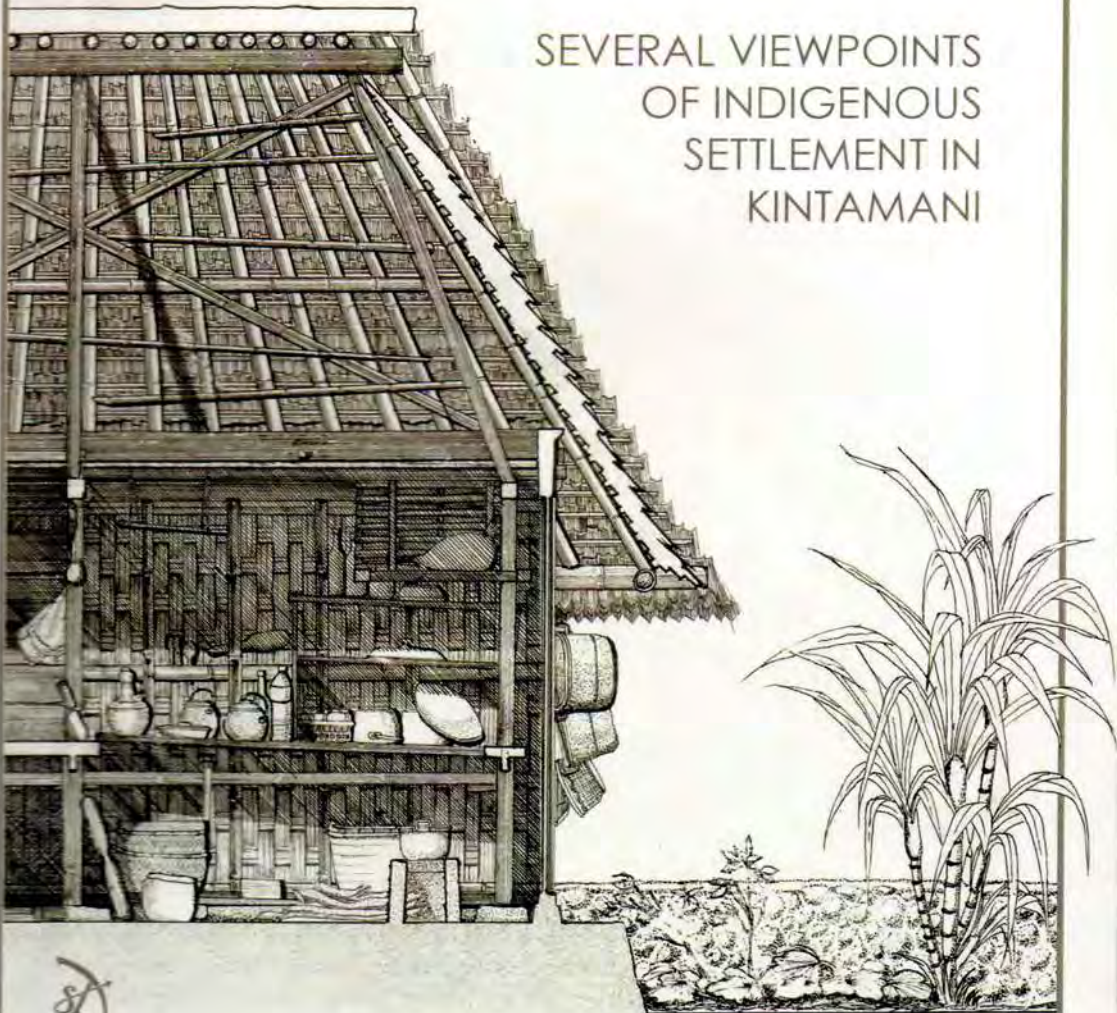




EXPLORING THE VILLAGE OF PINGGAN

SEVERAL VIEWPOINTS
OF INDIGENOUS
SETTLEMENT IN
KINTAMANI



Exploring the Village of Pinggan

Several Viewpoints of Indigenous
Settlement in Kintamani

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Opening remarks

Ngakan Putu Gede Suardana

Dean of Faculty of Engineering, University of Udayana

Om Swastiastu,

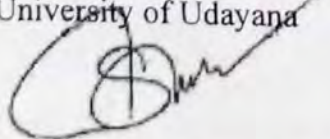
I was so honoured when heard the Department of Architecture is being a host for a series of the Bali VERNADOC event from 24 June to 9 July 2018. The event was divided into two stages. The first stage was the Vernadoc Camp that was accomplished for one week from 24 to 30 June 2018 in Desa Pinggan, Kintamani; and the second stage was located at University of Udayana in Denpasar from 2 to 9 July, 2018. This international events was fully supported by UNESCO.

The Bali VERNADOC 2018 was attended by 68 participants from Australia, Finland, Thailand, Malaysia, and Indonesia (University of Udayana, University of Indonesia, and University of Syiah Kuala). It is not only doing some documentation, but also research activities involving lecturers in the field of architecture. Therefore, the results can be accessed more widely. Documenting Pinggan is able to promote the existence of Bali Aga indigenous settlements around the Globe and provides historical and cultural information of Bali in the past. Ultimately, this international event also support cultural tourism development in Bali.

The last, I congratulate to the international event of Bali VERNADOC 2018 and also thank the committee and all parties who have supported this event. Hopefully, it is able to deliver a real benefit, both local and global level.

Om Shanti, Shanti, Shanti, Om

The Dean of Faculty of Engineering
University of Udayana



Prof. Ngakan Putu Gede Suardana

Foreword

Anak Agung Ayu Oka Saraswati

Head of Department of Architecture, University of Udayana
Corresponding email: saraswati@unud.ac.id

Om Swastiastu,

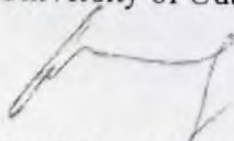
Praise to God *Ida Hyang Widhi Wasa*, for His gift of documentation in Pinggan Vernacular Architecture - Kintamani Bangli, the writing of Bali Vernadoc-Desa Pinggan 2018 as well as one-day seminar and International Exhibition can be done well.

Bali Vernadoc 2018 is a vernacular architecture documentation of Udayana University cooperation with several universities namely University of South Australia, Rangsit University-Bangkok as well as some professional architect. Its activities in the form of documentation of architecture especially vernacular architecture, around measuring and drawing on site, digital capture of the surrounding environment, and modelling of the vernacular building.

I would like to thank to the entire team, Sudjit Sananwai- Rangsit University team-Bangkok, Julie Nichols, Darren Fong - University of South Australia team, Tuomas Klaus, Tri Anggraini Prajnawrdhi with all of the team lecturers and students - Udayana University who are involved in this success.

Om Shanti, Shanti, Shanti, Om

Head of Department of Architecture
University of Udayana



Prof. Anak Agung Ayu Oka Saraswati

Study of Orientation of *Kaja* and *Kangin* Cosmology on Village Pinggan Settlement

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Abstract. The concept of Pinggan Village orientation is illustrated in the Pura Desa and Pura Puseh village structures located in the *kaja* (highest) and opposite the grave (low) area. This concept is also found in the layout of residential units (*banjaran*) consisting of 6 to 8 families who have no relation. Between one family and another family there is no boundary wall. The territory of each family is marked by an elevation in each home yard. One housing unit is oriented toward the east (sunrise) is characterized by the position of each *Pelinggih Penunggun Karang* (sacred element) is oriented to the east. The orientation of one family yard is characterized by spatial arrangement as the northern direction is the family sanctuary zone (*sanggah*) and the south direction is the *lebu* zone (the space located on the outside of the yard entrance). Between the two directions there is a central space in the form of two buildings oriented to the *natah* (plaza). The north and east markers are also found in the interior layout of the main building, in the *kaja* and *kangin* positions functioned as the storage space for religious ceremonies. At the top of the chamber (above the ceiling of the chamber) there are ritual elements that are in position *kaja* and *kangin*. The purpose of this research is to study the Pinggan Village cosmology orientation marker that is the direction of *kaja* and *kangin* in macro context (village), meso (*banjaran*) and micro (building period). The Method used is qualitative naturalistic method through historical approach, native's viewpoint, and

pattern setting activity of local community. In this study, the things that focus are the spatial zoning of the space in micro, meso and macro; elements of cosmological markers in the direction of *kaja* and *kangin*, and the reason for the formation of the orientation. The result of this research are (1) there is correlation between Pinggan Village and Pura Puncak Penulisan and (2) the correlation is characterized by elements of *kaja* and *kangin* orientation.

Keywords: *banjaran; cosmology of kaja and kangin; orientation; zoning arrangement*

Introduction

The pattern of traditional villages is generally divided into two based on their geographical location. The pattern of villages in mountainous areas generally patterned with the linear concept of the *hulu* upstream and the orientation of the axis as *teben*. Whereas the lowland villages have a centered pattern and the main orientation on the *kaja* (north/Mount Agung) and *kangin* (east/direction of the rising sun) (Gelebet, 1986) and (Parimin, 1986). The *hulu* (upstream) and the *teben* concepts are a very ancient concept in settlements Bali Aga in the mountains. *Hulu* as an orientation which is considered to be of prime value (high) and *teben* is a worthless value (low). *Hulu* is generally identified with the direction of *kaja* and *kangin* and *teben* is the direction of *kelod* and *kauh* (Gelebet, 1986). However, the concept of *hulu* (*kaja/kangin*) in the layout of settlements in the highlands (mountains) is not always identified with the direction to Mount Agung or the sunrise. Each region has a different *hulu* (*kaja/kangin*) orientation, generally influenced by historical background and geographical conditions. Pinggan Village is one of the ancient villages in Kintamani Sub-District which has different *kaja* and *kangin* orientation directions with other villages in Bali. The orientation of the *kaja* is towards the direction of the Puncak Penulisan Temple and *kangin* orientation leading to Ulun Danu Batur Temple. This orientation is motivated by the history and origins of Pinggan Village residents who came from Puncak Penulisan and settled until now in the Pinggan village. The *kaja* and *kangin* orientation was also influenced by the stories of King Sri Aji Jayapangus and Queen Kang Cing Wie. Puncak Penulisan was the early kingdom of King Sri Aji Jayapangus and in Ulun Danu Batur Temple, two Barong Landung (a pair giant human puppet almost 3 meters high) were stored as symbols of the king and queen. The concept of *hulu* and *teben* in Pinggan village following the statement of (Ardana, 1982) in (Adiputra, Sastrosamito, Wiyono, & Sarwadi, 2016), namely the concept of *hulu* and *teben* is motivated by the concept of "*keleluhuran* (ancestors)". The ancestors referred to in the suburb village are related to

King Sri Aji Jayapangus in the Puncak Penulisan Temple and Ulun Danu Batur Temple. The concept of the ancestor has a correlation with *kaja*, like statement Reuter, (2005), that is the orientation of *kaja* cosmology is best for the people of Bali because it leads to the living quarters of the *leluhur* and the gods in the sky.

The orientation of *kaja* and *kangin* in Pinggan village are marked by spaces that are sacred in both directions. Desa and Puseh Temples as sacred spaces are in the direction of *kaja* and *kangin*, while Dalem Temple and *setra* (graves) are in *teben*, where the direction of *kelod* and residential settlements are in the diametrical middle zone configuration of houses is divided into two parts by main road village. The statement is following Ngoerah, (1981) which states that the *hulu* zone in the traditional village layout is a zone for the Desa Temple and Puseh Temple which are religious indicators of a village. Whereas the direction opposite to *hulu* / upstream, namely *teben* is a zone of Dalem Temple and *setra* or cemetery (Kertiyasa, 1984). In residential units, the placement of the sacred space in the direction of the *kaja*, which is a holy place or *sangghah* and the entrance is worth the sight of being in the courtyard. The concept of *kaja* and *kangin* can also be found in the layout of the *bale saka roras*, namely the sacred space and at the top of the space also has a marker in the form of symbols as a direction *kaja* and *kangin* which is placed in both directions. The orientation of *kaja* also influences the position of the person to sleep, so the head towards *kaja*.

The purpose of this study is to interpretation of the orientation of *kaja* and *kangin* in the Pinggan Village through a system of signifier and signified space and the factors that influence the orientation. The method used in the study is interpretive naturalistic qualitative, namely exploring information based on relevant historical studies derived from local community stories and studies that have been conducted on Pinggan Village as a conceptual dialogue. Interpretation of the information are using a logical approach (native's viewpoint), ethics to obtain transcendental conclusions. The results of the study are (1) there is a correlation between the Pinggan Village, Puncak Penulisan Temple, and Ulun Danu Batur Temple; (2) the correlation forms the *kaja* and *kangin* orientation; and (3) the orientation of *kaja* and *kangin* are marked by sacred elements in the Pinggan Village settlement.

Research Methods

The method used in this research is interpretive qualitative naturalistic namely:

1. Information review is emic (native's viewpoint) from the Pinggan Village community and community leaders. This information is obtained through interviews that are not influenced and limited by the concepts of cosmology *kaja* and *kangin*. Do not unilaterally justify the information obtained and information flows naturally.
2. Observations of elements of settlements in the Pinggan village in micro, middle and macro aspects. The elements observed are in the original settlements and settlements that have transformed modernity. Studies on buildings undergoing modernization provide a clear marker on the building elements that do not undergo zoning changes and orientation as a sacred aspect.
3. Give logic to this information through approaches such as dialogue on *hulu* and *teben* concepts, high and low concepts in residential cosmology, ancestral concepts in Balinese culture and conception of king deities.
4. Attract a synthesis that describes the concept of *kaja* and *kangin* in Pinggan Village and the dominant factors affecting the two orientations

Results and Discussion

1. A Brief Description of Pinggan Village

Pinggan Village is one of the relics of the Bali Aga village located in Kintamani District, Bangli Regency. This village has a picture of the mountainous village spatial layout of the ancient Balinese period, which adheres to a linear pattern. The village also has a historical record regarding the arrival of the Chinese who traded in Bali but ultimately chose to settle in Bali. One proof is that there is an Ancient Temple, Dalem Balingkang Temple, where the temple was used as a place for the consort of Chinese descendants in the past, namely Kang Cing Wie (Gede, 2016).

The history of Pinggan Village begins with the story of King Sri Aji Jayapangus and the daughter of Chinese Chancellor Kang Cing Wei. Sri Aji Jayapangus is the king of Bali Dwipa who stands at the Puncak Penulisan (now called the Puncak Penulisan Temple). The king had two *patih* (equal to Prime Minister) namely China and Shiva, where the king fell in love with the daughter of Patih Cina named Kang Cing Wei and they married. Patih Siwa disagrees with the marriage and Mpu Siwa Gandhu's murmur against the king's attitude. Then Mpu Siwa Gandhu carried out the *tapa brata* (meditation) begging for grace to the Gods for a storm and heavy rain for one month and seven days. As a result, the

palace of Sri Aji Jayapangus was destroyed in Panarajon (Penulisan Hill). King Sri Aji Jayapangus and his wife and several of his servants took refuge in the middle of the forest to the area of Jong Les Village and raided shrubs to establish a royal sacred building named Dalem Balingkang Temple and his palace in Kuta Dalem. Then a volcano erupted (Mount Batur) struck the Balingkang Temple and the palace of King Sri Aji Jayapangus. As a result of the disaster, residents (the king's servants) took refuge and spread to the surrounding areas which were safer, one of which was Pinggan Village. The word Pinggan comes from Chinese, "ping-an" which means "safe", then becomes a Pinggan. Until now, the servant of King Sri Aji Jayapangus resided safely in Pinggan village. (Pemerintah Kabupaten Bangli, 2018).

Another story about Sri Aji Jayapangus namely the king who was married to Kang Cing Wei hunted in Batur Lake area and met Dewi Danu then fell in love and married. Kang Cing Wei heard that information and a fight ensued between them. Seeing this, the mother of Dewi Danu became angry and eliminated Kang Cing Wei and Sri Aji Jayapangus and saved Dewi Danu. The loss of Sri Raja Aji Pangus and Kang Cing Wei made the community lose the leader, therefore the mother of Dewi Danu made *Barong Landung* as a symbol of Sri Aji Jayapangus and *Barong Beku* as Kang Cing Wei who was distorted at Ulun Danu Batur Temple. (Interview with Mr. Seden as native's viewpoint in Pinggan Village, 2018)

2. The Kaja and Kangin Orientation in The Pinggan Village Settlements

The history of King Sri Aji Jayapangus story influences the cosmological order of the *kaja* and *kangin* in the Pinggan village. The concept of the king's position as "deified" in Ancient Balinese culture is a classic concept before the entry of the influence of the *Tri Murti* concept which was spread by Mpu Kuturan (religious propaganda). Before the tempest that struck King Sri Aji Jayapangus, kingdom or palace was at the Puncak Penulisan, then moved to Dalem Balingkang after its first kingdom was destroyed by natural disasters (hurricanes and heavy rains). In Dalem Balingkang, natural disasters continued to strike which eventually the residents or servants of the king sought a safe place to live their lives, namely in the Pinggan Village. Another context mentions the disappearance of King Sri Aji Jayapangus and Kang Cing Wei on Lake Batur because of the disastrous events of Dewi Danu's mother and the symbol of the king and empress in the form of *Barong Landung* and *Barong Beku* at Ulun Danu Batur Temple. As a king who was held in

high esteem like a deity, the inhabitants of the Pinggan village had a pattern of cosmological orientation towards *kaja* and *kangin* based on the layout of the king presence. This can be seen from the *kaja* orientation of Desa Pinggan in the direction of Bukit Penulisan Temple and the direction of the *kangin* which is oriented to Ulun Danu Batur Temple. This concept is different from the concept of *kaja* and *kangin* in Bali generally, which are Mount Agung and sunrise.

The settlement pattern of Pinggan Village is elongated or linear. Repeated linear patterns in each unit of the home yard (*banjaran*). Settlements are divided by main roads as the orientation of residential units (*banjaran*) or this space is a diametric binding. Longitudinal orientation (main / *kaja*) toward the Southwest on the concept of wind direction in general. The direction of *kangin* is in the southeast direction, which means it is different from the general concept of *kaja-kangin* in Bali, which is the direction of *kangin* is the rising of the sun. The direction of *kaja* and *kangin* cosmology orientation in the Pinggan village is indicated by the layout of the residential elements, namely (1) the direction of the *kaja* is the zone for the holy place namely the Desa Temple and Puseh Temple; (2) the middle zone in the form of residential settlements; (3) *kelod* zones are marked by zones for death ceremonies. The *kangin* orientation is characterized by the presence of elements of the sanctuary positioned in the direction of the Puncak Penulisan Temple. Puseh Temple and Desa Temple are in the *kaja* and *kangin* positions and the position of the *Ngaben* ceremony is in the *kelod* and *kauh* zones (low-value zones). The concept of *kaja* and *kangin* in the Pinggan village not only seen from the markers of the settlement elements, but also the slope of the land in the Pinggan village. *Kaja* the highest compared to the direction of *kauh* (*teben*). The highest land is a sacred area and the lowest zone is a grave zone (*Setra*) (see Figure 1)



Figure 1: The Settlement Pattern of Pinggan Village

3. The Orientation of *Kaja* and *Kangin* in the *Banjaran* Unit of Pinggan Village

Pinggan Village linear pattern repeated edges in residential / yard units (*banjaran*). One *banjaran* consists of 6 to 8 family leaders. Among one family and another family does not have blood relations, so anyone can stay in one of these *banjaran*. The period pattern in one *banjaran* is linear with *natah* as the reminder of building times linearly forming diametric relationships. This diametric relationship is one period with another period facing each other in the middle line called *natah*. The pattern of the *banjaran* is formed from (1) the middle road that connects the times facing each other with the main village road; (2) in addition to the middle road which is directly connected to the main access of the village there are also roads which are in the position of *teben / kelod* as a place to enter the family yard unit; (3) the period of the building lined up from the meeting point of *banjaran* access with the main village road; (4) a holy place in each family head who is in the *kaja* part of this *banjaran*; and (5) *pelinggih penunggun karang* (small family temple known as house guard) which are located between two building periods that are facing an orientation towards *kangin* direction.

Based on the *kaja* and *kangin* direction concept in Pinggan Village, the same pattern of housing in the *banjaran* area is applied, they are (1) the direction of the *kaja* is marked by a zone of sacred place and a unit of *bale saka roras* (twelve-masted building); (2) the direction of *kangin* is indicated by the *pelinggih penunggun karang* in each family unit; (3) the middle part in the form of *natah* which extends and divides *banjaran* diametrically into two zones; (4) *kelod* zone in the form of a *sakenem* building unit (the building has as many as six pieces) and is in the form of an entrance to the family yard unit. (see Figure 2). In the current dynamics, the concept of *kaja* and *kangin* as sacred directions and orientations affect the pattern of changes in the shelter. Local people tend to change or transform the building mass in the direction of *teben (kelod)* to adjust to the development of the current building. The addition of the building period, namely the bathroom as a modern necessity at this time in Pinggan village, tended to place in the *teben* zone (*kelod*). So that if the occupants enter the residential house through the *lebuh*, the building unit that is first encountered is the bathroom. (see Figure 3).

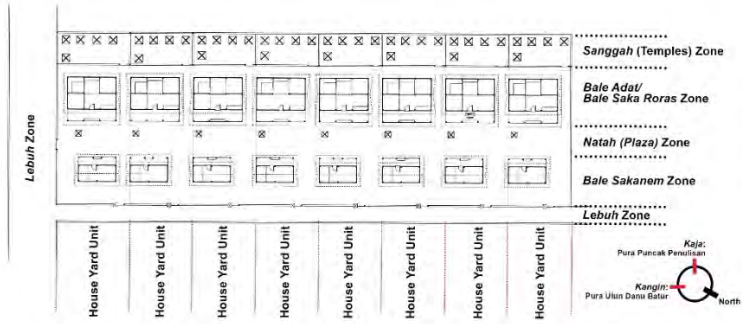


Figure 2: Banjaran Unit of Pinggan Village

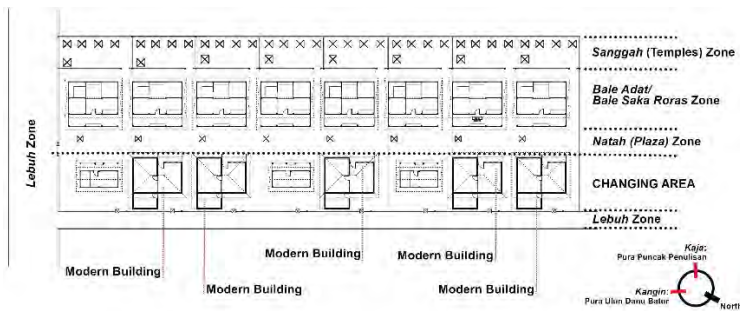


Figure 3: Changing Area at Banjaran Unit of Pinggan Village

The concept of *kaja* and *kangin* with an orientation marker is Puncak Penulisan Temple and Ulun Danu Batur Temple as a reference in current developments. Between one *banjaran* and another are bounded by a boundary wall and an elongated empty space that is used as access to the garden and into the family yard unit. This elongated empty space, besides as circulating access, is also to maintain the sanctity of the family temple to obtain the concentration of the direction of the *kaja* (Puncak Penulisan Temple).

4. The Orientation of *Kaja* and *Kangin* in The Home Yard Unit of Pinggan Village

The layout of houses in Pinggan village is based on linear patterns and *banjaran*, in clusters of residential houses. Each cluster consists of family home units, each of which consists of four zones, namely the *sanggah* zone (holy place), *bale saka roras* zone, *natah*, *bale sakanem*, and *lebuh*.

Configuring the sequence is the highest zone (*kaja*) and is the lowest zone (*kelod*). Between the family garden unit, one with the other family yard is not limited by the wall, there is only an elevation of the garden floor of approximately 5-10 Cm. The consistency of *kaja* and *kangin* orientation in the family home garden unit is very clear, which are: (see Figure 4)

- a. in the sacred place zone (*sanggah*) there are *pelinggih* (worship buildings) which are on the side of *kaja* and *kangin*, so that the orientation facing prayer is towards *kangin* and *kaja*, while the entrance to the *sanggah* is on the *kelod* side;
- b. the *sakaroras* building zone is a building divided into seven spaces where *Gedung Keren* for appreciation (pray) of the ancestors, space to prepare everything related to religious ritual activities, *bale dangin* for bed room, *bale dauh* for childbirth or child beds, *paon* or kitchen and living room and *banjahan* (terrace). The pattern of spatial configuration is centered on one space, which is the empty space in the center, but its orientation toward *kaja* and *kangin*. This orientation is characterized by the function of each space, which the space associated with ritual and sacred activities in the *kaja* zone, while the direction of the *kelod* is the entrance to this building which is called the center. The bed is in the *kangin* zone with the position of the head of the person sleeping in *kaja*. Space for childbirth and sleeping space for young children is in *kaja-kauh* zone. *Paon* or the kitchen is in the *kelod-kauh* zone with the position of the person cooking toward *kauh*. The *banjahan* or front terrace of the *bale sakaroras* functions as a religious activity, such as important talks in the wedding ceremony procession between man and woman called *mesedek*.
- c. The *natah* zone is a space in the middle between *bale sakaroras* (*bale adat*) and *bale sakanem*. *Natah* is an open space that is used as a ritual activity such as a wedding ceremony or a death ceremony. *Natah* orientation is not toward *kaja* or *kangin*, but it is empty space as the knot of the direction and direction of the *kelod*, up (sky) and bottom (earth). This is in line with Wijaya's statement, *natah* is an empty space and has a religious symbol in creating spatial balance in *sekala* (tangible) and *niskala* (intangible) (Wijaya, 2018). If there is death in a family, the deceased's body is placed to be performed in *natah* with the head facing *kangin* direction. *Natah* also functioned as an area for ritual ceremonies in the wedding ceremony procession. In the *natah* area, there is an element of the sanctuary called *Pelinggih Penunggun Karang*. *Pelinggih* is in the *kaja* zone and *kangin* from *natah* with an orientation on the *kangin* side.

- d. *Bale sakanem* is a building located in the direction of kelod that functions as a storage place for harvests, kitchens, and beds and there is a terrace on the front. This room is used for boys who have grown up.
- e. *Lebuh* is an access space into the yard and has a low value compared to the direction of the house. However, in this context, the value of the living room is maintained well to create a balance between *hulu* and *teben* space through a ritual ceremony at the entrance.

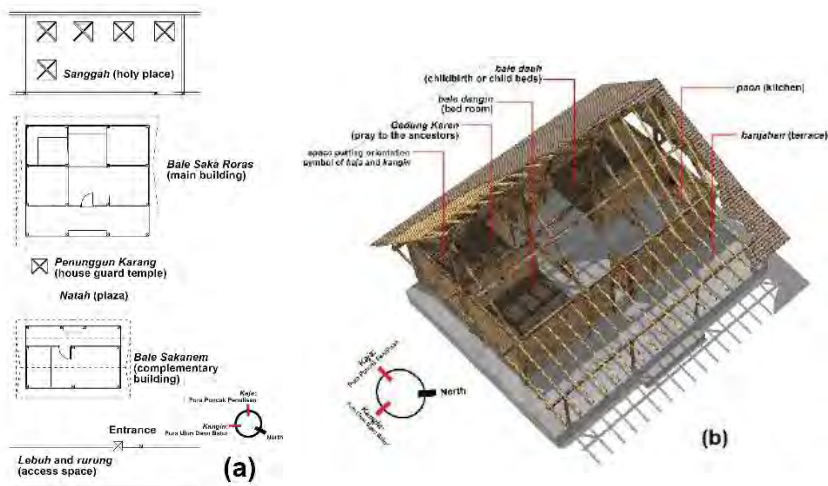


Figure 4: The Home Yard Unit of Pinggan Village (a) and *Bale Saka Roras*'s Axonometry (b)

5. Conception of *Kaja* and *Kangin* Orientation

In the village spatial structure, Pinggan Village is influenced by the cosmology of *kaja* and *kangin* as orientations that have a primary value (high). The direction of *kaja* and *kangin* is a sacred direction for the villagers. The orientation of the *kaja* was aimed at one point, namely a holy place called Bukit Penulisan Temple, while the direction of *kangin* was at a holy place called Ulun Danu Batur Temple. Balinese believe, temples or holy places are spaces or places to connect themselves with *Ida Sang Hyang Widhi Wasa* (God) or a deceased ancestor. The concept produces a paradigm about the temple as a sacred space or the main value (high). The sacred value of *kaja* and *kangin* became a reference in the arrangement of spatial layout in the Pinggan Village. Sacred places in the village and family scale are positioned in the direction of *kaja* and *kangin*

while the spaces associated with *nista* such as the space for death or profane space are in the opposite direction with the two orientations. In the village the edge of the *kaja* and *kangin* orientation concept is present in the village layout in the form of Desa Temple and Puseh Temple and the layout of the residential unit is precisely in the *bale saka roras* which is space in the direction of *kaja* and *kangin* which functions as space for concentrate human with ancestors or God. This *kaja* and *kangin* conception is related to the belief in the ancestral ancestors of the Pinggan Village on the Puncak Penulisan and Mount Batur. To pay homage to the deceased ancestor, the prayer orientation and the layout are oriented in both directions.

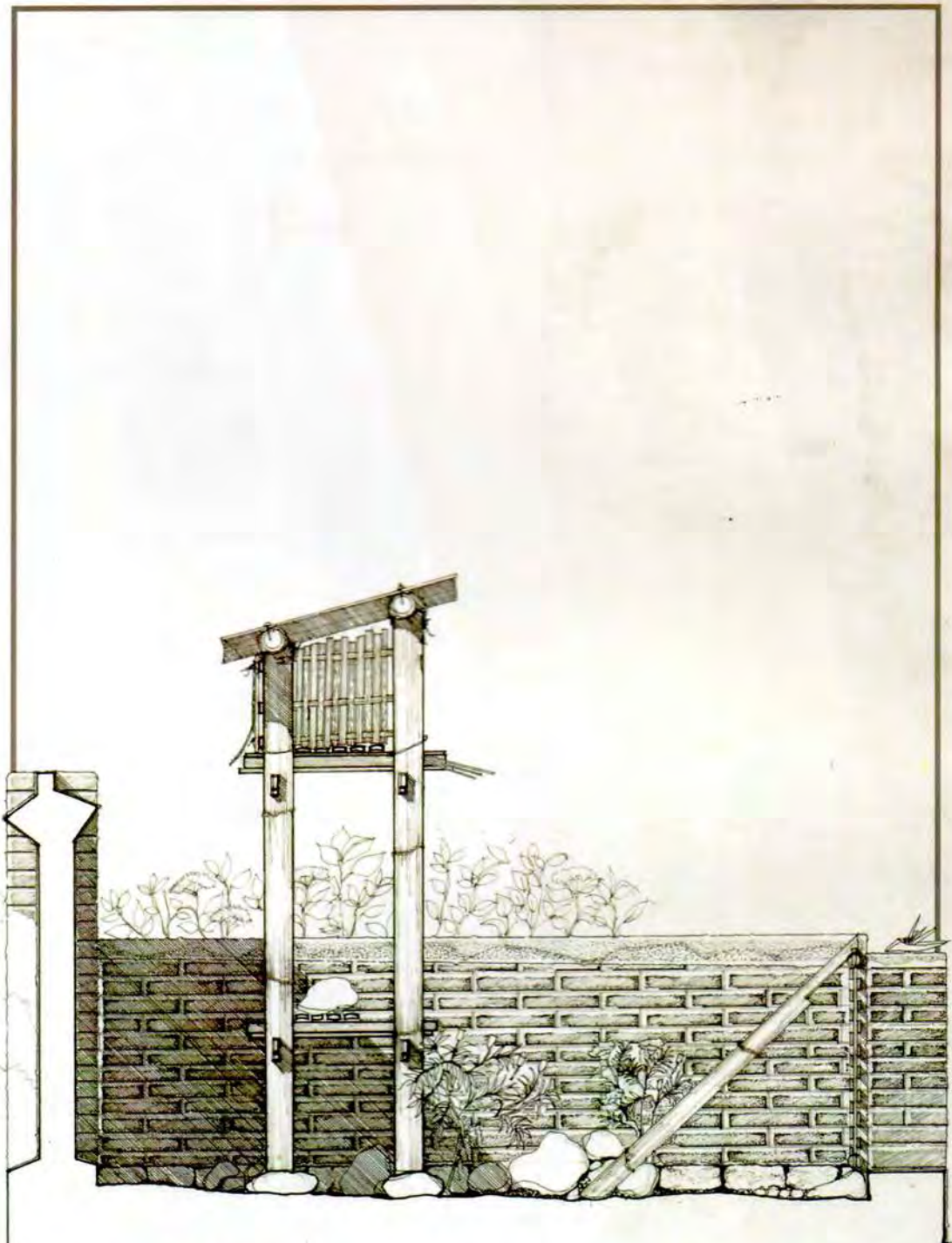
In the Hindu-Balinese point of view, the orientation of *kaja* and *kangin* has sacred values for the glorified figure, namely the ancestors who have died or in the general context are God. The ancestor in question is King Sri Aji Jayapangus who originally held the Puncak Penulisan Temple (*kaja*) and the history of the existence of his symbol in the form of *Barong Landung* at Ulun Danu Batur Temple (*kangin*). The concept of worshiping ancestors influences the orientation of *kaja* and *kangin* in the spatial layout of Pinggan Village. This concept is following the statement of Geldern, (1982) in Sudrajat, (2012) that a leader is seen as a reincarnation of gods with his power structure as a microcosm like the power of the gods in the world of the macrocosm.

Conclusion

- a. The cosmology of the direction of *kaja* and *kangin* in Pinggan Village is based on the concept of ancestors and the origins of the Pinggan Village community. Before settling in a bond in the Pinggan village, the community came from followers of King Sri Aji Jayapangus at Puncak Penulisan who eventually moved or immigrated due to natural disasters. To maintain the relationship with the origin and also the awarding of King Sri Aji Jayapangus, which in the past provided prosperity and peace, the direction of Puncak Penulisan, now called Puncak Penulisan Temple, was the main orientation in the village layout.
- b. The concept of a king who is seen as a god who has sacred values. As a leader, the king is a media that connects and channels the revelations of the gods to his people. This means that the direction of *kaja* and *kangin* sacral in Pinggan Village correlates with King Sri Aji Jayapangus as leader or king.

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