Study of indigenous village settings in Bali

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Abstract. Traditional villages in Bali are traditional villages that are unique, especially in their settlement patterns which are integrated with local culture. Currently these settlements still exist and are well maintained. The research objective of the study of settlement patterns in traditional villages in Bali is to determine the settlement patterns of traditional villages in Bali, namely Panglipuran village, Tengahan village and Trunyan village as well as the effort factors that affect the sustainability of settlement patterns in Bali. The research method used is descriptive qualitative method by observing and studying literature. From the results of the study, it can be seen that the formation of the settlement patterns of the three traditional villages are (1) based on the history of settlement formation, (2) regional cosmology, (3) characteristics of house shapes and (4) kinship systems as well as several factors that affect the sustainability of traditional village settlement patterns in Bali.

1. Introduction

Bali is one of the islands in Indonesia which has a distinctive architecture, especially in its buildings and settlements. Balinese started to think about themselves in terms defined by outsiders and, according to Michel Picard, they discovered that they had a culture, which was turned into a separate entity that could be displayed, performed, and sold (Picard in Nordholt and Klinken [1]). Traditional Balinese architecture is the creation of the dominant Balinese initiatives and works based on a view of the universe. Basically, Balinese life cannot be separated from the teachings and beliefs that are followed, namely Hinduism. In one of his teachings it is said that all living things have been ordered to live in their respective realms and live in harmony with their natural world. There are many traditional villages in Bali that still maintain their noble customs and culture that have become their identity for centuries, but in this study three traditional villages were selected which could represent several other traditional villages in Bali, namely Panglipuran Traditional Village, Desa Traditional Tengahan and Trunyan Traditional Village. These three traditional villages are the traditional villages of the Bali Aga tribe. The Balinese Aga tribe is considered to be the original Balinese indigenous people. The Balinese Aga people have differences with the Balinese people, because there is no cultural influence from the Majapahit kingdom in East Java, so they have a unique cultural culture. The settlement patterns in this traditional Balinese village attract tourists to visit Bali. In previous research, Wayan [2] examined the settlement patterns of the Panglipuran traditional village which resulted in the Tri Mandala and Asta kosala kosali concepts in the formation of settlement patterns. Furthermore, Kumurur and Damayanti's [3] research discusses the physical form of settlement patterns in Balinese traditional villages in Tenganan. Meanwhile, Siwalatri [4] conducted research on the traditional village of Trunyan which focused on the social system of the community. To find out how this customary village has survived to this day, it is
very important to make further observations to study further its settlement patterns and the factors that make the three villages still exist today.

2. Methodology
This study uses a qualitative paradigm with descriptive data analysis methods. The steps are as follows:

- Determine problems related to settlement patterns in Balinese traditional villages
- Looking for data related to settlement patterns in traditional villages in Bali start from mapping the area based on its geography, looking for information related to the cosmology of settlement pattern formation, looking for architectural characteristics in each settlement pattern and looking for other factors such as kinship in these settlement patterns.
- Determine three traditional villages in Bali from the many existing traditional villages (Trunyan, Tenganan and Panglipuran)
- Analyze and provide interpretation of research studies
- Draw conclusions.

3. Results and discussion
When discussing Bali, of course you will remember the traditional villages that are tourist objects to visit. Why are these villages still able to survive until now? and what factors are behind this? Let's see the explanation as follows:

3.1. Traditional village location and geography
Trunyan Village is located on the shores of Lake Batur in Kintamani sub-district with an area of 1963 Ha. Geographically, Trunyan Village is surrounded by mountains / Mount Abang and lakes and is located at an altitude of 1027 m above sea.

Penglipuran Village is administratively located in Kubu Village, Bangli District, Bangli Regency, Bali Province. Located at a distance of 45 km from Denpasar City and has an area of 112 ha. Panglipuran Village is located at an altitude of 700 m above sea level so that Penglipuran Village is quite cool, free of vehicles.

Meanwhile, Tenganan Village is located in Manggis District, about 17 km from Amlapura City (the capital of Karangasem regency), and about 65 km from Denpasar City (the capital of Bali province). It has an area of about 1,034 hectares and is located at an altitude of 70 meters above sea level with an average temperature of about 28 degrees Celsius in the dry season.

Figure 1. Traditional village location and geography.
3.2. Settlement patterns based on cosmology

The settlement in Trunyan Village was built facing the lake so that the real orientation of the house was towards Mount Abang / kaja. Figure 2 (a) shows a cosmological illustration of Trunyan village, where the mindset of the Trunyan village community considers that Mount Abang is the upstream and Lake Batur becomes the downstream. This is also because the lake is a source of their livelihood apart from farming.

The hierarchy of buildings adjusts to the height of the land, where the farther from Lake Batur, the closer to Mount Abang and the higher the land position. And the position of the building with the characteristics of the worship building is positioned on the higher ground, compared to the position of the house which is lower down.

In line with the building hierarchy in the traditional Trunyan village, the building hierarchy in the Panglipuran traditional village is also based on the height of the land.

In Figure 2 (b), you can see a cosmological illustration of the Panglipuran traditional village where the orientation of the building always points to the north and south.

Likewise, in the traditional village of Tenganan, the building hierarchy is also based on the height of the land. While the ore crossed the building to the north and south figure 2 (c).

![Image](image-url)

**Figure 2.** Settlement patterns based on cosmology at Trunyan village (a), Panglipuran village (b) and Tengahan village (c).

3.3. Settlement patterns based on house characteristics

The traditional house of the Trunyan community is a single building in the form of a building with 12 poles or bale saka roras. All activities are carried out in the house. The plan of the traditional house in Trunyan village is shown in Figure 3 (a), below.
Figure 3. Settlement pattern based on house characteristics at Trunyan village (a), Panglipuran village (b), and Tenganan village (c).

The form of this single house is the same and similar shape either on the right side of the village road or on the left side of the road, in the sense that the position of the configuration of the house space is not affected by the position of the house on the whole settlement.

Unlike the traditional house in Trunyan village, the characteristics of the house in the Panglipuran village traditional house are of a multitude of times. Each function room is separate and independent. Panglipuran traditional village adheres to the basic pattern of Nawa Sanga, where the shape of the spatial configuration is always the same both on the right and on the left of the road, as shown in Figure 3 (b).

In contrast to the spatial configuration of the Panglipuran village traditional house, the Tenganan village traditional house configuration adheres to a system of reflection on the road axis, so that the position of the room which has the same function is always near or far from the road, as shown in Figure 3 (c). The characteristics of the building are mass buildings according to their respective functions.

3.4. Settlement patterns based on familial relationship systems
In Trunyan Village, there is a patrilineal kinship system or according to the male lineage and the habit of settling after marriage is patrilocal [5]. The Trunyan community also applies a virilocal marriage system. Virilocal marriage is marriage of one blood or marriage among members of their group / clan.
Figure 4. Settlement pattern based on familial relationship system at Trunyan village (a), Panglipuran village (b), Tengahan village (c).

This kind of kinship relationship and the limitation of flat land are factors that influence the layout pattern of the traditional houses of Trunyan Village.

Almost the same as the traditional village of Trunyan, the traditional village of Panglipuran also recognizes the marriage system in the family or so-called endogamy marriage. The marriage factor in this family causes the settlement of the Panglipuran traditional village to be filled only by close families who are still in 1 generation.

Similar to the Panglipuran traditional village, the Tenganan traditional village also recognizes the endogamy marriage system, which affects the settlement pattern.

The existence of traditional villages both Trunyan, Panglipuran and Tenganan until now needs to be appreciated in the midst of today's progress, based on the results of field observations, there are several factors in the effort to maintain the existence of these traditional villages, in 2 approaches, namely: top down approach and bottom up approach. Top-down and Bottom-up policy approaches are approaches commonly used in planning an area. A top-down approach is an approach that uses decision-making by the government and then communicates to the people. A bottom-up approach is an approach that uses policy-making based on input from the people and is then compiled and realized by the government. Both approaches emerged when conducting field surveys and finding several factors that strengthen the presumption of the survival of the customary village up to now, such as economic, socio-cultural and legal aspects.

Top Down Approach includes:

- From an economic aspect, the need for tax incentives and customary village fees, subsidizing customary villages and fines related to non-compliance with village tradition provisions.
From the socio-cultural aspect, the need to develop human resources around customary villages, the existence of reward and punishment related to the preservation of traditional villages and the need for continuous development of socio-cultural life.

From a legal perspective, there is a need for a firm legal umbrella related to the existence of traditional villages and their culture.

Bottom Up Approach includes:

- From an economic aspect, it is necessary to develop the potential of customary villages as tourism villages and to grant regional autonomy to traditional villages
- From a socio-cultural point of view, there is a need for recognition of the existence of territorial ties and geneological ties, namely ties based on each other's temple ties.
- From a legal point of view, there is a need to increase compliance with local communities regarding customary law.

4. Conclusion

From the discussion above, the following conclusions can be drawn:

- Group or communalistic life is a characteristic of traditional village settlements in Bali, although they have different historical backgrounds for the formation of settlements.
- All traditional villages in Bali have the same building hierarchy, which is based on the height of the land, with the orientation of the building towards the north and south
- There are 2 types of characteristics of traditional village houses, namely one period and many times, which both have the same goal, namely to accommodate the activities of space users.
- To preserve the territory, customs and culture of the customary village, the indigenous village community conducts inter-family marriages, and live in groups as one family.
- Economic, socio-cultural and legal aspects are needed to maintain the existence of customary villages, both with top-down and bottom-up approaches.

References

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