

Limbangan Local Wisdom and Conservation of Vernacular Architecture East Lombok Sasak

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Abstract

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Limbangan (Bale Tani) is the traditional house of the Sasak tribe in East Lombok Regency. The era of modernization has shifted the existence of local culture. This study uses Bale Tani documentation to promote the values of local wisdom in the construction of traditional houses in East Lombok Regency. The phenomenon of Limbungan Local Wisdom can be studied and useful for architects, local governments, and the community, especially in the Lombok Island (Sasak) area. This study aims to enrich knowledge about traditional houses that were designed wisely by their ancestors. East Lombok Regency is a district that has many traditional houses as well as strong customs and culture. The results of this study can provide input and create buildings that pay attention to the ecological concept and local wisdom of the Sasak tribe.

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1. INTRODUCTION

Bale Tani is a traditional house of *limbungan* located in East Lombok Regency with bamboo construction as its building material. Bale tani is a traditional house located in the Rinjani mountain area or under the foot of Mount Rinjani. The embodiment of the limbungan traditional house is one form of Vernacular Architecture. According to (Suharjanto, 2011), vernacular architecture is a term used to categorize construction methods that use local indigenous resources to meet local needs that reflect the environment, culture, and history in which they are located (I. Hilman & Hendriawan, 2018). This architectural work is based on a trial and error (intuition) approach passed down from generation to generation. The traditional house of *limbungan* has developed rapidly in terms of its environment, culture, and history. In its construction, Bale Tani is not bound by certain sizes and dimensions. This is what makes the Bale Tani building included in the vernacular architectural style. According to (Tanudirjo et al., 2019), preservation should be seen as an effort to re-actualize cultural heritage (Golany, 1995; I. Hilman & Hendriawan, 2018; Iman Hilman & Sunaedi, 2017) in the context of the current system. Preservation (Álvarez-García et al., 2019; Titisari, 2017) must also accommodate

the possibility of change because preservation must be seen to give new meaning to the cultural heritage itself (Widayati, 2002).

Limbangan Hamlet, located at Mount Rinjani's foot, has a traditional house area that occupies two places, namely East *Limbangan* with 68 housing units and West *Limbangan* with 71 housing units. The two dwellings are bordered by live plants and a rough woven bamboo fence called *kampu* (Border). Their houses are woven bamboo walls, dirt floors mixed with buffalo dung, *alang-alang* roof, with a frame construction of a mixture of wood and bamboo. With the development of technology and the advancement of modernization (I. Hilman & Hendriawan, 2018), the village's local culture, the village can be displaced by its advantages. Cultural shifts can occur in both urban and rural areas. The *Limbangan* people in *Bale Tani* are mostly from their ancestors (*Sesepuh/Toak*). The younger generation can also live in this *Limbangan* traditional house. The *Bale Tani* traditional house building is a form of physical culture that cannot be built with the original rules technological advances in the 4.0 era.

Therefore, this research was conducted to find out about *Bale Tani*, and find out the values of local wisdom in *Bale Tani* and become knowledge for the *Limbangan* community itself. Furthermore, research can reproduce work as well as knowledge about traditional Indonesian houses that design traditional architecture in the country. Traditional architecture in the archipelago has different designs due to different natural conditions and traditional buildings that have been preserved from time to time.

2. LITERATURE STUDY

Local wisdom is the identity or cultural personality of a nation that causes the nation to be able to absorb, even cultivate culture from outside/other nations into its character and abilities (Widiana & Wikantiyoso, 2018). The identity and personality (Iman Hilman et al., 2019) adjust to the live view of the surrounding community so that there is no shift in values. Local wisdom is one way to cultivate and defend oneself from foreign cultures that are not good.

Local wisdom is a view of life and knowledge, and various life strategies in the form of activities carried out by local communities in responding to various problems in meeting their needs. In foreign languages, it is often too conceptualized as local wisdom or local knowledge, "local knowledge" or local genius (Fajarini, 2014).

Forms of Local Wisdom

Haryanto, (2014) Sates that local wisdom is religious harmony in social practices based on cultural wisdom. The form of local wisdom in society can be culture (values, norms, ethics, beliefs, customs, customary laws, and special rules). Noble values related to local wisdom include love for God almighty and its contents (Raihani et al., 2015), responsibility, discipline, independence, honesty, respect and courtesy (I. Hilman & Hendriawan, 2018), compassion and caring, confidence, creative, hard work, and unyielding, Justice and leadership, Kindship and humility, tolerance, love of peace, and unity .

Local Wisdom of the Sasak Tribe (Sasak Community)

Peace and harmony are very dominant cultures for the Sasak people. The Sasak people are known for their peaceful environment. The concept applied by the Sasak people is the Ajani concept which means mutual respect for fellow human beings. The Sasak people are known for their mutual tolerance, which adds to the local wisdom of the Lombok people in undergoing socialization between fellow humans. The Sasak people

have long known the container, which is the mother of society life, about being guided by community life and the meeting place of a reference and setting sanctions or violations in the community's social values (Haryanto, 2014; I. Hilman & Hendriawan, 2018). The container in question is krama. In the daily life of the Sasak people, conceptually, krama is a custom that includes local wisdom, which consists of two kinds, krama as a traditional institution and krama as rules that exist in society or social rules. In the Sasak indigenous people, there is ajikrama which means the value of holiness. Thus, ajikrama is a traditional symbol which means it has a sacred value for the social strata of the Sasak indigenous people based on their traditional territory. The explanation of ajikrama (traditional symbols), which contain the meaning of sacred values, is divided into two, namely:

1. Krama as a traditional institution consists of several parts, namely:

- a. *Krama Gubuk* has the meaning of customary manners whose members are all community members in a hamlet, village, and dasan without exception, and the administration concerned is the resident registered in the hut.
- b. *Krama Banjar urip pati* has a traditional group or community association whose members consist of village/hamlet residents whose members have the same goal. There are several types of krama banjar urip pati, namely krama banjar haji, krama banjar mate, krama banjar merariq and krama banjar subak.
- c. *Krama Desa* is a village-level customary assembly consisting of pemusungan (customary village head), interpreter (assistant village head), lang - lang desa (village security head), a prosecutor (village judge), village welfare coordinator. (escape), and Kiai penghulu.

2. Courtesy as a rule of social interaction, there are several parts, namely:

- a. *The language* of character is manners, manners, manners, and rules regulated in customary awik - awik, which must be carried out using body language, which means polite and orderly, and spoken language carried out in an orderly manner.
- b. *Titi Krama* is a custom that has been regulated in awik - awik due to the customer agreement of all indigenous peoples. If violated, it will be subject to social or moral sanctions. Moral sanctions can be interpreted as ejiran (neighboring) customs and nyangkok customs (living at a lover's or boyfriend's house).
- c. *Aji Krama* is traditional values or the value of the dignity of one's kinship (community) related to ulayat rights in the Sasak indigenous people, namely the usual norm of the community or the value of one's kinship (community) dignity related to ulayat rights in the Sasak indigenous community.

Architectural Conservation

Conservation is generally defined as preservation, but it has a series of meanings with different implications in the realm of conservationists. According to J, Widodo (2006), the term conservation commonly used by architects refers to the 1981 Charter for the International Council of Monuments and Sites or ICOMOS (Titisari, 2017), namely: Charter for the Conservation of Places of Cultural Significance, Burra, Australia.

According to Theodore Roosevelt (Milton, 2021), it means conservation itself derived from the word Conservation, which consists of the words con (together) and serve (keep & save), which has an understanding of efforts to maintain what we have

(keep & save what you have). He was the first American to put forward the concept of conservation in general. In addition, according to Sidharta and Budihardjo (1989), "conservation is an effort to preserve buildings or the environment, regulate their use and direction of development according to current and future needs in such a way that their cultural meaning is maintained"

3. RESEARCH METHODS

This research was conducted using the descriptive-analytic method, which was carried out through the following stages:

1. The descriptive-analytical method is used to obtain interpretations of both primary data and secondary data.
2. Primary data obtained through observation. The observation technique is a complex way of collecting data which is carried out by direct observation in the field and systematic recording.
3. Secondary data is obtained from library sources such as books, journal libraries, theses, theses, both print media and electronic media (internet).

4. DISCUSSION

Limbangan Traditional House

Like a name as a person's identity, architectural works can become an identity in the Nusantara Architecture and people in Indonesia. The emergence of the traditional house of *Limbangan (Bale Tani)* in the sub-district of *Suela*, the cistern village, is the traditional house's identity in the district of East Lombok. This traditional house has been designated as a cultural village in East Lombok Regency, by the East Lombok government, as a traditional building with a traditional house. Moreover, socio-cultural uniqueness, which is still very strong. The *Limbangan* hamlet needs attention because it is historical cultural heritage potentials, philosophical, artistic, and cultural values for the indigenous people of the *Limbangan* itself. By establishing the traditional house of *Limbangan* as a cultural heritage, the extinction of a monument and remnants of the old culture can be avoided (Soeroto, 2003). Therefore, conservation is one way to anticipate changes and developments that occur, which is very necessary (Budihardjo & Sidharta, 1989).



Figure 1. Bale tani traditional house (Author, 2020)



Figure 2. Bale tani traditional house (Author, 2020)

Building a *Bale Tani* is carried out in cooperation following the customs and traditions of the *Limbangan* indigenous community. The people are already *lingsir* (elders), and men are still young to build this *Limbangan* traditional house. As for the construction steps, according to observations and the people there, the traditional village

community of *Limbungan* collects building materials used to build houses, such as bamboo, reeds (*ijuk*), wood, and soil that is overgrown with cow or buffalo dung. After collecting building materials for the traditional house, then erect the building poles. The pillars of the *Limbungan* traditional house are rectangular, and the shape of the house is simple and looks very light with a pole size of 15 cm x 15 cm with a length of approximately 2 - 2.5 meters. After installing the poles, the building, then the poles are attached to the *bedek* (woven bamboo) that surrounds the poles. Then the next step is to assemble the roof with reeds (*ijuk*) and tied bamboo to install or place the roof of the building.

When viewed from the front, the roof of the building is similar to a pyramid roof. The roof is more significant than the body of the house. For roof installation, the length of the upper roof of the building is approximately 3 meters, and the length of the lower roof is approximately 6-7 meters (Fig.3). Then the distance between the roof and the ground is not too far, about 1.5 to 2 meters from the ground.

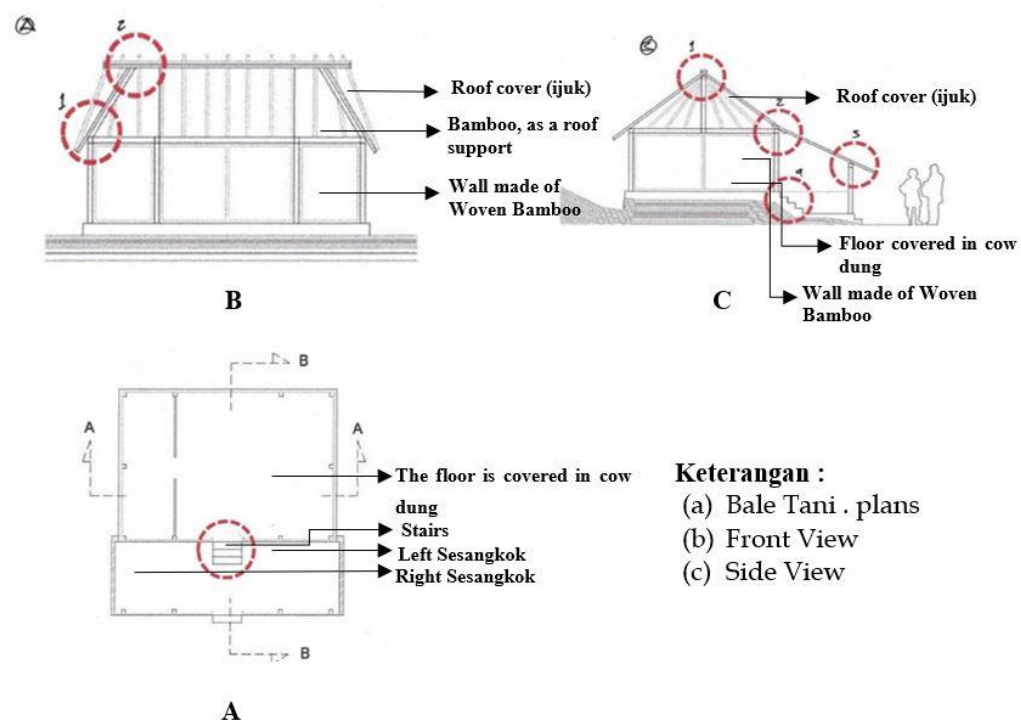


Figure 3. Limbungan House
 (Author, 2020)

The *Limbungan* Traditional Village is known for its sacred source because the *Limbungan* people believe in Mount Rinjani as a source of magic in Lombok. Mount Rinjani is the residence of the goddess *Anjani* who is highly respected by the *Sasak* tribe itself. The people of *Bale Tani* all work as farmers. The shape of the *Bale Tani* itself symbolizes the microcosm or the small world. The microcosm is the relationship between God and man and man and man. The towering shape at the back symbolizes the relationship between humans and God, while the top part of the roof symbolizes the relationship between humans and each other.

The traditional *Bale Tani* traditional house depicts the relationship between humans and humans must be balanced, ancestors and God Almighty. The division of space in traditional houses is divided into two parts: the outside and inside. The outer part in question is a spoon. When people enter the house will be faced with a *Sesangkok* or living room. To go to *Bale Dalem*, we have to pass a ladder with three to four steps. This number of steps symbolizes God, ancestors, and fellow human beings.

There are stored meanings that can be seen from the *Bale Tani* building in the *Limbangan* hamlet, namely, balancing the relationship between humans and God Almighty and with nature (Mount *Rinjani*) and always being humble or respecting each other. All traditional *Limbangan* buildings (*Bale Tani*) use a blend of natural materials (Natural) without brick walls. The *Limbangan* community has forest areas and agricultural fields, which the ancestors intended as a natural balance.

The *Limbangan* community has forest areas and fields that function differently according to the uses of the local *Limbangan* community. A vast forest that is still protected, and in this forest forms a ritual space. There are the *Limbangan* people's tombs in the forest, which residents visit every particular time. In the forest, there is a ritual place when visiting ancestral graves. The meaning of the ritual is, praying at the ancestral graves (praying for the deceased). Moreover, in the forest, there are also woods and bamboo to build houses, bamboo bark (woven bamboo) for walls, and bamboo ropes to tie the top and walls of the house (Figure 3). As for the agricultural fields themselves, the *Limbangan* people make their rice fields, fields, and gardens, and some of the *Limbangan* communities themselves work as farmers.

The formation of the elements that make up the residential space uses *Bale*, *Panteq*, which consists of *Lumbang* and *Berugaq*, and the term in the traditional settlements of *Limbangan* Hamlet. There are houses lined up called *suteran*. The *Suteran* group is called a hut (village). Between the *suteran*, there is an alley or culvert.

The traditional settlement area consists of permanent houses, traditional houses, public facilities in mosques, and prayer rooms. The development of traditional houses is clustered in the western and eastern end areas, surrounded by hedges of living plants in the traditional residential area of *Limbangan*. There are rivers, rice fields, gardens, cowshed houses, village offices, and others around the traditional settlements of *Limbangan*.

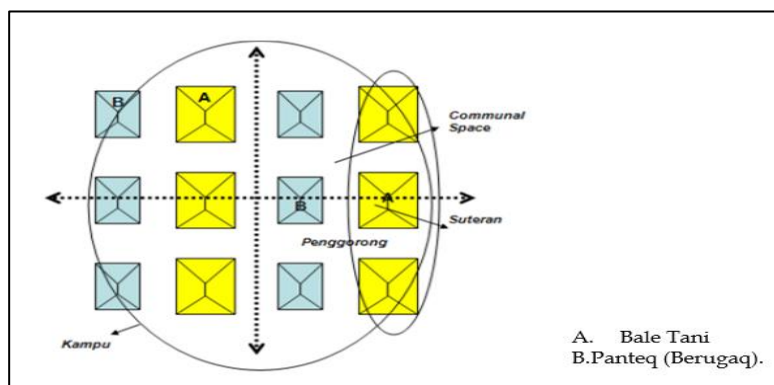


Figure. 4. House Element Formation

Source: (Preservation of Traditional Settlement Patterns of the *Sasak* Tribe, Dusun *Limbangan*, East Lombok Regency)

Limbungan Soil Conservation Concept

The concept of building traditional *Sasak* houses is that the *Sasak* people adapt to the needs of their families and groups. The room (*rong*) is divided into *Bale Inan* (main room), including the outer bale (sleeping room) and bale dalem in the form of a place to store property, a room for mothers to give birth, as well as a place where the body is buried before burial. That must be prepared when building a traditional *Sasak Limbungan* House, such as wood, bamboo, woven bamboo (*bedek*), straw (*ijuk*), or *alang - alang*, cow dung, and sap *Bajur* tree. For the *Limbungan* indigenous community, the house itself has an important function and meaning in life. Therefore, it is necessary to carefully calculate to find a good time, day, date, and month to build a house. The *Sasak* people to find the right time are guided by the large board (derived from the *primbon*) of Adam's *tapel* and *Tajul Muluq*. Not all *Sasak* indigenous people can determine a good day. When ordinary people want to build a house, they have to ask about the rules and an excellent time to build a house to the customary leader.

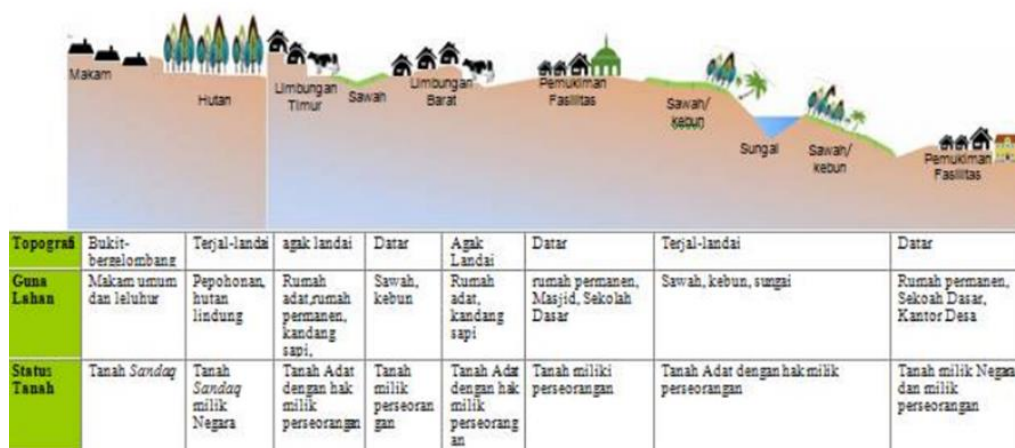


Figure 5. *Limbungan* Traditional House Settlement Pattern
 Source: (Preservation of Traditional Settlement Patterns of the *Sasak* Tribe, Dusun *Limbungan*, East Lombok Regency)

The indigenous people of Lombok believe that the best time to start building a house is in the third and twelfth months of the *Sasak* calendar, namely the month of *Rabiul Awal* and the month of *Zulhijjah* on the Islamic calendar. Moreover, for taboos (avoided when building a house) in the month of *Muharram* and the month of *Ramadan*. According to customs and beliefs, it invites many disasters, such as fires, it is difficult to get a fortune.

Local Wisdom of the *Limbungan* Community (*Bale Tani*) in Traditional House Design

The *Limbungan* indigenous community, based on the research results, is known to have local wisdom values. The *Limbungan* community has local knowledge about the ecological conditions of the *Limbungan* traditional house. It has the value of local wisdom in managing forest areas from the various natural resources in it (Fig. 7 & 8). According to Johnson (1996), local wisdom is a collection of knowledge created from generation to generation in a group of people who blend with nature. Local wisdom is a knowledge that develops in society from generation to generation and wisely becomes the norms and

wise values in a society that is one with nature. Cold climatic conditions, due to the community itself, standing at the foot of Mount *Rinjani*.



Figure 6. Bale Tani Traditional House (Author, 2020)



Figure 7. Bale Tani Traditional House (Author, 2020)

The building of this traditional house has not changed from the past. Namely, the walls are in *bedek* (fence of bamboo), roofed with woven weeds, and earthen floors (Fig. 8). However, local people's lives have been slightly contaminated with modern times, but not in the buildings. The roof, the roof of the *Sasak bale*, is in the form of a pyramid made of thatch leaves and bamboo, which is easily found in the surrounding environment. Based on observations, when viewed from the outside, the roof is larger than the body of the house, the shape of the front roof protrudes downwards. The body position is bowed, which shows respect.

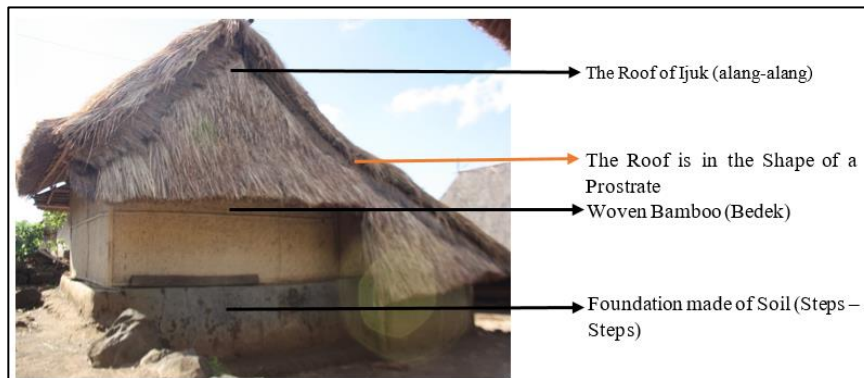


Figure 8. Local materials use for building elements (Author, 2020)

On the front and back, the walls are woven bamboo, the house's pillars where the walls are attached using bamboo, to tie the wall with poles using rattan, the materials used to make this wall simple, easy to obtain as soil and bamboo. Then the window, this traditional house has no window, during the day, the house will remain dark because there is no window as a gap for the sun to enter the house.

Lawang/Door There are two doors in the traditional house of *Limbungan (bale tani)*, the first door is located at the front as a way in and out, and the second door is located in the middle as a liaison between the room and the terrace (*sesangkok*). Each door in each of these traditional bales simultaneously faces east (the direction of the house's orientation).

The door of the house is made in a low position because when entering a *Bale Tani* House. To bow head reflects mutual respect and respect between guests and the house owner (the host). Moreover, lock a door using a wooden or bamboo stick with a value of trust in fellow *Limbangan* indigenous peoples.

The floor/terrace of a traditional *Limbangan* house comprises soil, *Banten* tree sap, and water. Uniquely, even if guests or visitors come and sit on the floor or terrace wearing white clothes, it will not stick, and during the rainy season, it will not fade. After that, it is then painted/smear with 10 or 12 batteries taken from the black part when it is dry. The paint with batteries can last for approximately 3 to 4 years. If it is up to 3 years, then paint with the same material that has been used before.

The window, the traditional house of *Limbangan* does not have a window. During the day, it will be dark inside the house because it does not have a window as a gap for the sun to enter the traditional *bale Limbungan*. Sunlight enters through the doors, terraces, and cracks in the walls made of woven bamboo. The traditional house of *Limbangan* may not have a window because this traditional house of *Limbangan* is located in mountain *Rinjani* with cold weather to avoid cold air, and no windows are made in the house.

The stairs in the *Limbangan* traditional house are made of the same material as the terrace. Outside and inside, there are 2 (two) stairs. Outside the house, there are two stairs elongated in shape and used by the community to greet each other and greet each other. Inside the *bale tani*, there are 3 to 5 steps of stairs. In the *Limbangan* traditional house itself, stairs very rarely found as many as four steps. In Islam, the *Limbangan* community believes the number of stairs is 5 (five), reflecting the number of prayer times and the number of pillars of the Islamic faith.

Room. The room, consisting of a bedroom and a *sesangkok*. The bedroom is used to store valuables and valuables and activities, sleeping for daughters and wives. The bedroom is also used when family members give birth or die (died), starting from being bathed to being wrapped in a shroud and placed inside.

Furthermore, activities of the space in the traditional village of *Limbangan* have a function. Namely, the bedroom serves as a place for girls and wives to do activities, while the terrace serves to receive guests or a place for families to chat. The terrace is also used to receive guests and chat if there is a family who visits.

Traditional Bale Tani House and Natural Air circulation

The traditional house of *Limbangan* (*Bale Tani*) has no windows or ventilation. The climatic condition of the *Limbangan* traditional house itself is caused by the position of traditional settlements in the mountainous area of Mount *Rinjani*. The location of the *Sasak Limbungan* traditional house is in a hilly area at the foot of Mount *Rinjani* with quite cold air, so to avoid cold air, no windows are made in the house, so that air can enter the room, through the main door (Front Terrace) and from the cracks. In the *Limbangan* area itself, the circulation of sunlight enters through the doors, terraces, and cracks in the walls made of woven bamboo. Woven bamboo became the walls of the traditional *Limbangan* building. Wisely, the *Limbangan* community continues to seek movement within the house. Nevertheless, the air movement is regulated only at the front door and the middle door inside the *Bale Tani* House (Fig. 9).

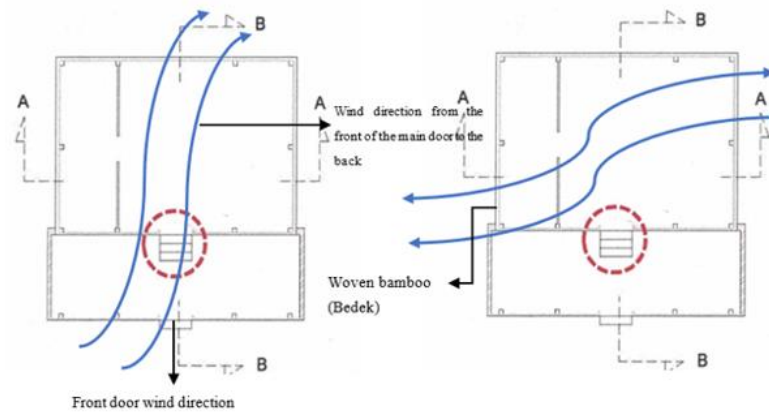


Figure 9. Bale Tani Wind House
Illustration (Author, 2020)



Figure 10. Woven Bamboo as Air circulation to the house
(Author, 2020)

There are very few air, light, or sunlight gaps in the traditional bale *Limbungan* (*Bale Tani*) called *bedek* (Fig. 10). The *Bale Tani* does not have a window is also that the local community is to avoid the easy entry of thieves who will enter the *Limbungan* traditional house.

The Direction of the *Limbungan* Traditional Building

All traditional buildings in *Limbungan* face east, related to the factors of trust and security. All *bale tani* buildings face east because they follow the direction of Mount *Rinjani*, which the Sasak people highly respect. *Limbungan* shows the formation of the *Sasak* (Lombok) community that the young must also take care of the old. If the enemy attacks, then the younger must attack first to protect the older (*lingsir*). There are philosophical values in it that parents must provide a role model and ancestral traits to their children. The picture below shows, the further north the traditional house of *Limbungan* is and the closer to Mount *Rinjani*, the higher the level of the sacredness of the traditional *Limbungan* building.

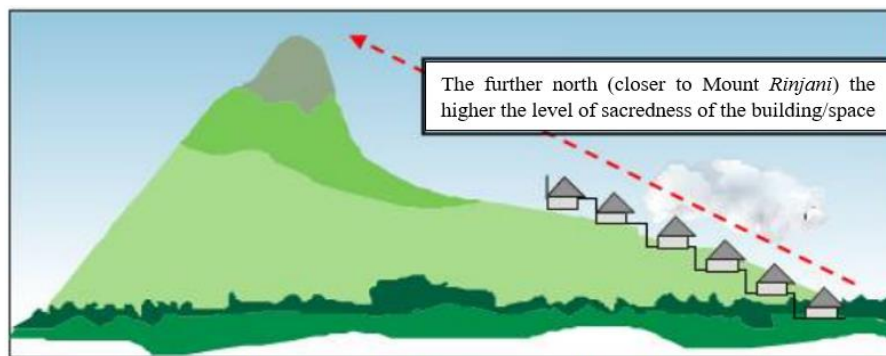


Figure. 11. *Limbangan* Traditional Building Orientation Direction
Source: (Preservation of Traditional Settlement Patterns of the *Sasak* Tribe, Dusun *Limbangan*, East Lombok Regency)

Earthquake Resistant Design of *Limbangan* traditional building

One of the *Limbangan* structure constructions consists of a pole made of bamboo and a wall made of woven bamboo (*Bedek*). At the top of the building, the roof of the building is made of a collection of thatch/reeds. The closeness of nature shows that all the necessities of life for the community can be taken from nature, both residential buildings and food and medical materials. Moreover, it can be said that one hundred percent of traditional house building materials can be taken from nature, such as roofs made of straw and wood as a roof binder with *alang - alang*. Moreover, it can be seen from the technology of the *Sasak* traditional house in Lombok. It is said to have the advantage of being earthquake resistant (google, accessed June 26, 2019).

5. CONCLUSION

Local wisdom of the traditional house community is adaptive to the natural environment adapted to the availability of natural materials. Furthermore, the community has the philosophical value of local wisdom, which is still used today to build a traditional residential environment. The traditional house of *Limbangan* (*Bale Tani*) has local wisdom that adapts to natural resources, geographical location, and culture of the mountainous climate area of Mount *Rinjani* so that it raises many potentials to become one of the Archipelago Architectural conservation houses. A conservation method is needed that can be carried out by involving all stakeholders to be able to maintain the local wisdom of Nusantara Architecture.

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