

(The Effects of Population Growth on Morphological Development of Balinese Traditional Village)

*Bayung Gede Village, Kintamani District, Bangli City,
Bali Province*

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Abstract

Bayung Gede Village is included in one of traditional villages in Bali, which until now is still preserved. The village that becomes a pioneer of traditional village development in Bangli area has population growth that continues to increase. Population growth is also affected by awig awig or the traditional village regulations, the education and welfare level, and the community's economy. These conditions affect the morphological and structural development of traditional village yard because the number of the need for dwellings is proportional to the number of population growth. The problem raised is how the influences of population growth on the morphological development in Bayung Gede traditional village are. The method used was descriptive analysis by collecting data method through field observation, deep interview, and literature study. This study finds a morphological development pattern of the village that currently has a concept that still firmly holds village's awig-awig. How ever, the pattern of the settlement growth shows more flexible tolerance to the influence of new infrastructure in the surrounding areas, where the condition of the regional morphology in the traditional village yard is triggered by population growth of Bayung Gede Village.

Keywords : *Bayung Gede Village, Morphology, Population Growth*

Abstrak

Desa Bayung Gede termasuk di salah satu desa tradisional di Bali, yang hingga saat ini masih dilestarikan. Desa yang menjadi pelopor pembangunan desa tradisional di daerah Bangli ini memiliki pertumbuhan penduduk yang terus meningkat. Pertumbuhan penduduk juga dipengaruhi oleh awig-awig atau peraturan desa tradisional, tingkat pendidikan dan kesejahteraan, dan ekonomi masyarakat. Kondisi ini mempengaruhi perkembangan morfologi dan struktural pekarangan desa tradisional karena jumlah kebutuhan tempat tinggal sebanding dengan jumlah penambahan penduduk. Permasalahan yang diangkat adalah bagaimana pengaruh pertumbuhan penduduk terhadap perkembangan morfologi di desa tradisional Bayung Gede. Metode yang digunakan adalah analisis deskriptif dengan cara mengumpulkan data melalui observasi lapangan, wawancara mendalam, dan studi pustaka. Studi ini menemukan pola perkembangan morfologis desa yang saat ini memiliki konsep yang masih kokoh memegang awig awig-awig. Bagaimana pun, pola pertumbuhan permukiman menunjukkan toleransi yang lebih fleksibel terhadap pengaruh infrastruktur baru di sekitarnya, dimana kondisi morfologi regional di halaman desa tradisional dipicu oleh pertumbuhan penduduk Desa Bayung Gede.

Kata kunci : *Desa Bayung Gede, Morfologi, Pertumbuhan Penduduk*

INTRODUCTION

Bali is one of the areas that has buildings and settlements with characteristic oriented toward religious beliefs. The patterns of traditional villages in Bali have made the Bali Island has its own characteristics in the development of the village pattern. Balinese

traditional architecture is created from the results of the human mind in which is based on the view of the universe, attitudes, religious norms, past beliefs and past cultures. Balinese life philosophy cannot be separated from the teachings and beliefs,

namely: *Hindu Dharma*. In its teachings, it says that all creatures have been commanded to live in their respective worlds and live in harmonious unity with nature (Kumurur & Damayanti, 2009).

Bayung Gede Village is one of the traditional villages in Bali, which until now is still preserved. Bayung Gede Village is located in Kintamani district, Bangli city, Bali province, Indonesia. This village is one of the ancient village that is located in Bangli city, and the administrative borders of the Bayung Gede traditional village are Bantur village in the north, Belacan and Katung village in the west, Bonyoh and Sekan village in the south and Sakardadi village in the east. Bayung Gede Traditional Village is within 67 km from Denpasar city, 5 km from Kintamani district, and 30 Km from Bangli city. It is 900 meters above sea level, which makes Bayung Gede Village has cool weather with an average temperature of 18,5⁰ Celsius with minimum temperature of 13,6⁰ Celsius at night up to a maximum of 25,1⁰ Celsius during the day. Average rainfall is 125-200 mm per year. The size of Bayung Gede traditional village is 917 hectares from gardens to yard village with a population of 2.160 people made up of 560 households. There are two supporting *Pekeraman* or Bayung Gede traditional strata i.e. traditional *banjar* members or supporting members and *Marek* village members as top village leaders or village elders.

Bayung Gede Village has traditional forests that are overgrown with *bukak* trees; therefore, these traditional forests are considered as a sacred place. There are only a few places in Bali that are overgrown with *bukak* trees, and one of them is in the Bayung Gede Village. The forest that is also a placenta cemetery is located in the south of Bayung Gede Village. *Bukak* forest serves as a newborn placenta cemetery. The placenta is inserted into a coconut shell and hung on a *bukak* tree, therefore the forest becomes traditional forest that is preserved for generations and protected by village's *awig-awig*.

The Bayung Gede Village also has a large bamboo tree population. This bamboo population in the past became a natural fence that protects Bayung Gede

Village as a natural defense fortress for the village. Bamboo is an important material for the community because Balinese traditional houses use bamboo and wood as the main construction. In Bayung Gede Village, the bamboo pieces also become traditional roof covering materials such as shingles done by mutual cooperation of the villagers. However, now the bamboo roofing material is beginning to be abandoned by the people because they choose modern materials such as zinc, because the roof processing will be faster and more practical also does not require much effort. The citizens' want to replace old materials with modern materials cannot be stopped and it impacts on the beauty value of the Bayung Gede Village view which slowly began to fade.

Bayung Gede Village is a village that has agriculture, plantation and forest. A total of 95% of the main livelihood of the people who settled in the traditional village is farmers. Most of the Bayung Gede residents work on dry land, but in general Bayung Gede residents worked as sharecroppers, as many of them who do not own their own land, so they only work on land owned by others. Agricultural commodities develop quite well and not much different from villages in the Kintamani district, such as orange, coffee, various kinds of vegetables, corn, and gaga rice. The favorite commodities are Kintamani orange and tangerine.

Bayung Gede Village is one of Kintamani orange production centers, which is well-known by local, regional, and international people. The orange plantation area is 478 hectares with an average production per year of 970 tons / hectare. Bayung Gede Village has another superior agricultural production beside orange that is local white corn. However, lately its existence is endangered. It is necessary to rescue and develop it as a hallmark of superior product of Bayung Gede Village, in an effort to support the Bayung Gede Village as Tourism Village (Arnawa et al., 2015).

Aside from being farmers, Bayung Gede community also works as a farmer, the most common types of the farm animals are cows, pigs and chickens. The farm animal's dung is used as a source of

organic fertilizer, while the needs of animal feed are derived from leaves and grass that are abundant in the forest area of the village. The livestock's stalls are placed outside the village yard because the yard capacity is limited, and there is no backyard or backyard that becomes a sacred place to put *sanggah*. The village's *awig-awig* also for bids its citizens to put their cattle stalls in the front yard.

Bayung Gede Village adopts governance system with *Ulu Apad* pattern that is based on the time of the marriage ceremony (*parebuan*). In the Bayung Gede Village, there is traditional rule that does not allow its villagers to get married more than once or known as polygamy. If there is a person who violates, the sanction is she/he gets expelled from the village and is not given the family inheritance rights. Nonetheless, the custom regulation of this village allows its citizens to marry someone who comes from outside or also called exogamy.

Based on the explanations above, it is believed that the changes will influence the character and lifestyle changes in Bayung Gede Village society to be easy to accept foreign cultural influences coming from the outside. It makes Bayung Gede Village population growth is increasing every year by 96 people per year. The population growth impacts on the growing need for houses that will shape the development of the village morphology.

FORMULATION OF THE PROBLEM

Population growth influenced by village's *awig - awig* and the impact of globalization and a desire to change to a more modern life pattern slowly cause impact on the regional morphological pattern of Bayung Gede Village, especially in the yard of Bayung Gede traditional village. This study provides an overview of how much the influence of the population growth and where the direction of the morphological development, and eventually will be reassessed whether the morphological pattern is still in accordance with village's *awig - awig* custom.

RESEARCH METHOD

This research is descriptive analysis using Tissue Analysis to study the regional spatial patterns with figure ground method to describe the relationship pattern associated with the morphological development of Bayung Gede Village.

The study was conducted from April 2016 to June 2016. The data collection method is done in three ways. The primary data collection is done by (1) observation field method by doing identification in the research area, observing the people's behavior, mapping the area by taking the existing picture, and making sketches of the data needed for this study. (2) In-depth interviews on topics related to the research of village traditional elder called *Jero Kebayan Muncuk* named I Wayan Suwela. Secondary data come from (3) literature review from the previous research literature related to the research topic to gain more maximum supporting data.

LITERATURE REVIEW

Various things that contribute to the occurrence of settlement morphological pattern generally are cultural change, internal factors such as innovation, population growth, and external factors because of the influence of other cultures led to acculturation or assimilation. The review above is a preview of Balinese culture system relationship in general or belief system in specific with the morphological pattern of Balinese *adat* traditional settlements (Alit, 2004).

The Authenticity of Traditional Culture of Bayung Gede Village

Majapahit invasion in hundreds of years ago has led to polarization of the Balinese people. The dynamics of Balinese society grows more complex with the various processes of cultural encounter. However, in other parts of Bali, there are still *Bali Aga* people who maintain the cultural characteristics of the Balinese people before they are affected by the Majapahit invasion. The *Bali Aga* or *Bali Mula* people are pure descendants of indigenous Balinese people who live in isolation and are free in the mountains as a

refuge from foreigners who want to colonize them (Covarrubias, 2013).

Central parts of Bali, precisely around Mount Batur are central of the Bali Aga people's life, who are descendants of *Austronesian* race. One of the *Bali Aga* villages around Batur is Bayung Gede. Thomas A Reuters in his book "Culture and Society in the Balinese mountains," published by Yayasan Obor Indonesia in 2005 in Jakarta, said that the Bayung Gede Village is an ancient village which became the parent of a number of ancient villages in Bangli such as: Penglipuran, Sekardadi, Bonyoh, and other surrounding villages (Reuter, 2005).

Culture

Kinship systems in Bayung Gede community use the principle of patrilineal. Inheritance and responsibility in an extended family will be given to the youngest boy, while the other older children and have already married should get out of the village area. Bayung Gede society also permits the exogamy marriage. It causes an implication of the addition of *Ongkara* or Balinese characters in the tradition of hanging placenta in Bayung Gede. The knowledge obtained from the internalization result of a husband or wife who comes from the outside Bayung Gede Village also wants to be applied to their offspring, even though there are cultural differences in the lives of the couple (Dewi, 2015).

Education and Religion

Bayung Gede community who initially only interacts and does activities in the mountains around the village has now been able to interact with the wider community and has intensive activities done outside the village, for example the Bayung Gede community who decides to continue their education in cities in Bali or look for a job outside the Bayung Gede Village. It is normal because the society and the culture are dynamic and constantly changing (Dewi, 2015).

The education of Bayung Gede society, especially in religion field, that is studied formally after the establishment of the school in the village yard brings cultural impacts that indirectly affect the village

customs. As presented by *Jero Kebayan Muncuk*, Bayung Gede Village existed long before the advent of Hinduism, so it has a concept of *Bali Mula* belief that is still very strong, among them are (1) Bayung Gede is lack of naming on the God manifestation (2) They do not run cremation (3) They do not put the relevance of color to the gods/goddesses in the offerings making (4) They have no caste (5). They do not consider eating beef is taboo (6). They do not have a relationship with a *Brahmin* priest. Bayung Gede also still maintains animism which believes that every object in the universe has the spirit and belief in ancestral. It is proved by the existence of *sanggah* as a place to honor the ancestral spirits and the village fighters.

Governance System

Bayung Gede society applies two governance systems that are administrative governance system and traditional governance system. (1) Administrative governance system consists of matters related to administrative areas of Bayung Gede Village that is led by a Head of Village. Administrative governance system has duties and obligation to manage official and administrative matters, such as care of project construction permit, spatial layout, region layout, population data, and other programs related to state governance system. (2) traditional governance system is a governance system that has applied from the beginning of the village built. The governance system is known as *Ulu Apad* consisted of 164 *krama desa marek* members. In *karma desa marek* membership, there are 16 core members led by village elders named *Jero Kebayan Muncuk*. The election of *karma desa marek* members is based on seniority in a marriage ceremony until the youngest son in their family holds marriage ceremony.

The traditional governance system has duties and obligation to manage traditional or cultural matters based on village's *awig-awig*, such as leading traditional ceremony, organizing and managing traditional ceremony preparation, preparing traditional tools, keeping and preserving village's *awig-awig*, giving permission to changes in the village yard

layout, giving traditional sanction and other tasks based on village's *awig-awig*. This governance pattern will be inherited to the sons of *karma desa marek* members of Bayung Gede Village from generation to generation. Therefore, every elder of *karma desa marek* member must be ever involved to be a village board member and can help managing lower board member in asking opinion or explanation on village regulations or can be called as village advisor.

Morphology

Morphology is defined as the science to study the physical form of a city logically. Morphology is a form of knowledge or approach to understand the city development that is constantly changing throughout the development process through the pattern shape and city layout (Zahnd, 1999).

Likewise, the presence of traditional environmental facilities that is customary to be improved in new life order that is the existence of administrative environmental facilities, such as the construction of schools, markets, trade, office buildings, health buildings, and security that triggers the morphology occurrence. The morphological directions depend on the availability of land in village space, and the more limited space available tends to disrupt the pattern. It happens because of the construction outside *adati* patterns caused by the difficulty of obtaining land for construction. Besides, the limitations of traditional land ownership that can support the pattern integrity will cause the physical settlement patterns unable to survive. When such things happen then with the development of various environmental facilities with out the support of a strong and institutionalized tradition, will make the existing pattern undergo morphology. Thus, every decision on administrative or customary development should always be perfectly adapted. This effort can be started from raising public awareness to understand the meaning of development, and the government as a motivator and innovator plays an active role in communicating it (Alit, 2004).

DISCUSSION

Based on the Balinese Provincial Regulation No.5 of 2005 About Terms of Building Architecture mentioned that Bali Preservation is also supported by the conservation of Balinese culture. The noble values of Balinese traditional architecture as part of Balinese culture are elements that must be preserved. Preserving the architecture as part of the culture of Bali besides by maintaining the physical identity of the architecture as part of the expressive aspects of Balinese culture, also needs to provide creative opportunities to adapt the demands of population growth and technology advancement. Creative freedom in architecture is human rights, but as social beings who want the cultural property happens through the conservation of architectural identity, it needs signs in the form of regulations as a control device.

Traditional institutional forms on the basis of the territorial unity is called traditional village. The concept of the village in Bali has two meanings, namely *desa adat* (traditional village) and *desa dinas* (administrative village). Traditional village is the unity of indigenous people in Bali area, which has unity of tradition and manners of Hindus people social life, that is hereditary in *Kahyangan Tiga* bonds that have particular areas and their own wealth, and they deserve to manage their own household. The basic foundation of traditional villages in Bali is the concept of *Tri Hita Karana* (Dwijendra, 2003).



Figure 1. Map of Bayung Gede Village Location (Source: Google Earth, 2016)

Bayung Gede Village Pattern

Tri Hita Karana conception underlies the realization of the cosmos arrangement from the most macro (*bhuana agung/universe*) to the most micros

(*bhuana alit*/human). In the universe's soul is *paramatma* (God Almighty), power is sharing natural forces and bodies that is *Panca Maha Bhuta*. In the housing (village level); the soul is *parhyangan* (village temple), power is *pawongan* (community) and body is *palemahan* (village area). Similarly, in the *banjar*: the soul is *parhyangan* (*banjar* temple), power is *pawongan* (*banjar* residents) and body is *palemahan* (*banjar* area). The soul residence is *sanggah pemerajan* (shrine), power is the occupant and the body is yard. Whereas in human, the soul is *atman*, power is *sabda bayu idep* and body is *stulasarira*/human body. That is the elaboration of *Tri Hita Karana* concept in the cosmos arrangement (Dwijendra, 2003).

Tri Hita Karana (three elements of life) that regulates the balance or harmony of human with the environment is arranged in the body/*angga* arrangement. It gives a derivative spatial concept called *Tri Angga*. Literally *Tri* means three and *Angga* means body, which emphasizes three physical values that are: *Utama Angga*, *Madya Angga* and *Nista Angga*. In the universe/*Bhuana agung*, this division is called *Tri Loka*, namely: *Bhur Loka* (the earth), *Bhuah Loka* (space), and *Swah Loka* (Heaven). These values are placed vertically, where the main value in the top position/sacred, *madya* in the middle position and *nista* in the lowest position/dirty (Dwijendra, 2003).

Tri Angga conception is valid from macro (Universe/*Bhuana agung*) to the most micros (human/*Bhuana alit*). At the regional scale: mountain has the primary value; land is worth *madya* and oceans are in the *nista* value. In housing, *Kahyangan Tiga* (*Utama*), Community Settlements (*madya*), Grave (*nista*), also apply in the home and the human scale (Dwijendra, 2003).

Besides, both the concept of *Tri Hita Karana* and *Tri Angga*, Bayung Gede community also knows the concept of *Tri Mandala* or the concept of horizontal space. This concept consists of *Mandala*, *Madya Mandala* and *Nista Mandala*. Bayung Gede community puts sacred activities in the main areas, such as various forms of

yadnya ceremonies and offerings to the gods that is held on *Pura Bale Agung* located in the North of the village, while funeral ceremonies and *nista* disposal area are located in the South of the village. The Bayung Gede Village settlement patterns clearly split zoning village spaces into three parts, the *utama angga* part is in the North consisted of a sacred place, namely: 1) *Pura Bale Agung* is a shrine to worship the ancestors who founded the Bayung Gede Village; 2) *Pura Puseh* is a sacred place for traditional ceremonies held every six months, as well as a place to worship ancestors of the village founder and *Dewa Wisnu* (Lord Vishnu). This temple is more elevated than the land contours around and has *Sembilan tingkat meru* (nine levels of Meru); 3) *Pura Pasek Gelgel* is a sacred place to commemorate *Catur Wangsit* and can be used for *empat kasta* (four castes); 4) *Pura Panti Kayu Selem* is a sacred place for holding the *Usaba Agung ceremony*; 5) *Pura Ibu* (Mother Temple) is a holy place which is a private temple of Bayung Gede Village elders; 6) *Pura Tangkas* is a sacred place for *menek kelih* traditional ceremony or children who grow up; 7) *Pura Pingit* is a sacred place to perform the *pingit ceremony* on a population that is undergoing a seclusion period; 8) *Pura Pendem* is a sacred place for ceremony of *lubak* (ferrets) and dogs (Putri, 2015).

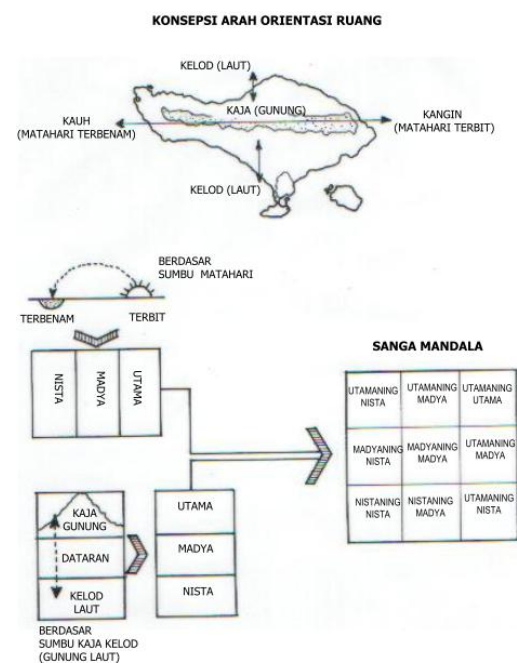


Figure 2. Sanga Mandala Concept

Source: (Budihardjo, 1986)

As generally traditional villages in Bali, Bayung Gede Traditional Village follows the *Sanga Mandala* pattern, namely the combination of the orientation between the mountains and the sea and the east-west direction. Bayung Gede Village is included in *Bali Aga* village that has an orientation towards *kaja-kelod* cosmology patterns, where the Bayung Gede Village has an orientation that leads to the Batur Mountain as a village's linear axis. It makes Bayung Gede Village has a main axis road as open space and circulation that divides the village into two parts namely the west side and east side.

The Interpretation of Settlement Patterns before 2012

Former Bayung Gede *Perbekel* reveals that in the beginning Bayung Gede is a very dense forest area. The founders of Bayung Gede amounted of 35 families in the past struggled to deforest the forest so it becomes eligible area to be settlements. The process of deforestation requires a very strong power or in the local term called *bayugede*, so that when the area has become settlements, it is known as the Bayung Gede (Putri, 2015).

Another version has disclosed by Jero Bahu (65 years old) who stated that initially in the Bayung Gede Village, there is a *padukuhan* inhabited by one *dukuh* which later evolved into 35 families. The citizens felt that the area where they live is not eligible, so they moved into another place that is a very dense forest area. The forest area was then cleared and cleaned to be used as settlement and *tegalan* (dry field). This deforest process requires a very strong struggle and spirit, so it makes the forest adequate settlement and it is used in community's dry field starting the plantation. The strength and spirit of the people make them decide to name their settlement as *Bayung Gede* derived from word *bayu* and *gede*, which means great and strong energy (Putri, 2015).

Jero Kebayan Muncuk also said that once the Bayung Gede is a closed village. There are three large gates on the drive way and they are surrounded by living

bamboo fence. However, now the village regulations are soft, so that there is no prohibition to work outside the village. Those who work outside the village work as civil servants, tourism, restaurants, tour guides, and private employees. When the village is holding a ceremony, all residents who work outside have to return because there is fear if they do not celebrate the ceremony. It is quoted from the interview result with Jero Kebayan (Mucuk, 2016).

Bali Aga type is a settlement of indigenous Balinese people that is less influenced by the Java Hindu Kingdom. The location of the settlements is in a mountainous area that stretches out in the middle of Bali, and most of them are located in North and South Bali. The physical form of *Bali Aga* settlement patterns is characterized by linear-shaped main road that functions as an open space belonging to the community and at the same time as the main axis of the village (Dwijendra, 2003)

In a linear pattern, the *Sanga Mandala* concept is not so instrumental. Cosmological orientation is dominated by *kaja-kelod* axis (north-south) and *kangin-kauh* axis (east-west). The northern end of the settlement (*kaja*) is intended for temple (*Pura Bale Agung* and *Pura Puseh*). The southern end (*kelod*) is intended for *Pura Dalem* (death) and village cemetery. Between both areas, there are residential area and public facilities (*bale banjar* and markets) that are located in the public plaza. Linear patterns generally are in settlements in mountain areas in Bali, where the geographic area with slopes are over come using terracing (Dwijendra, 2003).

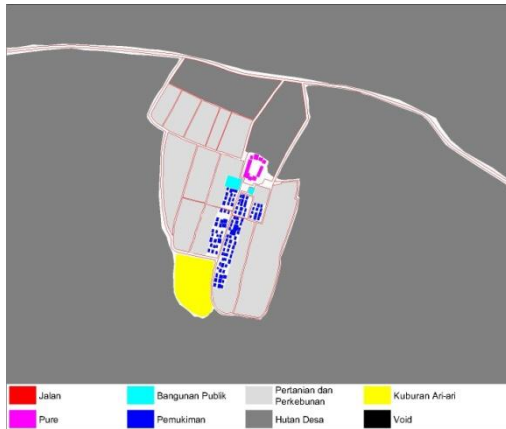


Figure 3. The Interpretation Result of Bayung Gede Village Origin <1940

Source : Personal Documentation based on interviews and literature studies

Population Growth

The population growth in the Bayung Gede village is an average of 3.04% per year or as many as 92 people per year. The population in 2012 based on the sex was the male population amounted to 1,098 people, and the female population amounted to 1,030 people, with a total population of 2,128 people. The number of families in the Bayung Gede Village in 2012 was 560 families (Putri, 2015). In 2016 the number increases with the number of the population is 2160 consisted of 570 heads of households with a population growth of 96 people/year (Mucuk, 2016).

The numbers are adjusted to the conditions in which there are villagers who do not live/settle in the village yard. They left the village to resettle elsewhere, and most of them live in the land where they plant in the outskirts of the village because they do not get ground in the village yard. Some are leaving the village to continue their education in the city center and the other wander looking for a job in the big city as tourist guides, office workers, and hotel and restaurant employees. However, they will come back to the village if the village will hold traditional ceremonies, because there is a belief within the community that people who believe that if they do not take part in the traditional ceremony village, they will be stricken by misfortune.

Bayung Gede Village Morphology

In general, the tourism development in a region, will impact the region either to

the conditions of the nature, the culture, or the community condition (Prayogi, 2011).



Figure 4. Figure Ground of Bayung Gede Village in 2012

Source: Personal Document, (2016)

Bayung Gede Village morphology starts from *Bali Aga* community's belief formed from a linear pattern centered on *utamaning mandala* axis, *madyaning mandala* and *nistaning mandala*. At that time, people are not familiar with religion and still adhere to the belief that the mountain is where the ancestors reside. After the entry of Hindu religion, influence of belief on religion appears which was then translated into *Sanga Mandala* concept by not leaving the past belief but as a basis that cannot be eliminated. It is proved by the procession of *upacara ngaben* (cremation ceremony) done by burying a corpse, where the bodies of the women are buried with the supine position facing the sky as a representative form of the earth and the bodies of men are buried with the prone position as a representative form of the sky. It is same with the offering preparation for the *upacara ngaben*. When *upacara ngaben* will be held, all the ceremony requirements and preparation are conducted on the day of the ceremony will be performed, unlike in southern Bali area that the cremation procession takes 2 to 3 months and is done by burning/cremating (Mucuk, 2016).



Figure 5. Figure Ground of Bayung Gede Village in 2016

Source: Personal Document, (2016)

Sanga Mandala later also develops into nine God manifestations in maintaining the balance of nature towards harmonious life called *Dewata Nawa Sanga*. The nine sections are to be implemented in the form of space zoning both macro and micro. The concepts of the nine zones in sequence are (1)*utamaning utama*, (2)*utamaning madya*, (3)*utamaning nista*, (4)*madyaning utama*, (5)*madyaning madya*, (6)*madyaning nista*, (7)*nistaning utama*, (8)*nistaning madya*, and (9)*nistaning nista*. See figure 2.

The availability of transport facilities and infrastructures in the form of wide and good roads, makes people easy to get to Bayung Gede Village. Bayung Gede Village is traversed by tourism tracks from Ubud to Kintamani, so that tourists who will visit Kintamani (Batur Tourist Destination) can stop in the village. In addition, means of information and communication have also been there such as Telkom, Post Office, television, and radio, making this village is open to absorb the flow of information, both locally, nationally, and internationally (Prayogi & Sonder, 2014).

Morphological Development Pattern

Bayung Gede houses are usually called *Taboan* House. The meaning is depicted as bee/wasp, because the shape of the house swarms like beehive/wasp's nest. Village yard is governed by the traditional chief. If a family member is out, then the family will consider for giving a place in the garden or if there is availability of vacant land in the village yard, the family member will beg the traditional chief to ask for a place/the yard with an area limit of 1.5

acres in order to build a barn, *bale*, and kitchen. They can also choose their own land on the edge of the village and then they flatten together with their family (Mucuk, 2016).

Bayung Gede Village consists of three *banjar/tempek* namely *Desa*, *Peludu*, and *Danginan*. *Desa Banjar* is the center of the village both in administrative and traditional government. *Peludu* and *Danginan banjar* are located in the western part of the village. This is in accordance with the spatial patterns of the village that are the north and the east area from the village center is considered as a sacred area so the area is not allowed to create a settlement/house. However, for the people who own land in the east and north of the village center, they are allowed to construct temporary shelters/temporary houses, with a note of all the ceremonies from birth to death remain to be performed in the village center. Meanwhile, the western and the southern parts of the village center allow making a house as a place to settle down and can carry out ceremonies from birth to death (Prayogi & Sonder, 2014).

The influence of the morphology was also based on people's desire to develop towards the more modern area, and infrastructure tracks that are more easily passed by car are on the east because the main track of village linear just is preferred to pedestrians/tourists, besides the public facilities such as markets, offices, schools, and electricity and clean water sources are more accessible if they are located on the east side.

In 2012 to 2016 Bayung Gede Village showed a significant change. The change can be seen from the increase in people's homes that leads to the west side and the southeast side of *Pura Bale Agung*. Other changes are the increase in buildings around people's yard, in the worship places and in the market area, in the road development on the east side of the village, in deforestation for agriculture and plantation land, also in the number of houses that are in the middle of the plantation land.

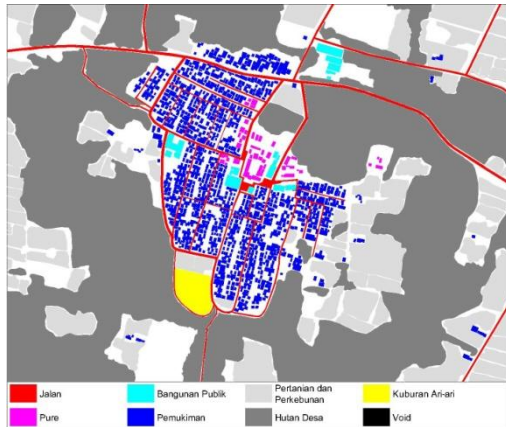


Figure 6. Bayung Gede in 2012
Source: Personal Document, (2016)

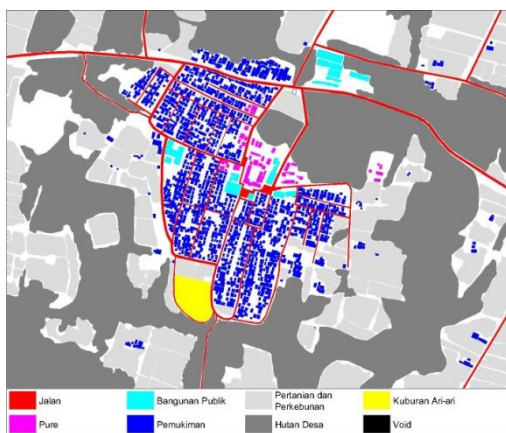


Figure 7. Bayung Gede 2016
Source: Personal Document, (2016)

Settlement Pattern

The houses in Bayung Gede linearly stretch from north to south and face the village main street. The function of the village's main street is as a community-owned open space and as the village main axis. The houses that are not facing the main road are built opposite to each other and face a narrow alley in front. The narrow alley seems to form a regular maze that is slightly curved, so that one end to the other is not visible. A house in Bayung Gede Village consists of a narrow yard flanked by a small alley arranged in such away. The size and pattern of buildings in every yard have almost the same extent and pattern. The similar extent of *karang paumahan* or yard is based on the regulation of land ownership regulated in *awig-awig* or local customs regulations that are applicable hereditary. The narrow yard is surrounded by several buildings with different functions. The buildings include: 1) *paon* or kitchen

functions as a place for daily cooking activities and for performing the funeral rite (storing corpse) before being taken to the cemetery. According to the belief of Bayung Gede Village community, *paon* or kitchen is a worship place of *Bhatara Guru* and *Bhatara Brahma*; 2) custom *Bale* is a building that serves for conducting *Manusa Yadnya* ceremony. According to the community's belief, this building is a worship place of *Bhatara Aji Saraswati* and *Hyang Kompyang*; 3) *Jineng* or barn is a place to store grain. This building is a worship place of *Sri Manik Galih Magembal*, *Ratu Sati Gunung Lebah* and *Patih Mas Pahit*. *Sanggah* (Merajan) is a worship place or a shrine for a family. The location of this temple depends on the exit or *kori*. If the exit faces the East, the temple faces the east and is located in the west of the yard, and if the exit faces the west, the temple will be placed in the east of yard facing west. *Sanggah* in Bayung Gede generally consists of *Palinggih Utama* namely *Sanggah Kemulan* and *Bhatara Guru*. In the Bayung Gede Village there is a worship place called *Turus Lumbung*, namely *palinggih* that is tentative and is made from *dadap* (*Erythrina variegata*) tree trunks of 2m tall planted and on it placed a bamboo weave as a place to put offerings. In every yard there are two *Turus Lumbung* which are a symbol of the life of husband and wife. *Turus Lumbung* can increase if a child who has been married settled within one yard (Putri, 2015).

Shape pattern of old Bayung Gede Village settlement actually has three main buildings that are required by the traditional chief and sacred place to put *sanggah*. The three main buildings in sequence from the entrance are (1) barn which consists of two types: *jineng* with shape characteristic like a stage with 4 main pillars, grain storage on top, and *glebek* which has walls made of wood and *gendek*. (2) *sekenem* bale or holy bale, which serves as the spiritual activity place in a limited scope and a place to put heirlooms and spiritual worth objects. Named *sekenem* bale because its pole always amounted to 6 or *sake enem*. (3) kitchen or commonly called *paon* where the kitchen also serves as a bed. At the end of the yard is considered the most sacred part

of the yard. The placement of this building has a meaning that to go to the shrine people have to pass a process, not directly enter carelessly. It is also the reason that the bathroom/toilet is always in the front yard, because it is considered shameful or dirty and its function is part of a process to clean/purify themselves before entering the yard.

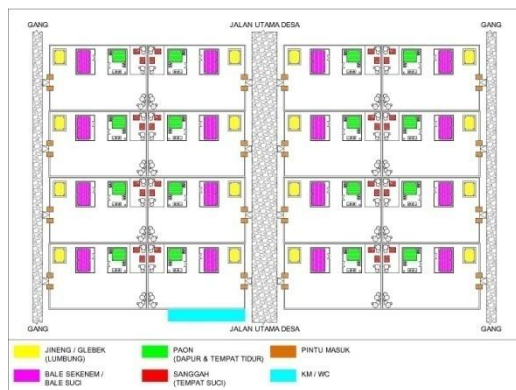


Figure 8. Settlement Pattern of Bayung Gede Village (Then)
 Source: Personal Document, (2016)

With the amount of space needs that is not much at that times, it leaves an open space that is wide enough in each resident's yard. This yard is used by the residents as a place of social interaction, children's playground, and keeping livestock. Nevertheless, along with the development of times and technology advancement, information, and cultural influences from outside the village and the influence of marriage with outsiders, needs and wants to have a more modern dwelling, more convenient, and more secure and practical grows. The needs and wants are a room for watching television, room for receiving guests, healthier and more comfortable bedroom furnished with a soft bed, cleaner and more practical kitchen with a gas stove, the desire to open a business place, the desire to own a car requiring garages, and other facilities. These desires appear due to the influence of media and personal experience gained in places outside the village that has ever visited such as tourism object in Bali, hotels, malls and other public places that affect the desire for a better, more comfortable and more modern life. It must

also be supported by economic prosperity factor that is increasing.

It triggers changes in functions and additional space in the yard, such as the addition of a kitchen that is located on the outside between *paon* and holy *bale*, additional bedroom, changes in the function of *paon* that previously was a bed and a place to cook into a warehouse. Moreover, the malfunction of the barn is due to the rice storage that is more practical and safer to be inside a concrete building, modifications in the south side of the front yard into a trade, even among them there are some yards that violate *awig-awig* by making car garage on the north side of the yard and move the barn to the above the garage, so that the building becomes higher than it should be.

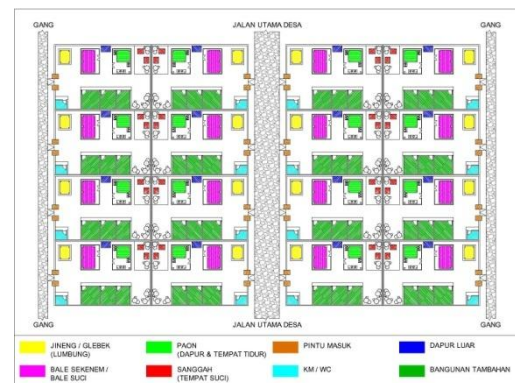


Figure 9. The Settlement Pattern of Bayung Gede Village (Now)
 Source: Personal Document, (2016)

If it is seen from the structure of the building, especially the houses owned by the Bayung Gede Village Community, they still keep the traditional elements of shape, materials, house layout and functions of the each house that have been preserved generation to generation. The houses are mostly made of planks of bamboo trees, with the foundation made of *popolan* (a mixture of clay) which has certain unique characteristics if it is developed as a tourist attraction. However, if we look at the condition of some of the traditional houses in Bayung Gede Village is now changing. Traditional elements have been left by the local community. Some of the roofs owned by the society made of slats of bamboo trees in the past have been changed with zinc. Some houses also have used

concrete as the basic materials. This is certainly very alarming considering Bayung Gede Village will be developed into a tourist village. If the traditional elements that have been attached to hereditary change, of course, it will affect its attractiveness (Prayogi & Sonder, 2014).

The changes in the material and the micro typology implicate in the shape of Bayung Gede Village now that is not so traditional like in the past. The implications directly influence the expression form and historical values contained in the whole residential area.

CONCLUSION

Bayung Gede Village undergoes morphological change enormously from the very beginning the village establishment until 2012. Then from 2012 to 2016, the morphological changes are quite significant. Bayung Gede Village morphology is basically driven by the population growth influenced by village's *awig-awig*. *Awig-awig* allows exogamy marriage system and only allows one family to inhabit a yard with an amount of 1.5 acres. In addition, infrastructure development in the form of facilities and infrastructure such as electricity, water, telephone, etc. are provided by the government in making Bali province as a tourist destination also affect encouraging the village development towards approaching the cross-village road axis (city road). *Sanga mandala* concept that is part of village's *awig-awig* indirectly brings village growth and development to be macro oriented towards zoning of *utamaning madya*, *madyaning utama*, and *madyaning madya*. Therefore, the areas that become residential areas are *utamaning nista*, *madyaning nista*, *nistaning utama*, *nistaning madya*, and *nistaning nista*. Meanwhile the *utamaning utama* zoning is the zoning that becomes the most sacred places in the village yard, so there is no residential building, as well as community garden/rice field in the zone. Thus, the existing morphological patterns seen now are still guided by the pattern/concept that firmly holds village's *awig-awig*, but the pattern of settlement growth shows more flexible tolerance towards the effects of new infrastructure.

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