

Spatial Analysis of Sade Traditional Hamlet in Lombok Island, Indonesia: The Alteration of Sasak Tribe's Traditional Living Space

インドネシアのロンボク島におけるサデ伝統的集落の空間分析研究 —ササク部族の伝統的居住空間の変化について—

Dini Aiko Subiyantoro

1. Introduction

Hundred years ago, vernacular architecture once triumphed. Unfortunately, not so many people could record and studied all of it, so it slowly becomes forgotten and disappears. Poverty and low education bring people facing difficulties in understanding their own culture, building techniques, and village management. This problem then leads them to a bigger issue regarding the alteration of culture and traditional architecture.

Architectural conservation issue in Indonesia was starting to be concerned pioneered by the archaeologist experts. During the colonial era in 1901, the first committee, *Commissie in Nederlandsche-Indie voor Oudheidkundige Orderzoek op Java en Madura*, was created to manage Indonesian heritage. After that, *Monumenten Ordonnantie no. 238 of 1931*, was decreed as the first law regarding cultural heritage. It later become the basis for the establishment of law no.5 of 1992 (*UU Cagar Budaya no.5 tahun 1992*), which then amended to the law no.11 of 2010¹. Among Indonesian architect, conservation issue being more popular as the Old Town Batavia (Jakarta) revitalized by Ali Sadikin in 1970th. Moreover, many of international experts also support and has deep concern in Indonesian vernacular architecture.

Indonesia is a home for over 300 ethnic groups and an archipelago of 17,508 islands. It is the world's largest Muslim-majority nation with a total population of 242 million people. Among all island in Indonesia, an Islamic ethnic group called Sasak, live in Lombok island, struggle in holding their ancestral heritage and its cultural values. Limited record and minimum concern of Sasak culture make it difficult to determine an appropriate method in preserving its cultural and architectural heritage. Various sources even obtain diverse information about its history of the Sasak tribe.

Sasak tribe has a unique concept in their settlement and dwellings. Observed deeply, we can see a similar pattern in their traditional settlement. However, because of its limited record, the cultural values of the settlement are barely understood. In this era, many of new settlements are starting to spread along the Lombok Island. Some of the traditional settlement still trying to keep the authenticity of both of its physical and non-physical value. Sade hamlet is a traditional settlement that considered to be one of those which still keeps their tradition in their settlement and daily life.

Entering 21st century, Sade people starting to consider the necessity of more space in their house and settlement. The number of traditional houses were rapidly increase, following the growth of population. On 2000s, Sade hamlet receive some support from government with well and cement. Moreover, on 2015, they also receive revitalization projects from the government. However, it not yet known if the government understand the appropriate method of revitalization or not, since the local government or the village does not have policy in terms of traditional house conservation. Therefore, this research expected to provide a deeper understanding of the importance of cultural values of Sasak's living space and settlement. Thus, can help preserve cultural heritage along with the values in it.

2. Research Purpose

Most of the research about Lombok usually concerned on the religion aspect or tourism development. Spatial research usually focuses on the northern or western Lombok. A research has been done by Japanese researcher, Yoshihisa Wakita², about space organization in the settlement of Bayan village in North Lombok, and to find the connection between houses and *Berugak*. There is also other research by I Made

Wirata³ about Sasak's tribe traditional house transformation in Segenter hamlet in North Lombok. Meanwhile, the purposes of this research are:

- (1) To identify the alteration tendency of Sasak traditional house and how the Sasak community preserve their traditional houses in correlation with the customary law;
- (2) To provide a deeper understanding of the importance of cultural values and in-depth knowledge of the value of Sasak's living space and settlement;
- (3) To analyze the spatial of Sasak traditional house as integral parts of the Sasak cultural context.

3. Research Methodology

- (1) Literature study from books, journal, and articles;

To enrich the information about Sade hamlet, the author collected some data about the history of the Sasak's tribe and its religion, Sasak's tribe culture and architecture, and other secondary data. The studies from the previous research are also important to enrich the information for this research. The author also conduct research to some universities in Indonesia to investigate the related research to verify the authenticity of this research.

- (2) Site survey and data sampling;

Three times field survey on March, July, and September 2018 were conducted to collect the current data through house measurement and interview. 17 sample of the traditional house will be collected along with the house measurement, data of the space function, and interview with the house owner about the house, to record the current detailed data about the space utilization and the modification that has been done in every traditional house. This data was analyzed to obtain the space pattern in the Sasak's tribe traditional house.

- (3) Data collecting from the local government;

Data from the local government and interview also important to understand the basic information about the village, government's program from the village development, and how the government supports the village preservation.

(4) Data analysis to identify the house typology and to identify remain part and/or the modification that has been done in Sade hamlet.

3. Sasak Tribe's Settlement

For the Sasak people, Mount Rinjani has been seen as a center of spirituality and mysticism. Therefore, the orientation

of the Sasak tribe's traditional houses is also based on the direction of Daya and Lauq. As a whole, the traditional houses are avoid facing the Mount Rinjani direction. In traditional settlement that located in north and south (such as Sade, Senaru, and Segenter village), the houses are facing the east and west direction, while in the settlement that located in the eastern part (such as Sembalun village), the houses are facing to the north and south direction. On the interview with the chief of Sade hamlet, there was a customary law called *awiq-awiq* that prohibited the Sasak people in building their house towards Mount Rinjani.

4. Introduction to Sade Hamlet

Sade is a traditional hamlet of Lombok indigenous Sasak people that located in Rembitan Village, Central Lombok, Indonesia. This hamlet is located 11 km from airport, laid between the airport and tourism area in south, Kuta beach. This is one of the reasons why many tourists come to visit. Sade hamlet located in a dry land with a low number of rainfalls with the average of 84 mm³ per year and with the average temperature is 24-32 degree Celsius. This dry condition causes the difficulties of agriculture in this area. As for the fauna, Sade people raising cattle and goats, and buffalo as their ritual animal.



Figure 1. The location of Sade Hamlet in Lombok Island

Different with another hamlet and village that built on flat area, the settlement in Sade built circular because it was built on the hill. It was the habit of the Sasak tribe's ancestor in the past to always looking for high place to live, so they can be closer to the center point of cosmic. And the closer they are to the cosmic, the faster they can reach the spiritual point and the closer they can see moon and stars as their guide in understanding time and direction. Currently, Sade is inhabited by 529 Sasak people (262 men and 267 women)⁴ and covers an area of 1.79 hectares with 68 traditional houses. Along with the houses, there are also other facilities inside the hamlet,

such as traditional mosque, multipurpose shelter (*berugak*), rice storage (*alang*), shops, and toilets.

5. House Typology in Sade Hamlet

In Sasak language, house means *Bale*. *Bale* also considered as a micro social institution which called *Bale Langgaq* (household)⁵. Generally, bale that located in the coast are different with the bale that located in the mountain or hills. The land condition of the settlement affects the house character and layout. This pattern becomes a reference for us to interpret the traditional architecture of Sasak tribe as a result of a society's creative process in facing natural challenges and then becomes their identity.

In Sade hamlet, the houses are still in traditional form and material. The bottom part is made from mixed soil, rice husk, and cow dung. The middle part, living space, using Timus wood (local strong wood) for the pillars (*tekan*) and woven bamboo for the wall (*bedeq*). Above it is the roof structure that constructed from bamboo that tied with tree branch (*saot*) and covered with rice straw (*alang-alang*).

(1) *Bale Tani* (farmer's house)

The first type is the original house of Sasak people in Sade hamlet called *Bale Tani*, which means farmer house. The floor of *Bale Tani* built with levels, following the form of the roof. Specifically, the space inside *Bale Tani* is divided into two, indoor part and outdoor part. The indoor part consists of *Dalem Bale* room, that used as kitchen and women bedroom, and *Bale Dalem* room that used as delivery room and unmarried women's bedroom. From 68 traditional houses in total, there are 38 *Bale Tani* houses in Sade Hamlet. 5 of it are considered to be the oldest house.

(2) *Bale Bontar* (round house)

Bale Bontar, that means round house, is a traditional modified house that was built starting from 1971, correlated to the low economic conditions of the Sasak community and space necessity, as the population were increasing. The amount of the room in *Bale Bontar* depends on the occupants' needs. However, the cost is usually cheaper than *Bale Tani*, because it needs less thatch for the roof and less soil for the foundation. As 2018, from 68 traditional houses in total, there are 26 *Bale Bontar* in Sade Hamlet.

(3) *Bale Kodong*

The third house type is *Bale Kodong*, a small house that

built for a newly married couple, with around 4.5m² area. In Sade hamlet, the newly married couple usually build a small house before they can build bigger house like *Bale Tani* or *Bale Bontar*. While living in *Bale Kodong*, the couple should think about what they will do in the future, while collecting the money for build a new house. There are also *Bale Kodong* that used by elders because it is too difficult for them to step in the high elevation of the house.

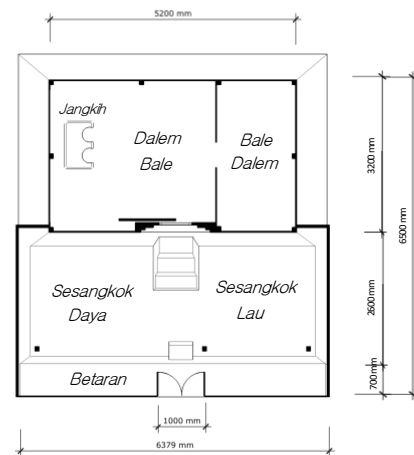


Figure 2. From left to right: *Bale Tani*, *Bale Bontar*; and *Bale Kodong*

6. Result

(1) Space Utilization of *Bale Tani*

The traditional house of Sasak people contains a special concept regarding the spiritual aspect and commending the women. So here, the mother and the daughter living in the higher space. This house is divided into two areas, indoor (*Langen Dalem*) and outdoor (*Langen Duah*). The indoor area consists of two rooms, *Bale Dalem* and *Dalem Bale*, while the outdoor area consists of *Sesangkok* room that divided into the south (*Sesangkok Lau*) and north (*Sesangkok Daya*) area.



Scale 1 : 150

Figure 3. Floor plan of the typical *Bale Tani* house (BT4)

(a) *Bale Dalem*

Bale Dalem means 'a house inside the house'. This room is considered to be the sacred room. Sasak people has 'kidnapping' tradition in their marriage system. The girl has to sleep in the back space of the house, a room without window,

and only have one access through the other room called *Dalem Bale*. This room is also functioned as a valuable storage room; as prayer room; and as a delivery room.

(b) *Dalem Bale*

Dalem Bale means ‘inside the house’. This room functioned as kitchen (*pawon*), offerings making room, and bedroom for married woman. *Dalem Bale* connect the outdoor area and *Bale Dalem* room, which can also be said that this room is the second barrier to protect *Bale Dalem*. Inside the room, we can see a traditional stove from clay called *jankih*, and traditional cooking utensils that usually used for ritual and traditional ceremony.

When Sasak people do a ritual, such as *Roah Klemak* or *Begawe*, they prepare the offerings and foods in *Dalem Bale* room. To prepare the rice, they pound the rice husk with *Alu*, a 2 meters wood stick, and *Gendang*, a big bucket from wood that used to store the rice husk. After the rice separated with its husk, the rice cooked with traditional method using traditional stove called *Jankih*. When doing a ritual, Sasak people has to do every process with traditional method and utensils.

(c) *Sesangkok Lau* and *Sesangkok Daya*

Sesangkok room is divided into two area, the south and the north. The south area called *Sesangkok Lau*, which referring to the direction of the sea, whereas the north area called *Sesangkok Daya*, which referring to the mountain.

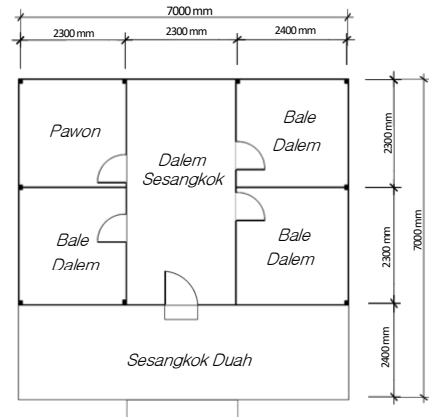
Sesangkok Daya functioned as a dining room, living room, and receiving room. When the neighbor or guest come to *Bale Tani*, they usually enter and gather in this area. Sometimes, family from another village or house come to their relative’s house and have a lunch or dinner together along with some chit and chat. This *Sesangkok Daya* considered as a semi-public area.

(2) Space Utilization of *Bale Bontar*

Bale Bontar is a traditional modified house. Some *Bale Bontar* also has multilevel space in the inside. However, *Bale Bontar* has more room than *Bale Tani* and different space order compared to *Bale Tani*. In *Bale Bontar*, there is no *Langen Dalem* (indoor area) and *Langen Duah* (outdoor area). The space of one of *Bale Bontar* is different with the other *Bale Bontar* house. The number of space and arrangement depends on the house owner.

Different with *Bale Tani*, there is no *Bale Dalem* inside *Bale Bontar*. *Bale Dalem* in *Bale Tani* house is

functioned as delivery room, valuable storage room, and girls (unmarried woman) bedroom. In *Bale Bontar* house, *Bale Dalem* is no longer exist. So, when the mother giving birth, they will use their parents or relatives house, the *Bale Tani* house. Furthermore, the valuable storage room moved to another room, and the girls will have their own bedroom. Although has different floor plan with *Bale Tani*, *Bale Bontar* has room for prepare the offerings.



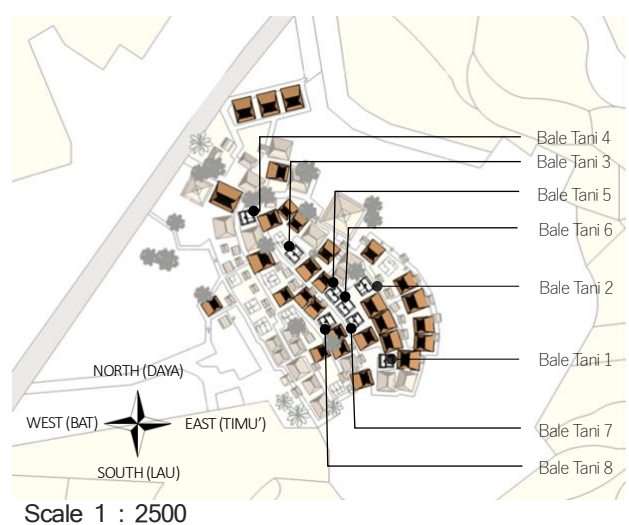
Scale 1 : 150

Figure 4. Floor plan of *Bale Bontar* house (BT1, not typical)

(3) Space Analysis

This research recorded 68 traditional houses which includes 38 *Bale Tani*, 26 *Bale Bontar*, and 4 *Bale Kodong*. Among those houses, 17 sample of houses, which includes 8 *Bale Tani*, 8 *Bale Bontar*, and 1 *Bale Kodong*, were taken.

(a) *Bale Tani*



Scale 1 : 2500

Figure 5. Map of 8 sample of *Bale Tani* in Sade hamlet

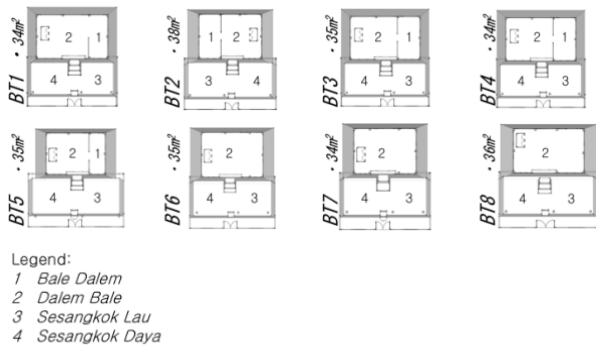


Figure 6. Floor plan of 8 sample of *Bale Tani* in Sade hamlet

House Type	Room Function	Activity in Each House							
		BT1	BT2	BT3	BT4	BT5	BT6	BT7	BT8
<i>Bale Tani</i>	Father's Sleeping Room	3	3	3	-	3	-	3	3
	Mother's Sleeping Room	2	2	2	2	2	-	2	1
	Daughter's Sleeping Room	1	-	-	1	1	-	-	-
	Son's Sleeping Room	1	1	1	-	3	1	-	3
	Delivery Room	1	1	1	1	1	1	1	1
	Storage	1	1	1	1	1	1	1	1
	Kitchen	2	2	2	4	2	4	2	2
	Rice Pounding Room	2	2	2	2	2	2	2	2
	Receiving Room	4	4	4	4	4	4	4	4
	Dining Room	4	4	4	4	4	4	4	4
	Living Room	4	4	4	4	4	4	4	4

Table 1. Activity in each space of *Bale Tani* house

Among 8 samples of *Bale Tani*, all sample have same pattern for the floor plan. In these past years, the function of some rooms already changed, especially the sleeping room for each family member.

In *Bale Tani* house, *Bale Dalam* used for the daughter's bedroom. But currently, among 8 houses, *Bale Dalam* in 4 houses used for son's sleeping room. This sometimes occur because there is no daughter in the family, or they already got married. This is allowed because Sasak people believe if they live in their birth place, they will have a strong connection with their ancestor. However, men cannot enter this area when there is a giving birth process.

Dalem Bale room still functioned as kitchen and offerings preparation room. However, 2 of the houses not using this room as kitchen. These 2 houses using *Sesangkok Daya* room for kitchen because the woman owner have a health problem which make her can barely move to higher room. Whereas the other *Bale Tani* house only occupied by one man who rarely cook by himself. *Sesangkok Lau* room being used as its function as well as *Sesangkok Daya* room.

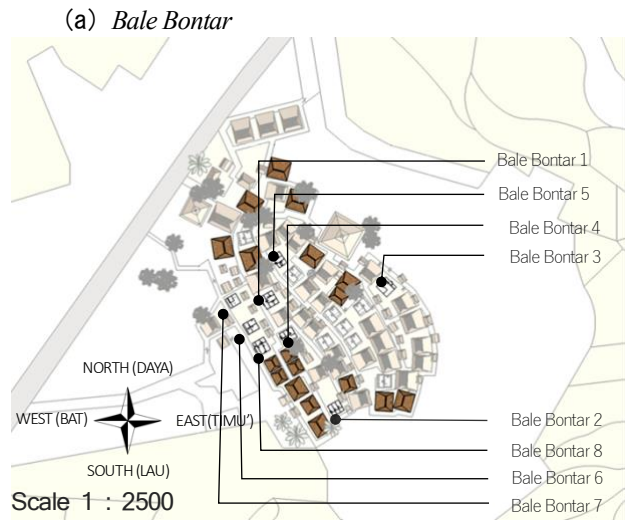


Figure 7. Map of 8 sample of *Bale Bontar* in Sade hamlet

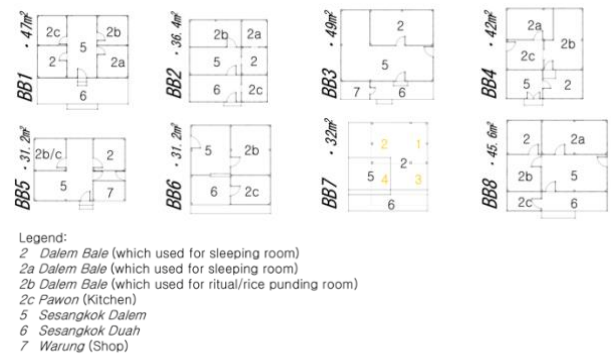


Figure 8. Floor plan of 8 sample of *Bale Bontar* in Sade hamlet

House Type	Room Function	Activity in Each House							
		BB1	BB2	BB3	BB4	BB5	BB6	BB7	BB8
<i>Bale Bontar</i>	Father's Sleeping Room	2	2a	-	2a	2	6	2	2
	Mother's Sleeping Room	2	2	5	2/2a	2	5	2	2/5
	Daughter's Sleeping Room	2a	2	2	2/2a	-	-	2a	2a
	Son's Sleeping Room	2a	2	-	-	2	5	-	-
	Delivery Room	-	-	-	-	-	-	-	-
	Storage	2b	2b	2	2b	2b	2b	2b	2b
	Kitchen	2c	2c	2	2c	2b	2c	2b	2c
	Rice Pounding Room	2b	2b	2	2b	2b	2b	2b	2b
	Receiving Room	5/6	5/6	5/6	5	5	5/6	5/6	5/6
	Dining Room	5	5	5	5	5	5	5	5
	Living Room	5	5	5	5	5	5	5	5
Shop	-	-	7	-	-	-	7	-	

Table 2. Activity in each space of *Bale Bontar* house

Among 8 samples of *Bale Bontar*, all sample have different floor plan. However, the function is quite the same.

Bale Bontar usually has one or more *Dalem Bale* room. However, *Bale Dalam* is not exist in *Bale Bontar*, so there is no delivery room in here. The women who live in *Bale Bontar* usually give birth at the *Bale Tani* that owned by their

family or in the nearest hospital.

In *Bale Tani* house, *Bale Dalem* used as sleeping room for the girls, *Dalem Bale* used as sleeping room for mother, and *Sesangkok Lau* used as sleeping room for men. Whereas, in *Bale Bontar* house parents mostly sleep together and children sleep in different room. However, according to the interview, some men also sometimes sleep in the outdoor to protect their family.

Although most rooms of *Bale Bontar* made from cement floor, there is one room that required to be built with traditional materials: the offerings preparation room. This room, also called *Dalem Bale*, has to be constructed with traditional floor and built without ceiling. In some houses, it separated with the modern kitchen called *Pawon*.

(4) Pattern Relatives

As a Sasak family grows and expand, the children have to move out from their parent's house and built a new house after they got married. After the parents or father passed away, the last son must return to their parent's house and live there with their family. In other words, the house will be inherited to the youngest son in the family. So basically, one house can only be occupied by one household. This system is one of the methods of how Sasak people preserves their traditional house.

7. Conclusion

This research shows that the living space of the Sasak tribe in Sade hamlet has evolved and transformed due to the space necessity and financial ability. Since it was first formed, traditional houses in Sade hamlet evolved from *Bale Tani* as original house, then *Bale Kodong* as a temporary transitional house, then to *Bale Bontar* as a modified traditional house. Among the total 68 houses, 55.8% are *Bale Tani*, 38.2% are *Bale Bontar*; and 6% are *Bale Kodong*.

The comparison study reveals the alteration of the space pattern and the modifications in the house, spatial and structural. All of *Bale Tani* sample reveals a same pattern of floor plan, which is has *Bale Dalem*, *Dalem Bale*, *Sesangkok Lau* and *Sesangkok Daya*. In *Bale Tani*, *Bale Dalam* and *Dalam Bale* room is woman's work place and live, men rarely enter those area.

Each *Bale Bontar* has different floor plan. However, every house has a room for preparing the ritual offerings and

most of the houses still use traditional material for structure. In *Bale Bontar*, almost all rooms can be entered by men. But there is still a room for making the ritual offerings that men could not enter when it being used for ritual.

Bale Tani could still preserved by the system of pattern relative. Moreover, there is also *awiq-awiq* as customary law that still has a big influence in the traditional house preservation. However, conservation policy is recommended to be established to create a sustainable traditional house and preserve the culture from extinction.

8. Recommendation

In order to create a sustainable traditional living space, there are some points that should be considered:

- (a) Evaluation and workshops; to understand village's current condition, the cultural values and the problem that occur.
- (b) Improve the customary rules or *awiq-awiq*; changed from unwritten to written agreement.
- (c) Conservation management committee; to create a sustainable traditional house conservation and reflect the voices of various stakeholders.
- (d) Building guideline; including the space, material, and visual (building's height and roof form)
- (e) Support from government regarding the house restoration and preservation; by giving them their *adat* forest, so they can plant their own local material. Giving support with cement and non-local material is not recommended because the authenticity of the house will fade.

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