

EXAMINING THE SPATIAL PATTERN IN INDONESIA'S VILLAGES FOR THE GLOBALIZATION MECHANISM OF SURVIVAL

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Abstract

A close relation between two types of traditional villages, namely *Kampung Dalam* (the main village) and *Kampung Luar* (the closest neighboring village) reflects both similarities and differences of both villages' physical forms. A spatial pattern relation between both villages also describes the causal relationship within the villages. It can describe how people try to keep their faith and culture in the middle of inevitable changes. This paper is important to show the survival of the Kampung. The aim of this paper is to describe the differences and also the similarities of both kampungs' spatial patterns. An in-depth interview with eight selected informants consisting of *Kuncen* (leader), public figure, and citizens of both the villages were administered to identify the principles of spatial planning. It was found that there were similarities in the villages' spatial forming elements and differences in the aspects of direction and position. The spatial pattern relation of both the villages upholds respect to the nature, their ancestors, and adjusts to their religious teachings. The practical contribution of this study is most likely to be an important reference of traditional village preservation efforts, particularly on spatial designs and their relations to the traditional villages and their surroundings. While for academic purposes, this study is important as the vocabulary increased, especially on the Indonesian traditional architectural references.

Keywords: Relation, Spatial pattern, Traditional villages.

1. Introduction

Kampung adat is a village that continues to uphold norms and laws that are consistently considered decent and passed on from generation to generation to their descendants. It is not easy for customary villages to survive amidst the onslaught of modernization. However, customary villages are known and proven to have a high ability to survive change [1].

The spatial physical form of the village ultimately shows the paradigm that occurs in society. This will be very important to study in order to discover which aspects are considered important by the community and which aspects are considered less important in relation to village planning that will be maintained. The physical formation of the village will show rules and values which can adapt to today's needs, and which cannot be changed. This data is very important to be explored as a way to defend the village and adapt to the times without losing the spirit and character of the cultural heritage areas [2].

This paper intends to answer research questions, namely: (1) What is the spatial pattern of the inner village and what is the spatial pattern of the outer traditional village? (2) Are there similarities in the spatial patterns of the two villages? (3) Are there differences in the spatial patterns of the two villages? The expected result is a description of the village's spatial patterns, along with the differences and similarities in spatial patterns that occur between the two.

Research on indigenous villages is a very popular research, especially in Asian countries, which are very diverse in ethnicity and culture. These studies discuss more of the transformations that have occurred in customary villages, both in terms of changes in form, function and meaning [3]. Likewise, research on spatial patterns in architectural contexts in general, as well as in cultural contexts such as customary villages, has also been widely carried out. However, there is still very little research that discusses the relationship between spatial patterns that occur between customary villages and the new villages that are formed around them. This paper will discuss the spatial pattern relation between the two villages specifically in providing data for practitioners and academics to explore the spirit and character of cultural heritage villages in an effort to survive change.

Table 1 shows that the previous studies about indigenous villages discuss more of the transformations that have occurred in customary villages. The studies also show how the aspects of traditional village/house can be adopted to the modern situation that not only use as a coping mechanism, but also spreads good spirit and character in a more modern environment. Studies that discuss the relationship between spatial patterns that occur between customary villages and the new villages that are formed around them are still limited. Meanwhile, it can show how the process of changes take place from inside into outside village.

2. Method

This study employed a qualitative method as it can describe spatial patterns of the traditional village along with their relations with the subjects involved more clearly. The space which has been established in the village is the result of deep thinking and habit formation sustainably used by the local people. Therefore, identifying the spatial patterns in accordance with the subjects' understanding will be able to

interpret meanings intended by the subjects, which is later associated with the studied phenomenon [8].

Table 1. Previous research of space and traditional architecture.

Problems	Key Findings	Ref.
The adaptation of vernacular architectural features into the sustainable development projects being performed in the region.	The outcome of optimized usage of materials, construction techniques and climatic considerations occurred in the region during centuries can be utilized in today's architectural practice, while the modern architecture needs environment-friendly buildings.	[4]
How cultural meaning and values of this practice in times of globalization, the commodification of culture and how cultural heritage may still have a "place" in this dynamic and mobile environment.	The Javanese <i>joglo</i> is not a "thing of the past" but alive, desirable and meaningful and that it can be adapted to modern lifestyles and integrated into modern and changing contexts.	[5]
Interwar public housing estates for native citizens in Sub-Sahara African cities, represent hybrids of global and local urban concepts, housing typologies and dwelling habits.	Their different network-outcomes underpin the supposition that actor-oriented research can help to unravel a most essential, though neglected part of international town planning history.	[6]
Decrease in number of traditional Bali Aga houses that threaten the extinction of Balinese traditional architecture and local identity.	The spatial and settlement pattern in Mabi Hamlet still implements linear pattern as it is inherited from the past. Nevertheless, the house patterns have changed into modern form.	[7]

The research site selected in this case study was a traditional village namely *Kampung Adat Dukuh/ Kampung Dukuh*, a Sundanese traditional village located in Ciroyom, Cikelet, Garut, West Java, Indonesia. Geographically, the village lies close to the south coast and divided into two areas namely *Kampung Dukuh Dalam* (inner village) and *Kampung Dukuh Luar* (outer village). The border of both villages is a bamboo-made gate. *Kampung Dukuh Dalam* belongs to the area inside the gate while *Kampung Dukuh Luar* is outside the gate. The position of both villages, marked by the bamboo gate (See Fig. 1).



Fig. 1. Position of *Kampung Dukuh Dalam* and *Kampung Dukuh Luar*.

The citizens of *Dukuh Luar* are descendants of those of *Dukuh Dalam*. Due to the limited land area of *Dukuh Dalam* and the growing number of people, some of them decided to move to the outer gate and build their houses there. The number of citizens from both villages is 232 people who are divided into four *Rukun Tetangga*, the smallest unit of local government. Most of the residents support their family by farming. Data of the village spatial patterns were acquired by in-depth interviews administered for five weeks by having face-to-face conversations with the village leaders, some of the public figures, and some people from both the villages. The instruments were interview guidelines and an audio recorder [9]. An in-depth interview was administered as it is able to dig in information about the main focus and topic of the study deeply, openly, and freely [10].

Research procedure

In this study, the interview was carried out based on pre-set questions. The procedure of the study is shown in Fig. 2. The results of both the interview and documentation were used to identify the spatial patterns of both the villages based on theories in architecture.

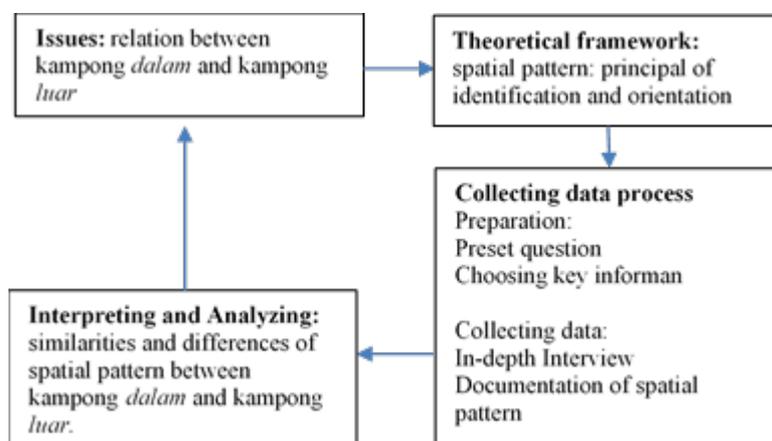


Fig. 2. Research procedure

3. Results and Discussion

3.1. Principles of orientation at Kampung Dukuh Dalam

Figure 3 shows the top down pattern of *Kampung Dukuh Dalam*. Spaces that are considered sacred are placed on a higher ground contour while the profane spaces are placed on the lower ground contour. In terms of direction, *Dukuh Dalam* layout uses a linear pattern and it is acquired from the dimensional proposition change of a shape or rules of buildings' shapes in a line. The line can be either a repeated and similar shape organized by other separate aspect such as a wall or a street. A linear shape can actually be deflected in accordance with the local topography [11]. Characteristics of linear pattern at *Dukuh Dalam* are identified by the main road which is long at divides the village into two parts, upper and lower. In addition, the linear pattern at the village is also reflected by a row of houses adjusting the land topographical pattern. Each of the house is built on the same land contour.

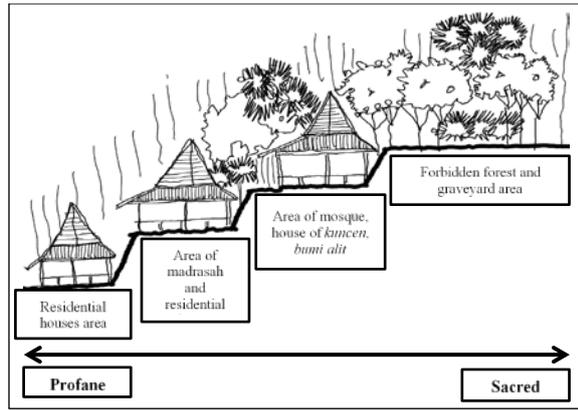


Fig. 3. Illustration of top down pattern in the *Dukuh Dalam*.

3.2. Principles of identification at *Kampung Dukuh Dalam*

The principles of orientation and identification at *Dukuh Dalam* are illustrated in Fig. 4, showing the rowhouses with a strong linear pattern and the road as an axis integrating both sacred and profane areas. The dirt road is covered with two-meter wide stones functioning as an axis integrating the whole part of the village [12]. The regular pattern of the axis creates a formal outdoor space in accordance with local and traditional rules yet is also adjusted to the natural surroundings. The axis itself is a road followed by a repeatedly shaped roof, long-shaped buildings, building directions, natural colours, and building material on the left and right sides. This creates a rhythm and strengthens a symmetrical space.



Fig. 4. Spatial pattern at *Kampung Adat Dukuh Dalam*.

3.3. Principles of orientation at *Dukuh Luar 1*

Kampung Dukuh Luar is the closest village to *Dukuh Dalam* as they are separated by a bamboo-made gate surrounding *Kampung Dalam*. As the village uses a top

down pattern, *Dukuh Dalam* is called *tonggoh* (higher) and *Dukuh Luar 1* is called *landeuh* (lower). In terms of the internal site of *Kampung Dukuh Luar 1*, the spatial hierarchy created is near-far. This is reflected from the shapes, material, and element-shaping color of the houses at the village. There are two houses located exactly at the borderline between *Dukuh Dalam* and *Dukuh Luar* whose color, shape, and material are similar to the houses at *Dukuh Dalam*. The further from *Kampung Dalam* the houses get, the more different the color, shapes, and material used. This also applies to the rules and regulation as closer houses to *Kampung Dalam* tend to have tighter rules and regulation and vice versa. However, there are houses of *Kampung Luar 1* located at the borderline of *Kampung Dalam* with a different kind of roof yet the same shapes, building structure, and color compared to those in houses of *Kampung Dalam*.

In terms of direction, unlike *Dukuh Dalam* which has a linear pattern, *Dukuh Luar 1* has a cluster pattern; a spatial group based on relationship status, similar characteristics, or visual relations [13]. Cluster organization or group organization commonly employs homogeneous space utilizing similar physical characteristics such as shape, size, and function. The rowhouses at *Kampung Dukuh Luar 1* internal site are located on the left and right sides of the road, where the front part of the house avoids facing the north as the local rule tells.

3.4. Principles of identification of *Dukuh Luar 1*

A binding element (datum) of the house group at *Dukuh Luar 1* contains shapes and direction of the houses following the rules of *Dukuh Dalam*. Repeated shapes, structure, direction, and material of the houses create a rhythm or a pattern. A saddle-shaped roof is maintained in almost every house in the area. Traditional houses on stilts are also kept by the people yet the shape of the house layout is basically rectangular with a little bit modification. In terms of house material, most of the houses are made of woods and bamboos even though some of them apply a brick wall. The brick wall houses are located at the outer side of *Dukuh Luar 1*. Most of the houses keep the natural color yet some houses far from *Kampung Dalam* are painted. These types of rhythms indicate that the orientation applied is not top now, yet near-far, as mentioned earlier. Figure 5 shows the spatial pattern at *Kampung Dukuh Luar 1* presenting the cluster organization with similarities of shapes, material, and direction of the buildings. Results of this study show both similarities and differences of spatial patterns in both *Kampung Dukuh Dalam* and *Kampung Dukuh Luar 1* (see Table 2).

Table 2 shows that elements of space shapers in both the villages are similar to each other. The similarities are indicated through the identification principles of both the villages, especially on the datum-axis, asymmetrical, and rhythm-repetition. This shows that the community places the mass of the building according to the environmental or natural conditions. The main factor that affects the placement of the building period is the contour of the land. Therefore, it can be concluded that the community does not do much to make a change on natural conditions. This principle then causes the roads and land contours to become the direction for building laying. Buildings are laid out along the contours and roads resulting in the same spatial pattern.

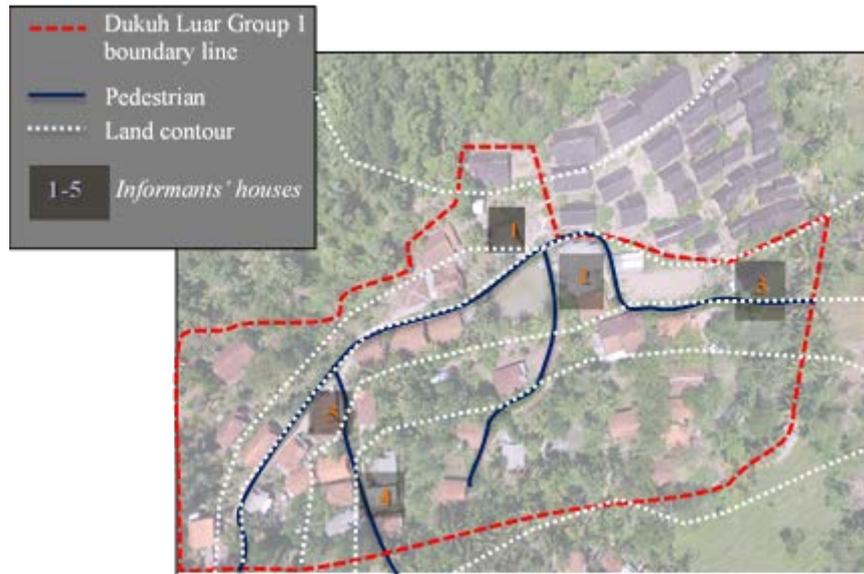


Fig. 5. Spatial pattern of *Kampung Dukuh Luar 1*.

Table 2. Spatial patterns in *Kampung Dukuh Dalam* and *Dukuh Luar 1*.

Planning Principles	Spatial Patterns of <i>Kampung Dukuh Dalam</i>	Spatial Patterns of <i>Kampung Dukuh Luar 1</i>
Identification		
Datum axis	The datum is in similarities of shapes, functions, and direction of the houses	Similarities of shapes, functions, and direction Road as an axis and binding element (datum) of the area of the houses
Symmetrical-Asymmetrical	Asymmetrical	Asymmetrical
Rhythm-Repetition	Repetition of house shape, house structure, roof shape, color, material, and direction of the rowhouses	Repetition of house shape, house structure, roof shape, color, material, and direction of the rowhouses
Add-sub-transformative	Buildings are relatively similar, no transformation of shapes	Buildings are relatively similar, yet there are addition of number and transformation of shapes of the houses
Density	Tidily dense within in the rowhouse following the contour of the land and the road	Rare, there is a lot of open space
Orientation		
Position within the site scope	Top down	Near-far
Direction	Linear to the road contour	Cluster, marked by similarities of functions and shapes within a certain area

The differences lie in the transformation which only exists in *Kampung Dukuh Luar 1*. There are rules regarding the shape of the buildings in *Kampung Dukuh Dalam*. Therefore, it is natural that there is no transformation in the *Kampung Dukuh Dalam*. Whereas in *Kampung Dukuh Luar*, customary leaders do not require the residents of *Dukuh Luar* to follow the rules that are applied. *Kuncen* only recommends according to Islamic law that good things can be applied, without coercion. So, there are no rules that are violated by the residents of *Kampung Dukuh Luar* if the shape of the building is not the same as the building in *Kampung Dukuh Dalam*. In other words, the residents can apply shapes, materials, and color freely to their residential buildings. Another difference from the spatial patterns of the two villages is the principle of orientation.

For existential support, one living in a certain area will simultaneously reveal the characteristics of the area [14]. To this relation, there are two psychological functions involved namely orientation and identification [15]. The identification of spatial patterns in *Kampung Dukuh Dalam* is identified by investigating the space of shaping elements while the orientation is identified through one place's direction to another. Theories of identification and orientation support the fundamental notions of hierarchy. Residential areas in traditional villages have a close relationship with the nature [12]. Therefore, all the elements of building elements in *Kampung Dalam* are bound to the nature. Their cultural symbols; on the other hand, are closely related to religious concepts, Islam. Consequently, their datum has a lot of things with nature and religious activities inhibited from their ancestors. *Dukuh Dalam* employs a top down hierarchy in which sacred places are built on a higher ground as a reflection of their respect to the nature and preservation of their tradition and religion. This type of spirit is actually a part of their foundation of life.

Respect to the nature is given by not making too many changes. It is shown by the village's topographical contour resulting in linear patterns and rowhouses adjusting to the road topography. In *Dukuh Luar 1*, for instance, even though the people make a clustering pattern, they do not damage the nature at all. The top down pattern nominates the forest as the sacred area since it protects the nature and the near-far hierarchy is selected as their respect to the ancestors.

4. Conclusion

An investigation has been made of the spatial pattern of *Kampung Dukuh Dalam* and *Kampung Dukuh Luar*. This study compared the spatial pattern between *Kampung Dukuh Dalam* and *Kampung Dukuh Luar*. The comparison of both villages by the identification of spatial patterns in *Kampung Dukuh Dalam* is carried out by investigating the space of shaping elements while the orientation is identified through the direction of one place to another. The elements of space shapers in both the villages are similar to each other. The similarities are indicated through the identification principles of both the villages.

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