tan (2) Sabrang Wetan and Madura (Koentjaraningrat 1994: 27). Traditional buildings have been a silent witness to how life in the past was run and its influence on the life order of society at that time and has the original building characteristics of Indonesian society in that era and functionally have special purpose and purpose which influence the process of the establishment of the building. This study is expected to provide a benefit form of development of science (11) related to traditional houses in general that can be applied in building architecture. The method used in this paper is the study description descriptions, namely exposing and analyzing spatial patterns in some traditional houses in Java. The method of data collection is done by looking for literature studies on the issues to be discussed, namely the literature of several studies that have been done and has been published in the form of scientific papers. From the discussion of the pattern of space to some traditional houses on the island of Java, there are similar patterns, although in the arrangement of space there is in one mass of buildings and mass plural.

Keywords: Spatial, Spatial Patterns, Traditional House

1. Introduction

The development of architecture in the world will always change based on the dimension of time that influence it, either in terms of building style, building arrangement pattern, or from functional aspect of building. However, the essence of the works of the architecture is still taking the example or duplicate of the application of architecture on ancient or ancient building works. It can't be denied that in the past, the architecture of the building appeared as a masterpiece designed with full dedication and able to influence the condition of architecture in the surrounding area. In addition, there is a special characteristic of the condition of this ancient building to be more appreciated of its existence, that is from the historical aspect of the building, where the longer (2) the age of the building stands, the higher the historical value contained in it. The traditional building has been a silent witness to how life in the past was run and its influence on the life order of society at that time and has the original building characteristic of Indonesian society in that era and

functionally have special purpose and purpose which influence the process of the establishment of the building. According to Tutuko & Shen (2014), dwellers build onto their own houses gradually, reflecting the behavioral occupancy of the dwellers. The adaptability of dwellers arranged their house, while still maintaining their tradition and dwellers tend to adjust their spatial setting in order to accommodate domestic activities. Moreover, for instance, the Javanese community appreciates and tolerates changes and developments that come from both inside and outside Javanese culture. Even so, the characteristics of Javanese culture remain virtually unchanged (Tutuko & Shen, 2014). Spatial arrangement of traditional house should be studied to other types of house. The type of house is not limited in popular traditional house in Indonesia only. In addition, it is necessary for making the guideline for better understanding for local government and planner about spatial arrangement of traditional house to achieve sustainable urban form.

In Indonesia, one of the three indicators linked to the SDGs document as a continuation of the MDGs, is a small-scale environment or socio-economic development in which one of the goals is set forth in the 11th goal's of making cities and human settlements inclusive, secure, resilient and sustainable, Point 11.4, namely: strengthening efforts to protect and preserve the world cultural and natural heritage. In line with this, the targets and indicators of Indonesia's National Development 2014-2019 based on the Vision-Mission of President Joko Widodo (NAWACITA) on NAWACITA 9: We will strengthen the Unity and strengthen social restoration of Indonesia, target: develop special incentives to introduce and Promoting local culture with indicators: 5. preserving and revitalizing 100% (from baseline) cultural preserve, museums and cultural parks throughout districts / cities by 2019; 6. Increasing the number of cultural heritages recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to 2 per year starting in 2016; And 8. 100% of districts perform preservation and data collection of cultural and ancestral heritage in their areas by 2019. It is also contained in the Government Regulation of the Republic of Indonesia Number 26 Year 2008 on National Spatial Plan Chapter II Purpose, Policy and Strategy. Arrangement of National Territory Spaces Part One Objectives of National Spatial Planning Article 9 (1) The policy on the development of a national strategic area as referred to in Article 6 letter c covers: a. Conservation and enhancement of the function and carrying capacity of the environment to maintain and enhance ecosystem balance, conserve biodiversity, maintain and enhance the function of area protection, preserve the uniqueness of the landscape, and preserve the national cultural heritage; E. Preservation and social and cultural improvement of the nation; F. Preservation and enhancement of the value of protected areas designated as world heritage, biosphere reserves, and Ramsar.

The government's attention, especially the conservation activities in the national scope, as contained in the Act on Heritage Reserves No. 11 of 2010

Article 5 which contains "belonging to the category of cultural heritage classification shall be any man-made, mobile, or immovable object in the form of a unit or group, or its parts or residues, which are at least 50 years of age, And is considered to have important value for the development of history, science and culture." Various conservation or conservation efforts quite often get attention especially in the national and international scope, but there are still some factors that hamper the progress of the conservation. This is a consideration that must be resolved considering it is hampering the government's performance in seeking the preservation of buildings and areas. These barriers are: cost factors, political factors, and social factors.

Java Island can be divided into several cultural areas of Banten and Sunda in West Java, while in Central Java and East Java there are Pesisir Kilen, Pesisir Wetan, Banyumas, Bagelen, Negarigung, Mancanegari, Surabaya, Tanah Sabrang Wetan and Madura (Koentjaraningrat, 1994:27).



Picture 1. The Cultural Area of Java
(Source: Koentjaraningrat, 1994: 27)

Based on the background, then the problem to be in the study is how the formation of spatial patterns in traditional homes in Java. This study is expected to provide a benefit form of development of science related to traditional houses in general that could be applied in building architecture.

2. Methodology

The method used in this paper is the study description descriptions, namely exposing and analyzing spatial patterns in some traditional houses in Java. Stages include the Determination Aspect Discussion, Data Collection, and Data Processing to generate a conclusion.

The method of data collection is done by looking for literature studies on the issues to be discussed, namely the literature of several studies that have been done and has been published in the form of scientific papers.

3. Discussion

3.1. Traditional village house Dukuh in Garut, West Java

Sundanese people divide the space by their respective functions based on their beliefs and beliefs, this division is based on gender and family order. In one house in Kampung Dukuh this shows the division of the area of men and women. The male area has an edge or *golodog* on the front while the female area is behind (Kustianingrum, Sonjaya, & Ginanjar, 2013).

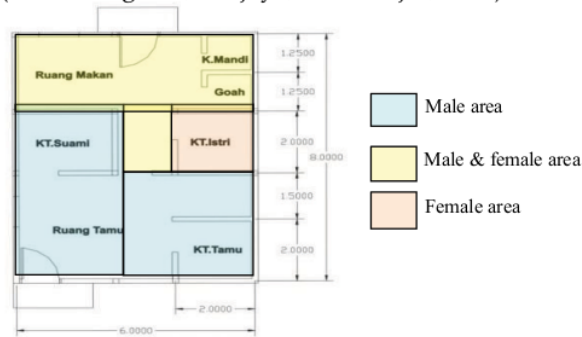


Figure 2. Plan of Dukuh village building
(Source: Kustianingrum, Sonjaya, & Ginanjar, 2013)

3.2 The House of Indigenous Peoples Kasepuhan Ciptarasa in Sukabumi, West Java

The organization of space on the stage house consists of 3 (three): *tepas imah*, *tengah imah* and *pawon*. *Tepas imah* (front) is a male area, because its activities tend to be done by men, middle (middle) becomes a common area, because men and women can do activities together, while *pawon* (rear), because all activities are done by women (Nuryanto & Widaningsih, n.d.).

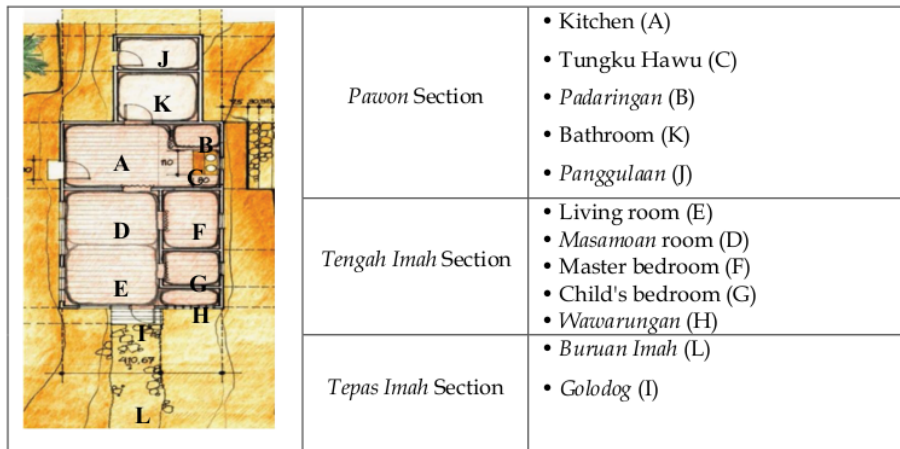


Figure 3. Organizational space on the stage house
(Source: Nuryanto, & Widaningsih, n.d.)

3.3 Kaliwungu Traditional House, Central Java (Pesisir Kilen)

Kaliwungu traditional house has a single mass, but topped by three *limasan maligi* row to the rear which meet on the side length. With the shape of the mass extends backward, it is not topped with a single saddle / saddle stretching from front to back, but instead with the *limasan* whose axis extends across the front-back axis of the house. The shape of the roof is indeed one of the vocabulary form of Javanese house (Wahyudi, 2015).

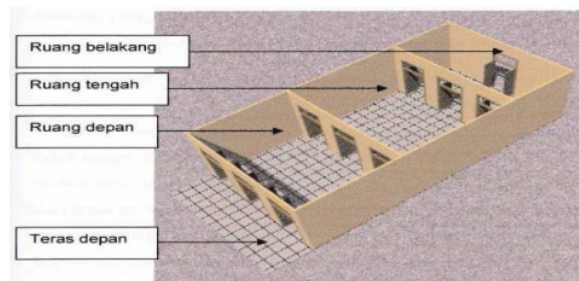
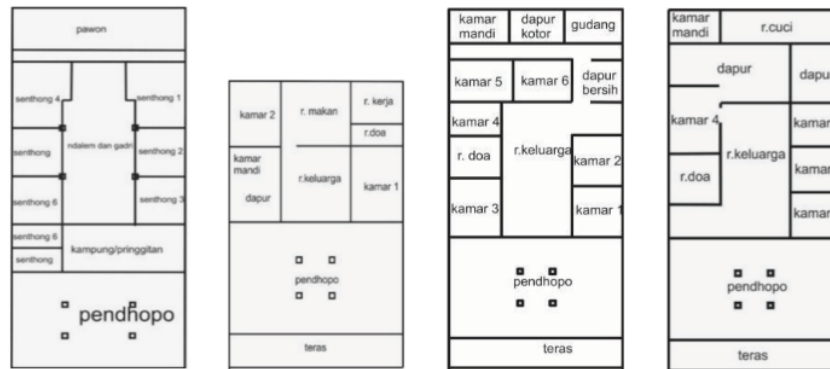


Figure 4. Traditional house space organization of Kaliwungu
(Source: Wahyudi, 2015)

3.4 Kenthol House in Bagelen, Purworejo, Central Java

Kenthol house has a central spatial structure with its center space is *dalem* while its secondary room is *pendopo*, *senthong*, and *pawon*. In this case, *dalem* is considered as a central space because many activities occur in this area. Specialized activities and interactions with family members. The division of the hierarchy of space based on the nature of public space, semi-public, semi

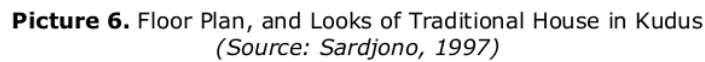
private, private and sacred space can still be seen and still applied to every home. Space formation according to nature of space (sorted from public area to private) that is *pendopo*, *pringgitan*, *dalem / gadri*, *senthong*, and *pawon*. It has a formation similar to traditional Javanese house in general (Pratama, 2016).



Picture 5. House of Kenthol Plan at Bagelen
(Source: Pratama, 2016)

3.5 Traditional Kudus Houses

The traditional house Kudus is not a single building but the unity of some building period that serves for the residence and perform daily activities at home. The pattern of building arrangement in the footprint consists of main building, open yard and complementary building. The main building faces to the south, the position of the building on the north side of the tread. The complementary building usually occupies a position on the South of the site opposite to the main building and separated by an open courtyard in the middle of the tread. The tread limit is a high fence of brick pairs. Access to the site via the *regol* on the side or front of the site. *Regol* shaped roofed gate with double doors. Often this *regol* is the only achievement into the site (Sardjono, 1997).



The simplest building cluster in Ponorogo's traditional house is for front grille, headdress and kitchen. The type of building used for *griyo ngajeng* and posterior brick can use a type of vertex, *sinom* or *doregepak*. For most kitchen utensils use a type of suction. From here it appears that the selection of the type of building has no definite layout, the homeowner is left to decide on his choice. The front of the front grille was added to the emperor sector, which proceeded to the side to pull up with the kitchen or booth. The structure of the north-facing traditional Ponorogo's home, from ten types of buildings used in a wide variety of grooms, the kitchen is positioned all east, while when the building is facing south, all the samples indicate that the kitchen position is always located in the east of the *griyo wingking*, or to the right of the main building (Susilo, 2015).

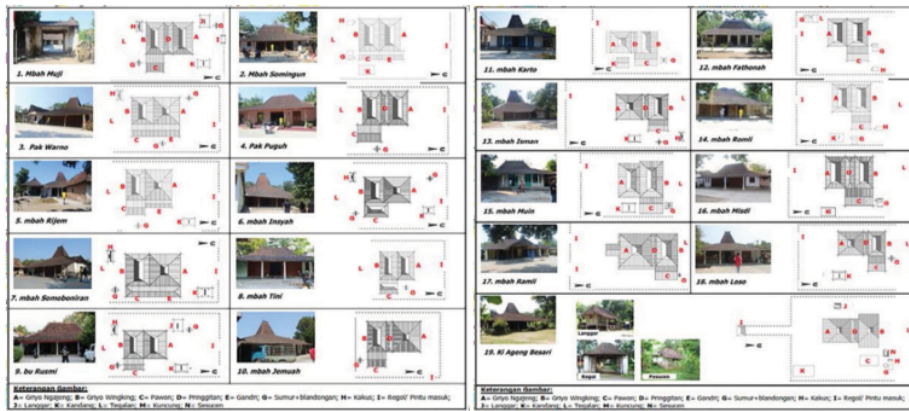
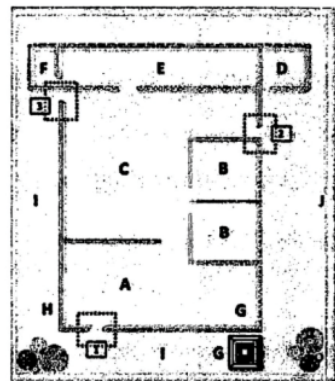


Table 1. The order of the traditional Ponorogo house period facing North and South
(Source: Susilo, 2015)

3.7 Tengger Residents of Wonokitri Village of Pasuruan Regency

The structure of residential / residence in Wonokitri Village based on Tengger custom is called seven po, consisting of yard, courtyard, *patamon* (living room), *paturon* (bedroom), *pagenen* (kitchen), *pedaringan* (storage room), and *pakiwan* (bathroom).



Keterangan:
A: Patamon
B: Paturon
C: Pagenen
D: Pakiwan
E: Pedaringan
F: Pekayon
G: Padmasari
H: Sigiran
I: Pelataran
J: Pekarangan
1: Pelawangan utama
2: Pelawangan butiran 1
3: Pelawangan butiran 2
A-B-C-D : Ruang utama
E-F-G-H-I-J : Ruang penunjang

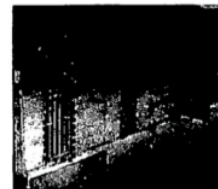


Figure 7. Lay out the spatial division and look at the traditional houses of the Tengger Village of Wonokitri Village
(Source: Ayuninggar, Antariksa, & Wardhani, 2012)

Characteristics of each space and component in traditional house of Tengger Village of Wonokitri Village, are as follows: 1. The main room, consists of *patamon* (living room), located on the front of the house, which is directly behind the entrance of the main door, *paturon* (bedroom), should be on the right side of the main door, *pagenen* (kitchen), originally became the first room built in addition to the main room. Placed behind a *patamon*, serves as a kitchen for cooking as well as dining room and functionally used for family gathering (family room), *pakiwan* (bathroom), should be placed in the back of the house (the outermost) and separated from the house building, 2. Supporting space, consists of *pedaringan* (storage space), space to store crops and equipment items, *pekayon*, a room for storing firewood, is placed in the back of the house and is generally adjacent to the *pagenen*, *padmasari*, a special means of worship for the family that is located in the area of the courtyard of the house, *sigiran*, space to hang and store unpeeled corn. Laying is on the side of the front of the house (Ayuninggar, Antariksa, & Wardhani, 2012).

3.8 Traditional Osing House

The type of space can be distinguished over the main space, that is *bale-jrumah-pawon* (always there); Supporting space, that is *ampers*, *ampok*, *pendopo* and barn (not always there); *kiling* as a marker of Osing territory. *Bale* is located in front of the living room, family room and ceremonial activity room; *jrumah* is located in the center of functioning as a private room and bedroom; and *pawon* is located behind as though it is separate from the *jrumah*, which serves as a kitchen, an informal living room and living room. Characteristics of each space is adapted to the functions and activities as a container of fulfillment of everyday life, where each space is influenced by the assessment of the meaning of the activities undertaken as well as who inhabit or perform activities in that section. The composition of the main room is the composition of space *bale*, *jrumah* and *pawon* sequentially from front to back in 1, 2 or 3 parts of the house. This arrangement of spaces has various combinations that can be categorized in 7 groups, namely B- (P + J) -P; (B + P) -J-P; B-J-P; B- (J + P); (B + J) - (P + L); (B + J) -P; and (B + J + P). The categorization is based on the connection of the composition of the space with the composition of the house, where the first 4 arrangement is the most complete composition while the last 3 is the adjustment of space arrangement as a result of changes in the composition of the house form. Spatial relations pattern embraces the principle of closed ended plan, where the axis of balance symmetry that divides the composition of the space to the left and right stops in a space, namely *jrumah*. The principle of closed ended plan is only seen in the composition of *bale* space, *pendopo* (if any), *jrumah* and *pawon* sequentially backward (Suprijanto, 2002).

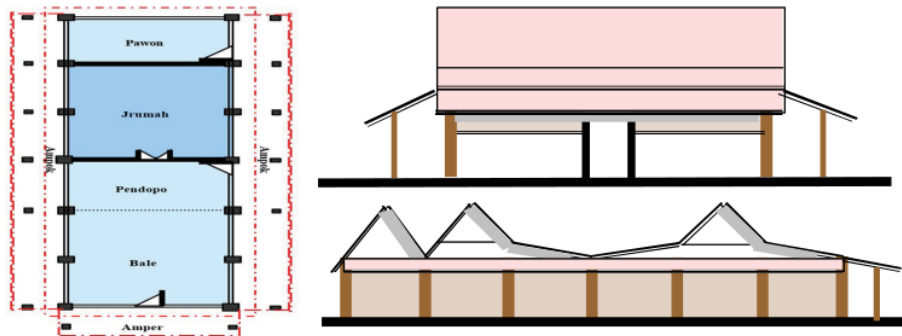


Figure 9. Plan and Look Osing's traditional house
(Source: Suprijanto, 2002)

3.9 Tanean Lanjang in Madura

The formation of Madura traditional settlements begins with a main house called *tonghuh*. *Tonghuh* is the home of an ancestor or an ancestor of a family. *Tonghuh* equipped with *langgar*, *kandang*, and kitchen. If a family has a married child, especially a girl, then the parents will or even have to make a home for girls. The placement of a house for girls is in the position to the east. Such a settlement group is called *pamengkang*, as well as if the next generation has occupied it will form *coren* and up to *tanean lanjang*. Such an arrangement continues to evolve from time to time. If the arrangement is too long then the arrangement changes to face. The order of the house arrangement still starts from the western end then ends at the eastern end. This consideration is attributed to the limited area of cultivated land, so as not to reduce the existing land as much as possible.

So, to trace a single lineage trace can be traced through the composition of the inhabitants of his house. The longest generation can be seen up to 5 generations that is on *tanean lanjang*. The position of *tonghuh* is always on the western edge after the break. *Langgar* is always located in the west end as the end of the existing building. The composition of the house is always oriented north-south. Page in the middle is called *tanean lanjang*. This very long generation can still be found due to underage marriage, even many of them are married before menstruation.

The arrangement of space lined with the binding space in the middle shows that *tanean* is the center of activity as well as a very important space binder. The east-west axis is imaginatively seen separating the group of houses and outer space. *Langgar* as the ending gives more importance and main of the composition of space. The elevation of the building floor also provides an increasingly clear value of the hierarchy of space. The ending suffix ends at the *langgar* at the end or end of the west-east axis. The *tanean lanjang* pattern

provides an overview of zoning space according to its function. Residence, kitchen and *kandang* in the east, at the western end is broken. *Langgar* has the highest value, is spiritual compared with other buildings that are worldly. *Langgar* reflects the main functions in religious life, sacred to perform prayers, performing rituals of life and at the same time as the center of everyday activities. In everyday life, *Langgar* plays its role as a workplace, as well as a place for men to oversee the produce of the earth, livestock, wife and children. Another function is to receive guests and guest bedrooms of men who stay overnight, also warehouse (Tulistyantoro, 2005).



Figure 9. Tanean Length Layout Model, in Torjun District, Sampang Regency, Madura, Has a North-South Building Direction
(Source: Tulistyantoro, 2005)

3.10 Traditional House of Jeron Beteng, Kraton, Yogyakarta

The system of inheritance distribution using the principle of testament or will, which by means of the will allows the role of parents still have full rights in dividing the inheritance and possible no disputes arising due to different calculations. In the system of inheritance distribution, do not use the pure benchmark of the three inheritance law (Islamic Law, Customary Law and State Law), but adapted to local conditions. Distribution of inheritance resulted in the ownership of traditional dwellings into a compound, in the sense that traditional homes have changed the meaning of traditional living room *Jeron Beteng*, Kraton Yogyakarta. Inheritance distribution pattern of land does not follow the division of land measured and based on the price of land, but based on the position and boundary of space and traditional building form. The division pattern begins with a separate division between *dalem*, *pendhopo* and *gandhok* (Tarigan, 2013).

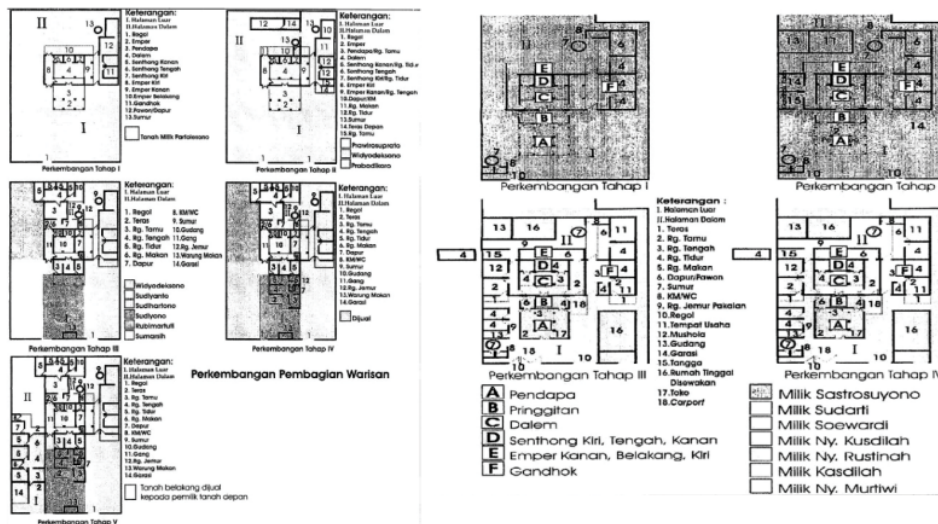


Figure 10. The development of space changes
(Source: Tarigan, 2013)

4. Conclusion

From the discussion of the pattern of space to some traditional houses on the island of Java above obtained the following results:

1. Building in Dukuh village in West Java, is a single mass building with one roof. It is synonymous with indigenous houses Kasepuhan Ciptarasa in West Java, Tengger residential community in Wonokitri Pasuruan.
2. Kaliwungu traditional house in Central Java, is a single mass building with more than one roof. It is synonymous with Kenthol Bagelen's home in Central Java, and identical to the traditional Osing house in Banyuwangi.
3. Kudus Traditional House in Central Java, is a multi-massed building with more than one roof and is identical with traditional Ponorogo house building, Tanean Lanjang residence in Madura, and Jeron Beteng traditional house, Kraton in Yogyakarta.

With the increasing development of the city, understanding of the relationship between space requirements and cultural phenomena is needed. By understanding the spatial arrangement of traditional house and population growth, solutions to significant housing problem can be found, a direct understanding of the various parts of traditional houses are considered essential. Understanding the spatial arrangement of traditional houses will be helpful to support housing construction.

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