Study Of Lampungnese Traditional Home Garden Design

R A Pratiwi[1] and Gunawan[2]
[1] Graduate Student of Department of Landscape Architecture, Faculty of Agriculture, Bogor Agricultural University (IPB);
[2] Department of Landscape Architecture, Faculty of Agriculture, Bogor Agricultural University (IPB).

E-mail: adetiyapratiwi@gmailcom

Abstract. Lampung is one area in Indonesia which has a traditional culture that comes from two groups of descents, they are ulun Lampung Pepadun and ulun Lampung Saibatin. Lampungnese traditional culture has been well-known by Indonesian people for its traditional dances, traditional clothing, or traditional home architecture. However, Lampungnese traditional home garden recently may not yet been described. Information related to Lampungnese traditional home garden is still very limited and it does not yet represented the culture based design concept. This research was directed to identify the elements of the home garden and map it into design concept of the Lampungnese traditional home garden based on information of Lampungnese traditional culture. The study was conducted by using descriptive approach through literature review, interviews and cultural exploration, as well as field observation. The study was able to identify the elements forming the Lampungnese traditional home garden, namely *gakhang hadap*, *walai*, outdoor kitchenette, firewood place, outdoor kitchen, livestock barns, as well as plants. Space layout of the home garden comprises front yard (*tengahbah*/*terambah*/*beruan*), side yard (*kebik*/*kakebik*), and backyard (*kudan*/*juyu*/*kebon*). Each element of the garden is located in the right place of the space layout.

1. Introduction

The geographical conditions of Indonesia with a naturally formed landscapes form a variety of patterns and behaviours in the life of a community or ethnic group. The existence of any of these ethnic groups have distinctive cultural character portrayed in regional traditions, social activities, as well as the layout of the settlement that is used to support the communities' life. One of the ethnic groups in Indonesia which has a distinctive culture is the Lampungnese people. Historically, the word Lampung comes from *anjak lambung*, which means comes from above. It is intended that Lampungnese people were come from high areas of or mountainous regions. Lampungnese people are divided into two main groups, ulun Lampung Pepadun and ulun Lampung Saibatin. Within these two groups, there is still a division based on the inhabited territories by each group. This indigenous territories diversity gives a distinctive feature for the traditional settlement in each region. Traditional houses are structures that coherent and sustainable to the environtment and to the people [1]. Traditional architecture is a manifestation and physical representation of people's culture, which include houses and other built forms [2].

Vernacular architecture is built to meet the specific needs of its inhabitants to accommodate the values and way of life based on culture [3]. Lampungnese traditional house is seen as a form of adaptation to environment, where the geographical conditions of Lampung Province is one area that is

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prone to earthquakes [4]. This threatening environment make traditional houses in Indonesia are built to adapt the conditions [5]. However, lack of study about traditional home garden affects in the absence characteristic of the Indonesian garden in general [6]. Ignorance about the value of culture in the architecture and the traditional home gardens results in lower community efforts to preserve the cultural heritage traditions [7]. In order to obtain a real picture of traditional Lampungnese home garden, the study about it have to be conducted, so it can be preserved and can be applied by Lampungnese people. Objectives of this study were to identify elements, layout, and interpretation and to compose them into a traditional Lampungnese home garden design concept.

2. Methods

This study was conducted at several locations in the Lampung province, namely Wana Village and Sukadana Darat in East Lampung district, Pekon Kenali in West Lampung district and Negara Tulang Bawang in North Lampung district, started from the fourth week of January 2014 until the fourth week of March 2014. This study was conducted by using descriptive approach through literature review, interviews and cultural exploration, as well as field observation. Information obtained through historical and cultural exploration with a comparative approach to compare the past and future phenomenon [8].

The study was started with preparatory phase which includes problem definition and goal setting, followed by doing a preliminary study to collect secondary data about history and culture associated with the Lampungnese traditional home garden design. The next step in this study was data collection through the literature study, interviews with experts, as well as field observation. Studies conducted to explore written sources which are obtained from journals and books recommended by the experts. Interviews were conducted to obtain cultural and historical information about Lampung. This information was obtained from village chiefs in the traditional villages and historians, followed to their knowledge about culture and history of Lampung. This stage was conducted using in-depth interview directly and deeply to the informant related about the character and culture of the Lampungnese people, spatial layout of the settlement, forming elements, typical plant that is grown around the houses, as well as cultural activities that are still carried out by the Lampungnese people. The information was gathered by using open-ended question and interactively collaborating with the informants [9].

Field observation was conducted to determine the composition of architectural elements and home garden elements of the traditional Lampungnese home garden. At this stage, a checklist of the elements should be done based on the results of the literature study and interviews about cultural aspects. Field observation conducted in five areas, which are selected based on their potency and character where the people are still doing the cultural activities. Sample houses are selected based on their authenticity. Analysis is done by identifying the elements and layouts that should be exist based of the cultural information and compared it with the current conditions in the field. The final results of the study were synthesized in the form of a concept that can be used as a basis for designing a Lampungnese traditional home garden.

3. Results

3.1. Literature Review

Based on the literature study, it is known that spatial planning both interior and exterior of the traditional houses is influenced by kinship or values among family members and relatives. The literature study related to spatial elements and symbols on Lampungnese traditional home garden can be seen in Table 1. The placement of the constituent elements of the Lampungnese traditional home garden has meaning and cultural philosophy related to functions and beliefs as well as the habits of local communities.

Tabel 1. The spatial components comparison of Lampungnese traditional home garden based on literature study

Components	Literature Study
Boundaries	Area around the houses is usually left open, without fences because the strong kinship bonds [11] [12] [18].
Architecture	Each houses has *tepas* and *tadah embun* (porch) [12] ; at the end of the stairs there are *gakhang hadap* [12] [13] [14]; beside or behind kitchen there are *gakhang dapur/kudan* [12]; buffalo skulls and ornamental carving are the symbols of the house owner's pride [14] ; traditional houses are stilt houses as adaptation to the environment [14] ; house is divided into lower part of the house, centre part as the place of living, and higher part as the sacred place for god [15].
Space	Spatial arrangements inside the house are influenced by kinship [12].
Bah lamban	The lower part of the house or *bah lamban* was not initially used, it was just a form of adaptation [11]; Yields are kept in *bah lamban* [11] [16].
Kitchen and *gakhang*	Separate kitchen is connected to the house by *geragal/jembat*, and for some occasions, temporary kitchen can be built outside the house [15] [16].
Symbol	*lamban* symbolize harmony as a place to live for a family as well as harmony with nature and environtment [15]; a house also symbolize it's owner social status and pride [14].
Yard	Front yard or *tengahbah/terambah* is commonly used for drying crops and make *teratak* [12] [13]; Back yard is called *kudan/juyu* [14]; side yard is called *kebik/kakebik* [14] ; some *walai ramik* are built around houses, some of them are built outside the village [14] [15] [16].
Orientation	Oriented or close to the river [10] [11] [14] [16] ; linear, with houses are facing each other[12]; linear, close to the river because of the necessity of water [13].
Activities	Lifecycle ceremonies; maternity ceremony, birth and infant ceremony, childhood ceremony, adulthood ceremony [17].

3.2. Interview Results

The interview results related to spatial elements and symbols on Lampungnese traditional home garden can be seen in Table 2.

Table 2. The spatial components comparison of Lampungnese traditional home garden based on interview results

Components	Interview Results
Boundaries	Traditional house has no obvious boundaries with other houses, sometimes people use hedgerows[3] ; the plant that are usually used for *langen* or the hedgerows is *jarak kuto* (*Jatropha curcas*)[5]
Architecture	Traditional stilt houses is an adaptation form to the environment[1,2,7]
Space	Spatial arrangements inside the house are influenced by kinship[4]
Bah lamban	*Bah lamban* is functioned as a storage area[2,4,6,7]
Kitchen and *gakhang*	the kitchen is built in the left side of back house close to *gakhang*[6]
Symbols	house is divided into lower part of the house, centre part as the place of living, and higher part as the sacred place for god[1] ; different floor level represent different purity level[4] ; highest part of the house (roof) is used to keep the sacred things (*pamanohan*) [3]

Yard	*Beruan* or front yard, side yard, as well as back yard or *kebon* are left open for crops sun-drying purpose[4] ; all farming activities are done on the farm, not on the yard[5] ; front yard is left empty to show the luxuriousity of the house[8] ; The houses' owners only grow beneficial plants (food and medicinal plants) on their yards[3,4] ; crops are grown on the farm, far away from house [5,6]
Orientation	Houses at Pekon Kenali are used to be oriented to Gunung Pesagi (south)[2] ; other traditional houses are used to be oriented to the river because the necessity of water[5,7] ; oriented to the village chief's house[6] ; circulation around the house is usually straight[4], to the right side of the house[2]
Activities	traditional wedding ceremony[5,8]

1. Budi Supriyanto, S.SOS, M.Hum (Lampung Museum Staff)
2. Mad Sa'ari Glr. Batin Setia (village chief, *lamban pesagi* owner)
3. Habiburrakhman
4. Iskandar Zulkarnain
5. Hj.Uzunuhir, S.Pd Glr. Suttan Lepus (*Lamban gajah meghem* owner)
6. Fasykinar Bahari Glr. Dalom Putra Wiranegara (village chief at Negeri Olok gading)
7. Arsyad Glr. Suntan Ratu Putra (village chief at Negara Tulang Bawang)
8. Amasin Glr. Suntan Alif (village chief at Negara Tulang Bawang)

3.3. Field Observation

Field observation results showed the spatial pattern around the house and its components, and the constituent elements in the villages which were used as a reference (Table 3). Most of the traditional houses in the village which can be found today have clear boundaries. Although most houses have clear boundaries, the fences are generally not too high and not all of them have gates. Unlike other villages, in Pekon Kenali houses have no clear boundaries. The settlements are built linear to follow the roadway with the houses are built facing each other, and there was no clear boundary between the houses (Figure 1).

Table 3. The spatial components comparison of Lampungnese traditional home garden in all villages

Components	Villages			
	Pekon Kenali	Kampung Wana	Sukadana Darat	Negara Tulang Bawang
Boundaries	Concrete fences, metal fences, or wood fences	Inconsistent, some houses have hedgerows, concrete fences, some houses has no boundaries at all	Concrete fences, metal fences, or wood fences	Inconsistent, some houses have hedgerows, concrete fences, some houses has no boundaries at all
Architecture	*Lamban Pesagi*	Common traditional houses	*Lamban gajah mekhem*	Common traditional houses
Bah lamban	Exist and utilized	Exist and utilized	Exist and not utilized	Exist and utilized
Kitchen and *gakhang*	Exist, located in the back of the house, unite with house	Exist, located in the back of the house, unite with house	Exist, located in the back of the house, unite with house	Exist, located in the back of the house, unite with house
Symbol	*Cagak lamban*	Buffalo skulls, ornamental carvings	Buffalo skulls, ornamental carvings	Buffalo skulls, ornamental carvings
Yard	Front yard; exist, extensive ; Side yard: exist, extensive ; back yard: exist, narrow	Front yard; exist, narrow ; Side yard: exist or non exist ; back yard: exist or non exist	Front yard; non exist ; Side yard: exist, extensive ; back yard: exist or non exist	Front yard; exist, extensive ; Side yard: exist, extensive ; back yard: exist or non exist

Orientation	Oriented to the street ; circulation directed to the side of the house	Oriented to the street ; circulation straight toward the front stairs	Oriented to the street ; circulation straight toward the house (no stairs)	Oriented to the street ; circulation straight toward the front stairs



Figure 1 (left) linear settlement pattern; (middle) house with fence but no gate; (right) houses without any boundaries

Circulations around Lampung traditional houses are generally do not have a specific pattern. Although sometimes the traditional house has two staircases and two entrances, circulation still form a straight line directly toward the main door. At the end of the stairs, the first part of the house is called *tepas* (porch). Houses are generally divided into three main parts: the front, centre, and back part of the house. The front part of the house is starting from *tepas* to the first room after the entrance. The centre part is a second room after the entrance, as well as the back part is the kitchen and *gakhang* (Figure 2). *Gakhang* is a place to wash the dishes which its floor is made of bamboo so that the water is wasted down straight. The lower part of the house or *bah lamban* is usually functioned as storage or left empty and open. Space layout of the home garden comprises front yard (*tengahbah*/*terambah*/*beruan*), side yard (*kebik*/*kakebik*), and backyard (*kudan*/*juyu*/*kebon*).



Figure 2. (left) kitchen; (middle) *gakhang;* (right) *bah lamban*

Traditional houses are usually in rectangular shape stilt house with 2 meters high columns, where the shorter side is the front side of the house. After comparing the results of the literature study and interviews with field observation, it is found that the current condition shows a mismatch conditions that should be exist based on the culture. There have been many changes in houses and their surroundings, it is suspected that those changes happened because of easier acces to the village. House yards are usually left empty without any boundaries so that neighbour can pass through it. Yards can be categorized as a public space, with houses built close to each other. As a result of this proximity, the ownership boundaries seemed unreal. This kind of spatial layout is found in almost all traditional settlements. This happens because most of the villagers are family related. Based on the comparison of the literature study, interviews, and field observation, forming elements in Lampungnese traditional home garden are *gakhang hadap*, *walai*, outdoor kitchenette, firewood place, outdoor kitchen, livestock barns, as well as plants (Table 3). These components are exist to support and fulfill the needs of the community, both everyday needs and the needs of traditional ceremonies. The placement of

these components does not always have a certain meaning, but can adapt to the needs and environmental conditions.

Table 4. Comparison of the constituent elements of Lampungnese traditional home garden

Elements	Literature Study	Interviews	Field Observation
Gakhang hadap	✓	✓	
Walai	✓	✓	
Outdoor kitchenette	✓		
Firewood place		✓	✓
Outdoor kitchenette	✓		
Livestock barns	✓	✓	✓
Plants		✓	

There were no *gakhang hadap* and *walai* found on field observation. Whereas *gakhang hadap* characterizes traditional customs and beliefs of *ulun* Lampung, house is a space with higher hierarchy with its surrounding environment so that when entering the house someone must be in a clean state by washing their feet on *gakhang hadap*. Meanwhile the absence of *walai* happens because people nowadays prefer to keep their rice in the house not in a separate building, and not all the people in the village have their own rice fields. Therefore, to strengthen the character of Lampungnese traditional home garden *walai* existence as a constituent element must be present. In particular purposes outdoor kitchenette is needed in Lampungnese traditional home. For this purpose the side yard near the kitchen in the house can be used. Outdoor kitchenettes which are usually used to make brown sugar and copra are usually built permanent and located behind the house closed to *walai* [16]. To support cooking activities in both indoor and outdoor kitchenettes, *ulun* Lampung are still using firewoods. Firewood in large quantities can't be kept in the house and require a special storage. From the results of field observation, a place to store firewood is usually placed in *bah lamban* right under the kitchen or in the yard beside the house near the kitchen.

A garden is a micro-scale landscape, so that the constituent elements can be likened to the landscape forming element, such as landforms, plant materials, structures, hard elements, and water elements [19]. Home garden is a form of outdoor space around the house, so that its utilization and beauty are determined by the owner [20]. There are several principles that should be applied constantly in designing the garden. These principles include the design framework (order), repetition, rhythm, unity, balance, proportion and scale, as well as emphasize [21]. The application of these principles in the home garden is to make the house harmony with the environment, to form a space by arranging elements in that area, to optimize the use of the site, as well as to build outdoor space that is useful and appropriate to the needs of home owners. Aside from making it aesthetically pleasing, the design must also be able to meet the needs of human beings and should be functional [22].

3.4. Design Concept

Space in a house can generally be divided into four, private space, public space, semi-public space, and service space [23]. Public space is an area that is accessible to everyone and usually located at the front of the house. While the service space is an area that supports the activities of the home owner, private space is a room that can only be accessed by the home owner. Semi-public space is an area of activity for homeowners, usually also accommodates any social activities. Side yard and *bah lamban* are usually used as a place to socialize in any ceremonies. In certain situations, *sebai* (women) group used to cook together around the courtyard next to the open kitchen or under *sudung* and *bah lamban*. In the side yard near the kitchen anyway to ease the activity is usually built a place to store firewood. Therefore, the side yard of the house as well as all *bah lamban* can be classified as semi-public space.

In contrast to the side yard, front yard can be classified as a public space because it is open and freely accessible by anyone. Meanwhile, elements such as *walai*, outdoor kitchenette, and

livestock barns are usually located in the back yard. Those elements are elements that are built and used to support the live of house owner so that it can be classified as elements in service area. Based on these considerations, the classification of space in the house and Lampungnese traditional home garden is done. When compared with the concept of space by [23], it shows that Lampung traditional houses accommodate more space for public and semi-public use. The placement of each element is depend to the needs and habits of the people. Based on the spatial layout in terms of culture, front and side yard are left open or planted with grass. Plants that have a meaning in the culture of Lampung is *jarak kuto* (*Jatropha curcas*) which is usually planted as a hedgerows between each house and the *kayu labeu* or maja tree (*Aegle marmelos*) is planted at the edge of the yard. Based on these results, a recommendation concept of Lampungnese traditional home garden design that can support the architectural character of traditional houses is defined in figure 3.

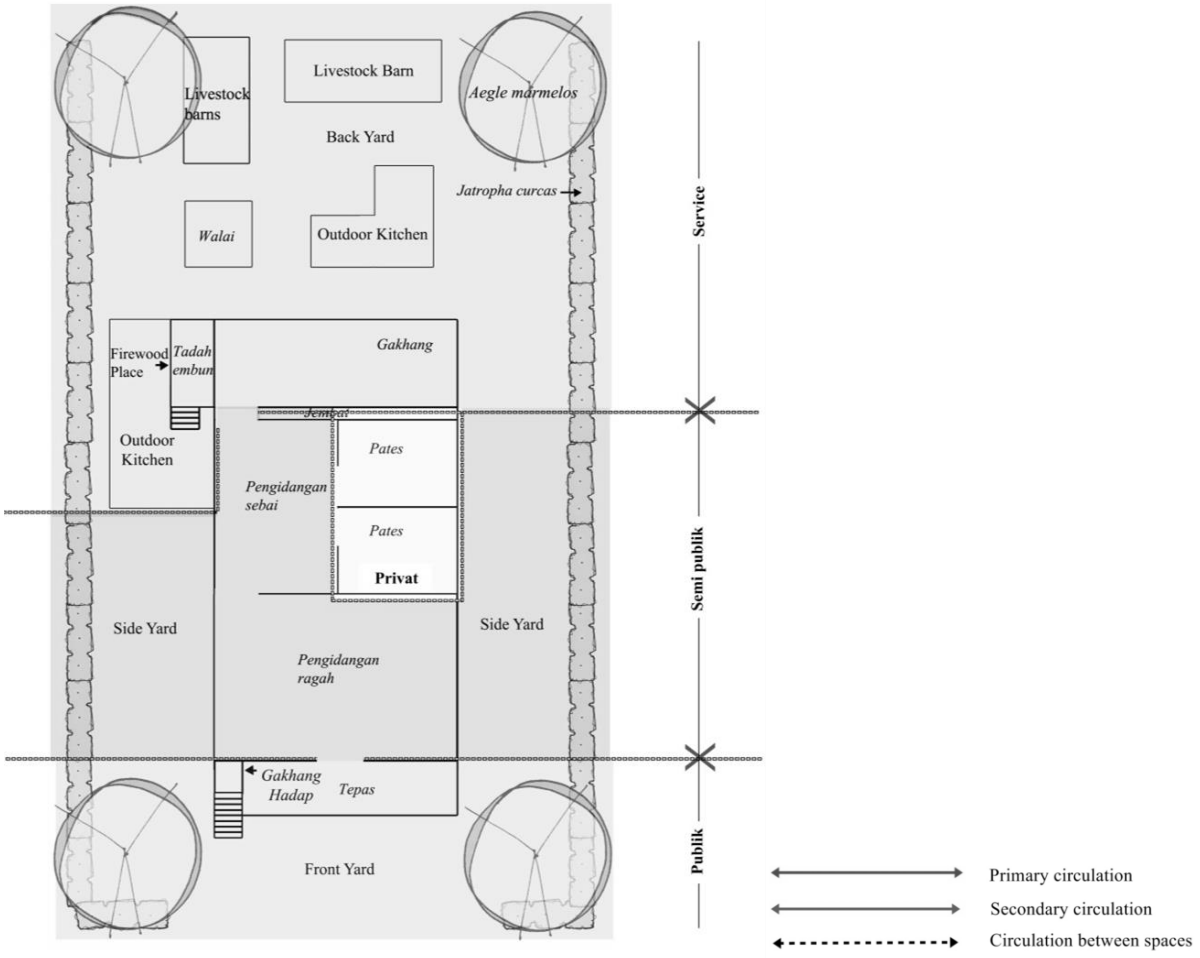

Figure 3. Concept plan of Lampungnese traditional home garden design based on culture

4. Conclusion

Traditional houses are usually in rectangular shape stilt house which spatial arrangements are influenced by kinship. House is usually divided into lower part of the house, centre part as the place of living, and higher part as the sacred place for god, while the yard is usually divided into front yard (*tengahbah*/*terambah*/*beruan*), side yard (*kebik*/*kakebik*), and backyard (*kudan*/*juyu*/*kebon*). The forming elements of Lampungnese traditional home garden are *gakhang hadap*, *walai*, outdoor kitchenette, firewood place, outdoor kitchen, livestock barns, as well as plants. The placement of each elements are based on eficiency to support the daily activities of the house owner. The concept is achieved by dividing the room into four by function, element placements, and the use of public space,

private space, semi-public space, and service space. Space both inside and outside the house are connected and can be accessed with a linear circulation. Plants that are used in Lampungnese traditional home garden are *jarak kuto* (*Jatropha curcas*) and *kayu labeu* (*Aegle marmelos*).

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