Technical Note

Bugis local wisdom in the housing and settlement form: An architectural anthropology study

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ABSTRACT

This study discusses the Bugis local wisdom in the housing and settlements form as part of efforts to strengthen the nation character. This study aims to discover the manifestation of Bugis cultural values in the housing and settlement form. Nowadays, It is considered important in effort to realize the planning and design of housing and settlements based on culture that can meet needs of life quality. This study is a qualitative research method that uses anthropologicalarchitecture by looking at the information units in the culture form and its relevance to the realization of housing and settlements. The data collected both qualitative and visual spatial, and then analyzed using Spradley through in-depth interviews, observation, and literature review. This study found that local wisdom of Bugis community are loaded with symbolicphilosophical meaning, among others: Bugis cultural values to the modern era is still alive; the values of Siri', Were, and Pesse are based on the siri' na pesse value has manifested in the housing and settlements form, includes typical form of settlement space patterns, street patterns, building orientation, building form, commercial building form, and building layout.

1. Introduction

Related with the course of time, people can establish a physical environment that varies according to the results of their understanding to the climate or culture that was understood. Community and culture influence the environment, and the opposite environment influences culture and their community. These elements are strung in a culture system that every part is integrally intertwined. If we narrow our review to the special cultural aspects, it can be revealed that every individual in the community has the opportunity to express cultural values and attitudes followed. The cultural values understood have an abstract which is hard to change, so always be

considered in efforts to establish a form of housing and settlement products. It has been proved by several facts of traditional housing and settlement embodiment which can not be separated from the culture understood as a basic reference of its formation such as the settlement of Nias, Bali, Kotagede, Toraja, and Yogyakarta.

The cultural concept reflect a series of abstract principles from this way of looking cosmology through concrete actions such as how to behave and relate to the environment and ways of life. Culture is a mindset that revealed in the behavior and activities of human beings as a form of reaction to the natural challenges that occur from generation to generation so becomes an identity. Cultural values are thought patterns and certain actions

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are revealed in the activities, which will ultimately have an impact on the work of human beings, including the physical form of buildings and urban (Rapoport, 1983, 2005). It can be said that the human socialization process that reflected the cultural values, ultimately have an impact on the work of human beings, including the physical form of housing and settlements.

This view is reinforced by Altman and Chemers (1984) that appeared in the culture such as the design of the built environment: home, home placement, and public buildings. Cultural traits in architecture (including a settlement form of) involves two aspects, namely what are the characteristics to be disclosed, and how those characteristics disclosed. Architectural works will reflect the cultural characteristics of a group of people involved in the process of its creation. So it will be reflected values that they profess, which will gradually become a characteristic of their culture.

Modernization and globalization development are characterized by symptoms of capitalization and liberalization impacts on the more erosion of local cultural wisdom. Various problems arise such as the establishment of various community settlement products which tend to use a more modern design approach concerned with aspects financial, individualist who is clearly not based on cultural values rooted in society. In fact, patterns of our life society is different with the origin country where the modern design concepts was applied. The phenomenon is very visible as a form of housing and settlements that are less pro-people, loss of identity, and tends to eliminate the cultural heritage that has been formed. Nusantara traditional society backgrounds actually have a unique understanding concepts in the form of a different culture with modern society in managing the environment. Efforts to preserve traditional culture, especially in the areas of housing and settlement is still low. Indeed the preservation of local knowledge possessed by each community should be a unique identity that can actualized.

Bugis community in South Sulawesi has a unique culture and has some arrangements that govern the way to build homes in general, however, specifically housing and settlement arrangements which are based on the Bugis culture has not been revealed. Some Bugis community cultural values in question until now it still exists in shaping the Makassar form (Arifuddin and Darjosanjoto, 2011). Bugis local wisdom, especially the form of houses and housing are unique, however it has not been widely publicized. Studies on the theme of housing and settlements related to Bugis cultural values, has been noted in several articles author previously. Haw ever, the study was still partial and therefore has not demonstrated value presentations and manifestations siri'

na pesse as a whole. Therefore in this article disclosed an approach in the form of transformation that connects between the value of siri' (pride), were (effort), and pesse (solidarity) are integrated to Bugis society housing and settlement form as a complementary study previous article.

1.1 Culture and the built environment linkage

Culture includes various ways of mankind's life which is reflected in the patterns of action and behavior. Ruth Benedict in Daeng (2006) argues that culture is thought patterns and certain actions are revealed in the activity. Similarly, Ashley Montagu argued that the culture or the culture is a way of life, that particular way of life that exudes a certain identity in a nation. Culture is difficult to describe because it includes us, covering us, as well as intangible or abstract (Rapoport, 2005; Morssink, 2012). According to Hofstede et al. (2010) in Morssink (2012), culture is a programming form a collective mind which distinguishes an individual or group. According to Hofstede (2009) culture is a system of values, beliefs, judgments, and the basis of conduct to set norms and establish a sense of shame, guilt, pride, honor, and social values, which as a whole is divided in the form of moral circle. Hans D.J (2006) summarizes the meaning of culture in general into three states, namely the set of ideas, patterned behavior, and artifacts. Furthermore, Cockerham in Morssink (2012) to formulate the linkages between the cultural aspects of the socio-economic structure, time, and environment as an imaginary symbol in the form of a triangular pyramid. Definition of culture is essentially an abstract or intangible elements such as values and belief systems (Craig, 2013). Cultures encompass a wide range of social values and beliefs that further characterize and directs the behavioral patterns of society (Craig, 2013).

Culture has a very broad scope, and one of them is present in the physical environment, so that the houses and settlements, as well as the entire manmade describe cultural values. This is in line with the opinion of Lang (1987) that the social and cultural aspects also influence differences in geographic space and community interaction patterns. Cultural complexity that distinguish one from the other ethnic groups will be reflected through a variety of environments. According to Craig (2013) despite the cultural values associated with the general nature of a city, however, certain ethnic and cultural groups will define their own cultural values.

The built environment and architecture that evolved from the community tradition is a direct reflection of the culture, the values espoused, habits and desires of the community. In line these opinions Babu (1996) revealed that the culture and system of values that further manifested in the built environment. Rapoport (2005) confirmed that the world view understood can be seen specifically in the cultural values. Aspects of values can be expressed by aspects: lifestyle and life principles (ideas) expected by someone who later became a goal. The term principle of life in this study include: ideals, images, schemata, meanings, etc. Similarly, to understand the principles of life (idealis specifically can be seen in the norms, rules, standards, and expectations. Out of the total components, such as: world view, values, principles of life, lifestyle, and activity system; acts each in shaping the built environment.

1.2 Globalization and modernization as a cause of shifting meanings

General argument that refers to anthropological studies and actual facts, the majority of our society remains bound to the symbolic-philosophical culture. The arrival of the globalization and modernization era bring a lot of charge in line with the increasing number of discoveries of new technologies, equipment, and building methods, led to the emergence of various new products and lifestyles in the community life. In addition, modernization and globalization also significantly influence on public understood then forms the principles and ultimately very influential in lifestyle and their daily activities. It can be said that globalization and modernization has brought a new culture to the public, and can be directly accepted easily. A variety of equipment, materials, and building methods that is both practical and efficient then affect their needs to housing. From the existing then generate of house forms that ware not rooted again in cultural values previously understood. There was a discrepancy between the development of housing and settlement form and the communities character in accordance with the philosophy understood and their mindset. This was followed by the loss of the inner relationship between the housing form and residential communities.

2. Methods

This paper is based on qualitative research through the a combination analysis of anthropology and Architecture approaches (Egenter, 1992; Brewer, 2000; Kennedy, 2005). This study revealed the local wisdom form in the sphere of ethnic based housing and settlements. Anthropological study refers to the cultural component decomposition method by looking primarily at the elements of the cultural values that society understood, while the architectural study emphasizes the

housing and settlements form. Bugis cultural values form traced using Kluckhohn approach. The cultural value system conception according to Kluckhohn (1951) contains five main issues: a) the nature of human life, b) the nature of human work, c) the nature of the man position in space and time, d) the nature of man's relationship with nature, and e) the nature of the relationship between humans (Kluckhohn in Simanjuntak, 2010). In addition to these methods, this study also uses Spradley approach, ie ethnographic study that links between cultural elements and the physical form of housing and settlements that have been realized by the cultural based Bugis community order that was understood.

The data collection methods was conducted by using conducted by in depth interviews to Bugis culture expert informants, settlements expert informants, public figures of the Bugis community, and based on a literature review of the old manuskrif and other literature. The results obtained, further confirmation through observation in the shape of the Bugis traditional settlement area in three districts in South Sulawesi Province, which is dominant inhabited by the Bugis community namely Barru, Wajo and Soppeng. The analysis technique is a manifestation process meanings of cultural (untangible) then look to relation with elements of urban space form (tangible) both spatially and visually. The culture context in question is the Bugis community culture, while the scope of the traditional settlements and the phenomenon its course will be assessed by analyzing: space pattern, building layout, building unit, and street pattern. This approach has relevance to manifestation of the city formation based on the culture understanding of its community. This study is expected to contribute towards the planning concept of housing and settlement based on local wisdom in accordance with the Bugis community philosophy.

3. Results and discussions

3.1 Bugis community

The Bugis predominantly inhabited the region along the coast of western and eastern parts of the South Sulawesi province (**Fig. 1**). Some people have done enculturation with such Bugis, Malay, Sumatra, Borneo, Bajo and Chinese ethnic. Bugis Kingdom stems from the development of the Luwu kingdom Ages 12-15, then came the Bone Kingdom Ages 17-20, and then play a role in the Bugis Kingdoms. Bugis culture has also undergone enculturation Islam. According Pelras (2006) Bugis community has a characteristic of modernity in



Fig. 1. Location map of Bugis society domicile in South Sulawesi, Indonesia.

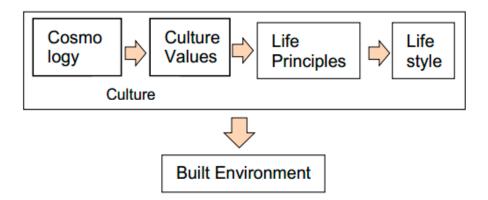


Fig. 2. Technical transformation of cultural towards housing and settlement form.

tradition such as the development of rational thought, happy trading activity, the ability of individuals, adopting cultural models and ideas worldwide, and the high mobility and communications to the global scope. The

theoretical reasons to be a factor opportunities and threats increasingly declining local culture if allowed to develop in an uncontrolled manner. Most of the elements belonging to the Bugis culture still remains and partly

	lable 1. Schematic of componential analysis (Source: Spradley, 1984 in Sugiono, 2008).				
PHYSICAL PART STUDIED		CHARACTERISTICS OF HOUSING AND SETTLEMENT CONDITION (BASED ON OBSERVATION RESULT)		(*)	REFERENCE OF CULTURAL ELEMENTS
SPACE PATTERN		1	Site selection of settlement within their rules in Lontara (manuscript)		Culture Value
		2	Tend to choose the location of house related to achievement and prestige		Life Principle
		3	The formation of public spaces for community solidarity		Life Principle
		4	Tend to reside alongside parents home.	(*)	Culture Value
	1	5	Set up the living room function based on the visit activities nature		Culture Value
		6	The setting of the house lay out by zoning: the public space in front, private room inside, and the service space/circulation at the side or rear.		Culture Value
	•	1	The orientation of the house to the four winds, including the North-South and West-East orientation		Cosmology
BUILDING LAYOUT		2	Bugis traditional home layout, based on the gender aspects, namely the zone in front of the men and women behind	*	Culture Value
		3	Settlement patterns tend to cluster pattern based on the values of solidarity		Culture Value
					Culture Value
		1	Understanding of the three-tiered cosmology which applied in house		Cosmology
	•	2	The division of space zones just as ulu vs toddang and riolo vs rimunri, based on the orientation of life.		Cosmology
		3	The form of ornaments roofs suitable norms and social strata		Culture Value
		4	House form and space tend to apply rectangles (sulapa eppa)		Cosmology
BUILDING UNIT		5	Building form which is interesting, based on the value of self-esteem.	4	Lifestyle
		6	House form productive, based on the value of self-esteem.		Life Principle
		7	Tend to develop a living room space (micro/macro) that is multifunctional		Lifestyle
		8	Tend to manifest success in symbol form house		Lifestyle
		9	Tend to manifest the symbols of success on house form		Culture Value
		10	Glad to build a facility or infrastructure business		Lifestyle
	$ \cdot $	1	The pattern of streets tend to implement a grid form (grid pattern)	1 [Cosmology
ROAD PATTERN		2	Symptoms of development, home stores in residential areas, especially around the main street	(*)	Life Principle

Table 1. Schematic of componential analysis (Source: Spradley, 1984 in Sugiono, 2008).

through a transformation with the development of globalization and modernization. Some references indicate that the life settlement formed by the Bugis, in the migration destination countries, while maintaining their cultural identity, including elements of the built environment. Home form Bugis community in Malaysia have in common with houses form the Bugis community in South Sulawesi. According to Wan Ismail (2012) there is a strong adherence by the Bugis in maintaining their home form. Although the Bugis houses are built far from the community, but still reflects Bugis local wisdom. Bugis migrants in Malaysia although not in large groups, but they still uphold their culture (Wan Ismail, 2012).

3.2 Meaning local wisdom

According to Antariksa (2009) local knowledge is considered a good value and properly so it can survive for a long time and institutionalized. According to (Gobyah, 2003) local knowledge is a truth that has been a tradition in the region. According to (Caroline, 2010) local knowledge as a source of knowledge held by a dynamic, evolving and forwarded by a certain population that is integrated with their understanding of the natural and cultural surroundings. Local wisdom in the Bugis

many expressed or developed by a Panrita Bola (house planners specialist). In carrying out its role Panrita Bola a lot to learn from the macrocosm and natural phenomena become legal bases. In this case they are born through non-academic education, but have intangible knowledge that is not less interesting to the science of architecture. Panrita Bola works with the principles and noble values. The achievement of all forms of idealism expressed in the form of symbols or elements of a building with a holistic philosophical meaning rule, and based on the argumentative value based on the value of good and evil.

3.3 Bugis cultural values relating to the housing and settlement

Bugis cultural values as a whole contained in the Siri' na Pesse concept. The concept is a way of life and a key element in understanding the social culture of the Bugis community. According to Christian Pelras (2006) core values as the driving element that causes the Bugis survive as a society that is dynamic and strong personality are: courage, intelligence, obedience to religious, and business acumen. The Bugis behavior is a manifestation of action that is closely related to cultural values are summarized in the concept of the siri' na

Value of Siri'	Bugis Society Life Pricinples	Bugis Society Lifestyle	Application	Housing and Settlements Form
The driving factors in strengthen rules / norms. Maintain balance between life and religion as motivated to maintain behavior of	O Concern to norms/ rules/custom laws/ religion. They maintain themselves not to break norms to human relation and nature. They tend to be strict, but also to be compromise and friendly. Have manner appropriate with siri' value. These affected to formed of social level. To achieve prosperity in life, they are balancing between world and hereafter matter.	According to life principles that strict to norms also consider social levels, they tend to hierarchy but still remains egalitarian & compromise. Strict to norms and hierarchy principle, lead Bugis society to stand in cosmology and norms understood that reflected in housing environment. Sulapa' eppa' is a prosperity symbol that include 4 aspects are water, soil, wind, and fire.	Bugis society remain understanding cosmology in three levels. Cosmology that they understood are: ulu vs toddang, riolo vs rimunri, applied to house space. Cosmology of North-South & West-East direction applied in building orientation There are rules in Lontara about location selection of settlements. Culture value based to ornament form timpa laja' appropriate with social level The house form tend to orthogonal form. Grid street pattern	Settlements Form
human relation and nature. O Pursue to build and preserve good creation and attractive appearance. O Effort to raise selfesteem by self potential development.	Have visions or principles to achieve dignity or self esteem. These achieved by good act manner and good create. Have principles that achievement a selfesteem. Achievement can be reach by forward looking, creative, and innovative.	Achievement or attractive property tend to show their self-esteem (performance and prestige). It motivate himself to reach achievement, and have something. Tend to raise self potential that they have.	 application. Attractive form of building, such as reflected to house form of sao raja and bola soba. Build settlement and city that based on modern. Tend to choose prestige and performance location. 	

Fig. 3. Scheme of analysis regarding form of siri' values to housing and settlement form.

pesse (excerpted from: Hamid, 2003; Mattulada, 1975; and Abidin, 2003). If the concept of Kluckhohn, we associate with the substance of the cultural values of Bugis community, can be found some of the values contained in the siri' na pesse concept. In this case, the siri' values and were values covering the meaning: the nature of human life, the nature of man's relationship with nature, the nature of human work, and the nature of human perception of time. While the pesse values include the meaning: the nature of human life and the nature of human relationships.

The values of Bugis, were identified from the analysis include:

· Siri' Values which includes: the driving factors in strengthen rules / norms, maintain balance between life and religion as motivated to maintain behaviour of human relation and nature, pursue to build and preserve good creation and attractive appearance, and effort to raise self-esteem by self potential development.

- · Were Values which includes: the driving factors for achievement and creative, the driving factor restoring the balance of human life, the driving factor for conducting a planned and efficient, and the driving factors to reach dignity.
- · Pesse Values which includes: the driving factor in keeping the human values appropriate culture, being a binder and adhesive relationship between the members, and deep meaning of kinship and brotherhood.

Furthermore, these values to guide the formation of customary norms.

3.3.1 Siri' values

According to Abdullah, H. (1985) siri' is not just a shame, but it involves the most sensitive issues which are the soul and spirit, concerning dignity or self-esteem factors, reputation, and honor, all of which must be maintained and enforced. Siri' puts human existence above all else. Siri' is a defense of self-esteem (Abidin, 2003). In Lontara stated that the Bugis live in the world

Value of Were	Bugis Society Life Principles	Bugis Society Lifestyle	Application	Housing and Settlements Form
The driving factors for achievement and creative The driving factor restoring the balance of human life.	Achievement in life can be reach only with hard work, diligent, and by God permit. Raising prosperity, for achieving success in world and hereafter. Balance of work hard and charity. Charity be determined by the success of life, otherwise success in life is determined by his charity	Based on the principles of life success, ultimately shaping the achievement lifestyle. They were ashamed to be weak, always compete well, and try to achieve success and honor. The life principle directs the Bugis became more diligent, patient, and tenacious in trying to achieve their goals.	 Bugis people tend to develop their house productively by open varies of work. They interest to build facilities of work such as market, small shop, and other services. They tend to develop spaces that are multifunctional such as living room, and housing open space. Hence, in some cases indicate a change of land use into shopping facility or open space public. They tend to manifest success, especially in the aspects of economy through property owned, including in housing and settlement. 	
The driving factor for conducting a planned and efficient.	o They improve his life in a planned manner. they understand that the action is currently determining the fate of future. They always frugal and efficient			
 The driving factors to reach dignity. 	Success in economy will give dignity /social status.		 Symptoms of development, house-shop in residential areas, especially around the main street 	

Fig. 4. Scheme of analysis regarding form of were values to housing and settlement form.

for siri' only (Mattulada, 1975). According to above explanation known that the Bugis considered to have dignity in the world uless if he has siri' value. Bugis community make siri' value as controlling the nature and behavior in order to remain valuable in the sight of God and man. In previous articles have stated that the manifestation of the siri' value in the spatial form covering: settlement space pattern, street pattern, and building orientation (Arifuddin, 2015).

3.3.2 Were values

The main problem that affected of Bugis culture value is the nature of human work. The substance of work nature is the human effort in achieving idea or principle ideally. The Bugis have the character of happy to work or trade. This fact can be seen by many Bugis merchants work abroad since the colonial era. The assumption saw the Bugis visible effort sought to improve his life by always trying hard with a high work ethic. In Bugis culture, it is understood that only the tireless endeavors and pray to God, a way to improve their life. It was then inspired substance were which are value of hard, diligent, and persevering in fixing fate. According to Abidin (2003) that the fate of a person or family can be changed only with an unwavering belief in yourself, perseverance and diligent based on the skill, honesty, and firmness, and

patience. God determines the destiny but it depends on the human.

3.3.3 Pesse values

Pesse (solidarity) is a compassion response of the heart towards surrounding atmosphere. According to Hamid (2003) Pesse is the hearts mood of public. According to Abidin (2003) Pesse is a just and civilized humanity which can ignite the spirit of sacrifice, hard work and not easy to give up. Pesse value in Bugis society guarantees the internal cohesion within a family or social group (Pelras, 2006). Pesse value also have meanings associated with siri' value which contain meaning of equality, the rights/obligations of human beings, upholding of humanity, tolerance, and brave defense of truth and justice. It is in line with the Bugis adage that there are four cause virtue and peace in ourselves: honesty, wisdom, harmony, and patience (Machmud, 1978). Pelras (2006) expressed that the Bugis have the opposite attitude between hierarchical and egalitarian view, encouragement competed also compromised, and uphold the honor themselves also solidarity.

3.4 Componential analysis

In this discussion, analysis componential intended to identify cultural elements that become symbolic reference

Value of Pesse	Bugis Society Life Principles	Bugis Society Lifestyle	Application	Housing and Settlements Form
The driving factor in keeping the human values appropriate culture.	Adherence to human values according to the rules, respects the rights and dignity of every person, they maintain harmony. It is believed that behavior, both towards others will be rewarded with good deeds anyway.	The attitude of friendly, seen in activities such as: respect, caring, helping, each visit and cooperation	Bugis society is very concerned with the rights and dignity, which is demonstrated by the formation of space function. In Bugis traditional house, a zoning for men at the front, and a woman on the back. The function of the living room is distinguished by the nature of activities visit. Bugis home zoning: public space in front, private space on the inside, and a service room on the side of building.	West-Nort East-Nort West-South East-South Layout
 Being a binder and adhesive relationship between the members. 	Loyal in holding trustful and loyal to the brotherhood. Put together according to the value that is understood.	o Open attitude shown in adaptable behavior, communication, exchanged greetings, and happy to participate without interest.	Lego- lego (terrace) is intended to strengthen the social contact with the surrounding community Establishment of public spaces, housing / settlements to strengthen solidarity, and communication links intercommunities.	
Deep meaning of kinship and brotherhood	o Creating brotherhood with the principle of mutual kinship.	 Looking at the relationship of each person in hierarchical manner but still egalitarian 	Tend to put the location of the house adjoining the home of his father. the formation of settlement clustered pattern	

Fig. 5. Scheme of analysis regarding form of pesse values to housing and settlement form.

or background to the establishment of form. Instead see any physical element was formed by elements of the cultural values of community, particularly in terms indicator of space pattern, building layout, building units, and road pattern. This analysis uses the approaches adopted from Spradley (Sugiono, 2008) with the analysis procedure as follows: early determine the assessment domain, and then determine the assessment of grouping data (taxonomy), and then determines the cultural components that may appear as the result of observation. Instead try to find a form of settlement as a component symbol cultural values that understood based on in-depth interviews. The results then became the basis of analysis of the transformation of the establishment of settlement form based on cultural elements that are understood. The following table shows the results of the study componential as follows (see Table 1) above. In Table 1 shows that the cultural variables that influence to the physical components include: cosmology, culture value, life principle, and lifestyle, which is the whole be integrated in the activity system.

3.5 Manifestation of bugis value in housing and settlement form

If the discussion of the value of siri, were, and pesse above associated with housing and settlements form then its connection can be seen through the principle and the Bugis society lifestyle. From the results of in-depth interviews with several informants including cultural experts (Panrita Bola) showed that Bugis community strive to always keep each behavior, maintain solidarity and unity with their environment. Bugis society not happy debased so they tend always to develop their potential in order to improve the quality of life. Regarding this the Bugis shows his pride through his work, including the built environment form. Lifestyle that was formed from the accumulation of values rooted in the siri' na pesse concept, further manifested in the form of space and housing forms and settlements, also how to manage their environment. Based on the discussion above will be summarized in a table of componential analysis which is based on the extracted domain values culture of Bugis, as follows:

Applicative scheme are summarized in a table componential analysis is based on three domains of culture that understood the value of the Bugis (values of siri', were, and pesse) as follows (see **Fig. 3**, **Fig. 4**, and **Fig. 5**) above.

4. Conclusions

Community Bugis has to understand the local wisdom based on cosmology, cultural values. The meaning actualization of symbolic-philosophic contained in the Bugis community siri' values (dignity), were values (effort), and the pesse values (solidarity). Bugis cultural manifestations of local wisdom that was found can be the basis in formulating housing and settlement development. Some local wisdom of Bugis associated with housing and settlement form, among others: a) formation of settlement pattern tends to spread and clustered; b) formation of settlement grid street pattern and interconnected, refers to the sulapa' eppa' philosophy; c) orientation of buildings, including the West-East and North-South direction which implies a balance between the aspects of life and worship; d) building form reflects the sulapa' eppa' philosophy either vertically or horizontally, with the impression of attractive as a symbol of self-esteem; and e) the layout of the buildings tend to be clustered based on kinship and other emotional relationships.

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