THE DEVELOPMENT OF KLUNGKUNG URBAN AREAS IN TERMS OF URBAN DESIGN ELEMENTS AND BALINESE CULTURAL SPACES

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Abstract - Today the local government of Klungkung Regency is incessantly developing and improving various aspects, namely the urban design elements and Balinese culture. With a strong history and background of Klungkung, it was the center of the reign of kings. Klungkung has an important and very central role in the area of Bali, namely the role of Puri Klungkung which was very influential from the Dutch colonial era to the kingdoms in the Bali region. the inherent Balinese space and culture.. This research is based on the low level of understanding and implementation of the community, the Government towards the Urban design elements and local cultural spatial structures that can support the development of an urban area. The existence of a city is inseparable from urban design elements and community activities, characteristic of urban development where most cities have different characteristics, both in terms of urban design elements and local community activities.Urban spatial planning cannot stand alone. How to design it must pay attention to the other design elements of the city in order to create harmony in the city design system (urban design). For this reason, the elements of urban architecture that influence the process of space formation. From the Balinese spatial pattern, there is the Tri Angga Concept, the central concept (Pempatan Agung), the Tri Hita karana concept and the Sanga Mandala Concept. This research uses qualitative methods by applying descriptive approaches, and literature studies. This study aims to find out how the development of urban areas in Klungkung is seen from the spatial elements and spatial layout of Balinese culture. From the results of the analysis, the benefits obtained are providing an overview of the development of Klungkung urban areas from the spatial elements and spatial layout of Balinese culture the operational order can formulate policies regarding the development of urban design elements in an urban area. in the future The results of this study are expected to be input in determining the form and pattern of identity in urban development.

Index Terms - Urban Design Elements, Culture, Traditional Balinese Layout, Urban Areas.

I. INTRODUCTION

In the kingdom, Klungkung became the center of government of the kings of Bali. Raja Klungkung is the direct heir and straight descendant of the Kresna Dynasty Kepakisan. The kingdom of Klungkung Bali. With a strong history and background of klungkung, the central government of the kings of Bali Klungkung has an important and very central role in the area of Bali, namely the role of Puri Klungkung which is very influential from the Dutch colonial era to the kingdoms in Bali[10].

Almost all regions in Klungkung Regency that have potential will be developed as tourist attractions as the identity of an urban development area[10],[16]. This potential can be in the form of natural potential such as natural tourism, cultural potential in the form of customs, history, and other potential human resources in the form of performances or performances of dance, gamelan, handicrafts and so on. Klungkung Regency is a district in Bali with an area of 315 km2 or 5.60% of the total area of Bali Province as a whole Building a city with a cultural perspective is one of the visions that have been discussed by all regions in Bali, then in the following period a discourse on Bali emerged which was an effort towards sustainable development based on Balinese culture[1],[2],[9],[11]],[15],[18]. This is so that the unique Balinese culture is maintained and preserved in accordance with the conditions that develop in the sense of accepting the movement of cultural change but still in the corridor of Balinese culture[1], [2] [4], [5]. Klungkung Urban Area has the potential of cultural diversity that is very diverse, for example dances, small industries, paintings, and several temples and puri, which can be classified as cultural heritage. In this case the issues raised are related to how the development of klungkung urban areas is viewed from the perspective urban design elements and cultural layout of Bali. This study aims to find out and explore how the development of urban areas in Klungkung when viewed from the perspective of urban design elements and Balinese cultural spatial structure so that in the future can contribute to cities in Indonesia in particular and the world in general[4], [5]. [9], [10] [16], [22].

II. RESEARCH DESIGN AND METHODS

This study emphasizes more on qualitative methods by applying a descriptive approach. Where in this study explained,identifying identify using qualitative methods by applying descriptive approaches, and literature studies. Data collection techniques were

carried out by direct observation to the field, interviews, and literature studies related to urban design elements and Balinese cultural space. This study aims to Know How the development of urban areas in Klungkung is seen from the spatial elements and activities of Balinese Culture. This study was conducted to look for Balinese spatial patterns that could be used as guidelines in giving meaning to urban area identity in major cities of Indonesia.

III. LITERATURE REVIEW

URBAN DESIGN ELEMENTS

The city is not a built environment that was built in a short time, but was formed in a long time and is an accumulation of each stage of previous development [13],[17],[20, that the city is a collective physical artefact and was built for a long time and through a process that is rooted in the culture of its people. Cities are basically able to create uniqueness or distinctive characteristics such as the center of business, culture, art, or science and technology which are processed based on prominent characters or identities that have been possessed from the beginning[12],[[13],[17],[20],[21]],[23],[24]. Urban spatial planning cannot stand alone. How to design it must pay attention to the other design elements of the city in order to create harmony in the urban design system. Urban design has an interest in the process of embodying high-quality urban space seen from the ability of the space in shaping the lifestyle of healthy urban communities[17],[20],[21]. For this reason, the elements of urban architecture that influence the process of spatial formation. In urban design there are urban design physical elements that are expressive and supportive which support the formation of the city's visual structure and the creation of environmental images. found in the environment at the research site[20],[21], these elements are :

a. Land Use

In principle, land use is the use of land to determine the best choice in allocating certain functions, so that in general it can give an overall picture of how the area of a marriage should function.

b. Building Form and Massing

The shape and mass of the building is not solely determined by the height or size of the building, the appearance of the shape and configuration of the building mass.

c. Circulation and Parking

The problem of city circulation is an issue that requires fundamental thinking, between available road infrastructure, the form of city structures, public service facilities and the increasing number of motorized vehicles

d. Open Space

Open space always concerns the landscape. Landscape elements consist of hard elements (hardscape such as: roads, sidewalks, patun, rocks and so on) and soft elements (softscape) in the form of plants and water.

e. Pedestrian Area

A good pedestrian system will reduce the attachment to vehicles in the downtown area, enhancing environmental quality through a humanized design system

f. Signage

Road signs, directions to a certain area on the toll road or on the road in the center of the city increasingly make the atmosphere of the city more vibrant.

g. Activity Support

Support activities are all building functions and activities that support the public space of a city area. The shape, location and character of an area that has special characteristics will affect its function, land use and activities. The creation of activity supporting activities not only provides roads, pedestrians or plazas, but also must consider the main functions and use of city elements that can drive activities, for example: shopping centers, recreational parks, office centers, libraries and so on.

h. Conservation

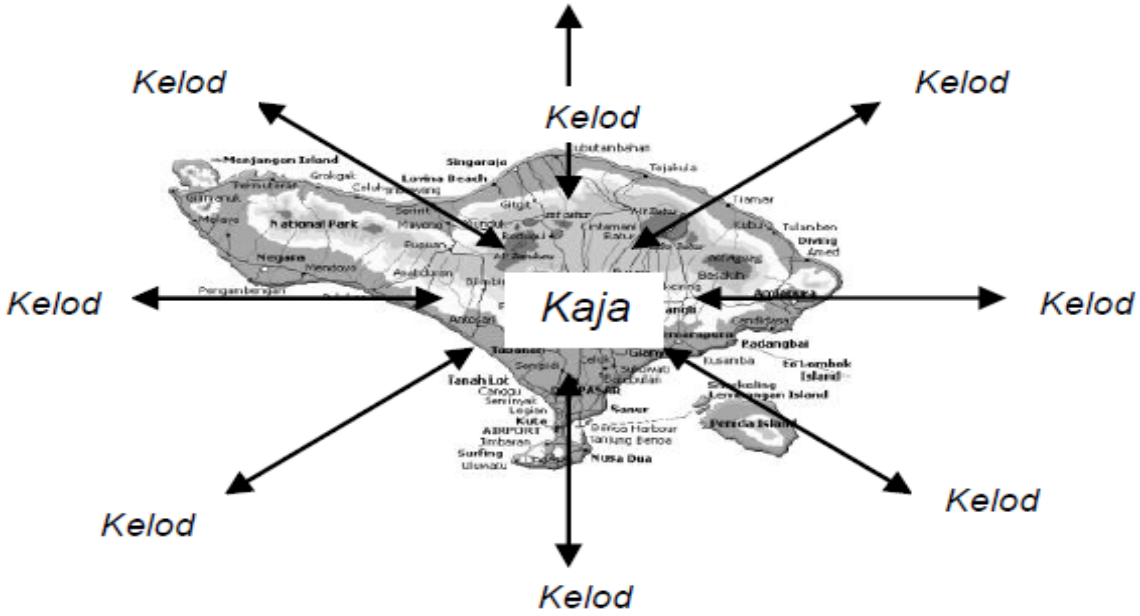
Conservation of an individual building must always be associated with the whole city. The concept of urban conservation pays attention to several aspects, including: single buildings, architectural structures and styles, things related to usability, age of buildings or feasibility of buildings

BALI CULTURE SPACE

The structural foundation of spatial structure emphasizes the pattern of spatial order both vertically and horrorally. In Balinese culture, one structure in addition reflects dynamic openness. The main concepts relating to spatial structure and patterns include the Tri Angga / Tri Mandala Concept The most commonly used concept in Balinese Traditional Architecture is the Tri Angga concept[1],[2],[4],[9]],[15],[16],[22].This conception includes Utama value expression, Madya and Nista, In humans is the expression of head, body, foot, In buildings is the expression of roof, wall, floor (foundation), In the village is the expression of three heaven Housing and Graves, In nature is the expression of mountains, land and sea and In the universe is Tri Loka's expression, Bhur Loka, Bwah loka and Swah Loka[1],[2],[4],[9]],[15],[16],[22]

Tri Angga conception applies from the largest element to the smallest element in humans and buildings. Tri Angga's conception applies holistically in traditional

architecture, be it layout, values, usage and decoration. In general, the traditional Balinese spatial concept, orientation strongly determines the zoning arrangement of both the banjar home environment and the village environment..



Picture1 : The Concept of Hulu-Teben in Bali
Source : (Sulistyawati. Dkk)

Traditional orientation is the orientation of space formed by three axes, namely: Religious Axis, oriented to the sunrise and sunset trajectory. The axis of the Earth, oriented to the mountains and the sea. The Cosmic Axis, is a variant of the religious axis and axis of the cosmos, [1],[2],[4],[9]],[15],[16],[22],has the understanding of menek (up) Tuwun (down), with three levels of value system that menek (utama), middle (Madya) and tuwun (nista) ,[9]],[11],[22],

2. The Central Concept (Catuspatha / Pempatan Agung) is very important for Balinese as well as most ethnic groups in Southeast Asia, not only in terms of religion and the cosmological tribe but also in the political world[1],[9] ,[11],[22],
3. Tri Hita Karana Concept Tri Hita Karana literally means three causes of goodness, a crystallization of the philosophical beliefs of Balinese people, that a harmonious and balanced relationship between us and the universe is a fundamental basis for prosperity and prosperity[1],[4],[9],[22].

In architectural and environmental design, it is expected to be able to underlie the realization of a harmonious relationship between humans and God, humans with their environment and among fellow humans. This concept is clearly seen in traditional types of traditional Balinese settlements, with territorial determination through the division of space into three, namely1],[2],[4],[9]],[15],[16],[22::

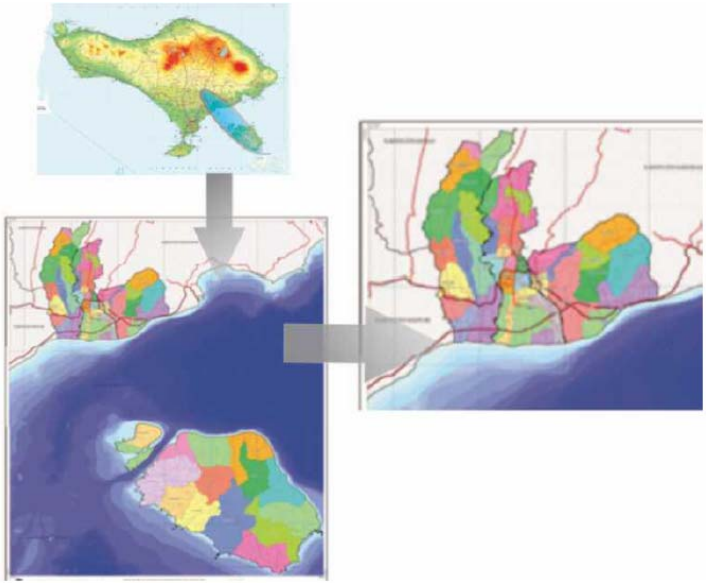
a. Parahyangan is an area as a holy place that is Tri Kahyangan which represents the relationship between humans and God.
b. Pawongan is an area as a house or settlement representing relationships between humans.
c. Palemahan is an area as a home or residential yard representing the relationship between humans and their environment.

The elements that make up Tri Hita Karana both in the universe and in the human body itself are classified into three namely atma (spirit / soul), prana (energy), sarira (body / wadah)

IV. RESULT AND DISCUSSIO

NANALYSIS OF THE DEVELOPMENT KLUNGKUNG URBAN AREA IN TERMS OF URBAN DESIGN ELEMENTS

Klungkung Subdistrict is the smallest sub-district of 4 (four) sub-districts in the Klungkung Regency area, with an area of 29.05 km2 or 9.22% of the total area of Klungkung Regency which is physically located in the mainland of Bali..



Picture 2 : The position of Klungkung City towards Bali
Source : (analysis results 2019)

Geographically, the boundaries of the Klungkung District are as follows: North: Karangasem Regency; Timur: Dawan District; South: Badung Strait (Nusa Penida waters); West: Banjarangkan District
The land use pattern in the Klungkung Subdistrict consists of land use for rice fields, moor / huma, plantations, yards (settlements), graves, and other land. The biggest type of land use is land use for rice field activities, which is 1,256 ha. For moor / huma, the area of land that is used is an area of 382.00 Ha and land use for plantation activities outside of 25.00 Ha[3],[10]

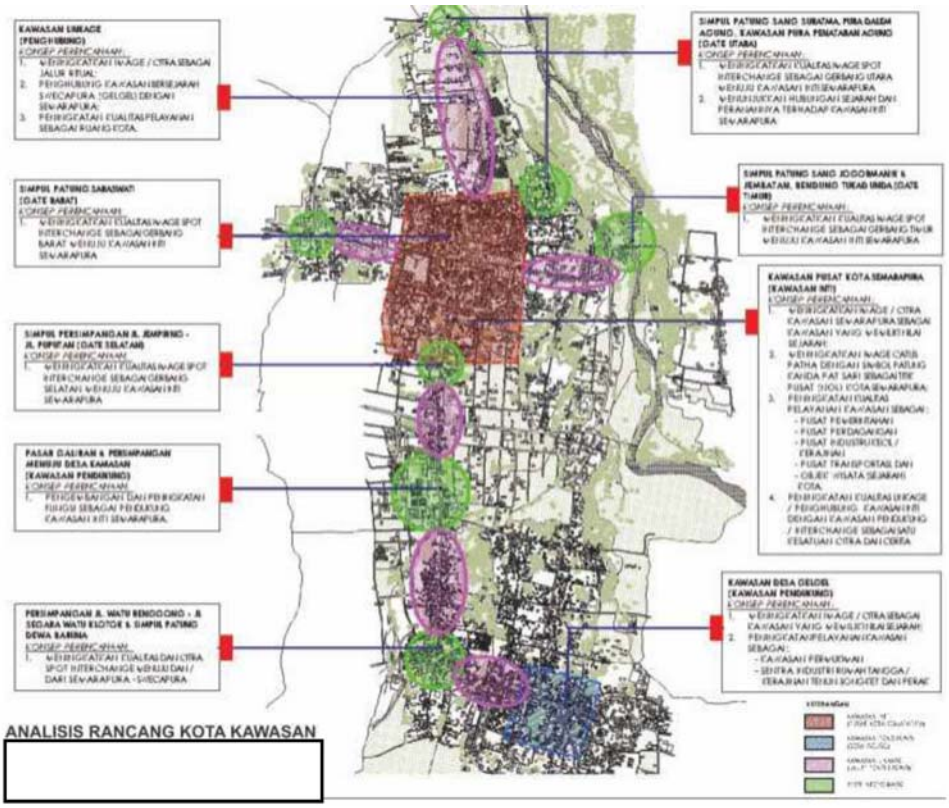


Picture 3 Land Use Klungkung Urban Area
Source: (N.K Acwin Dwijendra 2017)

While the area of land use in the Klungkung Subdistrict area for land (settlements), graves, and others are each covering an area of 423 Ha, 75 Ha, and 808.25 Ha. Road Infrastructure, Bridges, and Terminals.



Picture 4 Identification of Urban Elements klungkung
Source : (N.K Acwin Dwijendra 2017)



Picture 5 Spot Development of Urban Design Elements Klungkung
Sumber : (N.K Acwin Dwijendra 2017)

Based on Klungkung data In macro terms, the spatial structure of the Klungkung area is formed by the components of spatial structure and urban design elements. Each component of the spatial structure forms an interaction mechanism through the order of functional activities that support each other. The main area spatial components that play a role in the structure of the Klungkung Regency area include: Core Areas. Spatial components included in the core zone are Klungkung City Region; 2. Buffer Zone. The spatial components included in this area are Gel-Gel Areas.
The results of the analysis of urban design elements on the development of the Klungkung urban area can be seen as follows

Land Use
Land use in the Klungkung urban area is divided into functions of the area with the main functions of natural, cultural and religious tourism, settlements, education and research, water tourism and village tourism, acting as tourist centers in the Klungkung area. With this role, the position of the Puri Klungkung tourist area, both in terms of regional development and equitable development, is an integral part of the development of the Klungkung urban area.

Building Form and Massing
The building orientation is more about traditional Balinese architecture, namely the existence of space based on the concept of sanga mandala and tri mandala. Whereas the orientation of trade buildings tends to face the road for the purpose of inviting buyers.

Circulation and Parking
Circulation patterns and parking systems in the area generally use road bodies as are parking (on street parking). Parking patterns like this greatly disrupt vehicle circulation, especially during busy hours. This parking pattern can be seen along roads in urban areas and there is no area that becomes a parking center that can accommodate orderliness and smooth circulation of vehicles

Open Space
Open space in the Klungkung urban area is the Klungkung town square which can be used for various poditive activities for the community and the local government. Public open space is a very important thing which is an important element that can be a development and development of a closed urban area

Pedestrian Area
The main pedestrian facilities are sidewalks located on the right and left side of the arterial road, for the environment and local roads there are no walking facilities where pedestrians still use the road as a pedestrian lane. For in the core region, a total pedestrian facility needs to be developed where the speed of the vehicle will be diverted through other roads, so that the existence of a core and supporting area is closer and equally accessible to tourists.

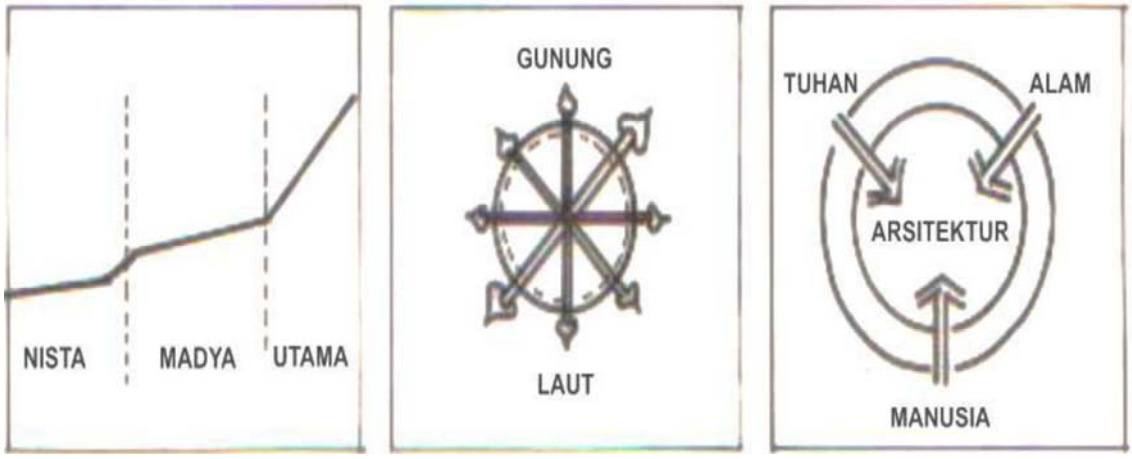
Signage
Signage found in the region is only an area marker location element. Its character is still functional and does not have a design that characterizes regional identity. The dominant edge element is found in the planning area in the form of rivers, ponds, environmental guardrails, roadside, sidewalks, drainage channels, fences, gates, and marker lines road, in addition to differentiating the surface of the activity space is also a space limiting element such as the difference in the height of the road surface and the sidewalk. Another element that also acts as a space divider is tree elements.

Activity Support
Support activities are all building functions and activities that support the public space of a city area. Supporters of activities in the Klungkung urban area are more trading businesses, street vendors and services for both souvenir traders and food and beverage businesses. On the side of tourism, handicraft business and antic goods which are typical in Klungkung are Balinese kepeng money

Conservation
As the main area, Puri Klungkung is a cultural tourism that should be preserved, both in terms of ritual activities and tourism activities. In this area there is also a Bale Kambang named Kertha Gosa where the bale is located above the pool surrounding it. This means that the region is the most advanced which will feel the impact of the increasing number of visitors. Gel-Gel Area. In this area, the main target of planning is the Merajan Agung Puri Gel-gel area and the Pura Dasar Bhuana area which is a former area of Puri Gel-Gel. [3],[10]

DEVELOPMENT ANALYSIS OF KLUNGKUNG URBAN AREAS FROM THE SPATIAL ELEMENTS AND SPATIAL LAYOUT OF BALINESE CULTURE

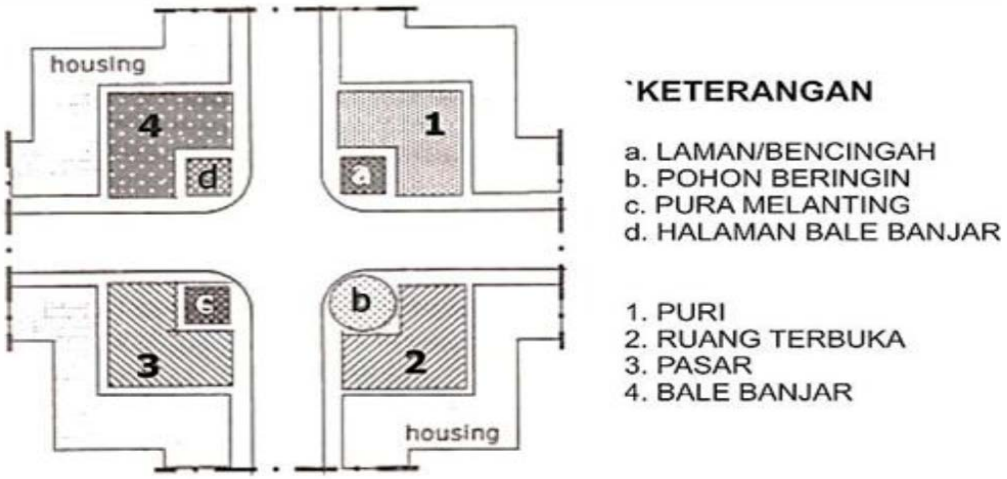
The concept of a more physical spatial structure has various variations, but basically it has the following similarities, namely: 1). Cosmological balance (Tri Hita Karana), 2). Hierarchy of values (Tri Angga), 3). Cosmological Orientation (Sanga Mandala), 4). The concept of open space (Natah), 5). Proportion and scale, 6). Chronology and development procession, 7).clarity of structure, 8).truth of material. [1],[2],[4],[9]],[15],[16],



Picture 6. Traditional Balinese Spatial Concepts
source: Eko Budihardjo (1986)

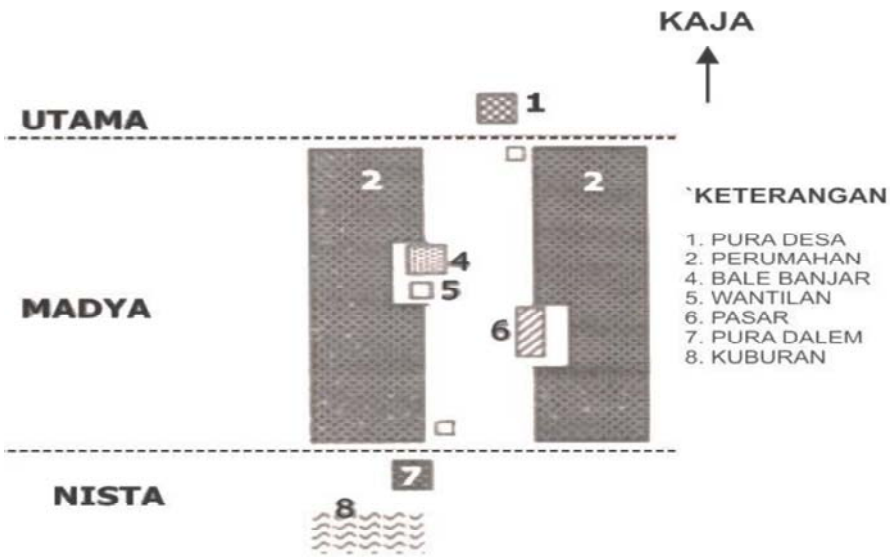
The emergence of variations in the pattern of spatial layout of houses and housing in Bali due to the concept of Tri Pramana, as an operational tactical foundation known as Desa-KalaPatra (place, time and circumstances) and Desa Mawa-Cara which explains the flexibility that remains focused on the philosophical foundation, and this is indicated by the diversity of patterns of villages in Bali. [9] ,[15],[16], There are three traditional Balinese settlement spatial patterns, namely:

1. The Great Crossroad Pattern, This pattern is formed from the intersection of the Kaja and Kelod axes (to the mountain and to the sea) and the Kangin and Kauh axis (direction of sunrise and sunset). Based on the concept of nine winds (Nawa Sanga) the eastern region (kaja-Kangin) which leads to Mount Agung is reserved for the holy part (Pura Desa). Temples related to death (Pura Dalem) and village graves are in the Southwest that lead to the sea (kelod-kauh) while the settlements are between the Pura Desa and Pura Dalem. [1],[2],[4],[9]],[15],[22],



Picture 7. Crossroad Pattern (Catus patha) Traditional Balinese Housing.
Source: Eko Budihardjo (1986)

2. Linear pattern, this pattern, the concept of nine devotions (Nawa Sanga) does not play much role. The cosmological orientation is dominated by the direction of the mountain and the sea (kaja-kelod) and the axis of the sun's rising and falling (miss). The northern end (kaja) of a settlement, designated for Pura Desa, and at the southern end (kelod) is intended for graves (Pura Dalem). Among the northern and southern village boundaries are settlements residents and public facilities in the form of Bale Banjar and Pasar. In general this linear pattern is found in mountain villages. [1],[2],[4],[9]],[15],[12],



picture 8. Traditional Balinese Housing Linear Pattern
Source: Eko Budiharjo (1986).

3. Combination pattern, is a combination of linear patterns with grand crossing patterns. The settlement pattern uses the Great Perempatan Pattern, while the laying system of the building mass follows a linear pattern. Housing and public facilities are located in open spaces in the middle of settlements, but the location of the area with the main value is located at the north end (kaja) and the location that is worth less is located at the southern end (kelod). [1],[2],[4],[9]],[15],[22],



Picture 9. Pattern of Combination of Traditional Balinese Housing
source: Eko Budiharjo (1986).

In the Balinese spatial pattern there are several concepts that can be used as urban development identities, from the concept more giving the concept of an urban area that emphasizes more on the segmentation of spatial patterns with different functions or spatial atmospheric divisions. From the functions of the existing area, it is the intersection space pattern that can provide an atmosphere that is different between the urban areas and each other. Placement of open spaces and arrangements that are characteristic of each urban area

Table 1. Balinese spatial pattern as Development of Klungkung Urban Area

Elements / aspects forming regional identity	Balinese spatial pattern	Urban area development identity
Symbolic	*Hulu-teben Tri Angga /tri mandala*	Provide the main direction orientation to the center of urban areas
Functional	*Sanga mandala*	Segmentation based on zones and functions of urban areas
Emotional	*Tri Hita Karana*	Harmony and harmonization of urban communities to gods, other communities and the surrounding environment
Culture	*Tri pramana/ Desa kala patra*	Ciri khas historis kebiasaan masyarakat dari zaman terdahulu dipertahankan
Political	*Kerajaan/Puri*	The historical characteristics of the habits of the people from the past were maintained
Spatial planning	*Catuspatha/ Perempatan Agung*	The intersection becomes the node of the center of the activity of the urban area

Source: Author Analysis 2019

CONCLUSION

In the Klungkung Urban area the elements forming the urban area have a very large role in the development of the city itself. From the regional developments that have occurred which are reviewed from 8 elements of urban design as a step for future planning, urban areas are divided into several zone zones, namely as the core of the area, development area, interchange, and linkage. this zone that will be studied in the future with urban design elements and Balinese spatial planning that can synergistically provide meaning as an area that has a concept of its own city identity. for the connecting area, it is directed to improve the regional image as the identity of the buffer zone and provide good accessibility to urban motion systems.

The Balinese spatial pattern is very closely related to the traditional philosophy and culture of Bali, which is

based on Hinduism, in daily life related to Tatwa, Susila, and Ceremony. In developing urban areas that are getting faster, a strategy is needed to build and develop a city while building its identity. Not only creating buildings to the level of the region, but creating conditions where there is harmony in each element. The most important thing to note is how to utilize the potential, character of the architecture, climate and local culture that are used as a basis in planning and designing an urban area with identity.

In the condition of the development of urban areas, there are several things from the Balinese spatial pattern that can be used as a pattern and concept of identity in urban development. The pattern of the Balinese spatial structure can be used as a reference is the Symbolic Aspect of the Hulu-teben concept Tri Angga / tri mandala Providing the main direction orientation to the urban area Functional Aspects of the Sanga mandala concept divides Segmentation based on zones and urban area functions Emotional Aspects the Tri Hita Karana concept provides harmony and harmonization of urban communities to gods, other communities and the surrounding environment

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