

BALINESE TRADITIONAL LANDSCAPE

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ABSTRACT

Balinese traditional landscape defend is an important effort to preseve a vernacular traditional landscape, which is can give calamity, beauty, peaceful, comfort feeling, for healthy, happiness as well as to give Balinese identity. It is also supported by the government program of “ Bali to head for Garden Island”. Principally, Balinese traditional landscape is soul by the philosophy of Balinese culture such as Tri Hita Karana concept, Rwa Bhineda concept, Desa Kala Patra concept, Sekala Niskala concept, etc. Structurally, Balinese traditional landscape can divide into five types as follows Regional landscape, Villages landscape, City landscape, highway landscape and Inheritance Garden. Balinese landscape can begin firstly through the landscaping in the house, where we can placed the garden. The most uniqueness of landscape in the traditional housing of Bali, there are including natah as an orientation of buildings, its garden, back yard/teba, lebuah and telajakan.

Key word: *Balinese Traditional Landscape, Concept.*

DEFINITION OF LANDSCAPE

Back to the old English, Thurner (1987) found that the word landscape is defined as a district or a tract of land. While according to Muller (1977) that cited by Wolfgang Haber (1966) landscape is combination of word “land” with an ancient Germanic origin verb “*scapjan*” which is closely related to the word “shape” in English. Landscape can be understood as shaping process in or on the land that can be done either by natural agent or by natural forces. This refers change, dynamic, or a succession of phenomena and evolution. Landscape was an evaluative word used in a sense, which derived from the neoplatonic theory of art, to mean “an ideal place” (Von Droste, 1995). It was eminently suited to characterising a goal of the planning and design process. However, the evaluative connotations of landscape were never entirely discarded. Recently, the Oxford English dictionary cites the pre dominant modern definition of landscape as a track of land with its distinguishing characteristic and features, and considered as a product of shaping processes and agent.

There are various definition of the landscape according to the scientific disciplines or profession. According to Spirn (1988) landscape architects is a human and natural world, in both an empirical and metaphysical sense. Landscape ecologist determines landscape as a complex of relationship system that together forming (also by virtue of physiognomy) a recognisable part of the earth’s surface and is formed and maintained by mutual action of abiotic and biotic forces as well as human action. Land painters sought to represent an ideal world on canvas. Geographer developed the meaning of landscape by coining the scientific definition as total character of a region of the earth; physically, biologically as well as socially (Zonneveld, 1995).

THE LANDSCAPE TYPE

The general types of landscape morphology are scattered patch landscape, network landscape, interdigitated landscape, checkerboard landscape, mosaic, grid, dot, dot grid, zonation, alteration and gradual transition cline (figure 1).

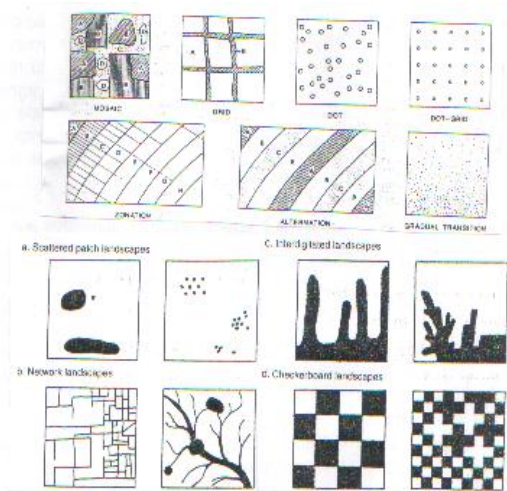


Figure 1 : Variety of structure and landscape pattern

Source : Zonneveld (1995).

Two main reasons do underline for the distinguishing and classifying differences in morphological pattern for the landscape ecologist study (Zonneveld, 1995):

1. Shape, format and size the most obvious and natural way distinguish areas at earth's surface which may differ in their ecological process, behavior and genesis.
2. The nature of the morphological pattern influence to a great extent of material, energy and information flows on the lands, both inside the area under consideration and between spatial units at the earth's surface at any scale of consideration.

THE ELEMENT OF LANDSCAPE

There are two type of landscape elements (Rahman, 1984):

1. Major Landscape Element is the bigger natural element which is difficult to change such as mountain, river, forest, valley, lake and the power of universe (climate, sun, wind, rain, earthquake, moon).
2. Minor Landscape Element is the smaller element that can be easy to change. It is including hill, stream, ditch, scrub, livestock, human, lighting, conditioning, landscape tools, building, road, the open space etc.

Those natural elements will give us emotional impression such as happiness, comfort, calamity, closely feeling, pleasant, peaceful, shady, etc. (Gunadi, 1988).

The important element that can be used to determine the landscaping, there are human, space and the contents of element (Dinas Kebersihan & Pertamanan Prop.Dati I Bali dengan Univertas Udayana, 1989).

1. Human as a part of universe will determine the landscape trough his culture, whether his economic, social, cultural as well. Human will create and arrange the landscape specifically. They culture implies the positive respond for the quality of landscape, whether in the past till now. We can see through garden or landscape in the world that have high value.
2. Spaces are created by human and naturally. The space which is created by human, divide into indoor and outdoor. Indoor content of floor, wall and ceiling, while outdoor only covered by flooring and walling.
3. The contents of element including plant, animal, soil, stone, water, lamp garden, sculpture, pond etc.

BALINESE PHILOSOPHY OF CULTURAL DEVELOPMENT

The concept of Balinese traditional space basically based on the philosophy of Cosmo's religion that sees the human and universe as an unity which contains of the same elements (*Panca Maha Bhuta*). Thence it is clearly described the implementation between soul and universe through the symbols.

Basically, Hindu religion has five beliefs, that is *called Panca Sradha*, that is:

1. Brahman, belief of the existence of God/*Sang Hyang Widhi Wasa*
2. *Atman*, belief of the existence of spirit
3. *Karmaphala*, belief of the existence of cause and effects
4. *Purnarbhawa*, belief of the existence of reincarnation

5. *Moksa*, belief of the existence of redemption (to reach the freedom of spirit or eternal spiritual happiness)

Through *Panca Srada*, the life of Balinese people (Hindu) are based on *Dharma* (the truth) that it has aim *Moksartham Jagadhitaya Caiti Dharma* (to reach redemption and prosperity of human life in the World). Beside that, Hindu religion also has several concepts for Balinese culture development, which has formulated of Local Government of Bali (1994:17-19), such as: (figure 2)

1. *Tri Hita Karana* Concept
2. *Rwa Bhineda* Concept
3. *Desa Kala Patra* Concept
4. *Karma Phala* Concept
5. *Sekala Niskala* Concept
6. *Tri Masa* Concept
7. *Catur Parama Artha* Concept
8. *Taksu and Jengah* Concept
9. Spatio Balinese Culture Concept

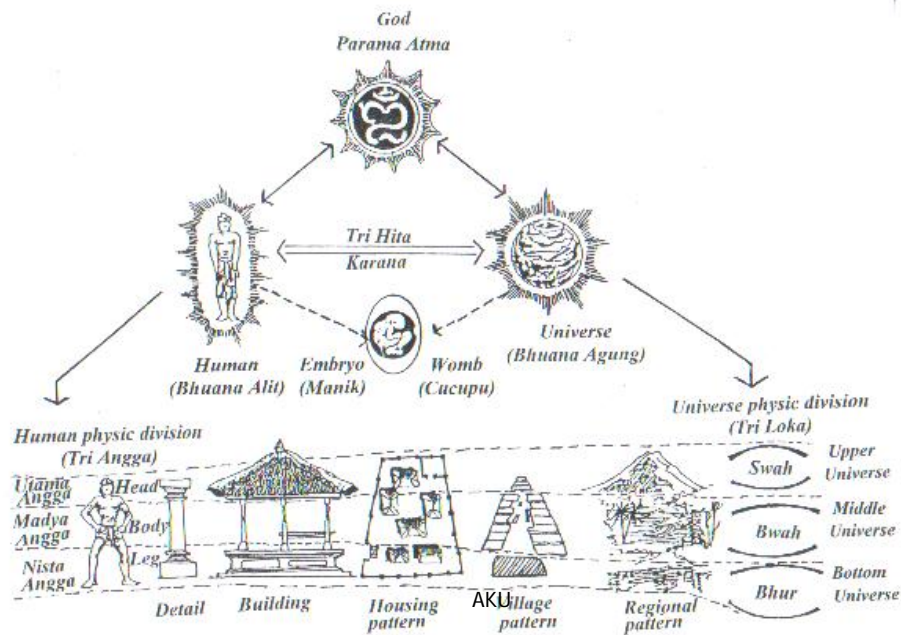


Figure2: The Philosophy of Balinese Cultural Development
Source : Balinese Traditional Architecture.

Those concept as a basis for Hindu people to preserve their inheritance and their culture. They belief of religion and culture are very close relationship, so it is difficult to separate it. As Galloway denoted “religion is the human faith or belief on the power in outside themselves, where they seeking for satisfy of emotional needs and to get their stability of life, so religious belief emerge from human consciousness (Galloway, 1960:185)

1. Tri Hita Karana Concept

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 have safety feeling. In this case *Tri Hita Karana* are included *Parahyangan*/God, *Pawongan*/ activities organisation, and *Palemahan*/ areas or region of environment.

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. *Tri Hita Karana* concept becomes the pilot in setting the environment, social interaction, economic and technology activity also other social regulation. From the space planning, environment planning and construction planning, the relationships of these planning establish *Parhyangan* (holy space) that is representing man-to-God relationship, *Pawongan* (society) is representing man-to-man relationship and *Palemahan* (Settle place), which is representing of man-to-environment relationship. These relations formed space structure with Main Core *Catus Patha* (cross road) and hierarchical space which is called *Sanga Mandala* (nine allotments area) through the quality function criteria that is called *Tri Angga* (*Utama, Madya, Nista*).

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*.

2. *Rwa Bhineda* Concept

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* 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.

3. *Desa Kala Patra* Concept

Hindu religion has foundation and techniques in term of to face the foreigner culture. It's like a rubber ball, which it rolled to the sand, it will stick that sand. If the ball rolled to the red soil, then the red soil become a part of the ball. This is means, the rubber ball still intact only the outside of the ball are change. *Weda* holiness books as a basis of Hindu religion, while custom and culture always adaptive with the environment. The Hindu society in Bali, they don't static with their own culture, but they always dynamic and creative to find a new form. Their belief will not funded although gnawed or disturbed by other culture. This concept is means space (*desa*), time (*kala*) and condition (*patra*) that its have harmony and balancing to receive the differential in the unity. This concept will give the flexible foundation for communication inside or outside of country and its also can receive the variation of differential regarding to space, time and condition.

4. *Karma Phala* Concept

The concept of karmaphala means result (*pahala*) from the causes or activities (*karma*), that the good activities will give good results, and reverse. This concept also can define as cause and effect, which is will give foundation

for our life, our science, and the spiritual of supervision.

5. *Sekala Niskala* Concept

The reality in the world, bad and good is always in one thing. For example, morphine we can change as a medicine if we reduce it doses and use it harmonically. Flame or fire can burn something, however it can help us for cooking, for instance. From this conception has born characteristic of Balinese, which they don't blame other people quickly and they always take a wisdom from the differences. Thus they become a creativity that they always open feeling from outside influences and then they selective and process it, and take the good one. Unappriory attitude made Balinese people easy to develop their culture. In fact, Balinese people, they was selective and creative in receiving Chinese culture, India, Java, Dutch as well.

6. *Tri Masa* concept

The process implicit the time, it is called *Tri Masa* concept (comprise of the time in the past, recent, and the future). These concept forms of cause and effects relationship that it couldn't separated. *Punarbhawa* or reincarnation concept and *karmaphala* are formed from cause and effect concept. This concept influences the culture in term of honour of ancestor and their inheritance. Their honour custom causes the continuation or preservation of the inheritance even though they didn't understand of its function.

7. *Catur Parama Artha* Concept

The concept is contains of four elements i.e.: wealthy (*Artha*), cause and effect (*Kama*), witnesses (*dharma*), and heaven (*mokhsa*) that the function are to maintain the harmony of life even material and spiritual in the World and in the heaven.

8. *Taksu* and *Jengah* Concept

This concept are two paradigm that its have important function in Balinese Culture. *Taksu* means intern powers that give us the talent and beauty to produce a big creation. *Jengah* has connotation as an enthusiasm to produce a big

creation. *Taksu* and *Jengah* are two intern powers that always together, so its will be possible to occur of the continuing of cultural transformation through out maintaining, conservation, construction and development.

9. Spatio Balinese Cultural Concept

The concept of Spatio Balinese Culture are the spelling out of Balinese socio-culture aspect. It is come from the cultural conception and the life philosophy of Balinese society that based on Hindu religion, i.e. *Tri Hita Karana* conception.

THE VERNACULAR OF BALINESE LANDSCAPE TYPE

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, 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 sources 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 are 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.

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.

c. Beaches Landscape

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* (Pandanus 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.



Figure 3: Regional vernacular landscape

Source: Bali Postcard.

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 emphasised 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 point 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).

Emerge the comprehension of open space of the city is that the land or vacant land without building, for recreation, land

conservation, or other resources or it have historical values and specific quality (Salfiti, 1985). The open space planning of the city is part of city planning, as a recreation place, barrier to avoid the crossing between the biggest road and also for balance between building and open space in the city (Musa, 1978). Whyte (1968) stated that planners now see open spaces as a key to the design of regions and the process of selection has become a technically formidable task. Open spaces planning used to be simple functions:

1. To shape and structure to metropolitan development; which is to say the great benefit of open space is not what it will provide, but what it will prevent. Where there is secure open space, unplanned growth cannot take place.
2. They are all for recreation and scenery

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.

The fundamental lesson is that open space has to have a positive function. People must be able to do things on it or with it – at the very least, to be able to look at it. Containment is negative, and it does not work – a conclusion the Japanese came to in 1965 when they abandoned a proposed London type green belt to contain Tokyo. A good open space can work at several levels and the fact it is so obviously useful as a local space does not prevent it from being important for the people of the larger area as well. We are dealing with two kinds of reality. One is the physical open space; the other is open space as it is used and perceived by people. Of the two, the latter is the more important. It is after all, the pay-off of open space action. Traditional recreation standards tend to obscure such opportunities. They have their uses but the emphasis is on how much open space, ideally, an area ought to have. For park space the most commonly accepted formula is 10 acres in cities for each 1000 peoples, 15 acres in suburbs, and 65 acres in State Park (Whyte, 1968)

4. Highway Landscape

Highway is one of an artery in the city also connection 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 make 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 as 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 its 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.



Figure 4: the Highway Landscape
Source: Documentation, 1999.

5. Historical Inheritance/ Archaeological Landscape

Talk about 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.

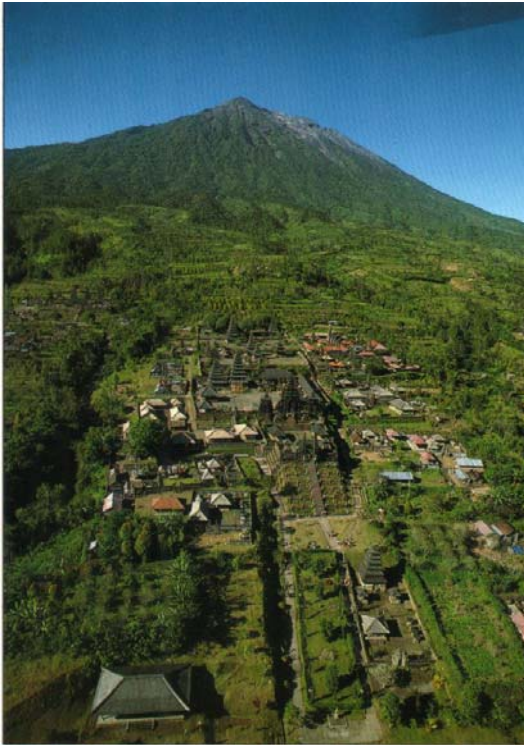


Figure 5: Besakih Temple

Source: Bali Postcard.

Besakih temple area has several zones, which have different veneration function. The element 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).

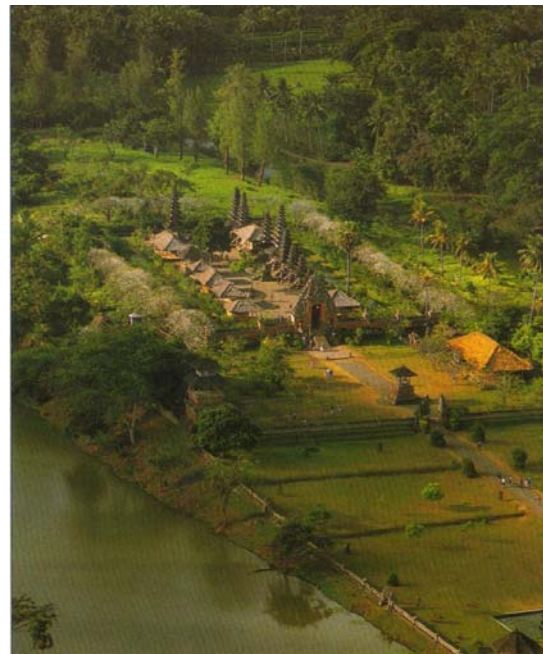


Figure 6. Taman Ayun Temple

Source: Bali Postcard.

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 its 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 ever been planted *rijasa* tree (*anyang-anyang* or *Alaecarpur Grandi*)



Figure 7. Tirta Gangga Garden
Source: Bali Postcard.

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:

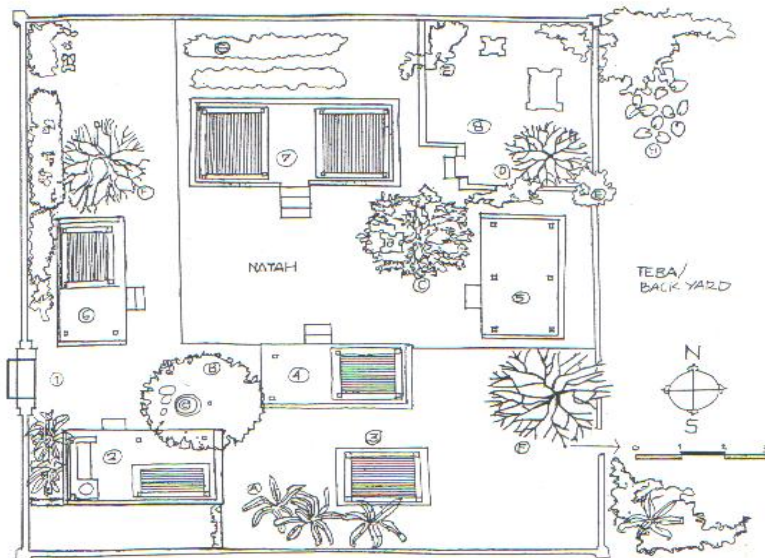
1. There were placed inside and outside of palaces */puri*
2. The function of landscape architecture inheritance are as a recreational and bathing place of kingdom family, also as a place of religion activities or combination of those function
3. Dominated by water, which is intercepted by square ponds, 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.

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
4. Sumanggen/Multipurpose building
5. Bale Dangin/East Building
6. Bale Dauh/West Building
7. Sumanggen/Mi\ultipurpose 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.

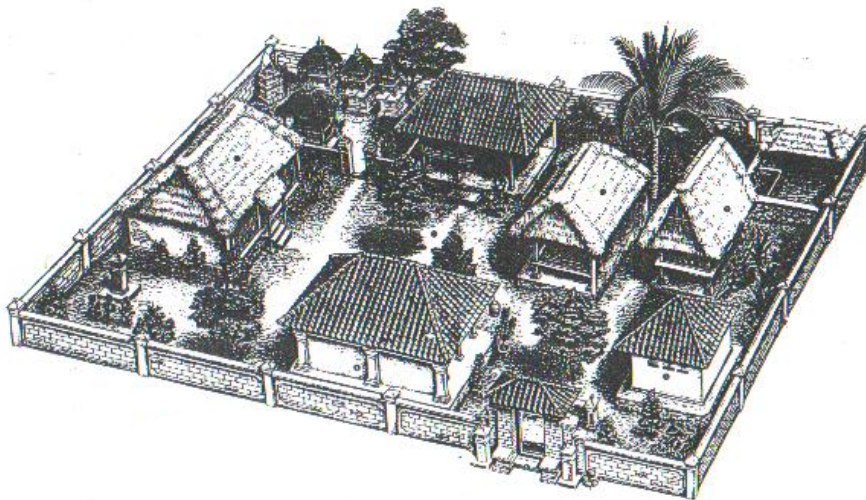


Figure 9. Perspective of *Umah*

Source: Encyclopaedia: Indonesian Heritage.

The landscape planning can begin firstly through the landscaping in the house, where we can placed 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 fulfil 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 plants 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 odorata*
- 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, codiaeam 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

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 *sangghah cucuk*, *sangghah 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.

Nowadays, it is because of the technological advancement and rapid growth of population that Bali faces similar problems encountered in other parts of the world, especially in urban areas such Denpasar City.

These days Balinese people don't have any *teba* areas anymore. Luxury houses or hotels that are mostly owned by foreigners have replaced the green outdoor areas. Nowadays living in the city has become more and more crowded. Gradually green outdoor areas might be removed and replaced by high buildings or shop houses. But Balinese who live in suburban area or villages still can breathe the fresh air because they maintain their green outdoor areas. *Teba* as a family garden is well nurtured (Sumadi, 2000)



Figure 10. *Telajakan*

Source: Documentation, 2000.

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