

BALINESE PLANNING PHILOSOPHY: IMPLEMENTATION IN DENPASAR CITY PLAN

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ABSTRACT

Tri Hita Karana, Tri Mandala, and Sanga Mandala are the Balinese spatial planning philosophies. Core values in Tri Hita Karana are balanced and harmony among parahyangan, palemahan, and pawongan. Denpasar city plan was stated formally based on Tri Hita Karana. Application of this concept was revealed into Tri Mandala and Sanga Mandala which producing nine zones. If these philosophy implemented fully then the land allotment in the spatial plan follow the rules and there is no problem of disharmony between the elements of Tri Hita Karana. The purpose of this study is to identify deviations in the application of traditional Balinese spatial concepts in the Denpasar city plan and proposed prevention of the emergence of problems in its implementation. To find deviations between the Tri Hita Karana concept and the city spatial plan, an overlapping analysis was conducted between the Sanga Mandala zoning and the Denpasar city spatial plan. The results show that there have been deviations in various zones. To prevent the emergence of problems due to deviations, implementation needs to be supported by zoning regulations and other supporting regulations.

Keywords: *tri hita karana, city spatial plan*

INTRODUCTION

The realization of safe, comfort, productive and sustainable spaces of Denpasar city is the goal of the city spatial plan (D.N. Wastika, 2005). One indicator of sustainable space is the existence of harmonious and balanced interaction among the Tri Hita Karana components.

Tri Hita Karana is a philosophy that underlies Balinese culture in the use of space. Culture is the whole of human knowledge as a social creature that is used to understand and interpret the surrounding environment and becomes the basis of behavior (Astika in D. Roth; G. Sedana, 2015). Human actions are manifestations of their culture. One form of human actions is arranging the spatial plan. By the spatial plan which based on culture of harmony, sustainable city can be created and is expected to further influence the quality of life.

Balinese people have strong traditional culture. Their behavior are regulated and based on the teachings of Hinduism which consist of three elements: *tatwa* or philosophy, *susila* or ethics, and *upacara* or ritual (Meganada in D. Roth; G. Sedana, 2015). *Tatwa*, *susila*, and *upacara* in daily life are directed to achieve a harmonious relationship between the *bhuana alit* (human) and the *bhuana agung* (God Almighty). The conception governing the relationship between humans as *bhuana alit* and the universe as *bhuana agung* is known as *Tri Hita Karana* or the three elements of life (D. Roth; G. Sedana, 2015). This concept is used by integrating human beings in utilizing the environment, both with biotic, abiotic, and socio-cultural elements (D. Purnomo, 2009).

Tri Hita Karana consists of three elements, namely *parahyangan* (human relationship with God), *pawongan* (human relationship with human), and *palemahan* (human relationship with the natural environment) (Local Government of Denpasar City, 2019). In everyday life, the concept of Tri Hita Karana must be the basis for the use of space.

In order to providing protection of spatial functions and preventing negative impacts on the environment and the culture, the spatial plan is aimed to guide the realization of the philosophy of *Tri Hita Karana* which is adjusted to the socio-cultural character of the community by referring to the derivative of this concept itself. For spatial orientation is based on the concepts of *Tri Mandala* and *Sanga Mandala*. These two concepts are the foundation for the realization of a dynamic unity of spatial planning and protecting the environment.

Bali island has become a national and foreign tourist destination. It makes the tourism development sector develops rapidly. It created an employment which attracts high inward migration, especially to the southern part of Bali island where Denpasar city is in it. The main motivation for migration is economic motives, namely to obtain higher employment and income (Mantra in (I.A.W. Kasuma; I. Suprijanto, 2012).

Denpasar City as the provincial capital city is the center of economic and government turnover. It is considered a densely populated city. By 2019 its population will be around 930.600 (Bali Provincial Regulation Number 16 of 2009 the Bali Provincial Spatial Plan (RTRW) for 2009-2029, 2009). In addition to being an administrative and government center, it is the center for education, commerce, and offices. The development has either positive or negative impacts, one of them is the problem of carrying capacity as well as the threat of fading of the cultural values that are the markers of community and Balinese identity. Therefore, it is necessary to have a spatial plan and its implementation based on the local wisdom so that the development process of the city is controlled and leads to its sustainability.

Application of the concept of *Tri Hita Karana* with *Tri Mandala* and *Sanga Mandala* is the basis to realize harmonious relationship among *parahyangan*, *palemahan*, and *pawongan* in order to achieve the sustainable city. The purpose of this article is to find

deviations in land use plan between the *Sanga Mandala* zoning concept and the Denpasar city spatial plan and propose solutions to overcome the rising problem in reality due to these deviations.

TRI HITA KARANA

The words of *Tri Hita Karana* come from Sanskrit, *tri* means three; *hita* means prosperity, good, happy, sustainable; and *karana* means the cause. *Tri Hita Karana* means three causes/elements that make life (I.M. Adhika, 2004). The three causes or elements include the soul called *atman/atma*; the energy or strength called *prana/kaya*; the body, container or physical called *sarira/angga*. These three elements underlie the formation of the cosmos from the most macro called the macrocosm (*bhuana agung/universe*) to the most micro called the microcosm (*bhuana alit/human*).

In (T.N. Samadhi, 2001), *Tri Hita Karana* is a philosophy of Balinese life that build a balance and harmony of the relationship between humans and God, humans and humans, and humans with their environment that is a source of prosperity, peace, and happiness for human life. The three relationships must be maintained and preserved because among them interrelated so that they can form a harmonious relationship. See figure 1.

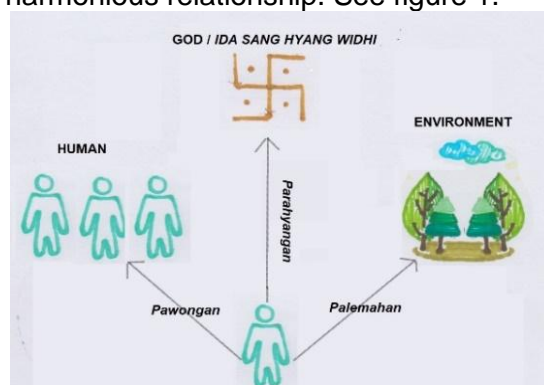


Figure 1. The Tri Hita Karana Concept

Tri Hita Karana is a local wisdom that serves as the philosophy of life (way of life) of the Balinese people in all aspects of life. This philosophy is adopted and practiced in order to achieve the goals of human life, namely happiness and well-being both physically and mentally. In Hinduism, happiness or physical welfare is

called *jagadhita* while spiritual/inner happiness is called *moksa*. This philosophy is reflected in the governance of Balinese life which is realized through *parahyangan*, *pawongan*, and *palemahan*.

1. Parahyangan

Parahyangan regulates human relations with *Ida Sang Hyang Widhi* (the God) as the creator of the universe, as the origin, and purpose of humans (M.M. Sudarwani; I. Priyoga; Penglipuran D. A.; Bangli K.; Cempaga D. A., 2018). This is realized by the existence of land to build the holy places or praying facilities (sacred) as a symbol of the close relationship to God. Every religious community has a sacred place in meeting his spiritual needs (worship), as a place to establish relationships with the creator. In the Hindu religion, *parahyangan* is indicated through the *tri kahyangan* or three revelation which represents the humans-God relationship which is located in the sacred part of the area (I.G Suyoga, 2017). The worship area is not only intended to praise *Ida Sang Hyang Widhi*, but also to praise each family's ancestors. The meaning of this concept is also a symbol of respect for the existence of other God's creations or noetic that does not appear in accordance with the belief that as human beings will live side by side.

2. Pawongan

Pawongan regulates interpersonal relationships in social life, thereby creating goodness, pleasure, and sustainability (I.G Suyoga, 2017). Human as a social being needs a place to establish relationships with others. *Pawongan* in the order of life is represented by a residential area. Balinese settlements take the form of dwellings called *sima karma* villages which represent human relations [10]. Residential system in Bali is regulated in the traditional village system. It is a community unit in a *tri kahyangan* bond (*parahyangan*) that has a certain area with a unity of tradition as a social group. Society behaves as a unity towards the external world both physically and spiritually and is hereditary. Indirectly, this concept has always been the basis in

strengthening the relations between people that are absolute.

3. Palemahan

Palemahan is the human and environment relationship. It is the territorial area where humans live in their environment (M.M. Sudarwani; I. Priyoga; Penglipuran D. A.; Bangli K.; Cempaga D. A., 2018). *Palemahan* determines that true happiness can only be achieved if humans live in balance and harmony, one of which is through its relationship with the environment (I.P.G Wiradana; I.G.P.A Putra ; E. Budi, 2010).

Human - environment relationship is a reciprocal that influences one another. Humans need the environment to be able to survive and continue their lives. On the contrary, the environment needs humans, namely in the process of maintenance (one of which is through religious ceremonies), protection, and good management.

TRI MANDALA

The meaning of *Tri Mandala* is: *tri* means three and *mandala* means space (I.K.G. Santhyasa, 2017). It is a spatial planning system dividing an area into three zone which different spatial values influenced by the direction of two orientations: the orientation of mountain-sea (Kaja-Kelod) or North-South and the orientation of sunrise and sunset (Kangin-Kauh) or East-West. This concept is basically a guide in the division of complex areas or land.

In the sea-mountain orientation (Local Government of Denpasar City, Denpasar City Regulation Number 3 Year 2015 Waste Management, 2018), *Tri Mandala* divides area into the following three sections:

1. *Utama Mandala* is a zone in the upper reaches and is used for sacred/spiritual activities with a high level of purity.
2. *Madya Mandala* is a zone in the middle and is worldly (social, economic, and housing) or profane/communal with a moderate level of purity.

3. *Nista Mandala* is a zone that is located in the downstream and is commercial or service with a low level of purity.

Guided by the sunrise-and-sunset orientation (Local Government of Denpasar City, Denpasar City Regulation Number 3 Year 2015 Waste Management, 2018)], *Tri Mandala* divides area into three parts:

1. *Utama Mandala* is most eastern zone.
2. *Madya Mandala* is the middle zone.
3. *Nista Mandala* is the most western zone.

If the *Tri Mandala* is developed into a spatial pattern, zoning is obtained in the form of nine values zones called *Sanga Mandala* (Sudibya in Local Government of Denpasar City, Denpasar City Regulation Number 3 Year 2015 Waste Management, 2018). See figure 2.

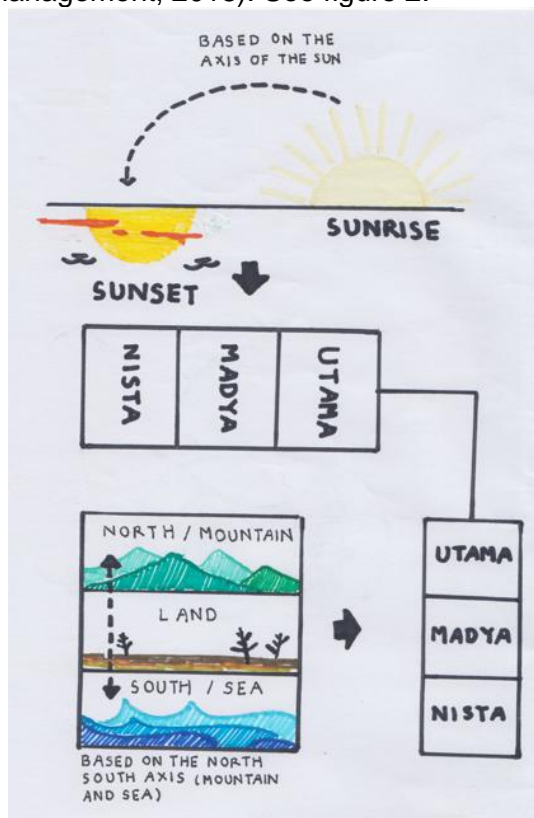


Figure 2. Tri Mandala Concept
Source: Adoption from Eko Budihardjo in (D. Roth; G. Sedana, 2015)

SANGA MANDALA

The *Sanga Mandala* was derived from the *Tri Mandala* which was adjusted to the criteria based on traditional Balinese spatial planning (Regional Regulation of Bali Province Number 4 of 2019 Desa

Adat in Bali, 2019). This is a traditional concept based on cosmological orientation to achieve a harmonious life. *Sanga Mandala* means nine areas. This conception was born from the nine manifestations of *Ida Sang Hyang Widhi* in maintaining the balance of nature towards a harmonious life called *Dewata* (the Gods of) *Nawa Sanga* (Meganada in D. Roth; G. Sedana, 2015). *Dewata Nawa Sanga* points in the direction of the eight cardinal points plus the center in the middle. The sacred area is always placed in the direction of the mountain (*Kaja-Kangin*), while the profane area is placed in the direction that leads to the sea (*Kelod-Kauh*).

The parts of *Sanga Mandala* arranged from the sacred to the profane zones are (see Table 1):

Table 1. The Concept of Sanga Mandala

UN	UM	UU
MN	MM	MU
NN	NM	NU

Source: Eko Budihardjo in (D. Roth; G. Sedana, 2015)

1. *Utamaning Utama* (UU) is the northeast zone using for sacred areas (temples) and green open spaces.
2. *Utamaning Madya* (UM) is the north zone intended use for educational facility, green open space/park/botanical garden, sacred area (temple).
3. *Utamaning Nista* (UN) is the northwest zone using as sacred area (temple), parks, cemeteries, final disposal sites, and sports fields.
4. *Madyaning Utama* (MU) is the east zone intended as a green open space/park, educational facilities, sacred area (temple), and parking.
5. *Madyaning Madya* (MM) is the middle zone for the center of community life and allotment of land is used for settlements, trade and services, industry, offices, government, hotels, and open space.
6. *Madyaning Nista* (MN) is the west zone intended for trade and services, sports fields, utilities/infrastructure, industry, health facilities, and ports.

7. *Nistaning Utama* (NU) is the southeast zone for a grave, landfill, sports field, and park.
8. *Nistaning Madya* (NM) is the south zone for trade and services, sports fields, infrastructure/utilities, industry, and health facilities.
9. *Nistaning Nista* (NN) is the southwest zone designated as a landfill, grave, fields/moor and sea.

The implementation of *Sanga Mandala* is based on the belief system, through a sense that is formed from a tradition that forms values and spatial order so as to form a harmonious framework.

METHODS

The methodology used to pursue the objectives is as follows: first, deriving the philosophical concept of *Tri Hita Karana* into nine zones of *Sanga Mandala* and its type of land allotment. The second is conducting overlapping analysis between *Sanga Mandala* zoning and Denpasar city plan to assess the deviation between them. The Denpasar city plan governs the dominance of land use, while *Sanga Mandala* directs it in more detail. Third, find the land use problem based on the area of deviations. The fourth is proposing the solutions to overcome the rising problem in the deviation area.

THE SPATIAL PLAN OF DENPASAR CITY

See Figure 3. Land uses based on the Denpasar City Spatial Plan are as follows:

- a. The city service center systems consist of: the city center, the city sub-centers, and the neighborhood center.
- b. The built environment includes allotment areas of: housing and settlement, trade and service, office, tourism, industrial and warehousing, disaster evacuation areas, informal sector allotment activities, non-green open space areas, and other designation areas.

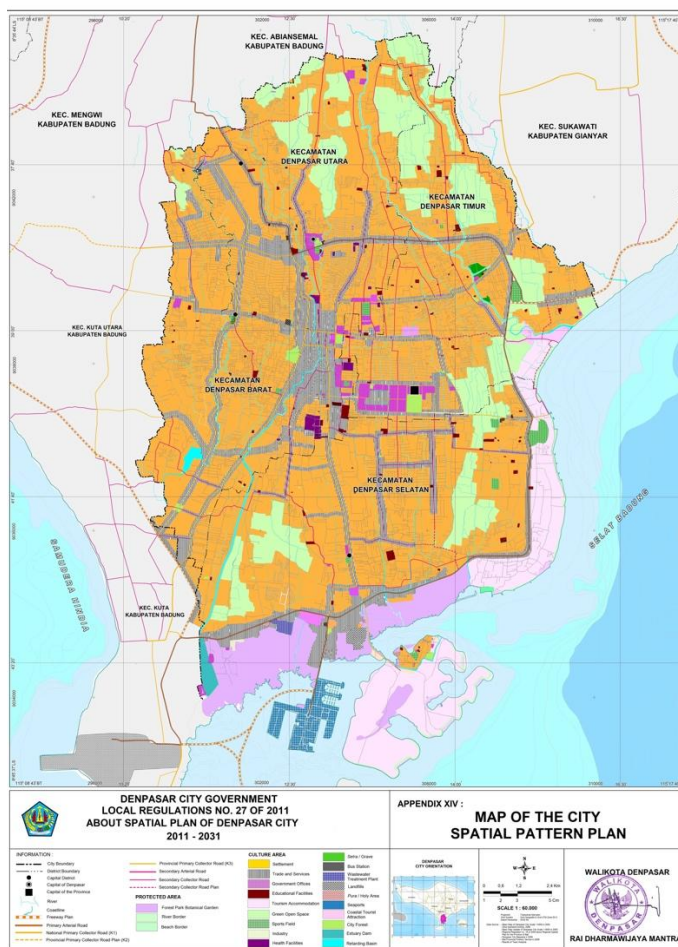


Figure 3. Map of Denpasar City Spatial Plan
 (Source: D.N. Wastika, 2005)

- c. Protected areas including areas that provide protection to the area underneath, local protected areas (coastal borders, river borders, around springs, etc.), nature conservation areas, cultural and scientific reserves (mangrove forested coastal areas, major forest parks, etc.), disaster-prone areas, and green open spaces (green space parcels, green space in residential environments, city-scale green space, public green space, private green space).

IMPLEMENTATION OF BALINESE SPATIAL CONCEPTS IN THE DENPASAR CITY PLAN

The *Tri Hita Karana* underlies the formation of the *Tri Mandala* which consists of the *Utama Mandala* (sanctified/sacred place); *Madya Mandala* (where life goes), and *Nista Mandala*

(profane places). These three zones are influenced by the orientation of the mountain-sea and sunrise-sunset directions. If the two orientations in the *Tri Mandala* are combined to produce spatial patterns and zoning methods for a site consisting of nine (9) spatial values areas called *Sanga Mandala*. The nine zones are *Utamaning Utama (UU)*, *Utamaning Madya (UM)*, *Utamaning Nista (UN)*, *Madyaning Utama (MU)*, *Madyaning Madya (MM)*, *Madyaning Nista (MN)*, *Nistaning Utama (NU)*, *Nistaning Madya (NM)*, and *Nistaning Nista (NN)*. So, the concept of *Sanga Mandala* becomes the basic reference to review the implementation of the Balinese spatial concepts in the spatial plan of Denpasar City, mainly based on its location/position and land uses. Consider Figure 4. The results in Figure 4 are used in Figure 5 to explain the implementation of the *Sanga Mandala* concept in the Denpasar City spatial plan.

The results of the suitability analysis (c-row) between the Balinese spatial concepts (a-row) and the land use plan in the Denpasar City Spatial Plan (b-row) is shown in Table 2.

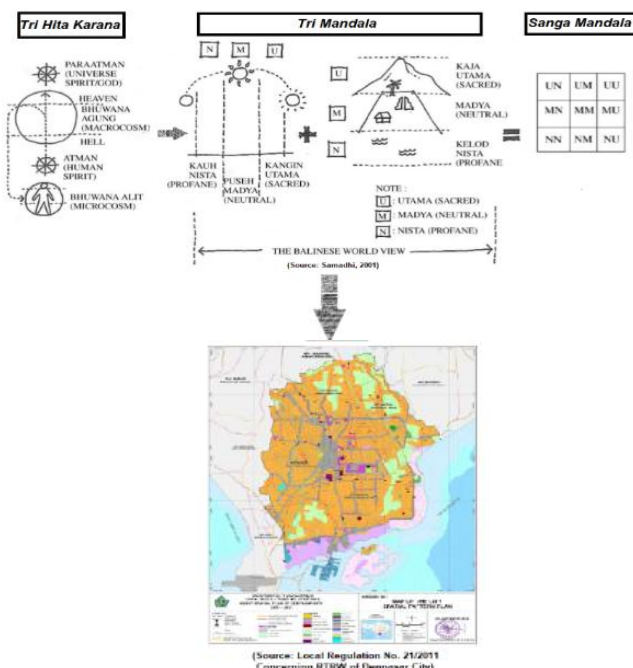


Figure 4. The Concepts of Tri Hita Karana, Tri Mandala, & Sanga Mandala to Review the Denpasar City Spatial Plan (Source: I.G Suyoga, 2017 & D.N. Wastika, 2005)

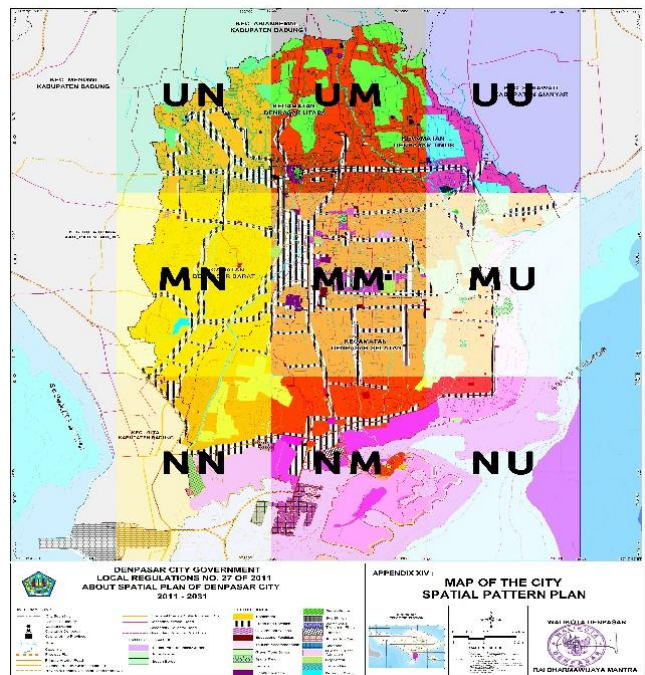


Figure 5. Implementation of Tri Hita Karana, Tri Mandala, & Sanga Mandala in the Denpasar City Spatial Plan (Source: Analysis, 2020)

Table 2 Comparison of Allotment between Balinese Concepts and The Denpasar City Plan

1 <i>Utamaning Utama Area</i>
a in the Southeast; sacred areas (temples) and green open spaces
b green open space, urban forests, settlements, and educational facilities.
c settlements and educational facilities are not in accordance with the concept.
2 <i>Utamaning Madya Area</i>
a in the north; educational facility, green open space/park/botanical garden, sacred area (temple).
b green open space, settlements and educational facilities.
c In this area, only settlement needs control because it is not in accordance with the concept.
3 <i>Utamaning Nista Area</i>
a in the northwest; sacred area (temple), parks, cemeteries, final disposal sites, and sports fields.
b settlements, green open spaces, trade and services, stalls or graves, terminals, and educational facilities.

c settlements, terminals, educational facilities, trade and services are not in accordance with the traditional Balinese concept of space.

4 Madyaning Utama Area

a in the east; green open space/park, educational facilities, sacred area (temple), and parking.

b green open space, settlements, sports fields, educational facilities, urban forests, government offices, and coastal borders.

c Settlements and government offices are not in accordance with the concept.

5 Madyaning Madya Area

a in the center; settlements, trade and services, industry, offices, government, hotels, and open space.

b government, settlement, urban forest, health facilities, trade and services, sports fields, sacred areas (temples), and tourism accommodation (hotels, entertainment facilities, etc.).

c In general, the allotment is in accordance with the concept. As a central area of life, allotment is directed at settlements consisting of housing and allotment of socio-economic activities which need to be supported by open spaces such as urban forests and sports fields.

6 Madyaning Nista Area

a in the West; trade and services, sports fields, utilities/infrastructure, industry, health facilities, and ports.

b settlements, sports fields, trade and services, educational facilities, government, health facilities, and retarding basins.

c the government facilities that should be at the center of the city.

7 Nistaning Utama Area

a in the northeast; grave, landfill, sports field, and park.

b Settlements, green open spaces, educational facilities, tourism accommodation, and sports fields.

c Allotment of settlements, tourism accommodation, and educational facilities *outside the designation in concept*.

8 Nistaning Madya Area

a in the south; trade and services, sports fields, infrastructure/utilities, industry, and health facilities.

b trade and services, sports fields, industry, settlements, educational facilities, holy areas (temples), Setra or Kuburan, landfills, ports, terminals, urban forests, grand forest parks.

c Only trade & service, industry and sports are in accordance with the concept. While the rest are beyond the concept. So, in this area needs controlling the use of space.

9 Nistaning Nista Area

a in the Southwest; landfill, grave, fields/moor and sea.

b settlements, green open spaces, straits or graves, landfills, DAM estuaries, trade and services, industry, grand forest parks.

c settlements, industry, and trade & services is not in accordance with the concept.

DISCUSSION

The implementation of the concept of Balinese spatial value in the Denpasar City Plan lies in the placement of the area based on the following pattern:

1. *Utama* area (*bhur loka*) is an area that must be protected and designation as a green open space which is useful as a water catchment area and storage of ground water reserves. *Utama* area is the most sacred level of purity that should be designated as a sacred area (*pura*), but in the Denpasar City spatial plan the area it is *not well planned and implemented*.
2. *Madya* area (*swah loka*) is the center of government and residential areas. This area has been *implemented well* in the Denpasar City spatial plan. This area functions as the center of the city or a place for community activities to meet their daily needs. The designation in the spatial plan *has fulfilled its function and role*.
3. *Nista* area (*bwah loka*) is an area that is considered less sacred. This area in the spatial plan of Denpasar City as a final disposal and cemetery located in

the southern part of city. But in this area there is also a sacred area plan (*Pura*) that is incompatible with the traditional Balinese spatial concept. This happens because the temples, especially *Pura Dalem* in this area, have functions and manifestations of the surrounding environmental conditions (customs) that connect humans with unholy parts of nature.

Based on the Balinese traditional spatial concepts, in the Denpasar City spatial plan, the green open space area is the most appropriate according to the area of its development planning. This can be seen from the availability of green space in several areas including *Utamaning Utama*, *Utamaning Madya*, *Madyaning Utama*, and *Nistaning Utama*.

In *Madyaning Madya*, there is a match between Denpasar City Plan with the concepts, such as the downtown area as a core area designated in the spatial plan as an area of settlement, government, and trade & services. For shrines (temples) it is not quite appropriate when referring to the concept. This can be seen from the absence of planned shrines in the *Utamaning Utama*, *Utamaning Madya*, and *Utamaning Nista*. The sanctuary area (temple) is considered as the cleanest and most sacred area, so that it is conceptually at the top (*Utamaning*). Likewise, *Setra* (grave) and landfills areas are in accordance with the concept, which is located in the *Nistaning* area or can be said to be a profane or impure area.

Land uses in Denpasar City Plan are not suitable with in the spatial concept of the Balinese. Domination of the settlements is spread in areas not intended for them. The increasing population is one of the reasons which caused by inward migration from outside the island of Bali. In 2016 the number of tourists in Bali reached 625,431 and those who settled in Denpasar City were 54,921 (Local Government of Denpasar City, Denpasar City Regulation Number 3 Year 2015 Waste Management, 2018). It allows for deviations in some locations such as the sacred plan area (temple) in reality turned into residential. The implementation of *Tri Hita Karana*

cannot be maximized, especially in the realization of *parahyangan* (the relationship between humans and God).

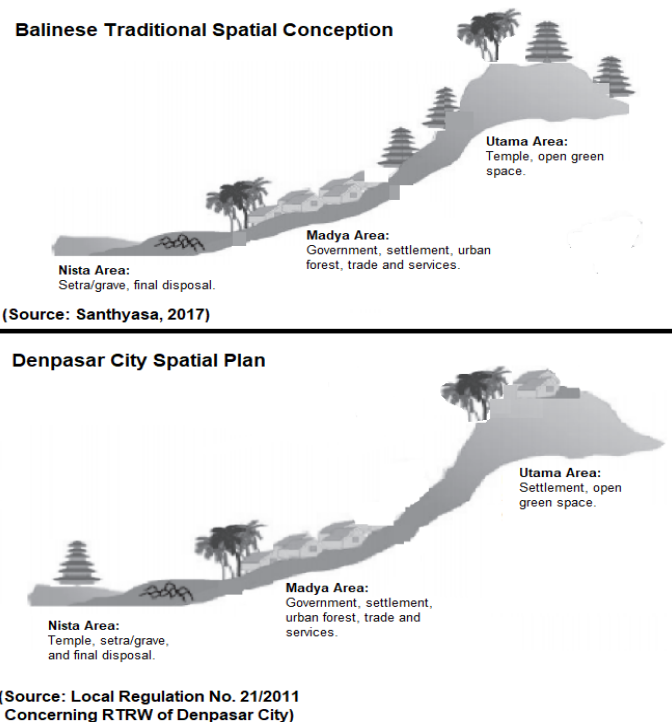


Figure 6. Illustration of Comparison of Traditional Balinese Spatial Concepts with Denpasar City Spatial Plan
(Source: D.N. Wastika, 2005 & I.K.G. Santhyasa, 2017)

The results of the overlapping analysis in table 2 show that differences generally occur in settlements that is in areas not designated for it, as can be seen in Figure 7.

The large number of arrivals to Denpasar city who are not necessarily familiar with *Tri Hita Karana* by bringing economic motives has encouraged the deviations in land uses and activities. In this case, more detailed development guidelines are needed. City Plan is not enough to guide the physical development. It needs zoning regulations which contains directions on the type of activity (permitted, conditional, limited, not permitted), its intensity, its building height, and others. More over in Denpasar there are three locations which are historical tourist destinations that must be preserved, namely Puputan Margarana Renon Field; Bali Museum; and Bajra Sandhi Monument. The Puputan

Margarana Renon Field has been established in a spatial plan as an area for the designation of recreational facilities, parks and sports that aims to maintain the existence/presence of the field in Denpasar City. The Bali Museum & Bajra Sandhi Monument is set in the city plan as a designated tourist attraction area.

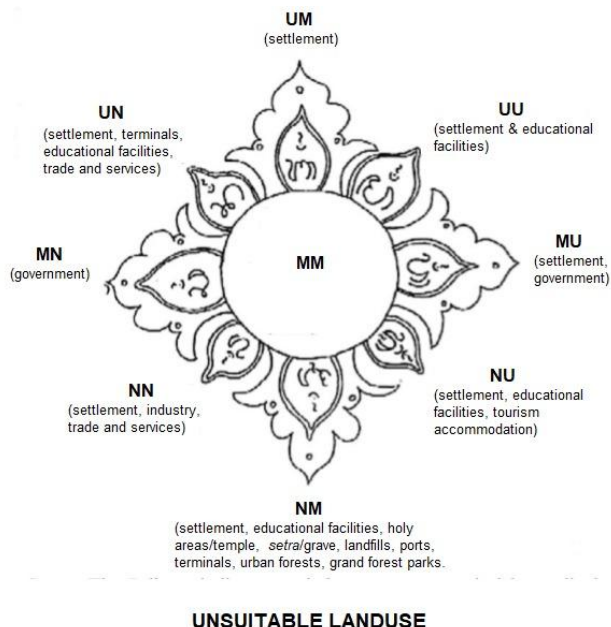


Figure 7. Unsuitable Types of Land Use Plans with The Balinese Spatial Concept

Institutionally to overcome the deviation required a variety of supporting regulations. The presence of them is very helpful in creating harmony and implementing of *Tri Hita Karana* in daily life. Two examples of regulations can be stated as follows.

In (Local Government of Denpasar City, Denpasar City Regulation Number 3 Year 2015 Waste Management, 2018) regarding Waste Management has governed the prohibition such as disposing of waste from the *upakara* (traditional event) to environmental media (*Bank Data Kota Denpasar, 2018*). This is an example of local government and community efforts to maintain a balanced between *parahyangan* (relationship humans and God) and *pawongan* (human relations with their environment). This condition is reflected in the *Adiwiyata Mandiri* award received by Denpasar City in 2018 (*Bank Data Kota Denpasar, 2018*).

In (Regional Regulation of Bali Province Number 4 of 2019 *Desa Adat* in Bali, 2019) regulation concerning *Desa Adat* in Bali protect the ongoing traditional Balinese settlements which is crucial in manifesting the teachings of *Tri Hita Karana* from the insistence of development due to the large number of migrants.

Meanwhile, migrants who are not familiar with the concept of *Tri Hita Karana* need to be socialized with this concept and elaborated in their daily activities to participate in maintaining the balance and harmonization between the elements of *parahyangan*, *pawongan* and *palemahan*.

CONCLUSION

Based on Local Regulations No. 27 of 2011 Spatial Plan of Denpasar City, the spatial plan is based on *Tri Hita Karana*, but in some zones this concept is not implemented according to the philosophy, these zones include:

1. The *Utamaning* Zone, the plan to designate a sacred area (temple) is not yet implemented. In this zone, there is no temple construction so that the component of *parahyangan* (human relationship with God) is not balanced yet.
2. The *Madyaning* Zone (central/downtown) has been implemented due to most of the settlement designation is in accordance with the *pawongan* component (human relations).
3. The *Nistaning* Zone is a profane area that has been implemented, can be seen through the application of the *palemahan* component (human relations with the environment) in the form of the designation of final disposal sites (landfills), *setra* (graves), and industrial areas.

To reduce deviations, zoning regulation and supporting regulations are needed.

RECOMMENDATION

The following recommendations are addressed to the local government of Denpasar City:

1. It is necessary to maximize the implementation of the concepts of *Tri*

- Hita Karana, Tri Mandala, and Sanga Mandala* in spatial planning in Denpasar City through zoning regulations.
2. Remain consistent in implementing existing regulations and complementing other regulations to prevent deviations between the designation in the spatial plan and the Tri Hita Karana conception.
 3. Continuously internalizing *Tri Hita Karana, Tri Mandala, and Sanga Mandala* to traditional communities and disseminating them to migrant communities to create a culture of harmony.
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