

The exploration of Form, Pattern, Character on Settlement and Traditional Houses of Bali Aga Village, Case Study: Pedawa Village, Banjar District, Buleleng Regency, Bali.

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Abstract Research on *Bali Aga Village* (Indigenous Village in Bali) has become one fundamental issue in architecture in Bali today. This paper unveiled all information in regards to the form, pattern and character of the settlement and the traditional housing at Pedawa Village with its uniqueness characteristic and has not been explored yet. The strength of tradition, culture and local belief are the reflected into their daily life; and has become the spirit of pattern, form and character of the village and traditional houses. Hence, this spirit is the foundation of the village conservation. The concept of *Tri Hita Karana* is the concept of harmonious relationships between human with the God and the Nature has become the main foundation of the concept of the traditional house and village pattern. This concepts influence the natural village linier pattern with the mountain as sacred orientation and the sea as the profane orientation. Case study method applied for this research. Both primary and secondary data from interview, site observation and literature data analyzed with qualitative analysis. The result shows that the exploration of the shape, pattern and character of the settlement and traditional houses in Pedawa village generate the few strategies to conserve this village which could also be used to conserve the other *Bali Aga* village s in Bali.

Keywords: *Bali Aga, culture, Pedawa Village, traditional house*

I. INTRODUCTION

Research on vernacular architecture is one of main focus in Bali as this research would generate a complete documentation of traditional architecture in Bali especially the traditional architecture of the indigenous societies. There is still lack of research concerning indigenous villages with its traditional houses and village pattern in Bali. There are some research in this fields been done, however there are many more indigenous villages which have not been explored yet especially their architecture and village pattern. Indigenous village which have become a tourism object has been explored by many researcher in many different aspects such as architecture, social, economic and many more aspects. However, the village which has not been a tourism object is still hidden with lack of information in regard to it. Then this research is important so these hidden indigenous villages could explore and societies would know their existence.

This research is really important because it explores the transformation of traditional houses which have been

inherited from the ancestor to more modern form of the houses and also its structure and materials are overpowering. One major factor of the transformation of Balinese traditional houses in Bali was due to the migration from outside Bali Island, which caused overpopulation then raised the land price and changes the land use pattern. Bali is one of most favorite tourism island in the world has over many jobs opportunity for people outside Bali. Then migration is undeniable. Over population has become one of major challenge for Bali to cope with. Also the changes of land use pattern and building function have caused many problems in Bali especially in the capital city of Denpasar and the tourism areas. Hence, the impacts of this phenomenon significantly transform the traditional houses both of its use and its form. Nevertheless the village pattern was also impacted. This research is urgently needed, documenting the architecture and village pattern of traditional village pattern and its traditional houses is one way to preserve the tradition. By verifying the traditional house and village pattern which is still exist would give a contribution of knowledge and gives opportunity for the young generations in Bali to learn about their heritage and

at the same time learn how to preserve it. Hence, this research will also become one of a proper database for the indigenous village in terms of architecture in Bali, so anyone whom willing to study about this would have an access to it.

Pedawa village is one of indigenous village in Bali which is located in Buleleng regency. Buleleng regency has several indigenous villages which mostly located at the highland. Some of the villages have been explored in terms

of architecture and their land use. However, Pedawa village has not been explored in terms of architecture. Some previous research more focuses on the socio economic and agriculture. This research explores the form, pattern, and character of the settlement and the traditional houses in Desa Pedawa through case study method. Both data from primary and secondary sourced are elaborated through qualitative method of analysis.

TABLE 1
INDIGENOUS VILLAGE IN BALI PROVINCE

Regency /No.	Karangasem	Buleleng	Bangli		Gianyar	Klungkung	Badung	Tabanan	Tot
1	Desa Bungaya	Desa Tua Sidetapa	Desa Bayung Gede	Desa Sekardadi	Desa Taro	Desa Tihingan	Desa Sulangai	Desa Tengkidak	
2	Desa Asak	Desa Tigawasa	Desa Pengotan	Desa Puakan	Desa Sebatu	Desa Nyalian	Desa Pelaga	Desa Wongaya Gede	
3	Desa Timbrah	Desa Tua Pedawa	Desa Kayubihi	Desa Catur	Desa Adat Camenggawon (Hamlet), Desa Celuk			Desa Jatiluwh	
4	Desa Tenganan	Desa Tua Cempaga	Desa Penglipuran	Desa Belantih					
5	Desa Bugbug	Desa Gobleg	Desa Kedisan	Desa Blandingan					
6	Desa Ngis	Desa Julah	Desa Songan A	Desa Abangbatuinding					
7	Desa Kesimpar	Desa Sembiran	Desa Songan B	Desa Pinggan					
8	Desa Sibetan	Desa Sudaji	Desa Satra	Desa Batur Utara					
9	Desa Ababi		Desa Pengiangan	Desa Batur Selatan					
10	Desa Seraya	Desa Les	Desa Yangapi	Desa Batur Tengah					
11	Desa Perasi	Desa Penuktukan	Desa Sukawana	Desa Kintamani					
12	Desa Padang Kerta	Desa Sambirenteng	Desa Trunyan	Desa Suter					
13		Desa Pacung 1 & 2	Desa Buahhan						
14		Desa Bulian	Dusun Palaktiyng, Desa Landih						
15		Desa Tua Banyuseri							
Tot	12	14	26		3	2	2	3	62

Source: Yudiantini, 2015, p. 120

A. Theoretical Background

Culture, local custom and religious belief and system, of the Balinese have a strong influence in creating the form, pattern and character of architecture. The Balinese traditional architecture is one of the tangible heritages from the ancestors which still exist and preserved until now. The bond between the Balinese with the nature and the God has made the universal concepts of *Tri Hita Karana* which means the harmonious relationships between human. The nature and the God. This concept is the base of most indigenous village pattern and traditional houses across Bali.

Hence, this concept has become the basis of conservation on these villages.

Much research has been done about indigenous village across Bali. Though, not all villages has been explores in deep yet. The indigenous villages which have been popular as tourism object were explored by many researchers in different aspects. Those villages have become favorite object for the researcher due to its uniqueness of architecture, local custom and also tradition. These villages such as Trunyan, Penglipuran and Tenganan that are the most favorite villages for the researchers as well as the tourists. Some research of these villages in Kintamani areas such as Buahhan, Pinggan and Sukawana have been done by Yudiantini in 2013, Trunyan by Dwijendra in 2015,

Penglipuran by Widarji in 2014, Tenganan by Hadi Kusuma in 2014, Kumurur in 2009, and Purwantiassing in 2007, Sidetapa and some villages in north Bali by Siwalatri in 2015. However, Yudiantini (2015) concluded that there are 62 indigenous villages in total which only few of them has been explored in depth, while some were explored in term of tourism research [1]. These 62 indigenous villages were identified based on the research of Carole Muller in 1980 and the inventory of the Government of Bali, Department of Public works with the project entitled The Conservation of Villages and Environment Planning in 1988/1989 as shown on Table 1 [2], [3]:

Pedawa village located in Banjar district, Buleleng Regency has its own uniqueness based on its nature and tradition which has not been explored in deep yet, especially in architecture and urban planning. These uniqueness are the main potency of this village and should be documented and recorded so it would widen the knowledge and provide detail information for others who willing to learn and have information about this village. Some research have been done in this village by other scholars such as in agriculture by Udayana University (www.pps.unud.ac.id), research on management of funding in *adat* village and *dinas* by Tera Padmani, et.al in 2015; research on health by Budiarta and Suka Aryana in 2012; research on education of primary school children by Komang Arini et.al in 2013; and some

unpublished field surveys. Some online information about this village is also could be found in some blogs and from the Government of Buleleng Regency website.

A traditional house is a part of traditional village, and a traditional village is a cultural heritage as stated on the regulation of cultural heritage named UU No 11 in 2011. This regulation mentioned about the protection, development, the optimum use of the village, the re-use of traditional village. Therefore, protection and development in every traditional house should follow the cultural heritage regulation as the traditional village is protected by the regulation. However, since there is no breakdown of the general cultural heritage regulation for the conservation of the traditional houses, it is very hard to implement the regulation. Hence, there is also lack of reward and punishment system, the regulation is not effective in all level of government and society.

Traditional house is a symbol of local culture, it created based on the strong influence of the local culture. A traditional house could reflect the characteristic of the local culture includes norms, values, behavior pattern, artifact and activities [4]. The expression of local resident's socio-cultural system is reflected on their architecture; therefore the architecture was based on their local norm, value and behavior [5]. It could be seen that a traditional house is an architecture that is purely as a creation based on local culture which has own identity which differentiate itself from another.

Sulistyawati (1985) mentioned that a traditional house in Bali has two functions. The function are as a place for living and activity such as the area for sleeping, eating and resting; the function for psychological need such as doing ritual activities and local tradition. It is clear that Balinese traditional houses as a place for different kind of activities both physical and psychological activities of the owner [6]. Maslow (1943) mentioned that human needs have numerous levels of need from the basic need which covers their need for living until the highest need which is self-actualization. Based on the needs, then a house is a product which offers a place to fulfill people's need from the basic to the complex need. Then the growth of people's need has changed of form and space arrangement of the traditional houses is undeniable.

Parimin (1986) classified that Balinese traditional houses has four attributes [7], they are: (1) sociology attribute includes the Balinese kinship system which reflected by the adat system, *banjar* system, *subak*, *sekeha*, *dadia*, and *perbekelan*; (2) symbolic attribute includes house orientation, orientation of the main village, house and its garden orientation; (3) morphology attribute includes the core component of the house and the periphery which both have its own function and values of Balinese traditional houses; and (4) functional attribute includes the function of traditional villages and houses that the main function is for ritual and social purposes, as an example is in every

traditional villages always has three main public temples.

Traditional indigenous house of *Bali Aga* villages have its own uniqueness and strong character compare to other traditional houses. The strong character of the houses has differentiated this village with another traditional village. The uniqueness and character of *Bali Aga* indigenous village strongly influenced by its culture, norms, tradition, beliefs and the way of life of the inhabitants.

To date, there is no research about pattern, form and character of the village and the traditional house in Pedawa Village. This paper is written based on the research of the form, pattern and character of the settlement and traditional houses in Pedawa Village. Hence, it will broaden the database of Balinese traditional architecture and at the same time provide useful knowledge and information about indigenous villages in Bali.

II. RESEARCH METHODS

This research applied a case study method to explore the form, pattern and character of the settlement and traditional house at Pedawa Village. This method helps the researcher to find a comprehensive way to explore the object of research in deep [8]. Hence, this method gives the opportunity to the researcher to discover the relationship between the object of the research with the change of behavior of individual and the community; and the important event within the society. Therefore, this method is very suitable for research in social disciplines [9].

The strength of this method is all data could be gathered from different data collection method or a combination of several data collection methods both in qualitative and quantitative such as data which gathered by interview questionnaire survey, observation to participants, documentation, field survey, historic data and archives (Chetty, 1996; Eisenhardt, 1989). This method offers a descriptive analysis to analyze the relationship between the research object and the related factors such as history and community behavior. At the same time, it analyzes data from primary sources such as interview and observation and secondary data such as report and documentation to obtain an optimum final result [10].

The research on pattern, form and character of the settlement and traditional house in Pedawa Village using primary and secondary data from field survey, interview with local resident, report of from physical data of the village, village map, local regulation, custom regulation named *awig-awig* and some literature. Using two different methods of data collection would improve the objectivity of data before analysis process (Silverman 2013). All data gathered from primary and secondary sources in this research were analyzed using qualitative analysis.

III. RESULT AND DISCUSSION

A. Village overview

Pedawa village is one of the old indigenous villages in Bali which have ancient heritage from megalithic era named sarcophagus in two different locations within this village, one found in Ingsakan area and another in Jinjit area. These two coffins is a proof that this village has been existed from the megalithic era. This village located in Banjar district about 12 km from the city of Banjar and about 30 km from the capital city of Buleleng Regency in north Bali. It is located about 450-800 m above the sea level. One uniqueness of this village is, this village does not have any caste in the society like other traditional villages in Bali. It is also reflected on the name of this village Pedawa. Pedawa means *Pada Wang* (everyone are the same), and also means *Panjak Dewa* (God's helper).

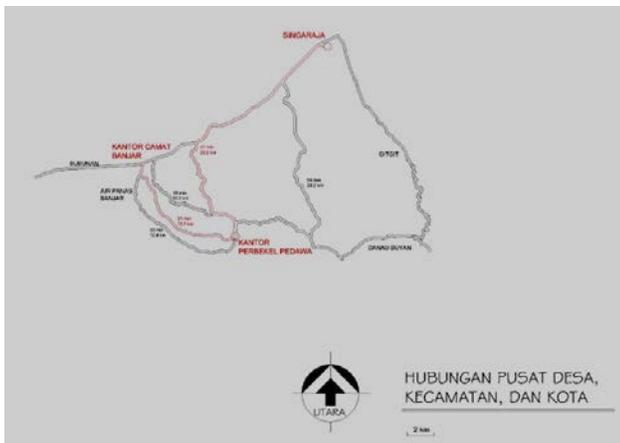


Fig. 1. Map of Pedawa village
Source: author, 2016

This village has five *banjar* (communal group based on territory division in the village) and also has some public sacred temples, they are: Pura Desa, Pura Puseh Bingin, Pura Dalem/Taman, Pura Munduk Madeg, Pura Telaga Waja, Pura Pecetian, and Pelinggih Ratu Ngurah Melayu. These temples have different with any other temples in Bali in terms of land divisions. In general, the land of the temple are divided into three sections based on *Tri Mandala* which means the division of the area of public/profane, semi public and private/ sacred area. However, temples in Pedawa only apply the concept of *Rwa Bhineda* (two divisions) and *Eka Bhuana* (one division) where the land division only divided onto sacred-profane and other temple in this village has no land division at all.

B. Settlement Pattern

Traditional houses are mixed with modern one and they are spread out within this village. The pattern of the village has a combination between linear and group. As this village located in the highland, and has been existed since the ancient period of time, then it is common that it has more organic pattern rather than lines. The roads has no pattern

but it most of them were connected to the main road in this village. The main road is the biggest road while the secondary roads are quite narrow and the tertiary roads are very narrow which only for human and motorbike access. Some roads do not have direct connection to the main road as they are in the middle of the open land. The access to this area is from the open green land and other farm areas. Houses are placed along these roads from main/primary road, secondary and tertiary.

With the population of only 5.625 residents, this village is still very green. It is dominated with green areas. In the past this village was famous as the producer of palm sugar, and then palm trees dominated this area in the past. However, due to the complicated process of palm sugar making and the change of life style, then palm trees has been replaced by clove, coffee and other productive trees. Green areas dominated for about 75% of the total areas in this village, and the developed areas such as housing and public facilities are spread out within this area.

C. Position of the Traditional Houses within Settlement Pattern

Most of the traditional houses are clustered with one another and have a main public courtyard; there is no boundary from one house to another. This courtyard has an access to the secondary and tertiary roads, while modern houses have direct access to the main/primary roads. This clustered house is one of the main characters of the housing pattern in Pedawa village. Some traditional houses which have already been transformed into modern house are also having direct access to the main road. However, nowadays there is change of the main courtyard due to some new secondary and tertiary roads built as additional access to the clustered houses. Main courtyard has divided into few section as the owner of the houses start to build fences as the boundary between houses. New roads has changed the traditional pattern of the courtyard and then diminished the character of housing pattern especially the clustered houses in the center of the village.

Instead of traditional house, there is also a traditional rice barn named *jineng* owned by every resident whom as a farmer in the past. The position of this building is right in front of the traditional house of the owner and the main courtyard in the middle between the barn and the house.

D. Some Functions in the Traditional Houses

Traditional house in Pedawa village has two types. First one called *Bandung Rangki* which has 18 wooden columns and the second one called *Sri Dandan* which has 16 wooden columns. *Bandung Rangki* is the authentic Pedawa house, while *Sri Dandan* is the influence from neighbor village of Cempaga. *Bandung Rangki* as the traditional house of Pedawa as a place of many different activities for the owner (see figure 2). These activities include:

1. Rest areas

This house has two different size of bed. One for parent called *pedeman gede* has bigger size than *pedeman cenik*, a bed for children. These beds made of wood and the bed columns are the structure of the house. *Pedeman gede* also become a place to put offering during ritual ceremonies and to put the corpse if one of the owner passed away before cremation. On the top of *pedeman gede* there is a place to put offering for the ancestor called *pelangkiran*. *Pedeman gede* plays the important part in this house.

2. Cooking and making palm sugar

Cooking and making palm sugar activities are one of daily activities in this village. Therefore this house have a special kitchen called *paon* with has three different size of traditional burner made of *tanah polpolan* (soil/clay). The three different size of burner are: (1) *paon tuak* (biggest, for making palm sugar), (2) *paon jakan* (medium, for cooking rice and meat) and (3) *irun* (smallest, for heating food).

3. Social areas

Social activities such as having relatives and also guest in this house are done in the open areas in the middle of the house as a circulation area and on the front part of the house called *terempang*.

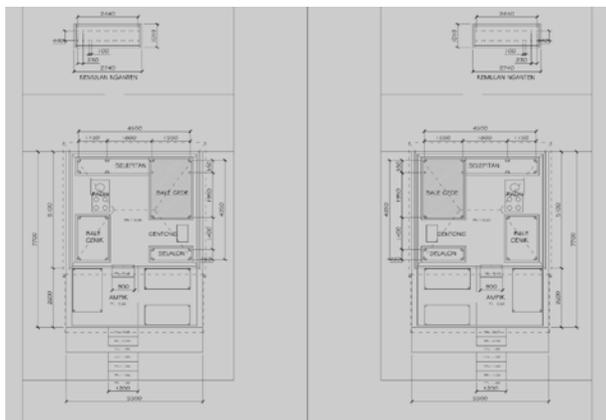


Fig. 2 Traditional house in Pedawa
Source: Author, 2016

4. Rituals

There are two places for ritual activities in this house. One indoor space which is done in *pelangkiran* on the top of *pedeman gede*, where the owner put the offering daily. Other place is outdoor area at the back of the house; this area called *merajan* and have a special bamboo shrine called *sanggah kemulan nganten*. Every traditional house in Pedawa has this shrine.

5. Storage

This house has a place to store households equipment called *sepen*, is located at the front of the house next to *terempang*. And for those whom are farmer, they store their rice paddy at the *jineng* (rice barn) in front of their house.

E. Character of the Traditional House

Research found that there are several character of this traditional house is:

1. Specific house; there are two different house named *Bandung Rangki* with 18 wood column and *Sri Dandan* with 16 column which become the identity of traditional house in Pedawa Village.
2. Material; All structure of the house is using wood, the floor is using soil/clay called *tanah polpolan*, walls is using bamboo and also *tanah polpolan* on the base of the wall, and roof cover is using bamboo tile or grass called *alang-alang*.
3. Door lock system using traditional system with bamboo and wood which has its uniqueness and different with other lock system in traditional house.
4. Special shrine which made from bamboo which called *Sanggah Kemulan Nganten*, is only exist in this village, also there is a special shrine made from *tanah polpolan* from ancient period has been found in few houses in this village.
5. Rice barn named *jineng* has uniqueness as this barn has two different types, one with 6 columns and the other one with 4 columns and has different size.
6. Special kitchen reflected that this village was famous as palm sugar producer in Buleleng Regency; therefore it has a special burner in the kitchen for making the sugar.
7. Settlement and house pattern with the combination of linear and cluster has become the identity of this village.

IV. CONCLUSION

The form, pattern and character of the settlement and traditional house in Pedawa Village have been explored in deep during this research. To sum up, it showed that the form pattern and character of the settlement and the traditional house are strongly influenced by the local custom; lifestyle; belief and their environment, as we could see from the space arrangement of the house which have special places for resting, cooking, social activities, storage and rituals. This space arrangement is created based on their daily activities which related to the each other, the God and the environment. Material of the house was chosen with strongly influenced by their local environment such as the use of wood, bamboo and local clay. Further, the use of material is also to cope with the cold weather as this village is located in the highland. To date, there are some changes of material as the consequences of traditional house transformation. They tend to use modern material such as tile, glass and ceramic then it caused inconvenience for the owner due to the cold weather.

This research has explored the uniqueness of traditional house and settlement pattern in Pedawa Village which has not been done yet. Hence, this research will benefit the community to understand the value of the traditional settlement and house, and then they could preserve their valuable heritage for the future. At the same time it would

give a valuable knowledge especially about traditional architecture of Indigenous village.

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