BALINESE TRADITIONAL ARCHITECTURE LEARNING MODULE
I. The socio-culture and spatial boundaries

Background

Bali is one of Indonesian 30 provinces and one of Indonesian 13,667 islands which is located between 8°03’40” and 8°50’48” SL, and between 114°25’53” and 115°42’40” EL. It is located between Java Island in the west and Lombok Island in the east. The mainland Bali is surrounded by 5 smaller islands; Nusa Penida, Nusa Ceningan, Nusa Lembongan, Serangan and Menjangan. Bali cover the area of 5632.86 km² (around 140 km x 80 km) or about 0.29% of the area of Indonesia (around 2 millions km²). Bali consists of 9 administrative regions (8 kabupaten/regency and 1 municipality), 51 districts/kecamatan, 579 villages/desa, 3945 traditional banjar.

Figure 2.1: Location of Bali island in Indonesian archipelago
(Source: Basset or Picard, 1993: 218-219)
The volcanoes which extent from the west to the east divides Bali into Northern Bali and Southern Bali. The highest summit is Mount Agung (3142 m). Other volcanoes include Mount Batur (1717m), Mount Merебuk (1386m), Mount Patas (1414 m), and Mount Seraya (1174 m). The cluster of this volcanoes creates geological differences between northern Bali and southern Bali. Northern Bali has the characteristic of narrow and relatively steep lowland, whereas southern Bali has the characteristic of wider lowland and relatively flat. There are four lakes in Bali, Lake Beratan, Lake Buyan, Lake Tamblingan and Lake Batur. The average temperature is 28°C to 30°C and the humidity varied from 60% in dry season to 100% in rainy season.

Bali is populated by 3,109,200 inhabitants or about 0,0154% of Indonesian population, which is the seventh most populated province in Indonesia, which inhabited by 220.4 millions people. The population density is almost 522 inhabitants per km² which is doubled in the southern part of Bali. 26,43% of the total population is urban population with average growth of 7.20% in 1970-1990. Since 1990, Bali’s population growth is 0,76% per annum, three times of that in the beginning of XIX centuries.

Bali income is mainly come from agriculture (66.7% of Bali population are farmers). Bali produces rice, coconut, coffee bean, tobacco, kapok, cashew nut, and clove. Bali farmers organize the paddy fields in a traditional irrigation society called Subak. There are 1240 subak organizations in Bali. In 1970, agriculture give contribution about 55% to local income but this has been fall down to 37% in 1990 and 23,31% in 1998. Balinese works in many sectors, which include trading (10,5%), government employee (8,3%), industry (5,8%), etc. (8,7%). In 1998, five dominant contributors to Bali income were trading, hotel and restaurant (30,49%), agriculture (23,31%), government employee (13,18%), transportation and communication (10,94%), industry (10%). Tourism has rapidly grown into industry in Bali since 1969 and has contributed about 40% of local income in 1998.

I. The socio-culture and spatial foundation

1. The origin of culture and history of antecedent

The history of Balinese culture consists of several periods, ancient Bali, ancient Hindu Bali, incoming Hindu Bali and modern Bali (Goris & Donkers, 1955: 14). Ancient Bali Period consists of three periods: the stone age (Paléolithique, Néolithique), the bronze age and the metal age. Based on the prehistorically tracks, like other parts of Indonesia, Bali has been inhabited in paleolithique and neolithique age. The distribution of Homo erectus succeeded million year after
homo habilis, thereafter the occurrence of negroide type of homo sapiens proceeded the mongoloid type. The fossils have been discovered in Java island. It has the same character with the Australian Aborigine ancestor. The type of Austral-Melanesians spread widely throughout Indonesia, migrated till New Guinea and Melanesian Archipelago, through western part of Sumatera, Malaysia Peninsula, South Thailand to Viet Nam (Fig 2.3), but they are not the native ancestor of Indonesia's man. The native ancestor of Indonesians is proto-Australoasiatiques who originated from Asia, from Yunan Province, in southeast of China. They came to Indonesia about 1500 BC. Their descendants are the majority of present Bali population and they inherited the Balinese culture. The bronze age came at the same time with iron age, about 300 BC; i.e. Dongson culture which originated from northern Vietnam. The archeological remains of this age can be found throughout Bali, e.g. Bulan Pejeng (Pejeng Moon). Bulan Pejeng is a set of tambours made of bronze which are used in religious ceremony, decorated with a pair of masks with animal pattern (Pandit Shastri, 1963: 6-9; Goris, 1955; Parimin, 1986: 5-13; Chenevière, 1990: 6).

The second age is Ancient Bali, the agriculture age. In this age, the Balinese founded the Subak Organization and spatial organization with orientation toward mountain (kaja) and toward sea (kelod) and linear village pattern which divided traditional villages into character of this culture. In this age, generally, the Balinese lived on the mountain and their culture is maintained until present. The culture can be found in Tenganan, Bug-Bug, Trunyan, Sembiran, etc.

The arrival of Indian trader in the eleventh century has brought big influence in economy, politic, moral, and mainly the Hinduism which started in Ancient Hindu Age. The Bali history was very much related with Java history. The mother of King Airlangga (1019-1042) from Daha Monarchy in East Java, Mahendradatta, who is named Gunaprya Dharmapatni, is the wife of the King of Bali, Udayana. This pair descent the first generation of the great Javano Balinese dynasty. In this age, a great priest, Mpu Kuturan introduced the pattern of traditional Balinese village which is named Kahyangan Tiga. According to this pattern, the traditional Balinese village has three temples: pura puseh, village temple (pura desa) and the pura dalem. It was this great priest who also created Sanggah Kemulan rong telu, Meru and the guidance for religious ceremony.

In 1343, Gajah Mada, the great prime minister of Majapahit-the big empire in East Java-sent his troops to Dalem Bedaulu, the king of Pejeng in Bali. The era of Majapahit begin that moment. Sri Krishna Kapakisan was crowned as King of Gelgel with the title of Dewa Agung. Dang Hyang Nirartha, a priest of Majapahit came and completed the Hinduism in Bali. He introduced the terminology of temple (Pura), royal palace (Puri) and Padmasana (where God is worshipped). At the beginning of XIV century, Islam came to Java and influenced all monarchy in Java. At the same time, the Gelgel Monarchy expanded quickly and dominated all over Bali and Lombok. Bali was dominated by the dynasty of Dalem Waturenggong.
At the beginning of XVII century, Java is colonized by the Dutch, who also invaded Bali in 1597. They did not like the idea of freedom which was declared by Dewa Agung, hence the war began and took place all through one century. One by one of the Balinese monarchy collapsed. In 1906, Badung, the largest monarchy in Bali in that era, fell tragically. The King, his family and his troops committed suicide and the era of colonization began. The mixture of Hinduism and foreign culture created new Hinduism culture. The shape of resting place (Loji), Bale Banjar with its brick column, administrative system perbekelan, traditional village reorganization, and building ornament (patra Mesir, patra Olanda, patra Cina) is the result of the cultural mixture.

Since Indonesia independence on 17 August 1945, Bali became one of its province. The physical development and the tourism development spread throughout Bali, the change in administrative system, assimilation with other indonesian cultures and foreign ones created to date modern Balinese culture.

Fig. 2.3: Origin of the Balinese
(Source: Parimin, 1986: 5)

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Proto-Austronesia

Dongson

Austronesia

Austro-Melanosoides and Paleo-Mongoloides
2. Daily life

a. Tradition and Beliefs

The religion of the majority of Bali population is Hindu (2,830,561 or about 91%). The other religions are Islam (151,702), Buddhism (19,974), Protestant (14,367) and Catholic (12,627).

For Balinese, human beings is microcosm, the mirror of macrocosm which is composed of the same elements; air (akasa), wind (bayu), light (teja), water (apah), earth (pertiwi). They consist of three parts: top part-atmosphere-for macrocosm, head for human being (swah), middle part-lithosphere-for macrocosm, body for human (bwah) and bottom part-hydrosphere-for macrocosm, leg for human (bhur). If human has atman as soul, macrocosm has paramatma (the soul of the universe).

The Balinese arrange their life based on the Hinduism doctrine. The destination of life according to this doctrine is the eternal life in another world (moksa) which can be reached by practicing Tri Warga, which are:

- **Dharma**: The virtu, spiritual life or maintaining the relation between human being and its god.
- **Artha**: Wealth or social economic aspect of life or maintaining good relation between human beings as individual and between human beings as the member of society.
- **Kama**: motivation, cultural life relating to artistic creativity, culture, and architecture.

Among the three, Dharma is the most important and one of the strongest which motivates Balinese to perform and to act in daily life to achieve higher state of life i.e. Moksa.

The life principle of Tat Wam Asi, which means “I am you and you are me”, is the obligation of Balinese to subjugate its life to the priest, ancestor, both parents, teacher, and other persons. This principle is practiced in daily life which is expressed in principles of:

- **Tatwa**: religious philosophy
- **Susila**: ethics
- **Upakara**: ritual and religious ceremony

This principle and the rule of life is reflected in relation with God which is called Panca Crada which is the faith of existence of God (Brahman), life spirit (Atman), reincarnation (Samsara), the law of cause and consequence (Karmaphala), the eternal life in the other world (Moksa) without forgetting the life with other people which is based on four basic norms (Catur Dresta).
The life of Balinese is divided into four steps (Catur Asrama). The first step is Brahmacari Asrama, the learning period, the period of bachelor’s life, which take place from birth to the point before marriage. In this stage, young people learn about life. The second stage is gryhasta Asrama which is the stage after marriage or married life. The third stage is Wanaprastha Asrama, which is a solitary stage. The last stage is Bhiksuka or Samnyasa Asrama, which is the period of pilgrimage, where human enter the spiritual life by leaving secular life and start to prepare for entering the eternal life and reaching moksa. Idaka is the rule of age in every stage but there is a certain obligation in every stage to reach the goal of life.

Ceremony or religious ritual (yadnya) regulates the Balinese lifestyle. It is tightly related to Tri Angga concept which has three spatial hierarchies, i.e.: utama, madya, and nista, which is also the cycle of life and death. There are three aspects which are related to the balance of cosmics which is divinity, humanity and the demonic world (bhutakala). There are five goals of ceremony and religious rituals. The first is dewa yadnya, a divinity ritual, by which the gods descends to earth on their throne. The second is butha yadnya ritual which is a sacrifice to placate the negative or demonic forces (Bhutakala) in order that they do not interfere with the human life. These rituals include the purification and destruction ceremonies. The third is manusa yadnya, the ritual for human being which are held throughout certain life stages. In this ceremony, the soul of ancestors descend and are placed in the shrine. The fourth is Pitra Yadnya. This is the ritual for the dead, where soul and body is separated so that the soul can unite with its ancestors in their resting place. The last is rsi yadnya, which is the ordination ceremony of a priest as the message carrier and the servant of God. The application of this concepts depend upon place, time, and situation (desa-kala-patra). All concepts of life are drawn in the following diagram.
Fig. 2.4: Concepts of Balinese life
b. Rites: between the ceremonies and the festivals

Ceremonies and rituals take place throughout religious life and daily life of Balinese. There are so many type of ceremony in Balinese culture which extend the number of day in one year. The principle elements in the ceremony is holy water (tirta), offerings (banten) and incense (dupa). The simplest form of offering is Jotan offering for Bhutakala which live in the house in order not to interfere with the dwellers of the house. This offerings (jotan) are offered after cooking and before mealt ime. Another simple form is of offerings is canang which is delivered daily and other more complicated forms are delivered at certain special occasions. Canang is made of coconut leaf which is formed as a flat container and filled with flower and other items as a form of hospitality. This is offered to the god and goddess and the ancestors are placed in the family temple and the offerings for bhutakala are placed on the ground. Colorful traditional cake made of rice (jajan), kepeng coin, clothes or masks, fruits, meats, vegetables are organized on coconut leaf arrangement and decorated to make sampian (offering decoration) or gebogan (a big offerings shaped like a cosmic mountain). In a ceremony, holy water ritual (tirta) takes an important role. This water purifies the followers with the water from the feet of God. It purifies the alive and bring the spirit of the dead to their eternal place. The smoke of the incense bring the spirit of the dead to their destination in the other world.

The leader of the religious ceremony is pedanda (who prepares holy water used in ceremony especially cremation ceremony or other big ceremonies in the temple), pemangku (the guard of the temple and the person responsible for religious ritual in the temple) and undagi, the leader of cultural activities. Undagi performs two functions: to lead a cultural activities and as a priest.

Balinese ceremonial ritual is very complex as the religion and local tradition in Bali blend. The rituals take place according to two types of calendars. The Saka calendar which is originated from India, began at year 8 in solar calendar. It consists of several sasih, which organize its months according to the lunar cycles and about one month more in every thirty months in the solar calendar. Wuku has 210 days every cycle, consists of thirty weeks, each is related with a certain activity. All ceremonies and rituals, both religious or traditional, are carried out according to this calendar as follows:

- **Daily:** Balinese families offer canang to the god and goddes and evil spirits before taking meals.
- **Monthly:** Full moon, new moon (tilem), the meeting between kliwon in five daily calendar and wednesday according to weekly calendar (Anggarkasih, Tumpek or Budha-Kliwon).
- **Annually:** Nyepi where the earth rest, no traffic on this day, people stay at their homes, no cooking, working, and making fire. Melasti, Galungan and Kuningan (where the spirit of the ancestors come
and visit the alive ones, the day of victory of goodness against evilness. Saraswati (The goddess of science), pagerwesi (the purification of sharp weapon), piodalan (the anniversary of temple which is celebrated in every 210 days lunar calendar). There are a lot of piodalan for every Balinese family as each family is parts of some units of temples (from 1 to 10) and each is related to an important aspect in social life such as Sanggah/Merajan (family shrine), Pura Panti, Pura Dadia, Pemaksan, Padharman, Pura Banjar, temples in traditional village (Village temple, Pura Puseh/temple of the ancestors, Pura Dalem/temple of the dead), regional temple (Pura Penataran, Sad Kahyangan), the temple for paddy field and irrigation (Pura Subak, Pura Ulun Siwi) and many more.

In addition to the ceremonies stated above, there are some other rituals such as:

- **Purification Rituals (Sacrification)** which are aimed to combat against negative/evil power and to neutralize it with positive power. These rituals are called *Caru*; the offering prepared not for vanishing the negative power but more to the achievement of universal balance. Some stages of purification rituals are: the smallest is daily offering which is called *jotan*, 4 yearly ritual (*Panca Wali Krama*), ten yearly ritual (*Tabuh Gentuh taur Agung*), and the biggest is hundred yearly ritual (*Eka Dasa Rudra*).

**Journey of life Rituals:**

- **Birth Ritual**: before birth (three months pregnancy to acquire good development of the fetus), megedong-gedongan (ritual at the seventh month of the pregnancy which marks the entering of the soul in the mother womb), 35 days after birth, which is called *otonan* (210 days after birth) and is the first anniversary according to Balinese lunar calendar, *penyambutan* ritual takes place 42 days after birth, *kepus pungset* is the ritual to celebrate the detachment of the baby cord line which takes place on the day 105th;

- **Childhood**: *otonan* ceremony is carried out every 210 days, *mesangih/metatah* is the ceremony for teeth filing which simbolizes control of desire and entering the adult age. Teeth filing symbolizes the victory over six enemies (*musuhing raga*) which are *kama* (desire), *lobha* (greed), *krodha* (anger), *mada* (drunk), *moha* (insanity), and *matsarya* (jealousy);

- **Marriage**: *mepandik* (engagement), *mesakapan* (the climax of a wedding ceremony)

- **Cremation Rite**: In Bali cycle concept, death is not more than returning to the beginning and daily rites are the realization of journey to the freedom, therefore it is necessary to perform religious ceremony to purify the soul of the dead. *Ngaben* (the cremation) is the ceremony of corpse cremation where there is no sadness shown. As a contrast, *ngaben* is a rite which should be
performed in composure and happiness. All members of traditional village will be involved in this procession. The first stage is the preparation of bade (the cremation structure which is made of bamboo and wood and can reach 25 meter high and decorated beautifully) by male members of traditional village and the preparation of food and offerings by female members of the village. The purification ritual of the dead body is carried out by spattering the corpse with holy water, by placing mirror in his/her eyelids, leafs in his/her nostril, intaran leaf in his eye, a golden ring on his/her tongue, a piece of steel on the teeth, and some pieces of leafs on the stomach and its sexual organ. Thereafter, the corpse will be placed in a bade and brought to Pura Dalem or sema/cemetery, where the cremation takes place. The ash will then be collected and placed on a piece of white cloth and brought to a little shrine (jempana) by carrying it on the shoulder to the sea or river (mukur). Ngerorasin is the second purification which is take place on the twelve days after the rite of mukur. The last ceremonies are, when time and fund are available, Pangastian and Maligya rites which are performed in Besakih (the largest temple in Bali).

The rites makes possible the integration of social and religious activities by the traditional village members owed to the celebrations which take place prior to, during and after the ceremony. For example is in the Galungan rites, there is Penampahan Galungan where the member of the village carry out social activity such as Mebat (pig slaughtering, cooking, and distribution to all banjar or village members). After this ceremony, there is Manis Galungan, a festival to celebrate the victory of good against the bad.

Balinese will not initiate ritual activities without consulting a priest (pedanda) to set the good day and time to perform the rituals. The life of Balinese is full of rituals activities and the offerings which are aimed to purify the nature, to reach harmonic relation of human beings with God, to balance the macrocosms and microcosms, to create happiness on the earth and the last is to bring the followers into the perfect eternality (moksa).

c. Art and show: the service dedicated for the God

The original purpose of art is to serve God. Paintings, dances, sculptures, masks are forms of religious objects. They are created by obeying symbolic rules and placed according to their religious function. For Balinese, art is not an individual expression but more as a service for God and the society. In Bali, everybody is artist (Basset et Picard, 1993: 161).
Statues and carvings, for example the statue of God (*pratima*) must be made of proper wood which is marked by a special icon and placed in the shrine in the temple. In contrast with the carvings which tell about the declination of human beings to the hell are placed in the bottom part of a structure, at the most impure place.

Craftsmen are skilled in their job as they should understand the religious meanings of their object. The kris craftsman called *Pande*, for example, as a symbol of inheritance, should perform a certain rituals to test his talent. Paintings are created by the *sangging* and building by *undagi* at certain time (day and hour) which is arranged according to religious prohibition of Balinese calendar.

As an artistic product, Balinese dances are dedicated to God in a sacred rites. Balinese dances are popular art as well as religious art which show its power in rites especially in the anniversary of temples (*odalan*). In daily life, there are three types of dances (Basset et Picard, 1993):

- **Sacred Dances** (*Wali*) which is performed in a rite which need purification such as: *barong, berutuk, sanghyang dedari, baris pendet, rejang, sanghyang legong baris gede, pendet*.
- **Ceremonial Dances** (*Bebali*) which accompany the ceremony, but not as the ceremony itself, such as: *wayangwong, gambuh, pajengan* mask
- **Prophan Dances** (*balih-balihan*) which can be performed anytime, such as: *legong, janger, sendratari, kebyar*, etc.

At the beginning of the arrival of tourism, balinese dances are commercialized as tourism performance by neglecting its religious meaning. To prevent it to happen, the goverment of Bali has banned the commercial exploitation of sacred dances. However, this prohibition is still ambiguous as the *Barong* dance in Batubulan (the most attractive dance found by tourists and also the most sacred one which is usually performed in front of *pura Dalem* when diseases and death attack a village) or *Sanghyang* dance in Bona which is still performed for tourists.

d. Cultural tourism

Owing to the richness of the inherited art and culture as depicted above, since 1960 Bali has been the well-known international tourist destination as the last paradise or the morning of the universe or the island of God. As said by Pico Lyert: *Say Bali, and two things will be reflected: tourism and heaven* (Basset et Picard, 1993: 22). Tourism to Balinese is part of their daily life, economically, politically, as well as culturally which is able to increase the local income, improve the population economic condition which at last improve the quality of life.
Bali is well-known since the arrival of a Dutch vessel which was lead by Cornelius Van Houtman, in the search for spices, who colonized it through a lengthy war till 1906 against local monarchies. The first tourist destination is found by KPM, a Dutch cruise company in 1914. The policy of the Dutch government was to preserve the Balinese traditions by the creation of alive museum, as an example of footprint of a traditional society which artificially preserved to be studied by the experts of the colonial government.

Bali tourism quickly expanded after the fifties. Figures like Miguel Covarrubias (mexican painter and writer) Arie Smith (american painter), Walter Spies (german choreographer), Mario Blanco (spanish painter) lived in Bali and created new art. However, the fastest development of tourism took place in the seventies when cheaper and more frequent flights were possible.

However, the tourism itself is a threat for the Bali’s environment. The construction of hotels, both in big and small scales, around traditional villages, the creation of mass art, the commercialization of sacred objects, also drug and prostitution are some of the examples. The policy of cultural tourism was already agreed and applied to save the original character of Balinese culture. Therefore the slogan of the tourism for Bali, and not Bali for the tourism is made popular.

3. Society and spacial Organization

Among the traditional structure of Balinese society, the highest and biggest form is Negara — a Sanskrit word – which means state, palace, government or monarchy (Geertz,1980: 4). The second meaning is civilization, traditional city, the finest culture and the main system of highest political authority. According to Nordholt (1991,1996), negara is not a permanent and stable body. It can be reshaped by the obsession of the nobles to keep their different status. The state can be threatened by never ended conflict, structural fragmentation, disease (endemi) and everything that can happen and death can come about. It has a very complex relationship with the leader power, the follower, temple system and the monarchy rite, irrigation, tax, trade, slavery and war. It is the never ending questions on life.

The smallest form of societies organization is pekarangan, which is home and means a square land with brick or soil walled fence with several buildings (for parents and rituals, for young people and bride/groom, for children and for working), with an open court which is equipped with a place for religious service (pemerajan). Family shrine where God and ancestors are worshipped is located in the north east with a gate and two notch as the place of Kala, the leader of Bhutakala. Every house consists
of an extended family, generally consists of several households (kuren) where each consist of one nuclear family.

Banjar is a group of fifty to seventy households (pekarangan), or about fifty to hundred families. In the center of Banjar, there is a banyan tree (banian), a large wooden drum, an open building wherein some merajan is located. It is a gathering place called Bale banjar. Bale Banjar is a place where the members of banjar organization hold a gathering and organize traditional, religious, and social activities. There are two kinds of banjar, traditional banjar and formal banjar. Traditional banjar is the first group of the social organization above household (pekarangan). Inside this organization, there is an association called banjar suka duka (banjar for sharing the sadness and the happiness). This association organize activities together in social service which is called ayahan banjar, religious service called ayahan pura, and collective activity called gotong royong. Banjar holds periodical meetings where all men (head of household) present and all has the same right. Formal Banjar is administrative banjar which is related to the administrative system of Indonesian goverment. The head of banjar is called Kelian Banjar and the head of formal banjar is called Kelian Dinas.

Several banjar unite in a village (desa). Desa -a sanskrit word- which means a territory, a place, autonom or independent from local authority (Geertz, 1980: 4). There are two meanings of village for a Balinese. The first is traditional village (traditional village or Desa Pekraman) is a unit of territory or inhabitants including ceremonies and social activities in which the cultural and religious systems are organized (PDK,1980: 44). Traditional village has a special ritual meaning which can be simplified in a second important phenomena (Nordholt,1991: 3). The average area is about 3.5 km² with population of 2000 to 3000. Desa Pekraman is a network of territory which consist of: Parahyangan, Pawongan and Palemahan. Parahyangan is a network of worship places (Pura) which consist of three main temples (kahyangan tiga); Pura Puseh (where God and the ancestors of the village are worshipped), Village temple/Pura Desa (for the unity of the inhabitants and related to the land fertility ritual), and Pura Dalem (where the negative impact of an unpurified corpse is prevented and where they worship the eternity of the soul of the dead). Pawongan is a territorial unit where the members of banjar carry out their daily social and cultural activities. Palemahan is the members of the traditional village itself who is called Krama (Lancret,1997: 277; Basset et Picard, 1993: 59-60). The leader of traditional village is bendesa adat or kelian adat or kelian desa. Every traditional village has its own traditional rule (awig-awig desa) which lead the life of its members, and as a guide of all of daily life and impose sanction for every breach of the rules.
The second meaning is administrative territory or desa dinas (in the colonial era it is called perbekelan). The leader is called kepala desa or perbekel. Between the two types of village, desa pekraman is the most important for the Hindu Balinese. There are four types of relationship between formal village (desa dinas) and traditional village (desa pekraman), spatial as well as hierarchic (Parimin, 1986: 25; PDK, 1980: 51) (see Fig. 2.5 and 2.6).

Note:
DA: Traditional village  BD: Banjar Dinas (formal/administrative banjar)
DD: Desa Dinas (formal/administrative village)  BA: Traditional Banjar

Figure 2.5. Forms of relation between desa dinas and traditional village
(Source: Parimin, 1986:25)

Figure 2.6: hiérarchique and social relation between desa dinas (formal village) and traditional village
(Source: PDK, 1980: 51)
Every desa pekraman (traditional village) has several traditional organizations according to its function, such as:

1. economic function:
   - Subak: an irrigation organization which take care of all agricultural activity in that village. Its leader is called kelian subak or pekaseh.
   - Sekeha: is a social and cultural organizations with certain goal, for example sekehe memula (which takes care of paddy planting), sekehe manyi/maderep (which take care of the safety of the paddyfield), etc.

2. social function:
   - Banjar: the smallest organization which take care of ritual and social ceremonies (marriage, grief, ngaben), construction of pura and other public facilities.
   - Sekehe which take care of public activities such as: sekehe gong (traditional music organization), sekehe barong (barong dance organization), etc.

3. religious function:
   - Banjar: especially traditional banjar.
   - Sekehe pemangku (the priests organization), sekehe dadia (family organization), sekehe truna-truni (youth organization).

4. Social stratification

In the preHinduism era which is called Bali Aga who dwelled in the traditional villages in the northern part of Bali such as village of Tenganan Pegringtingan, village of Bug-bug, etc., there is no social stratification. Social stratification is a caste system or patrilineal in Hindu tradition. The degree of authority is the factor which determines the social stratification. In this system, the king family has the highest hierarchy stratification. This system has social, economic or political impact. The king family is the center of the society hierarchy, in which the common people were placed in the lowest layer of the hierarchy. There are two big classes according to the descent:

1. Tri Wangsa is the noble class in the society, which are the people surrounding the authority (jero) which comprises of about 10% of Bali inhabitants and which consists of three castes:
   - Brahma: is all descendants of the priest Nirartha, which is considered as a civilization hero in Bali.
- *Ksatria*: is the descendants of King Kepakisan.
- *Wesya*: is the descendant of the leaders or the troops of the Majapahit sailing expedition when Gajahmada came to Bali.

2. **Sudra**: is common people, caste which has the biggest members or around 90% of Bali’s inhabitants, which are the people outside the circle of authority (*jaba*).

These days, the social stratification tend to change. The education, economy, power and global communication are the factors which promote the changes. However, this phenomena are still exist in traditional life.

5. **Awig – awig (customary rules)**

In each traditional group, both in *banjar* and *Desa Pekraman*, there are traditional rules, both written and unwritten, which rule the relationship between its members in the social system. This law rules the daily life custom and equipped with its sanction when it is breached. For example, if someone is not present in the *banjar* gathering (*sangkep*) or collective work (*ngayah*), ones will receive a first reminder. Ones will pay fine if it happens for the second time and etc. The longest sanction and are concerned by the members is *spekin banjar* or *puikin banjar*, which means that one is expelled from its *banjar* therefore one is not allowed to use the public facilities like *bale banjar*, the temple or the cemetery. It is made as social control for all members of the *banjar* in order to behave according to the local values and norms.
II. THE COSMOLOGIC AND SPATIAL CONCEPTS

The development of Balinese building and village is formed under the philosophic and cosmologic thought that considering the harmony of human relationship with God, human, and nature adapting with, time, place and situation. There are seven traditional rules in the construction process of a building or a village (Salain, 1996):

1. **Wiswakarma’s Concepts**: Thought of Wiswakarma, a Hindu priest in Java coming to Bali in the tenth century regulating procedures to be an undagi (traditional architecture).
2. **Asta Bumi**: a book describing about the organization of house and village.
3. **Asta Kosali**: a book explaining the process of building houses both in the dimension of material and its process of construction (Made Bidja, 2007).
4. **Asta Kosala**: describing the procession of Temple and building for death construction (Made Bidja, 2007).
5. **Janantaka** explaining of wood classification
6. **Brahma Kerti** describing the religious ceremony in the construction’s procession
7. **Dewa Tattwa** explique les types d’offrandes aux temples et lors de la première cérémonie à l’autel familial.
8. **Padma Bhumi** explique que la localisation des temples balinais est fondée sur la lettre sacrée (Dasa Aksara) dans le macrocosme.

In many cases, asta kosali and asta kosala are writing in the same book named Asta Kosala-Kosali; they are the book of architecture in old Javanese language that explaining the procession of construction of building and villages. Many variants of these books are dispersed. In general, they are explaining the dimension, the ceremony the materials, and their signification.

As mentioned previously, direction to a mountain, to the Balinese, is a scared direction in which gods/ goddesses dwell. Mountain as sacred orientation is Mount Agung, the highest mountain in Bali, around 3,142 meters. This mountain determines the cosmological value of settlement area and village. Balinese people place all spirits in the cosmological balance so that harmony is created even in the opposing spirit. They are very devout and cleanse evil spirit in religious ceremonies that will bring them to the four goals of life (Catur Purusa Artha) and finally lead them to reach perfection (moksa).

Based on this belief, Balinese community keep one cosmological philosophical principle, **Rwa Bhineda** or **Semara Ratih** meaning reconciliation between two poles, elements, norms, and
opposing values. This concept has a dualistic that reflected to or life always has two constraints categories i.e.: good and bad, holy and proven, top and down, etc. Rwa Bhineda or Semara Ratih concept shown the relationship between macrocosm and microcosm as two different substances but exists and influencing each other’s. Cosmos have its continuous process that is caused by the unbalance of the condition. In the life this concept can give dynamic life to the truth and the stability of life. They always try to realize the unity between individual (microcosm, Bhuwana Alit) and nature (macrocosm, Bhuwana Agung) that will lead them to perfection.

The second principle is Tri Hita Karana meaning three causes of perfection. In this belief, everything consists of three elements, they are soul (Atman), body (Sarira), and power or capacity (Trikaya), individual is created when athma integrates into Sarira. From there three physical qualities are created, they are, physical power (kaya), capacity to speak (wak) and psychological power (manah). Balinese were seen three causes of prosperity, wealthy, safety and happiness. Firstly, Ida Sang Hyang Widhi Wasa/God as a creator, preservator, and destroyer. So wherever they go, whatever they do, God always placed. Seemly, they won’t to separate with their God, thus they become religious. Secondly, Balinese society realise that they cannot live alone, they need each other, then they create communal organisation (desa pakraman, subak, sekaa teruna etc), which are based on religion lead to public interest. Togetherness principle of Balinese society is based on Tatwam Asi Concept (You are me) and sepi ing pamrih concept (dedication without reward) as an implementation of Hindu belief. Thirdly, place or region where they were born and life, it’s play important role in the society. The village border, banjar border or walls surrounding of houses, its have spiritual and material aspect. Briefly, Tri Hita Karana concept as one pattern to know why Balinese society has safety feeling.

Tri Hita Karana concept becomes the pilot in setting the environment, social interaction, economic and technology activity also other social regulation. The three crucial interactions within this philosophy are harmony relation between human being to God and human being to other environment life and human being to the nature.

This concept is always paramount in the understanding and explanation of existing institutions and in the development of policy. Philosophically, when we talk about environment we are also talking about culture and vice versa. If we care for or rehabilitate the physical environment we are also enhancing our sense of belonging and holding on to culture. The philosophy of Tri Hita Karana is recognized as the basis for development planning within the Province. The three crucial interactions within this philosophy are harmony relation between human being to God and human being to other environment life and human being to the nature. This concept is always paramount in the understanding and explanation of existing
institutions and in the development of policy. Philosophically, when we talk about environment we are also talking about culture and vice versa. If we care for or rehabilitate the physical environment we are also enhancing our sense of belonging and holding on to culture.

The culture of the Balinese has adapted to a number of envisions and influences since the turn of the 20th century. *Tri Hita Karana* still stronger in the area of human to god. However, there is a shortage of attention to *Tri Hita Karana* when it comes to human and the environment and human to human. This is particularly apparent in public spaces (e.g. beaches, river banks, the vicinity of temple, public museums, vacant land, irrigation channels), which may not technically be under the supervision of the *Banjar* system i.e. the *desa adat* (the local community organisation responsible for religious and cultural matters). Such spaces need to be maintained by either the *Desa Dinas* (i.e. the community level arm of local and provincial government) or the responsibility should be given to *desa adat*.

*Manik Ring Cucupu* is a principle explaining the relationship of fetus which is still within the body of its mother as a symbol of the relationship between nature, God, and man. Such a relationship must be created to produce good architecture.

*Dewata nawa sanga* is nine powers that safeguard the balance of nature. In this principle, every direction has its own significance symbolizing the safeguarding god, goddess, color, number and good days, sacred writings, metal, and the weapon of gods. The example of mountainous direction (north) is the dwelling place of the god Visnu, goddess Çri symbolized with black color, with the sacred letter A, lucky number 4, the lucky day is Wage symbolizing fire and silver.

*Desa Kala Patra*: Hindu religion has foundation and techniques to face foreign culture. It is like a rubber ball, when rolled in the sand, will stick that sand, when rolled to the red soil, then the red soil become part of the ball. This means, the rubber ball still intact and only the outer surface of the ball are changed. *Weda* holy book as a basis of Hindu religion, while custom and culture always adaptive with the environment. The Hindu society in Bali is not static in their own culture, but always dynamic and creative to find a new form. Their belief will not faded although disturbed by other culture. This concept means space (*desa*), time (*kala*) and condition (*patra*) that has harmony and balance to receive the difference. This concept create flexible foundation for communication in country or abroad and its also can receive various difference in space, time and condition.

*Sekala Niskala*: The reality in the world is bad and good always present in one thing. For example, morphine can be used as medicine if we reduce the doses and use it properly. Fire can burn and in the other side it can be used for cooking. The character of Balinese was born based on this concept, in which they will not quickly blame other people and they always take a wisdom from the differences. Thus they
become creative and always be open to the influences of the others, process it, and selectively choose the best. Unappriory attitude made Balinese easily develop their culture. For example; the Balinese has been selectively and creatively receive the culture of the Chinese, the Indian, the Javanish, and also the Dutch.

**Tri Masa concept:** The process which implicit the time is called *Tri Masa* concept (comprise of the time in the past, present, and the future). These concept forms cause and effects relationship that could not be separated. *Punarbhawa* or reincarnation concept and *karmaphala* are formed from cause and effect concept. This concept influences the culture in term of honour to ancestor and their inheritance. Their honour custom causes the continuation or preservation of the inheritance even though they did not understand the function.

**Taksu and Jengah.** These concepts are two paradigms that have important function in Balinese culture. *Taksu* means internal power that give us the talent and beauty to produce a big creation. *Jengah* has the conotation as an enthusiasm to produce a big creation. *Taksu and Jengah* are two internal power that always exist together which create the continuation of cultural transformation throughout maintaining, conservation, construction and development.

Those concepts is the base for Hindust to preserve their inheritance and their culture. They religious belief and their culture tie very tighly which make it difficult to separate. As Galloway denoted “religion is the human faith or belief on the power in outside themselves, where they seeking for satisfaction of emotional needs and to get their stability of life, so religious belief emerge from human consciousness (1960:185)

The cosmological concepts below create the practical principles of Balinese traditional planning:

1. **Hierarchy of space Tri Angga/Tri Loka.** This concept divides space in three zones; *Utama* (holy, height, pure, head), *Madya* (central, neutral, body) and *Nista* (below, impure, foot). Based on the direction of the sunrise there are three hierarchies of space in one site, they are: the most sacred one in the east, and the reverse in the west. Based on the axel of mountain-sea direction, mountainous direction is the most sacred one, plane area is neutral and sea direction is the most impure place. The space planning which include environment and construction planning create *Parahyangan* holy space, which represents man-to-God relation, *Pawongan* activities organization (society) represents man-to-man relation, and *Palemahan* Settle place/areas or region of environment, which represents man-to-environment relation.

2. The division of cosmology *Nawa Sanga or Sanga Mandala* means nine directions with its centre. This concept is the combination of the use of the axe of the sun and geographical axe (mountain-sea)
3. Balinese traditional village pattern. Based on the use of the sun and geography’s axle, there is a tendency of rural patterns in Bali; they are linier pattern in Northern Bali, *Pempatan Agung* pattern in Southern Bali, and combination pattern that can be found in all parts of Bali.

4. Scale and proportion of man: balance is decisive of a building, therefore the measurement of the human body is the scale used to determine the dimension of the building. The measurement of Temple building, for example, uses the measurement of its priest, therefore there are no two traditional buildings that have the same dimension.

5. Procession of construction. To build a house, Balinese community must follow the process determined by *undagi* both in the process of its development and its religious ceremonies.

6. Court (*natah*) is cosmological orientation in which all the activities of the family, social, and religious activities are centred.

7. The nature of materials. All material used should be seen clearly as natural and not modified. For example; timber should be seen as timber, concrete should be seen as concrete. Although there are a lot of choice of style, there is no alternative for the material naturalness.

8. The clarity of structure has to be noticeable in the building.

9. Ornaments: every ornament has its own place related to the values of the *Tri Angga* concept.
Balinese Traditional Regulation Principles
(Source: Sularto, 1987; Gelebet, 1986; Sulistyawati, 1995; Budihardjo, 1985; Parimin, 1986; Saliya, 1975)

Balinese Hindu Principles:
- The highest level is provided for God, the middle level is for man, and the lowest level is for Bhutakala.
- The balance and harmony between two opposite poles will bring us to perfection.

Cosmological Concepts

RWA BHINEDA/SEMARA RATIH:
Reconciliation of two opposite poles, elements, norms, values:
- Bhuwana alit (man/microcosme)
- Bhuwana agung (nature/Macrocosme)

TRI HITA KARANA:
Three sources of happiness:
- Atma / soul
- Sarira / physic
- Trikaya / strength/capacity (kaya/physical forces, wak/capacity to speak, manah/psychologic force).

MANIK RING CUCUPU:
Balance Cosmologie

DEWATA NawA SANGA:
Nine cosmologic orientations

Practical Principles

TRI ANGGA SANGA MANDALA

CONSTRUCTION PROCESION NATAH: house pattern

HUMAN SCALE CLA STRUCTURES MATERIALS NATURE ORNAMENTS
III. THE SPATIAL AND ARCHITECTURAL CONCEPT

Generally, two spatial concepts reflect Balinese perception of their environment’s value. First, the vary value in content of superior to inferior. This concept is based on the believe of ancient Balinese that believe that the mountain’s summit as god’s place and the sea as the bhutakala’s place and human’s place is in the middle. The second is the intersection of road which is considered as a sacred place. Application of these concepts can be found clearly in the layout of region (Bali island) and neighbourhood (traditional village/desa pekraman, house, and so on to the smallest part of the building).

1. General Conception of Spatial Structure

The universe is divided into three layers of hierarchy of space value: sacred, neutral and impure also like three parts of human body: head, body, and legs. This ethics is applied to the parts in the universe which are divided into high place as head, the most sacred place, the future, the middle part is body, neutral, and the lowest part is valued as foot or impure. In regional layout, the mountain is head, the most sacred, lowland is body, and the sea is foot or impure.

Fig. 3.1: Concept of spatial structure
(Source: Sularto, 1987: 17)
2. General Concept of Balinese Temple

According to the service territory and its follower (penyungsung) or the people participated in the ceremonial process and its funding, the temples in Bali are classified into five categories: regional, the village’s temples (Khayangan Tiga), community temples, as family bond or professional bond (extended family), family temple, etc. The daily life of Balinese is very much related to the temples as a person will visit 1 to 10 temples in its life. Everybody will be tied to at least one regional temple, three village’s temples, one or several community temples, one extended family temple, and one of other temples.

Regional temple is visited by every Hindu Balinese. This group includes temples called Sad Khayangan and Khayangan Jagad. These temples were used as public worship centers for the universal ceremonies.


The Sad Khayangan temples were developed at the time Majapahit came to Gel-Gel, Klungkung in the 14th century with Dang Hyang Nirartha as the leader of the religious development. These days, from the eighteen Khayangan Jagad temples mentioned above, six of them are considered as The Sad Khayangan temples. Ceremonial events which are held in Sad Khayangan temples is related to Sad Kerti Lokha which are: the ceremonies for the forest, the field, the plantation, the mountain, the sea, the lakes, the earth and the paddyfield. The Sad Khayangan temples are The Besakih temple, The Lempuyang temple, The Goa Lawah temple, The Uluwatu temple, The Batu Karu temple, The Puser Tasik temple.

The Khayangan Tiga temples are the temples where the village (desa Pekraman) members worshipped. It is visited by its own members of the traditional village (Desa Pekraman). The network of these temples consist of The Puseh temple, The village temple, and The Dalem temple with its own
function as the places for worship God in its manifestation as Brahma, Wisnu, and Ciwa. The location of *puseh* temple, generally, is at the head of the village which is the most sacred place in the traditional village territory. The village temple is located at the center of the village in the direction of *kaja kangin* of the village intersection (*pempatan agung*). In some traditional villages, the village temple and the *puseh* temple is an unified entity and generally located in the center of the village. The *Dalem* temple and cemetery is a unit that can not be separated in ritual as well as spatially. Its location is generally at the foot of the traditional village (*desa pekraman*).

The community temple is visited by the descendants in the same familial tie or by the members of the same professional status. These include the *pengulu* temple (the worship place for professional group such as paddy field farmers, field farmers, fishermen, traders, etc.). These temples are called the *pengulu* temples or the *ulun* temples. The *dadia* temples which are group of temples for the same familial tie or descendants are called the *dadia* temple or *pamerajan agung* or *sanggah gede* or *sanggah kawitan*. This type of temple is owned by a chain of extended families about 40 households. For families more than 40 households, this type of worship place is called *panti* or *paibon*.

The family temple is visited by the family members of one nuclear family and its extended family. The temples of Brahman and Ksatria castes origin are called *pamerajan* whereas for other castes the temples are called *sanggah*.

The other temples which are not included in the above classification is the worship place which are related to the local believe and mystic. Generally, they are located in places considered as eerie or haunted and are usually constructed an worship place which is called *pelinggih*. Its location can be in caves, grotto, big trees, in the intersection of rivers, spring, in the bend of road where accidents frequently took place, and on the beach. Generally, people visit these places to ask for a blessed life or a safe journey by performing some rituals.

The layout of the temple complex is basically divided into three zones (*jaba*) which are: *Jaba Sisi*, the most impure zone, *Jaba Tengah*, the most neutral zone, and *Jeroan*, the most sacred zone.
Fig. 3.2 Tipology of Balinese temples and ceremonies (Source: Sularto, 1987: 37)
3. General Concept of Island

According to the Tri Angga concept, Mount Agung as the highest summit in Bali is the most sacred place. Based on this concept, Bali is divided into two parts which is northern Bali and southern Bali. All concepts will follow this division. The most sacred orientation is Mount Agung and the most impure is the sea. Based on this concept, the most sacred zone in the houses (pekarangan) in southern Bali is the northeastern part and in northern Bali is the southeastern part.

![Regional Concept of Bali Island](image)

*Fig.3.3 Regional Concept of Bali Island (Sources: Sularto, 1987; Gelebet, 1986; Parimin, 1986; Saliya, 1975; Budiharjo, 1985)*

4. General Concept of Balinese Village

According to the Tri Hita Karana concept, traditional village (Desa Pekraman) is divided into three elements, which are:

A. Kahyangan Tiga: temples
B. Palemahan desa: territory, ground, land
C. Pawongan desa: members of village

Whereas according to the level of its holiness, every traditional village is divided into three parts, which are:
a. Temple of origin (*The Puseh* temple), located at the main zone, the most sacred zone.


c. The cemetery and temple of the dead are in *nista* zone (*The Dalem* temple).

The application of this concept varies widely according to place, time and local situation (*desa kala patra*).

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**Fig.3.4 Typology of the Pattern of Balinese Traditional Village**
(Sources: Saliya, 1975; Budiwarjo, 1986; Gelebet, 1986; Parimin, 1986; Sularto, 1987)

As part of the Balinese traditional village, the creation of *Pempatan Agung* also follows the above regulations. The creation of *Pempatan Agung* then undergoes the same process as the concept of the creation of man and the universe. In this concept, there are two worlds, macrocosm and microcosm, each of which has soul. In the hereafter world (macrocosm), there are nine powers; the main spirit is symbolized with a sacral letter of God (*Ongkara*). Here resides the religious power. It is shown in eight powers from eight directions. In the microcosm, land is divided into two axles, the sun and geographical axle as explained above. The intersection of the axles results in the stratification of spatial values. The first one which is based on cosmic axe is
hydrosphere (bhur loka), lithosphere (bhuhua loka) and atmosphere (swah loka). The second one is the religious axle, that is, the direction of the rising and the setting of the sun (Kangin–Kauh). The third one is the mountain–sea axle. The nine spatial values are applied in the pattern of Balinese traditional village where Pempatan Agung lies in the middle (see Figure 3). Pempatan Agung is the symbol of the center of all magical powers (Sutarto, 1985; Glebet, 1986; Meganada, 1990; Anindya P., 1991; Sugiantara, 1996).

The development of Balinese Traditional Village is started by the selection of the appropriate location according to the religion. Avoiding the taboo things can prevent the community from the adverse impact. Places which are considered taboo are karubuhan, sandang lawe, sula nyupi, kuta kubanda, teledu nginyah, gerah, sandang lawang, and boros wong. Related to the geographical condition, places which are considered taboo are seri sedan, gelagah, siwaboja, sigar penyalin, and singhameta. These places are very much related with color, smell, and taste. For example, black, bitter, and fishy land is taboo land. On the contrary, good places should be sought such as the one having the value of manikmulia, indraprasta, dharma lungid, danarasa, srinugraha, wisnumanitis, endragana, sriman gepel such as green land, sweet and fragrant or red, sweet and fragrant (Suandra, 1996: 3-4; Tohjaya, 1982: 16; Simpen AB.: 96-97; Putra, 1998).

![Figure 3.5 Cosmology concept of Pempatan Agung](Sources: Sularto, 1985; Gelebet, 1986; Meganada, 1990; Anindya, 1991; Sugiantara, 1996)
Then the sacral point of Pempatan Agung is determined. Starting from that point, the location of every public facility is determined in four corners based on the value in the traditional rules. The north east has the value of *ersanya*, good location for living because it represents main intersection from goodness (*raksautama*), the south east has the value of *gnyan* representing *apah*, destruction element, a bad location (*raksa gni*), south west is *neriti* representing *kala raksa*, intersection of togetherness (*yasa*), a good location. North West is *wayabaya* representing heat, a bad location (Putra, 1998: 83).

The kind and location of public facility found around Pempatan Agung also determines the type of the Palace (*Puri*). *Puri* with three facilities such as market, square and *bancingah* is *Puri Utama*, the one having two facilities is *Puri Menengah* (*Madya*) and the one having only one facility is *kanista*. *Pura desa* lies in the southeast corner, the most prestigious place. The location of the *Puri* determines the future of a country. In the manuscript of *Asta Kosala-Kosali*, *Puri* must be located near market, banyan tree, Wantilan, *Pura Desa* and Bale Banjar. This place is called *Bancingah* meaning a place to find freshness or a place to get together. According to the manuscript of *Eka Pratamaning Brahmana Sakti Bujangga* (Putra, 1998: 33), the values of the location are; north east is the main location for *Puri*, south east is the symbol of fire causing destruction of the country, south west is the main location that will give welfare, wealth, development for the people, north west is the bad location because it is a place for fire (see Figure 3.6).
The location of the market is dependent on the location of Puri. If a Puri is located in the south east then the market is located in the south or North West from the Puri. With the location like this the king has the opportunity to see the activities of the kingdom and daily life of the people. As the traditional market commonly is not a permanent place so the function of its location can be multifunction because it can be used by the armies of the kingdom to have a drill in the afternoon time or for the need of religious ceremony.

Banyan tree is a sacral tree for the Balinese. In the context of Pempatan Agung, banyan trees are magical boundary, the safe guarder of the Puri spirituality. Every location has significance. Banyan tree which is placed in the north east is called butha adiraksa, in the south east butha satriaksa, in the North West butha gajahraksa, and in the south west butha paduraksa.

After the cosmological procedure is followed, it is then continued with religious ceremony before construction is started aiming to strengthen the unity (pasupati). The traditional village since then has been considered to be a living organism having soul like a
human being. The rules are adapted according to place, time, and situation creating different variants in each traditional village.

5. General Concept of Balinese House

Historically, Balinese traditional house was developed after the Bali Kuno Era, when people still live in the cave or the house on the trees. This traditional house was developed after the Majapahit influences in the 14th century which based on lowland area. The Balinese traditional house is called umah and is comprised of several buildings that surrounded by traditional fence and it was created according to the space orientation in the centre, which is called natah or plaza. Natah was created through Tri Hita Karana concept, Parahyangan/head, pawongan/body and palemahan/foot. Natah position is based on the religious axis orientation (east-west) and earth axis (north-south). Natah has its functions as a central orientation of building, the centre of circulation of all buildings, as a space for guest reception with temporary roof during ceremony, as well as for drying crops such as rice.

The umah is divided into three zones based on Tri Hita Karana concept, i.e.: family temple as a sacred area; middle yard where the building or bale with compound pattern are placed, symbolic of middle zone; and backyard is the profane area for sewage disposal. Each building has its own function that relates to the human and religious activities. Uniquely, the Balinese realized their privacy, hence each building was placed on certain distances to each other which is measured by using the body measurement. Bale Delod has function as the place for Manusa Yadnya and Pitra Yadnya ceremonies, such as traditional birthday, tooth filing, wedding ceremony, cremations, etc. It is located in the southern part of the umah. Bale Dauh is used as family bedroom or even for guest, and it is located in the western part of the umah. Bale Dangin is located in the eastern part which is also used as sleeping room. Jineng or granary is a place for keeping the crops in the top space and the bottom space is usually used as sitting room or for guest reception. Paon or kitchen is the place for cooking. Pengijeng Karang, the shrine that has spiritual function to keep and maintain the wellbeing of the houseyards. Pengijeng Natah is one shrine that is believed has its spiritual function to keep the wellbeing of the natah or plaza.
6. General Concept of Building Structure

Buildings are the representation of human body. It has head, body and foot and each part has certain sacred level. The roof as the head is the most sacred part of a building, the wall as the body of the building which is the most neutral part, whereas the floor is the foot of a building and is the most impure part of a building.
7. General Concept of architectural details

The same as the previous mentioned concept, the details in Bali traditional architecture has certain level of holiness. The column, for example, consist of three parts, which are head, body and foot. The placing of ornaments also obeys the value of the building. Certain ornament is placed on the head, the other on the body and there are also some types which are placed on the foot.

The building material also has its value system which determines its use. Some timbers are only used for the temple and the other for houses.
Fig 3.11 Concept of architectural detail
(Source: Sularto, 1987; Gelebet, 1986; Parimin, 1986; Saliya, 1975; Budiharjo, 1985)
IV. APPLICATION OF CONCEPT IN BALINESE VILLAGES

I. GENERAL APPLICATION

As a cosmos in the cosmology of Bali Hinduism, the traditional village is an autonomous unit spatially or in its traditional rules. The spatial application of this concept is that the traditional village is always separated one from another. There is always some spaces between them. Based on its foundation basis, generally the traditional village pattern in Bali consist of two major groups; the villages which used the pre-Hinduism approach (Bug-Bug, Tenganan, and Julah) and villages which used the Hinduism approach.

Based on the morphology, generally there are three pattern types of traditional village: linear pattern, pempatan agung (crossroad) pattern, and combination of both. The morphology of traditional villages which used the pre-Hinduism approach generally is linear pattern whereas the ones which use Hinduism approach is pempatan agung pattern or combination of both. The application of the village pattern concept varied a lot which can be found in the examples given below.

II. APPLICATION OF LINEAR PATTERN

The linear pattern in traditional village in Bali is the form of village in which the public facilities are placed by following the direction along the road. Regarding to the cosmological concept, theoretically the village area will be divided into three zones; the head or the most sacred part of the village, in which Puseh temple is located; body, the most neutral part of the village, where public facilities like Village temple, bale banjar, wantilan are located which include the housing area, and the last is the foot area or the most impure part of the village where the Dalem temple and cemetery are located. Several villages which used this linear pattern are Village Bug-Bug, Village Tenganan Pegeringsingan, Village Tihingan.
III. APPLICATION OF CROSSROAD AND COMBINATION PATTERN

The crossroad pattern and combination pattern can be found easily in the traditional villages in southern Bali. In this pattern, the public facilities are located at the *Pempatan Agung*, whereas in the combination pattern, the public facilities are located at the *pempatan agung* and also along the road. The application of crossroad pattern can be found in the traditional village of Denpasar.

Bali Province comprises of 8 regencies and 1 municipality. The nine areas were developed from ancient kingdoms which at presents do not exist anymore. The centre of the city is the centre of the kingdom so that *pempatan agung* of a traditional village transform to be the centre of a town. The application of various cosmological concepts above is shown in the morphology of town centers in Bali in 1990 (Figure 7). For examples, the majority of the palaces (*puri*) located in the north east corner (8 out of 9 *puri*). Only Puri Klungkung located in the north west. Therefore the cosmological concept is applied in the center of most (not all) Balinese traditional villages.
More in-depth study was conducted in the 27 traditional villages with urban, semi urban, and rural characteristics which show that the variation of the first tendency is the composition of *pempatan agung*. 50% of 27 palaces (*puri*) are located in the north east, 36.36% in the north west and only 13.64% in the south east (Figure 6).

The composition shows that north east is the most favorable place for the palace while square, market, and temple are most localized at south east. *Bale banjar* and *wantilan* are placed in the north west, banyan trees are mostly in the north west. Normally, banyan tree is in the square and the market is located nearby or within the square while *wantilan* is placed in the three possible locations (35.29% in the south west, 23.53% in the north west and the other 23.53% in the north east). The conclusion is that the transformation of cosmological concept and *pempatan agung* is marked by the position of *puri* in the north east (*ersanya*), the unity of market and square, the planting of banyan trees, and the construction of a *pura* in the south east, the position of *bale banjar* and *wantilan* and in the south east. The location of *bale banjar* explains, especially in the rural *pempatan agung* in which the palace is absent, how the need to get together with other villagers become important. In this composition, the cosmological concept of *pempatan agung* is truly transformed.

Types of *Pempatan Agung* in City centers in Bali
(Source: P2R Bali, 1990)

1. Palace/Puri
2. Market
3. Square
4. Wantilan
Spatial application of cosmology concept of Pempatan Agung

The underlying change is in the location of temple because theoretically temple is in the north east as the most sacred location at pempatan agung. The location of north west is a question. The possibility of this space is made an alternative for the unity between square, temple, market, and banyan tree. Traditional location and its transformation show very well how the political power can determine its territory exceeding the religious power.

IMPACT OF DEVELOPMENT IN SPATIAL HIERARCHY OF PEMPATAN AGUNG

The emptiness in the nil point which has been conceptually applied in pempatan agung since the tenth century in the ancient kingdom of Bedulu. The emptiness symbolizes neutral space where the positive and negative mystical cosmological power is neutralized. This emptiness also accommodates the need of ritual ceremony of Ngaben or Mecaru that requires large space. The addition of tugu (tower) in the middle which was begun in the Kingdom of Klungkung in XVII century pushed changes in most of the façade of pempatan agung. Consequently, ritual ceremony must be adapted to the spatial change. The first one is Ngaben (Figure 8).
Commonly, *bade* is rotated to the left in the point of *pempatan agung* so that the soul is purified and united with macrocosm. The existence of the *tugu* in this point makes it difficult for the ritual to be carried out. When some adaptation were made, the rotation of the *bade* is made to circle the *tugu* to the left. The same adaptation was made in the *ngerupuk* ceremony, *ogoh-ogoh* must also circle the *tugu* before it is carried to graveyard and be burnt.

Second adaptation is in the *macaru* ceremony done by every Balinese at New Year. All traditional villagers will be present to participate in the ceremony so they need more spacious area. The existence of *tugu* lowers the breadth of the space results in that the location of the ceremony moved to another location. For example, in the traditional village of Denpasar, they changed the location of the ceremony from *pempatan agung* to the front of *Puseh* temple which is in one location with Village temple or in a square.

Compromise is made in *pempatan agung* of Mengwi where *tugu* was built not in the central point but on a lane of a street. Therefore the significance of *pempatan agung* is kept and the community can conduct ritual ceremony as usual.
In the concept of traditional cosmology, village center, *pempatan agung*, and its public facilities constitute the center of energy (*mandala utama*). The second *mandala* is the composition of the house of the aristocrats and the officials of the kingdom and priests. The last *mandala* is people’s settlement. The running of government from kingdom, colonization era, to present days has changed the existing facilities in the *pempatan agung*. According to spatial cosmology, the change of political power has changed spiritual power of *mandala*. Development has taken a lot of space around *pempatan agung* where all or part of the function changes. New *mandala* has appeared but as economic power, administrative power (Denpasar), center of cultural conservation (Klungkung). Socio-cultural life has lost its spirit.
The Change of cosmologic value in urban balinese traditional village

Vertically, the change also alter the sacral–profane value of traditional village. Conceptually, the higher the place, the holier it is. As a result of development, temples become lower than the buildings beside them which made their sacred values lower.

Horizontally, spatial unity of one traditional village to another causes the loss of the sacral values of a traditional village. Traditional village that reflects macrocosm and microcosm is divided into three levels: *utama* (reflecting the head, atmosphere, God world); *madya* (representing body, lithosphere, man world); *nista* (representing foot, hydrosphere, world of demon and evil spirits). This concept is clearly transformed in the division of space in balinese traditional village. This is the reason why there is always some distance between one village and the other. Development which needs a lot of land result in intermediate land being also used. As a result, one village and another become spatially united and losing its cosmological value. This phenomenon occurs in all urban villages. What remain are physical traces, temple, *wantilan*, and grave yard as the outer boundary.
CONCLUSION: CULTURAL APPROACH IN URBAN SPACE

Studies on modern cities are made with technological, economical, hygienical, and aesthetical approach. For traditional cities, approaches are made in cultural, religious, and social structure aspects, and values content of them. Modern cities produce spatial compositions according to its function and grouped into public/private strata, and orientated in the opposite values of front and back or outer and inner space. Traditional cities very much consider symbolic spaces which distinguished man from woman, sacral and profane are orientated in high and low. Although in the morphological scale some similarities are found but traditional cities have hidden values related to cultural and social system. This fact needs to
being the consideration in the practice of urban planning that in the present time tends to be ignored.

In the study about pempatan agung above, it shows that the majority (88.36%) of traditional village (that become the city centre or center of sub-districts or center of administrative village) still considering good location for Puri (palace) which is considered as will give welfare to the country. This is the manifestation of the power of the kingdom over social life, culture and religion of the balinese community. According to the strata of power, the position of Puri according to cosmological value is essential. All the placement of public facilities is very much depend upon location of puri. Although change has taken place in the administration system, the role of puri still remain important. Responsibility, as a model of good behavior, and the social system give the opportunity for Puri to keep their role in the life today. Cultural legitimacy of the power of Puri is important because it contains the spirit of togetherness for traditional village that can become the power in the decision making for development, exceeding the authority of the administrative goverment. Inclusive in them is the preservation of the cosmological values of pempatan agung.
V. APPLICATION OF CONCEPT IN BALINESE HOUSE

I. General Application

The *Tri Angga* and *Sanga Mandala* are the most dominant applied concepts in the Balinese traditional house. The distribution of rooms in the site are based on the sacred level is the most prominent. The most sacred part is the north eastern corner (applied in southern Bali) and the south eastern corner (applied in northern Bali) where the place for religious service is placed. The application of building interior also obeys the Balinese architectural principles in which every parts building (major to minor parts of a building will have three parts, head, body and foot.

The application of Balinese traditional architecture in the Balinese traditional house depends on the level of caste, social status and the role in society. The Balinese traditional house can be as a simple (*sederhana*), middle class (*madia*) and supreme (*utama*) house. The grouping of houses into the supreme level is depend on the size of the land, the layout, the type of building, function, shape, and the finishing materials.

According to the name, the house is called according to the caste of its owner. *Puri* (palace) is classified as supreme (*utama*) house. *Geria, Jero* and *Umah* are considered as middle class house (some are considered as supreme which depend on the social status of the owner in the local society). *Kubu* or *pakubon* are considered as the simplest (*nista*).

**Griya**

*Griya* or *geria* or *gria* is the house for the *Brahmana* caste which is usually located in the supreme zone of a traditional village. According to the role of *Brahmana* as the spiritual actor, the shape and rooms pattern in a *Griya* as a house for *Brahmana* are made to meet the needs of the *Brahmana* in performing its task.

Generally, Gria is the dwelling of extended families. Thus there are many units of buildings and each family has its own *natah*. There is a *Merajan* (family shrine) in the *griya* which is the most sacred part of the principal family of this *griya*. *Gria Tampak Gangsul* is an example. The house located at Jalan Arjuna, Denpasar is a dwelling of an extended family. The family shrine (*merajan*) is located in the middle of the land but it is the most sacred part of the
principal family in this griya. There are two major natah according to the morphology of the griya; one of them is considered as the principal natah. Gria Delod Peken which is located in Sanur, Denpasar has a more complex morphology. There are several natah in this griya which has the same level of spatial hierarchy.
Puri

The Kesatria caste, which hold the role as government, lived in a house called puri. Generally, Puri is located in the kaja kangin direction of Pempatan Agung, the center of a village. The owner of puri acts as the government and puri is the center of government. Therefore puri was constructed according to the needs, pattern, and the atmosphere of rooms which strengthen the supremacy of the government.

Generally, puri was build with layout (zoning) with the pattern of Sanga Mandala a shape like the wide grid/the chest board with nine zones. Most of the buildings of puri were
built as the supreme type. Zones are connected via a door called *kori*. The function of each part are:

- *Ancak Saji* is the first yard for ones to prepare oneself to enter the *puri*. It is located in the direction of *kelod kauh*.
- *Semanggen*, in the direction of *kelod* is for the ceremony of *Pitra Yadnya* or ceremony for the death.
- *Rangki*, in the direction of *kauh* is the area for guests or *paseban/meeting preparation*, inspection and pacification.
- *Pewaregan*, in the direction of *kelod kangin* is for kitchen area and supplies.
- *Lumbung*, in the direction of *kaja kauh* is for storage area and supplies/paddy processing area.
- *Saren Kaja*, in the direction of *kaja* is for the dwelling of the wives of the king.
- *Saren Kangin*, in the direction of *kangin* which is also called *Saren Agung* is for the dwelling of the king.
- *Paseban*, the center part is for the monarchial meeting/assembly area.
- *Pamerajan Agung*, in the direction of *kaja kangin* is the area for praying (holy place/Parahyangan).
The sketch of Puri Tampak Siring (The Palace of Tampak Siring), Gianyar.
Jero

Jero is the house for the Kesatria castes who were not involved directly in the authority. The pattern of its rooms and buildings is generally simpler than in a puri. According to its functions, the pattern of jero was designed by obeying the Tri Angga concept: pamerajan as parahyangan, jeroan as the area for dwelling, and jabaan as the area for public service or as front yard.

As with puri, jero is also located in the supreme zone, kaja, kangin or kaja kangin which are usually in the center of a village. In front of puri, across the road, there are public square/alun-alun and the market in the corner across the pempatan agung faced to puri. In the direction of kelod kauh of the pempatan agung, there is a bencingah with the shape of wantilan.

According to its social status (caste and role in society), geria, puri and jero are generally considered as the supreme houses. The caste identity and its role in society tend to be shown in the building of the houses.
Umah

*Umah* in Balinese traditional architecture is the area in a traditional fence (*penyengker*) with its buildings. *Umah* is the house for people of the *Wesia* caste or the people which is outside the castes of *Brahmana* or *Kesatria*.

The location of *umah* is traditionally in housing areas in a village which are usually located in the northern, southern, eastern or western parts of the village main road. The center of orientation is *pempatan agung* of the center of the village or *bale banjar* in the centers of sub-areas. The traditional housings which are preserved to the present time can be found in some villages such as Penglipuran Village, The Regency of Bangli, Tenganan Village, the regency of Karangasem, Bugbug Village, the regency of Karangasem, Julah Village, the regency of Buleleng, etc.

The main buildings in a *umah* are traditionally consist of *paon, jineng, sumanggen, meten* dan *sanggah*, each of which used as kitchen, rice barn, working room, bedroom and praying place. Each of these building mass is organized with compound pattern to have a strong orientation toward *natah* which is located in the center. However, in the present modern house, these functions are applied under one roof in a single building unit.

The application of value and concept of *Tri Hita Karana* and *Tri Angga* can be seen in the function of buildings in the compound. *Sanggah* in placed the direction of *kaja kangin* as a holy place/*parahyangan*. The middle zone is for rooms considered as *pawongan*, for the household activities. Zone that oriented contrary to *kaja kangin* direction is *kelod kauh* is used as service zone with the character of busi and of little value.
An example of layout pattern of balinese traditional umah in Kuta

The pattern of balinese traditional umah which has been extended according to the growth of numbers of families
**Kubu**

*Kubu* or *Pakubon* is a house for dwelling which is located outside the housing area, in the field, in the plantation or other places. Commonly, the people have some agricultural land or plantations and build *kubu* in order to be close to their workplace as farmer.

The pattern of *kubu* as a dwelling place is the same with the pattern of a house/*umah*. Each room, kitchen, workplace, rice barn, and bedroom are located under one roof for every building. The composition of its building forms a *natah* in the middle as a center of orientation and activities.

*Kubu* as a place for spiritual activities is called *pedukuhan*. The inhabitants of *pedukuhan* are usually the elderly with social-spiritual activities. The location of *pedukuhan* is outside the village with an environment which support the function of *pedukuhan* and obeys the harmony of building organization of rooms, front yard, and plaza.
An example of kubu in Ubud

An example of kubu in Ubud
An example of *kubu* in Pupuan
VI. APPLICATION OF CONCEPT IN BALINESE TEMPLE

I. Spatial Application

*Tri Kahyangan* which is a chain of temples in a traditional village (*desa pekaraman*) generally has been adopted very well. The same applied to the location which is appropriate with the *tri angga* concept. The Puseh temple (temple of origin) is located at the most sacred part of the traditional village, the Village temple in *madya* part and the Dalem temple (temple of the dead) with its cemetery in the *nista* part (the example can be seen in The Tembuku traditional village, Regency of Bangli). However, there can be also variation in its application according to the concept of *Desa, Kala, Patra* (place, time, and situation). In the Denpasar traditional village, for example, the Puseh temple and the Village temple is united and located in the *madya* part of the village.

![Spatial Application of Temple Concept in Tembuku, Bangli](Source: Field Study, 2006)
In micro level, the spatial application of temple is also obeying the Balinese cosmological rules. It generally divided into three zones; *utama/jeroan* or the internal side, *madya* is located in *Jaba Tengah*/middle part and *nista* in the *Jaba Sisi* or outer part. The Dalem Agung temple of the Payangan village, Gianyar is the example of temple which has the three divisions.
As with the spatial application in macro level, there are a lot of variation of spatial application of temple. At the Penataran Agung Besakih temple, for example, the divisions of space are very complex ones while there are a lot of groups of buildings. However, basically the division of space into the three zones has been applied very well. It can be also found at the Kehen temple in Bangli.

Another variation can be seen at the Goa Lawah temple in the Klungkung regency. The visible space division is only two; Jaba Tengah and Jeroan, Jaba Sisi is only in the form of garden. There is no building which is usually used for the preparation of ceremonies in Jaba Sisi.
The Penataran Agung temple, Besakih, Karangasem
(Redrawn from Gelebet, 1985, by Alit Semarajana)
The Besakih temple
The Kehen temple, Bangli
(Redrawn From Gelebet, 1985, by Alit)
The Goa Lawah temple, Regency of Klungkung
(Redrawn from Gelebet, 1985, by Alit)
The Penataran Sasih temple, Pejeng
(Redrawn from Gelebet, 1985, by Alit)

The Rambut Siwi temple, Jembrana
(Redrawn from Gelebet, 1985, by Alit)
The Taman Ayun temple, Mengwi, Badung
(Redrawn from Gelebet, 1985, by Alit)
The Luwur Uluwatu temple
(Redrawn from Gelebet, 1985, by Alit)
The Bale Agung temple, the village of Payangan, Gianyar
(Redrawn from Gelebet, 1985, by Alit)
II. Building Application

The buildings of temples is generally obeying the rules of cosmological concept in Balinese traditional architecture. Firstly, the organization of the elements of buildings always obeying the Tri Angga concept, i.e. the roof is the main/utama part, the body is the middle/madya part and the foot/Bataran is the most impure part. Secondly, the type of ornament and its location also obeys the cosmological concept. Thirdly, the use of material also adapt to this rules. The variation of materials especially non-traditional materials is applied by in using appropriateness with the concept. The same applied to the procession and structural system. The application of Balinese cosmological concept at the temple buildings can be seen in the Variation of application in temples building.
Elements of Padmasari Shrine (left) and Tunggun Karang and Pengelurah Shrine (right) (Source: Haruya Kagami, 1988)

Elements of Kemulan Shrine (left) and Taksu Shrine (right)  
(Source: Haruya Kagami, 1988)
Variation of application in temples building

1. *Meru* and its details

The front exterior of Meru Penataran Agung, Besakih
Plan of Meru building
(Drawn by Alit)

Section of Meru building
(drawn by Alit)
The Uluwatu temple

Meru at the Taman Ayun temple, Mengwi
Padmasana at the Jagadnatha temple, Denpasar
Kori Agung (main entrance) of Pura Maospahit, Denpasar
Merajan at the Jagadnatha temple, Denpasar

Bale Agung at the Village temple of Penglipuran Village, Bangli
VII. APPLICATION OF CONCEPT IN PUBLIC FACILITIES

Wantilan

The word *wantilan* come from “*wanti*” which means to deliver message. In the context of the function, *wantilan* means the place to deliver message in the form of meeting or speech or discussion. Apart from meeting place, *wantilan* is usually used in the execution of religious ceremony (*Tabuh Rah*). These days, the shape of *wantilan* is developed for the commercial functions such as restorant, hotel, etc.

*Wantilan* is generally located at the *Jaba Sisi* of a temple or at the *Jaba Puri*. However, there is also *wantilan* which is located at *Pempatan Agung* as a solitary part. The *wantilan of Banjar Tampak Gangsul*, for example is located in the southeastern edge of the junction of the Tampak Gangsul *banjar*. It is used for religious and social activities at certain dates but in daily life, it is used for commercial purpose as restorant or eating place.

The shape of *wantilan* is square with a minimum of four pillars in the middle and several smaller pillars in the surroundings. The main feature is the roof which has two storeys, which has some distance in between for air circulation and hole for light. Generally, *wantilan* does not used any artistic components or ornaments. The shape of *wantilan* is conceptually consist of three parts; head which is transform into the shape of roof, body in the shape of columns and walls, and foot in the shape of *bataran* and the joint of the columns.

Bale Banjar

*Banjar* is a group of people which is smaller than a traditional village and is a form of social organization, both in happiness and in sorrow. The principles of social organization of the members of the *banjar* is collective and brotherhood principles which is reflected in the term *nyama banjar*. Apart of this, *Banjar* (especially in flatland Bali) is also a form of social unity which based on regional tie (Surpha, 2004: 84).
The objective of banjar, according to Surpha (2004: 144) are:

a. The members of banjar help each other in the occasion of: wedding, bereavement, cremation and other social activities (both in happiness and sorrow).

b. Taking part in the renovation of the Village temple, the restoration of road, the construction of school, etc.

c. Organizing collective economic activities to raise income for the banjar.

d. Organizing the religious collective activities.

Bale (in Balinese) or balai (in bahasa Indonesia) means building, house (general), or open structure. The term banjar, apart from row or lined in a row, also means a group. For example, mabanjar means joining a group or a social unit which is called banjar in Balinese. The term banjar has the same meaning with banjah which means “to extend”. Therefore Bale Banjar has the meaning of a place for spreading out everything related to collective activity of a group of people or a group of banjar (Gelebet et al., 1986 in Suarya, 1993: 5) or the Bale Banjar means an open structure which is used for collective interest of its members (Suardana, 2005: 141). Bale Banjar is the place for discussion for its members and can be function as the unification of formal village administration (Jiwa, 1992: 23). Hence, Bale Banjar means a open structure which is used for collective interest of its members (Putera, 1988 in Mahaputra et al., 2005: 8-9).

**The Shape of Bale Banjar**

Principally, the shape of Bale Banjar is similar to wantilan. However, the allocation is more complex as generally the building of Bale Banjar has not only function. The difference with wantilan is the shape of its roof which is not a stacking shape (tumpang) but a single shape. As the common traditional building in Bali, the building of Bale Banjar consist of three main parts which are; head (roof), body (column, wall) and foot (bataran, joint).

At present, the basic shape has been developed into various shapes according to its function and the technology used, especially the application of multi storeys building structure. Variation of the shape of Bale Banjar in Denpasar showed the trend of multi storeys building to suit the functions and the limitation of land. In the new form/shape, the division of utama, madya, nista or head, body and foot depend on the overall shape of the Bale Banjar. If more than one storey building is massive and tend to shape as bataran, the foot of the Bale Banjar is
the ground floor to the bottom. If the shape is walled or using column, the foot of the building is the joint and bataran.

At the main part of the Bale Banjar the sacred place is spatially placed. The Tampak Gangsul banjar, for example, has its holy place at the north eastern part (Kaja-Kangin). This Bale Banjar is completed with a kindergarten at the first floor and the ground floor is an open structure. At the southwestern part, there is a Bale Bengong which is used as the place for religious ceremonial preparation or as a place for relax. The warehouse and administration office are located at the nista part of the Bale banjar.

The ornaments used at Bale Banjar obey the concepts of each ornament. Apart from pepalihan which valued as neutral, kekarangan is also used as the ornament for Bale Banjar. Generally, the concepts used in the construction of bale banjar in the present time still obey the concept of Balinese traditional architecture

The Function of Bale Banjar

The main function of banjar is to apply the mutual cooperation in collective unit among its members (krama banjar), both in happiness and sorrow. According to its function, banjar can be divided into traditional banjar (Banjar Adat) and formal banjar (banjar dinas). Banjar Adat focus on traditional and religious matters, and is a part of traditional village (Desa Adat). Formal banjar (Banjar Dinas) focus on administration and according to its structure is a part of formal village (Desa Dinas). The head of Banjar is called Kelian Banjar and its assistant/deputy is called Sinoman (Acwin Dwijendra, no year: 4).

The main function of the building of Bale Banjar is as the place of discussion. The tradition and religious activities and other social activities are also held at the Bale Banjar if it involves some or all members of the banjar. Bale Banjar has multi functions with various activities. In the morning, Bale Banjar can be used as a morning market or as a Kindergarten. In the afternoon as a workplace for craftsman or farmer or as a resting place and in the nighttime as a place to learn art, to carry out small discussion or as a place for evening market.

The banjar meeting is held once a month at the day called Rerahinan Anggar Kasih or Budha Kliwon or Saniscara Kliwon which is called Tumpek. Once every 35 days the meeting called monthly meeting at the Banjar and once every 210 days, the meeting is called sixmonthly meeting. Other activities such as cremation (ngaben) and other traditional activities, social and
cultural activities can also take place at any time for one or several days at the Bale Banjar (Gelebet, 1982: 236-237).

Beside all of its physical and spiritual activities, Bale Banjar is also the center of banjar activities and unite its members politically and spiritually and has social function and is the identity symbol of local spirit (Putra, 1988 in Mahaputra, 2005: 9).

Bale Banjar has a a strategic function in the growth and development of Balinese culture as Bale Banjar is a place where cultural activities in the level of banjar take place. The cultural activities are: artistic activities such as artistic practice and performance, meeting of the members of Banjar, the preparation for a religious activities, etc. (Suarya, 1993: 1).

The building of Bale Banjar as a center of cultural activities is the driving force in the building of cultural person, as well as an umbrella to control the inhabitants (Salain, 2001: 45).

Apart from meeting (sangkep), Bale Banjar is initially means as a place for rilex (masliahan) and hobby, as well as a place to chat with colleagues (Suardana, 2005: 145).

Putera (1988 in Mahaputra et al, 2005: 10) divided the functions of Bale Banjar into 3:

1) Main Functions
   The main function of Bale Banjar are:
   a. Meeting/discussion place for the members of banjar, which need a wide room and generally an open structure (without full wall)
   b. The center of signal to deliver message to surrounding community in emergency, which used a traditional sound instrument which called kulkul.
   c. The center of collective worship for the members of banjar incidentilly or once every 210 days or annually.

2) Supporting Functions
   The supporting function of a Bale Banjar are:
   a. Building/sitting place for placing the offerings
   b. Building or a room for processing or preparation of food (consumption for a gathering)
   c. Building/room for the storage of the possession of banjar in the form of crop product (especially rice)

3) Additional Functions
   In some traditional Bale Banjar, especially in a developed Bale Banjar, there are some additional functions which vary from for example performance stage, office room, the storage
room for traditional music instrument (gamelan), bale gong, the place for guest reception, place for education and artistic/sport workshop.

1. **Bale Kul-kul**

   **Function**

   This is a public building which is used to deliver message or to gather people for certain reason (danger, grief, collective work, ritual work, etc.). **Bale Kulkul** is a bale to place the kulkul (alarm sounded bamboo drum). Kulkul function as the communication tool to deliver signs to the community or to the members of banjar, penyungsung/worshipper of a temple or the member of puri/palace. When function as the sign of gathering/ sangkep of banjar members, kulkul can be called as a tools for mass summon. Hence, **Bale Kulkul** is built because of the needs for the place for Kulkul.

   **Shape**

   At the beginning, the kulkul as a communication tool was hanged at the branch of a tree. To protect it from the heat of the sun and from rainwater, kulkul is roofed without moving it from the tree. Later, there was a big possibility that the tree getting old and fell down, and the kulkul has been built a building/bale which then called **Bale Kulkul**. The shape of **Bale Kul-Kul** generally as a tower with a significant height compared to other traditional buildings. The kulkul is placed in the top floor under the roof which made the sound can be heard as far as possible.

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Layout

Generally, the *bale kulkul* is not a solitary facility but is a part of *Bale Banjar, Puri* or palace, or part of temple. The location of *Bale Kulkul* is conceptually in the direction of *kelod kauh* of *Bale Banjar* or other facilities. However, if it is related to the location of *candi bentar* (gate) of the *Bale Banjar, Bale Kulkul* should be placed at the lefthand side of the main entrance (*candi bentar*) if seen from the inside\(^2\).

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\(^2\) Interview of Made Cleverika with I Ketut Murja, April 2002, permitted to be cited
According to its vertical layout, the development of Bale Kul-Kul is varied. If at the beginning the Bale Kul-Kul was placed on the ground floor, at present, it is placed on the first, second, or the third floor of Bale Banjar.

The type of ornaments used at the Bale Kul-Kul which is appropriate with the cosmological concept are; Karang Asti and Karang Karang Gede are generally used at the foot part, Karang simbar, karang tapel, karang batu, and pepatraan at the body part, whereas Karang Goak, Karang Simbar, and Bentulu at the top part. At the level changing area, pepalihan is used in the top, body and lower part. Therefore, the cosmological, architectural and spatial concepts has been generally well applied in the building of Bale Kul-Kul. The emerging variations has enriched the cultural heritage.

Rules

Kulkul and Bale Kulkul are built based on written rules in religious manuscript. Based on the organizational boundary of its members, there are three types of kulkul; The kulkul desa, kulkul banjar and kulkul sekaa with each function;

a. Kulkul desa is sounded by hitting it with the intention to gather the members of the Village for sangkep/meeting, collective work, religious ceremonies (Yadnya), or at Panca Baya which consist of Arta Baya, Jiwa Baya, Toya Baya, Geni Baya dan Ripu Baya, and other things which is the obligation and the authority of the head of the village (Prajuru Desa Pakraman).
b. *Kulkul Banjar* is sounded by using code which has been agreed to gather the *krama banjar* for meeting, at grief, collective work or at the religious ceremony (*Yadnya*), or at *Panca Baya* which consist of *Arta Baya, Jiwa Baya, Toya Baya, Geni Baya* dan *Ripu Baya*, and other things which is the obligation and the authority of the head of the *banjar* (*Prajuru banjar*).

c. *Kulkul Sekaa* is sounded by using certain code which has been agreed to gather the *krama sekaa* for meeting, practising, collective and other things needed by the members of the *sekaa*.

Apart from the three types of *Kulkul* which were mentioned above, there are also *Kulkul Pura* and *Kulkul Kaluarga/familial kulkul*. The *kulkul* is sounded by using certain code according to the needs of the member/*penyungsung* of temple/*pura* or the family. While the intonation of the *kulkul* has certain code and meaning, it is not permitted to sound the *kulkul* without the permission of *prajuru Desa Pakraman, prajuru banjar, prajuru sekaa* and the familial head/*manggala*.

The sounding of *kulkul* is carried out for the reasons of:

a. At the beginning of ceremony, *kulkul* is sounded slowly.

b. At the beginning of the ceremony has been lead, *kulkul* is sounded continuously in a short juncture.

c. At the emergency states:
   - *Jiwa Bhaya*, for example the riot or fighting, *kulkul bulus* is sounded in the rhythm of three strike; tung, tung, tung........tung, tung, tung........
   - *Artha Bhaya*, for example stealing, *kulkul bulus* is sounded in the rhythm of two strike; tung, tung........tung, tung........
   - *Geni Bhaya*, for example fire, flood, *kulkul bulus* is sounded in the rhythm of once strike continuously; tung, tung, tung, tung.................

d. When a member of *banjar* or *krama banjar* died, *kulkul* is sounded with the rhythm of half strike according to the rules of each *banjar*.

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3 Awig-awig/rules of the traditional village of *Denpasar, 1987*, p.16-17.
**Peken (Market)**

The market is a node of activities which unites the flow of commodity/service and the user. As the node of activities, the market can be function as the stimulator of the territorial/areal development. This occurs by the multiple function of the market as the collector of goods and service and also the center place of its distribution. Both functions has the multiple effect of side activities, both direct and indirectly. All complex chain of activities accumulatively gather and centralise in the market and need a space (spatial). The boundary of its influence is depend on the hierarchy of service functions of the market. The city market and the regional market will differs in its influence to it surroundings and in the needs for space.

The market is an important part in the center of the traditional cities in Bali. This can be seen from its strategic location which is at the *Pempatan Agung*. The market is the picture of the social-economic condition of the traditional communities and is a place where the members of the community interacts with each other and a place where the king measure the economic strength of its kingdom.

The buildings of traditional market are physically as tends made of timber and grass roof or can be an open space where the trader use the shades of trees as the shelter for trading. In principle, traditional Markets building is not a permanent building which can be also used for other purpose when there is no market activities. The trading activities in the market is not a daily activity. Traditional market take place on certain day where every village has its own market day. However, although it is not a permanent building, the layout of the market is always follow the Balinese cosmological concepts. There is always a temple in the traditional market which is called the Melanting temple which is located in the main part of the market. Apart of this, every trader has its own *pelangkiran* in each trading space.

The development of of trading needs and patterns created the physical and trading days development of the traditional market. The traditional markets such as the Badung market, the Sanglah market, the Kreneng market, and the Satria market—all in Denpasar—show this development. The building became a permanent one while the market activity become permanent. The variation of the shape of traditional market took place as a result of the variation of the needs for market and the variation of the available land for the market. However, the architectural principles are always applied, for example the use of local material, a clear
structure, layout according to Balinese traditional concept and the use of the division of building into head, body and foot.
VIII. Balinese traditional architecture in Modern living

1. Hotel Buildings

As tourism destination Bali is certainly always equip themselves with facilities for the convenience of visitors. One of the accommodations is mushroomed into existence. Bali Hotels with a few scattered his class levels ranging from 5 star to budget hotels. In the decision of the Director-General on the implementation of the provisions of the tourism and Hotel Management Businesses No. 14/U/II/88, Hotel Tourism is receiving guests (tourists) with the purpose of travel. Not included in this category are pensions, villas, bed and breakfasts, motels, homestay or the like. Some of the famous hotel locations such as Nusa Dua, Sanur, Kuta and several places in Bali province such as Kintamani, Ubud, and Singaraja.

According to Sulistyawati dkk in Armeli (1999: 23), categories of hotel adapted to the needs of guests, namely: a. the purpose of arrival is found

a. Review of the purpose of guest arrival found on Business and Pleasure Hotel;
b. Review of the layout, is found on a City Hotel and Country Hotel;
c. Review of the duration of the guest's stay is found on the Transit Hotel and Resort Hotel;
d. Review of luxury, is found on a Luxury Hotel, Middle Grade, and Modest Hotels.

According to Sulastiyono (2004: 17), in Indonesia hotels are classified from getting one star hotel with up to five-star hotel. Star hotel classification is based on the outline; big/small or large number of rooms; location of hotel; facilities owned hotels; the completeness of the equipment; specialisation and education level of employees; the quality of the building; and the layout of the spaces. The application of traditional Balinese architecture on hotels taking part more ornament (pepatran, keketusan and kekarangan) and decoration (Gomudha, 1999: 54 in Mitha, 2007).

In the traditional concept of Bali, hotels apply the concept of Tri Angga, where the building is composed of the head, body and legs. That is retained is the direction of the shrine which took the main zone or direction kaja-kangin the Hindu concept. As tourist facilities, the hotel is also equipped with supporting facilities such as restaurants, parking, parks, stores, money changer and others.
In terms of form and function, the hotel is not included in any of the forms of traditional Balinese architecture. This function is growing because of tourism, where the island of Bali is one of the tourist destinations. In addition, Bali with its natural beauty make the island sought after by foreign tourists. Like the Kuta area with charm beaches, where until 2006 in Kuta (including Seminyak and Legian) there are 47 five-star hotel, 264 budget hotels, as well as 96 cottage (Diparda Bali 2006 in Mitha, 2007).

The types of ornaments are applied at the hotel, for example at The Legian hotel lobby, which consists of ornament plants is a form of traditional Balinese ornaments has been progressing form. Modifications include coral ornaments Boma, Patra and Patra Punggel Wangga contained in lobby Hotel The Oberoi Bali is located at Seminyak Village area. Ornaments and decorations are not only in the hotel lobby, but can we find also in the hotel building look like on the roof, pillars / columns hotels, as well as on the walls of the hotel.
Patra Wangga dan Patra Punggel on ceiling of Bali Padma Hotel
Source; Mitha, 2007

Ornament “Dedaunan”
Sumber; Mitha, 2007
Spacial application in Grand Hyatt Nusa Dua Hotel
Spacial application in Hotel Nikko
Spacial application in Melia Hotel Nusa Dua
2. Commercial Buildings

Improving the economy of the Balinese people become drivers of the development of tourism thanks to other sectors, especially the trade and offices. The development of the trade sector and the office requires containers representative to create a positive image for entrepreneurs.

By Perda 2, 3 and 4 in 1975 which was renewed by Regulation No. 5 2005 requires the use of aspects in the traditional Balinese architecture in all buildings erected in the area of Bali. Thanks to these rules face the cities Bali has been able to create a separate image for Bali. Local urban genius Bali in Bali made a face different from other cities in Indonesia and outside Indonesia. The application of the principles of traditional Balinese architecture in commercial buildings can be seen from two aspects: the spatial and architectural. The application of spatial aspects is limited to the provision of sanctuaries (Merajan) on the Northeast corner of the land in South Bali or the southeast corner of the land in North Bali.

On a scale architectural application of traditional Balinese architecture nearly equal to the application in the hotel buildings. The use of local building materials (brick scrub, face, etc.), the use of ornaments and decorations as well as the division of buildings into three parts (head,
body, and legs according to the concept of Tri Anga) become the dominant aspect. The following examples show how the concept of traditional Balinese architecture applied.

**A. Bank Mandiri Denpasar**

Situated in Jalan Sutoyo Denpasar, Bank Mandiri is a modern building that is used as a power structure view rancangannya. Hasil architect Ir. Robby this Sularto applying traditional architecture in the use of materials and ornament and decoration of the building.

Spatially, the provision Merajan the Bank's footprint is the direct application of the concept of Sanga Mandala of Bali Traditional Architecture. Merajan located in the Northeast part of the total footprint architecture using the principles of traditional Balinese architecture both the shape of the building, ornaments and decorations.

The main building of banks using stone rub Bali which is a trade mark on the outer wall finishing. Simple ornaments and decorations complement the use of the principles of traditional Balinese architecture.

![Site Plan Bank Mandiri, Denpasar](Drawn by Alit, 2007)
B. Bank Permata, Denpasar

Situated in Jalan Diponegoro Denpasar, this building has a degree of similarity with Bank Mandiri in the application of traditional Balinese architecture. Bentar temple placed on the entrance to the south and west tread on to become the use of traditional Balinese architecture. Bentar temple is reinforced by the use of local building materials in the fence around the site. Provision Merajan on the Northeast corner of the land, the use of local building materials, the use of simple ornaments and decorations, especially on the entrance of the building are other principles are applied.

Angga Tri concept applied to pembangian this part of the building in three. The head is transformed on the roof using a pyramid roof on top is decorated by ornaments murda. Roof covering using tiles reinforce the image of Bali is very strong. Body portion of the building used as a scrub brick finish. The body parts include a simple ornament. The foot of the limestone used as finishing. Use of the decoration on the entrance of the building reinforces the impression of "Bali" in this building.
C. Mall Bali, Denpasar

Situated in Jalan Diponegoro, Denpasar is a shopping mall to apply the principles of traditional Balinese architecture both in spatial and architectural scale. At the spatial scale Merajan provision in the Northeast corner into the main marker penerpan. On the architectural scale use of the brick face scrub dominate the look of this building. The main building division into three according to the concept of Tri Anga is also a strong point of the application of these principles. Pyramid roof at the peak of the roof and around the building in addition to the use of brown brick tile strengthen the image of Bali in this building. No use of a prominent local decor. Oramen use also is unbelievably simple. The concept of building an economical trade into consideration the use of the aesthetic elements to be very minimal.
C. Denpasar Mall, Denpasar

Building located at Jalan Sudirman is to apply the principles of traditional Balinese architecture which is very minimal. Merajan placement on the northeastern side of the footprint on the second floor above the room ATM is one of the most prominent. The use of brick rub on some parts of the walls of the building, the use of ornaments in the corners of the building also marks businesses comply with Regulation No. 2, 3, and 4 in 1975. The use of pyramid roof is decorated murda at its peak colors complement Bali in this building.
The corner façade of Denpasar Mall, Denpasar

East Facade of Denpasar Mall, Denpasar
3. Office Buildings

Compared with commercial buildings, the application of the principles of traditional Balinese architecture in buildings, especially in the office pemerintahan-perkantoran, better. Spatially all government offices provide Merajan on the tersucinya. The application of the concept of Sanga Mandala at government office buildings in general is perfect. On the architectural scale, government office buildings also largely apply almost all of these principles. The division of the figure of the building into three sections, the use of local building materials, the use of elements of ornaments and decorations, honesty structure, the procession of the construction of all applied to the construction of office buildings in Bali. The following example is offices that are either applying the principles of traditional Balinese architecture.

A. Provincial Parliament Buildings Bali, Denpasar

Located in the center of the provincial government of Bali, Renon Bali Provincial Parliament Building designed by Ida Bagus Tugur has become one of the mascots of the building that implement best traditional Balinese architecture. The main entrance to the temple tread form Bentar that use forms of ornaments going to be full of the head, body and legs. Perfect appearance entrance is supported by the use of a fence around the site that uses forms and local building materials.

Merajan as the application of Sanga Mandala is located in the northeast corner of the site. In general, an advanced tread divided three parts, namely the plenary session, part of the commission meeting and part sekretariatan Parliament. Placement Bale Kul-Kul on this site symbolizes the Parliament Building as an information center for the people of Bali are certainly related to the functions of Parliament as a legislative body of the province. The use of ornament in full, placing decorations around the building is a statue on the strength of Ida Bagus Tugur this design.
The placement of two single colonnaded building on the main building entrance gives a strong impression on this building. Form a single colonnaded building is a new form of Balinese buildings that enrich the repertory of traditional Balinese architecture.

In addition to the new building form, ornament-oranamen, and decorations in the form of a statue that was developed is also the result of imagination a Tugur that the ability to strengthen and enrich the Balinese architecture. The form of ornaments and decorations adorn almost the entire building from the head to toe that exist in the building complex.
Candi Bentar (top left), Kori Agung (Top Right), Bale Kul-Kul (bottom left), and the main building (bottom right) are the buildings on Bali Provincial Parliament Buildings that apply the principles of traditional Balinese architecture complete and consistent. The creation of new forms
B. Provincial Governor Office Building Bali, Denpasar

The building is located in the east of Bali Provincial Parliament Buildings also apply the principles of good intact Balinese architecture concept Sanga Mandala, Tri Angga, processions development, honesty system structure, the use of building materials. Bentar temple at the site entrance is enhanced with architecture that uses brick fence rub is that the first application can be viewed. The front of the office placed an ornamental pond with statues of the tortoise and the dragon that symbolizes the spiritual power that maintain the stability of the world.

The main building consists of three units of three-story building. The structure of the building in the form of concrete columns finished with brick rub shown. Display columns help to
express the robustness of building and strengthening formal impression of the building. The use
of brick rub the entire surface of the building reinforces the image of Bali. On the inside of the
building, columns wrapped with teak wood which gives a natural value to the interior of the
building. Namur column cover with another material is a denial of the concept of honesty use of
building materials in traditional Balinese architecture.

At the foot of the building columns decorated with ornaments that reinforces the
impression of the foot of the building. The head of the building completed by the pyramid roof
with tile finishing so that the image of Bali increasingly prominent buildings. Overall the
application of the principles of traditional Balinese architecture have been well implemented on
the building of this Governor’s Office of Bali province.

C. Denpasar Mayor Office Building, Denpasar

The building is located at Jalan Gajah Mada is composed of three main masses. Sperti
uga another office building, the building site is also available in the tersucinya Marajan,
Northeast.

The building is divided into three parts. The legs highlighted with foot column dilengkai
robustness with ornaments kekarangan and pepalihan. Part of the building was placed
pepalihan that make this building as bataran foot in traditional buildings.

Part of the building is transformed by the body and the body wall column is also
equipped with ornaments and decorations are complete on all sides of the building. Agency
menonjukkan column clearly parts of the structure. Termination of the beam is formed as
sunduk in traditional Balinese buildings. All these parts rub finished with brick and sandstone,
local building materials.

The base of the head that transformed the shape of the roof, made of concrete plank
list which strengthens the basis of this head. Every corner and mid-list this plank plastered with
ornaments kekarangan which softens harsh impression on the concrete. In the body of this
pyramid-shaped roof tile decorated Participate used Teledu at the corners. The head of the roof
is decorated murda on each peak.

Overall figures Denpasar Mayor’s office building microcosme figure expressing the
Balinese who use traditional clothes complete with udeng as head coverings. Bali image
displayed on the building located at the center of this village Denpasar Pekraman managed to
bring a building that represents the application of traditional Balinese architecture complete and consisten.
4. Art Centre

As a center of arts and culture development, art center is located at Jalan Nusa Indah Denpasar has managed to show a building that represents the ideal of architectural works representing the art and culture of Bali.

Overall entrance (Pemedalan) both from outside and inside the tread footprint using forms that exist in traditional Balinese architecture that Kori Agung, temple or Angkul Bentar-angkul. All the entrances of the use of ornament and decoration in accordance with the procedures of placement and type of ornament on pemedalan. The shape of ornaments and decorations developed by the designer Ida Bagus Tugur of forms that have been there with a touch of proportion to the taste of the architect.

The division of the building better buildings, fences, entrance, a bridge to the monument as well as lighting elements follows the concept of Tri Anga. Separator element which is a marker of the division in general is pepalihan which is a valuable ornament neutral.

Materials legs and body building is fully used local building materials with finishing predominantly use rubbing brick combined with sandstone. Column building besides reinforcing steel covered with sandstone or brick rub also use wood. The wood used diprofil with traditional Balinese motifs ornament also has a division head, body and legs.

Roof covering materials in general are tile and partly using fibers, especially in the entrance. Decoration that is used on the roof top is murda, Bentala and Joining Badgers made both from sandstone and cement mixtures that are printed. Even if the proportion who used to use manusai scale, but the creation of the buildings in the complex art center is intended to show kaagungan, elegance and grandeur of traditional Balinese architecture as a place of art and culture development for now and forever.
Form of one building and its fence in Centre

Bridge Railing in Art Centre in form of Naga
Entrance of Gedung Lukisan at Art Centre
5. Modern Housing

The use of traditional concepts of Bali is still a major consideration in the design of modern homes. In addition to meeting the requirements in obtaining a building permit (IMB) is also a trend setter for the owners, especially those who have a fee. In spatial levels, modern Balinese still provide Merajan at the holiest site of his house. On the condition that the narrow footprint of this section is placed on the highest part of the site or the building of the house.
Use of Angkul-Angkul, Temple Bentar or Kori Agung with various modifications also remain an option for the Balinese to get into his house footprint. Ornaments and decorations of traditional fixed developed and used both simple and complex in dwelling houses today. The more rich the more complicated the Balinese ornaments and decorations are used as decoration of their homes. Building materials used also evolved from natural building materials locally, artificial materials that imitate natural materials (artificial sandstone for example) as well as artificial materials such as ceramic tiles for floor coverings, Policarbonat for roofing or building materials that use a combination of natural materials and artificial materials.

Bali community efforts to preserve the image of architecture has successfully established a "city image" specific so it needs to be developed and studied by other cities in order to develop local genius who will lift the local culture as the tops of the nation's culture both nationally and internationally.
Modern *Bale Daja* with traditional ornaments

Modern Kitchen (*Paon*) with simple design
6. Other non-traditional building

In general, buildings in Bali customized with applicable building regulations. Thus public buildings whose function is not well adapted to live with these regulations. Although its application is very limited, continued to show commendable effort. The buildings that can provide examples of such applications eg billboards, information boards, public refueling stations (gas stations), ATM.
IX. BALINESE LANDSCAPE

Bali has a very rich nature spread all over the island. As regarded as one of the most beautiful places on earth, Bali Island is famous for its beautiful landscape. A chain of six volcanoes between 1,350 meters and 3,014 meters high stretches from west to east with smoothly the active volcanic cone of towering Mt. Agung. There are lush tropical forests, pristine crater lakes, fast flowing rivers and deep ravines, picturesque rice terraces that climb the mountain slopes like brilliant green stair steps, and fertile vegetable and fruit gardens. The Indonesian Island of Bali fits most dreams of a south sea paradise. Ringed by coral reefs in the shallow Java Sea just north of Australia. The beaches in the South consist of white sand; beaches in other parts of the island are covered with grey or black volcanic sand. Small villages sprinkled with coconut palms and banana trees dot the tranquil scene. Rural landscape is really a complex cultural, religious, and ecological system evolved over millennia to link people to each other and to their environment.

Farmers are organised into co-operatives called subak. Each subak oversees a group of interconnected rice paddies sharing a common water source. Water use is intimately connected with religious beliefs and practices or it can say through religious rituals. At the top of each subak is a small temple where farmers gather on important religious days. Higher up, a larger temple marks the weir or spring that supplies water to several subaks. The highest point in the landscape is dominated by a regional Masceti water temple that co-ordinates the activities of the entire watershed.

According to study of landscape in the program of “Bali to head for Garden Island”, structurally Balinese landscape divided into five types (Dinas Kebersihan dan Pertamanan Prop. Bali & Univ. Udayana, 1989), as follows:

a. Regional Landscape
b. Villages Landscape
c. City Landscape
d. Highway Landscape
e. Inheritance Garden
1. **Regional Landscape**

Regional landscape is landscape that is form in the unity of areas such as forest, mountain area, and rivers area, fringe of lake area and fringe of sea. These areas are as an ecosystem unity, which is its characters or quality of landscape, forms into large area and influence by dominant special ecosystem. The aim of maintenance of regional landscape is to preserve the balancing of natural ecosystem in dynamically. It is wish to keep the sustainability life of wildlife, aesthetic values as well as its uniqueness.

Regionally, as like as physic character of Bali Island, the regional landscape is divided into three characteristics i.e. beaches landscape, lowland landscape and mountain landscape. The divisions of these landscapes are appropriate with the values of Balinese society, utama/sacred, madya/middle, and nista/profane. Mountain has prior or sacred value, that is implies as a source of life, where the people can get the pure water, the food from forest etc. Mostly lowland area in Bali is settled by the society, so it means the middle value, where the people will interact to each other with their daily activities, while the beaches as a disposal of waste and hydrological cycle of life it given as profane value (figure 3).

a. **Mountain Landscape**

This area has character of specific landscape that is mountain or highland with heavy forest, lake, and orchard. The mountain stretches from the east to the west in the north part of Bali. Most of mountain area is covered by tropical rainforest and its status are National Forest (19,003.00 Ha), Tourism forest/recreation park (14,509.00 Ha), conservation area (1,762.80 Ha) and protected forest. Most of mountain landscapes are formed by the combination between valley and hills and also covered by heavy rain forest. However, the vegetation is not contribute too much in the form of landscape mountain characteristic because its diversity of vegetation. Some places of this area, it has sacred value. The utilisation of this is generally for natural ecosystem conservation, cultural conservation and religious and specific recreation. Basically, religion principal and philosophy of life of Balinese society are implement optimatically and also appropriate with the natural and space condition.
Bedugul, Mountain landscape
b. **Lowland landscape**

Lowland landscape characteristic generally is lowland area with its rivers and valley, agriculture area, dry land, orchard, and concentration area of human activities (villages or cities). These areas have its potential for tourism area, cultural conservation, ecology conservation and natural aesthetic, services activities as well.
Beaches and palm trees are as a dominant characteristic for beaches landscape. While the other vegetation elements generally we can find manifold of specific of tropical beaches trees such as: Ipomoea Pescaprae (climbing plant), Callophyllum Inophyllum (Nyamplung), Pandanus Tectorius (Pandan trees), Rhizophora Mucronatum (mangrove), Barringtonia Asiatica (Butun trees), Spinifex Littoreus (Rumput Lari/run grass) etc. This area is use to development interest, even for agriculture or tourism area such as hotels, cottage, shopping Centre, recreation area, and sport Centre.
Balinese beaches landscape

2. Villages Landscape

Physically, villages is means the area that comprise of dwelling from agriculture area (rice field, orchard, dry field, etc). Socially, most of the villages society are the society that is has its relation with the environment, whether emotional sense or cultural sense. Generally, Balinese society in the village they are close to the environment. We can see the expression of this relationship through the philosophy of life that is based on Hindu religion, as well as their activities in the forms and maintain the environment, and also their art sense in design of the environment. Hence, the landscape quality on agriculture area, it has well visual sense. Terracing rice field is not only ecologist beneficial, but also it is as a special art creation.

The visual domination of village’s landscape is from agricultural landscape. Other aspect that should emphasise is the green area as an open space in the village environment. Usually the open spaces in the village have natural panorama. The open space in the village dwellings comprise of productive green space such as plantation, plant for decoration, dry land, rice field, and other that have agriculture orientation. The space pattern more focus on intimate orientation in social interaction rather than efficient and effective concept. The open space pattern of village dwelling is like plaza, core, or small sport yard for sport activities, exhibition, ceremony, meeting of people, pedestrian ways, cross road, green area for village boundaries, green area along fringe of river as a reservation area for safety of the river even its quality.
In fact, *Desa Adat* is one of example of implementation of Hindu Philosophy, where the environmental design of *Desa Adat* is based on *Tri Hita karana* Philosophy, which the relationship between human with universe can not separated. Physically, the environmental design is based on the values of space (*utama*/sacred, *madya*/middle, *nista*/profane), which is based on *Tri Hita Karana* Philosophy. For the *utama*/sacred zone; in this area is placed the facilities of spiritual activities, that temples is spirit of *Desa Adat* themselves. Also it is an expression of relationship between human with God. Usually, this zone is placed in the north corner of village, and there is an open space for gardening. *Madya*/middle zone; it has function as a central activity of society and for traditional custom activity. In this zone, there are facilities such as *Bale Agung* or *wantilan*, *bencingah/alun-alun*, *Bale Kulkul*, *Puri*/*palace*, *pempatan agung*/*crossing road*, and office of the village’s leader. *Nista*/profane zone; usually it is placed in the south part of village, as a area that is provide facilities for daily activity such as market, shopping centre, public bathing, wells, terminal, hospital, grave yard, sport yard, school as well, while the housing is spread in that three zones.
3. **City Landscape**

City is a centre of many activities that it has high population level if we compare with other region. City is an expression of culture of society from the past and it gave a wish in the future development. City is an organic system from its subsystems and relates each other, supporting and organised to give beneficial for the society. As a subsystem, the city landscape can divide in two points of views, visually and physically. Visually, city landscape can be seen from the combination of special components of structure even natural components. For this, it named ‘**city-scape**’, ‘**town scape**’, ‘**streetscape**’ etc. Physically, city landscape is an open space for pedestrian or for playing children, and contains of natural elements (hills, natural stones, trees, water and other components).

The functions of open space of city are as following:

1. **Social function**, the activities needs in the open space in the city for the society are perfectly needed, such as the individual needs for recreation activities, playing children, even the activities for social interactions whether formal or informal through garden provision or plaza, sport activities, pedestrian ways, etc.

2. **The boundary function** is like green area, gardens for distances between two function and disparities of environment, and gardens as a barrier from jeopardy.

3. **Ecologist Function**, open space in the city is towards for preservation of the process of natural cycles for the healthy. With the natural cycles process is hoping the sustainability of
stabilisation of ground water for the city, purify, fresh air in the city and the continuation of micro-organism life which as a chain for wildlife in a city.

4. Aesthetic Function, the natural function supporting the building of architecture values is needed, while it is as aesthetic value of structure or the rigidity of structure that less aesthetic. Even more, the aesthetic value of human creation or production it can make the freshness for human.
City Landscape as ecological function at Puputan Square, Denpasar
City landscape as an aesthetical and symbolic function, Renon Square and it’s Bajrasandi monument
4. Highway Landscape

Highway is one of an artery in the city also connections inter cities. Highway’s role can not separate to the life of society neither economic or for social communication. Faster growing of population is demanded large of area to build and its make more small surface’s land of the open space. In the meantime, manifolds of automobile more and more fulfil the city with bring its negative impacts such as air pollution. As an alternative to solve this problem then the open space along network is used to green area to prevent the pollution (figure 4).

Basically, highway landscape is making up one of elements road complement, neither for traffic safeties or to enhance the comfortable of traffic user. Landscape as a traffic safeties is means to reduce the glare that caused by the light in the night or it is to give clarity of road condition, such ac turn right-left, slope, ravine, hill etc. those are critical point of safety and security. As a comfortable factor, landscape is means to reduce exhaustion from boredom during driving, which with give special visual interesting of attention in the certain boundaries of “surrounding vision” with still pay attention to safety’s factors. Other aims of highway landscape are to reduce the noise level concerning its environment and to reduce erosion process that often occurs on the road edges. Landscape also it can used for rest area specially for the road that it’s connect two places which is far enough.

The function of highway landscape’s visual, beside to something forward for space road quality, also to show certain characteristics neither in the area along the road or in the areas near the city. This is useful for the driver as an early introduction if they will enter the city. Highway landscape pattern is related to the class or level of the road, in the sense of maximal speed that is allowed and its surrounding. Based on these, then highway landscape can be implemented such as a line of plants in the edges of the road or in the middle traffic lane, even to the forest or other elements which are forms the natural panorama that are built for this aim. In the relation of highway landscape, there are many terms that are used to reflect the landscape pattern that apt with the class and function of highway, those are “streetscape”, “road-scape”, “highway landscape”, and “park way”, etc.
5. **Historical Inheritance/ Archaeological Landscape**

Historical inheritance that is means we go along the human creation in the past, neither moving or not. The object of historical inheritance is limited to physical inheritance and including space system. The space system is means as a space pattern, which is, reflects the historical values. The historical inheritance in Bali, they have characteristics of ritual (temple, for instance) and non-ritual (places for kingdom’s rest), or combination of both characteristics. The concept and pattern of the temple is regulated by stipulation of religion norms and its position as well its building’s function, which have certain distances and create specific space circulation. The most important, that space value for temple is *Utama-Mandala* or sacred. As an example of ritual historical inheritance, it will be describe about some temples in Bali, such as Besakih Temple, Taman Ayun Temple, Water Palace Ujung Karangasem, and palaces.

a. **Besakih Temple**

Besakih temple is the biggest temple in Bali. It is located 60 km east of Denpasar City, which is placed in the foot of Agung Mountain (figure 5). Besakih temple is known as the Mother Temple of Bali. In the temple order of Bali, Besakih temple possess the highest position, where Besakih temple is counted to Sad Kahyangan temple (the six biggest temple in Bali) and Padma Bhuwana temple (the nine biggest temple in the nine direction surrounded Bali)

Balinese people belief that the most important personage who was play an important role in the built of Besakih temple. The one is Rsi Markandeya, he was an ascetic from Raung Mt. in Java. In the late of 8th century, he came and stays in the mountain range in Bali. An epidemic disease killed hundred of his adherents. Then he went back to Java and asked an invisible
advice. There was an advice that he has to make a ceremony and implant the *Panca Datu* in the foot of Mt. Agung. The *Panca Datu* is comprised of five metals, gold, silver, iron, copper and many of jewel/precious stones. That place now is known as Basukian Temple, exactly in the bottom of Penataran Agung Temple. Thenceforth, his adherent’s safety and they stayed surround Tegalalang and Payangan village in Gianyar regency.

![Figure 5: Besakih Temple](image)

Besakih temple area has several zones, which have different veneration function. The elements of landscape that prominent in Besakih temple are:

1. The entrance of *Candi Bentar* is placed near to Manik Mas temple as main entrance to Besakih temple. The entrance between *Jaba Sisi* and *Jeroan* is functioned during the ceremony.
2. Stairs that is follow the trances of land’s surfaces.
3. The statues are placed in the *Jaba Sisi* and arrange appropriately with the form of land’s surfaces, which are arranged to terrace form.
4. The decoration lamp that its function for lightening in the night is placed near the pedestrian and in boulevard part in the vehicles roads.
5. Traditional shower is placed in the *Jaba Sisi* of Penataran Agung temple.
6. The vehicles road in the north and near to Manik Mas temple and end of straight upright with the position of Besakih temple. The pedestrian is in *Jaba Sisi* between plaza and its surrounding.

b. **Taman Ayun Temple in Mengwi**

Etymologically, Taman Ayun means the beautiful garden, which is as a source of world happiness. Other meanings is the garden with prior value, because besides as a recreation places, also as a temple for worship to the God and the energies of the big temples in Bali; for worship to the soul of priest and the ancestors. Architecturally, the Taman Ayun design was very interesting which surrounded by ponds that stretches from north to south and a bridge that connected the area to the road. Taman Ayun temple was built in 1634 during the govern of the first of Mengwi King, I Gusti Agung Ngurah Made Agung, then known as “Ida Cokorda Sakti Blambangan”. Before 1634, in the west of Mengwi region, it is called Genter Garden, which was built the temple with paibon status to obey the ancestors. Because fighting between Mengwi Kingdom and Klungkung kingdom, then was not allowed to praying in Besakih temple. Then he has desired to spread his veneration places. Then Genter Garden was moved to the place that is named Taman Ayun (figure 6).
**Figure 6. Taman Ayun Temple**

c. **Tirta Gangga Garden in Karangasem**

Tirta Gangga, a water palace is one of inheritance of Karangasem King that is places in Ababi village, Abang County, Karangasem regency (figure 7). Tirta Gangga has a function for recreation place of king and his family. It has also social function where its water is used for irrigation. In addition, Tirta Gangga has religious function, which is it water are used as holy water (*tirta*) for religion activities. That why its name is “Tirta Gangga”, that is imply the holy river of India, Gangga River. Water Palace is dominated by water that is intercepted on several geometric ponds. These ponds are divided to big and small compartment, which is separated by pedestrian and built upon different topography. The spring sources are in the Northwest of area on higher topography and it has built the water building or reservoir. The Karangasem Kingdom, Ida Anak Agung Anglurah Ketut Karangasem, built Tirta Gangga in 1948. Tirta Gangga also it named by “*Taman Rijasa*” or Rijasa garden because there have eve been planted *rijasa* tree (*anyang-anyang* or *Alaeacarpur Grandi*)
d. **Water Palace in Ujung Karangasem**

The beautiful Taman Ujung lies 5 km to the Southeast of Amlapura, 80 km east of Denpasar. To be more exact, it is in the coastal Tumbu village of Karangasem district. The area of this royal garden of the Karangasem kingdom covers 10 hectares, of terraced landscape stretching out to the north with an elevation of 30 – 133 meters. As a royal retreat, Taman Ujung was designed using both European and Balinese traditional architecture. According to legend, the beautiful Taman Ujung had drawn the attention of the royal priest of Gelgel kingdom, Dang Hyang Nirartha in 15th century. During the reign of Karangasem king, I Gusti Gde Djelantik (1901) the Dirah pond was made. The King, I Gusti Bagus Djelantik, better known as Anak Agung Anglurah Ketut Karangasem, ruled till Indonesian independence and, collaborating with Dutch colonialist in 1909, built more ponds which were adorned with matching foliage. As a self-taught architect, the king also planned the construction of the royal meditation hall as well as *Bale Kambang* (shelter in the ponds) as a royal summerhouse. The Dutch colonialist derived the name ‘water palace’ from the structures in the ponds, converging water from various springs and as if to make it float. In 1937 Taman Ujung was embellished with statues. Statues of a rhino, a lion and a cow were erected on a hill overlooking Taman Ujung pond. Water flowed
out of the mouth of cow statue, watering rice fields below and symbolising welfare. The king of Karangasem himself in 1921 inaugurated Taman Ujung.

The original beauty of Taman Ujung, as well as its surrounding mystery, now remains only in the memory of older Balinese’s. However, the elements of beauty of the panorama remain. Although they are keen and aware, the current generation sees only the dilapidation and decay of what was once a beautiful palace. Unfortunately it is inevitable. The destruction began when the Japanese army took over Bali during the World War II and dismantled iron bars in Taman Ujung for weaponry production. When Mount Agung was pouring out a heavy stream of lava and shaking Bali with disastrous earthquake in 1963, Taman Ujung helplessly shattered into pieces. In 1976 an earthquake in Seririt District, North Bali, turned Bali upside down, further destroying Taman Ujung. The members of Karangasem palace have since then done their best to reconstruct but meagre funding forced them to stop. The ruins can be found scatter here and there.

The beauty of Taman Ujung is doomed unless mortal hands work to save it. There are still many things threatening this beautiful cultural heritage place. As identified by CHC team, there are problems and threats to conservation of Taman Ujung including the uncertainty of ownership. Some of parts belong to members of the palace, and others were sold to outsiders. The potential growth in the surrounding area is less supportive to this historical site and is liable to obscure its historical value as well as its natural assets. No proper watch is employed to protect the remains of the building that disperse in various directions.

The most features of landscape garden inheritance of palaces in Bali (Raharja, 1999) as follows:

1. There were placed inside and outside of palaces /puri
2. The function of landscape architecture inheritance are as a recreational and bathing place of kingdom family, also as a place of religion activities or combination of those function
3. Dominated by water, which is intercepted by square ponds, and circle with square ponds.
4. Generally, space and form composition of landscape was square, which was connected to paduraksa concept; four traditional pillars in the corner on the site as a space border. Each corner has special name and, spiritually it has duty to keep, preserve the space and the human activities.
5. There is harmony interrelationship between human to God, human with human and human to the environment, which is called Tri Hita Karana philosophy. We can see, there is a
temple, the preservation of ground water and are used to holy water/tirta, also for irrigation. For garden outside kingdom area, they provide public bathing place.
Garden Palace, Ujung, Karangasem
LANDSCAPE OF THE BALINESE TRADITIONAL HOUSING

Historically, Balinese traditional housing was developed after the Bali Kuno Era, which were people live in the cave or the house on the trees. This traditional housing was developing after the Majapahit influences in the 14th century that was based on lowland area. The Balinese traditional housing which is called umah is comprised of several building that surrounded by traditional fence and it was created one space orientation in the centre, it is called natah or plaza (figure 8 & 9). Natah was born through Tri Hita Karana concept, Parahyangan/head, pawongan/body and palemahan/leg. Natah position is based on the religion axis orientation (east-west) and earth axis (north - south). Natah has its functions as a central orientation of building, circulation of all building, as a guess space with temporary roof during ceremony, as well as for drying crops such as rice.

The umah is divided into three zones as likely based on Tri Hita Karana concept, i.e.: family temple as a sacred area; middle yard where it is placed the building or bale with compound pattern, symbolic of middle zone; and back yard is the profane area that is for sewage disposal. Each building has own function that relates to the human and religion activities. Uniqueness, the Balinese people were realised their privacy, hence each building was placed on certain distances to each other which is use the body measurement. Bale Delod with its function as the place for Manusa Yadnya and Pitra Yadnya ceremony, such as traditional birthday, tooth feeling, wedding ceremony, cremations etc. It is lies in the south part of umah. Bale Dauh is used for family bedroom or even for guess place, and it is lies in the west part of umah. Bale Dangin is lies in the east part, that is use also for sleeping room. Jineng or granary is a place for keep the crops in the top space and the bottom space usually for seating room or for the guess. Paon or kitchen is the place for cooking, however sometime it is use for sleeping room. Pengijeng Karang, the shrine that has spiritually function to keep and maintain the whole of house yards. Pengijeng Natah one shrine that believed has its spiritual function to keep the natah or plaza.

Explanation:
1. Angkul-Angkul/Traditional Gate
2. Kitchen
3. Granary

136
4. Sumanggen/Multipurpose building
5. Bale Dangin/East Building
6. Bale Dauh/West Building
7. Sumanggen/Multipurpose building
8. Family temple
   A. Banana trees
   B. Dag-dag trees
   C. Frangipani
   E. Jasmine/Flowering tree
   F. Orange tree
   G. Tuber, rootd
   H. Taro plants
   a. Penunggun Natah shrine
   b. Penunggun Karang shrine
   c. Wells

**Figure 8.** Lay out of Umah

**Source:** Dinas Kebersihan & Pertamanan Bali & Unud, 1998.

The landscape planning can begin firstly through the landscaping in the house, where we can place the garden. The housing pattern especially in the lowland area generally utilizes the line of road that creates the environment pattern and the dwelling settled along the road with crossing-road pattern.

According to Putra (1991), garden is the man-made open space that utilise the elements whether life or died or soft-hard elements, spiritually, to enhancing the quality of the environment. Other definition was denoted by Dinas Kebudayaan dan Kebersihan. Garden is a space and building that arrange in the open space with compositions the elements of natural garden or man-made include the whole activities to produce a functional environmental creation, useful and fulfill of beauty requirement then it reach the safety of human, spiritually and physically. Finally, based on those both definitions, Dharma Yadnya (1992), he concluded the environmental garden of Balinese traditional housing. It is the arrangement of space and building of exterior environmental traditional housing with its compositions of the element of
natural garden and man-made, to become integrity, unity, to fulfil the beauty requirement. Then it can improve the quality of environment, to fulfil the spiritual and physical safety of human being.

The housing environmental gardens have several functions. They are for safety function, it is to prevent the accident, erosion etc. Amenity function is to reduce the hot weather, to enhance the freshness. Healthy function is to reduce pollution, increase O2 production. Calamity function is to reduce noise pollution. Beauty function is to improve the visual quality. Place for social activities such as place for gather, communication, recreation, sport etc., and specific function is to form the identity or the feature of housing. The plantation for garden is not only beauty flowering but also it can relate to the function of ritual activity. They plant the trees surrounding the holy area or temple, such as:

a. kelapa gading, cocos nusifera  
b. kamboja putih-kuning/jepun Bali, plumeria accuminata  
c. kenanga/sandat, canangius ordorata  
d. cempaka kuning, michelia compaca  
e. melati/menuh, jasminum sambac  
f. pandan wangi, pandanus amaryllifolis  
g. teratai/tunjung putih, nymphaea lotus  
h. sudamala, artimisia vulgaris  
i. cempaga/majegau, dysoxylum densiflorum

The aesthetic trees can plants near the entrance/angkul-angkul in the natah/open space in the middle, such as:

a. kembang sepatu/pucuk, hibiscus rosasinensis  
b. mawar, rosahibrida  
c. soka, ixoxa chinensis  
d. puring, codiaeum variegatum  
e. kenyeri, nerium indicum  
f. kembang merak, caesalpinia pulcherima  
g. tasbih/kana/soga, canna indica

Usually the place of garden outside housing, those are along the road, in the center of dwelling, surrounding the temple, and surrounding the graveyard. The element form is comprised of telajakan, open yard, telajakan of temple, graveyard, penyengker or traditional
fence and main entrance. **Telajakan** is part of housing garden and environmental landscape in traditional village in Bali (figure 10). Hence, the open space along the village road, that is form by repetition pattern of *telajakan* garden from each house, with its differences of topography, thus it is create plazas along the main road of dwelling that unity with *telajakan*, fence and traditional entrance. The function of *telajakan* is to make width the view, to create the friendly.

*Telajakan* is placed along the road between drainage and fence with its width between 1 – 2,2 m. (Dharma Yadnya, 1992). The plants in *telajakan* besides aesthetic function also as an identity of the owner. Other function is to support the spiritual need and for medicine, such as:

a. *pandan duri*, *pandanaceae* *Sp*
b. *kumis kucing*, *orthosiphon stamineus* benth, it can be use for medicine
c. *kembang sepatu*, *hibiscus rosa sinensis*, it is for aesthetic

![Balinese exotic flowers](image)
Balinese exotic trees
Other yard in traditional house is called **Lebuh** that is the yard in front of main entrance. **Lebuh** have two types: it is placed directly in the front of lane or road and it is placed with the position of the back up door, hence occur space it’s called “cangkem kodok” (frogmouth). The function of **lebuh** as a transfer place from outside to inside or reverse. In this **lebuh** area is placed the facility of ceremony such as **sanggah cucuk**, **sanggah agung** and **penjor**.

Every each traditional house in Bali, they have the back yard, it is called **teba**, which is have function for livestock, disposal of solid waste, and usually plants with many type of tropical fruits, such as coconut trees, banana trees, sugar palm trees, bamboo etc. for their daily needs.

**Teba** is a family garden with dual functions, the first function is to conserve the balance of the natural ecosystem and the second function is to be able to breathe fresh air, which is free from pollution.
Figure 10. *Telajakan* at village (Penglipuran)

*Telajakan* at city (Denpasar)
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