

Study of Typology and Morphology on *Nusantara* Architecture Principle of Bugis Traditional House in Bulukumba Indonesia

Hilmania¹, Jundi Imaduddin¹, Ninka Rulianasari¹, Harida Samudro¹, A. B. Mappaturi¹, Ernaning Setiyowati¹

*Department of Architecture, Faculty of Science and Technology,
Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia*

Keywords: typology, morphology, Bugis traditional house, *Nusantara* architecture, Bulukumba

Abstract: Bugis traditional house of Bulukumba has many varieties that are not only based on the level of society but also has small differences because of the environment. Bulukumba is located between Bugis and Makassar which indeed influence the house form. The research location is along the main corridor of Bantaeng regency (Makassar ethnic) to Bulukumba regency (Bugis ethnic). The purpose of this research is giving a more specific classification of the *timpalaja* house which has one line from the typology and the morphology that function as the reference to continue this research. A qualitative method with analytical descriptive is used to reveal more about the typology and the morphology pattern of Bugis traditional house in Bulukumba. This study used literature review and the image of simulation to simplify the description. The result of this study found that there are topology and the morphology uniqueness of the house, which does not use the cosmos comprehension.

1 INTRODUCTION

Bugis society has a cultural diversity that brought to this day. Customs become a guideline in thinking and acting according to the pattern of life of the community (Marwati & Qur'ani 2016) (Abdel-Azim & Osman 2017). Customs as cultural products that are developed by humans so that they may change at a time (Ulusoy & Kuyrukcu 2012) (Šiožinytė et al. 2014). Bugis tribal house as a traditional architecture that is still maintained by the Bugis tribe, South Sulawesi (Rahmansah & Rauf 2015). The Shape of Bugis traditional houses are generally on stilts and using selected wood materials (Sani et al. 2015).

The Bugis know the social level system, which is a symbol in the face of the roof to show the level in the community called *timpalaja* in the form of a line level (Rahmansah & Rauf 2015). Also, the Bugis tribe also know cosmology on the traditional Bugis tribal house. According to the concept of Bugis mythology on the structure of the house consists of three parts, namely: the *rakkeang* as the roof of the

house which is considered the supreme deity, *alle bola* as part of the house as a human place, and *awa bola* as the bottom of the house for livestock (Abidah 2017) (Rashid & Ara 2015).

As time goes by, the Bugis tribal traditional houses that are currently preserved and become symbols of the Bugis people experiencing changes that are influenced by the environment, social, and culture. The reason for this change is due to the absence of rules. At present, there are many differences in each house despite the differences in *timpalaja*. This difference can be based on location in Bulukumba Regency which is a meeting point between Bugis and Makassar tribes, so that cultural adaptation and acculturation occur. Slowly the Bugis traditional house experienced a significant change (Marwati & Andriani 2017).

This study aims to provide a specific classification on the traditional house of the Bugis tribe regarding typology and morphology. Typology is the study of types with categorization and classification to produce models (Hematang & Sarina 2017). Typology is the science that is used to

show types or types with similarities, repetitions and also differences in composition (Santoni 2014). Typology studies are carried out to find out types in different objects. While morphology is a study to classify organic forms according to their types and rules, so that the basic forms can be found and understood (Setyabudi et al. 2012).

Bugis people know about cosmological perceptions in their culture. There are three kinds of classification of the Bugis cosmological perception, the world level classification (the upper world, the middle world, and the lower world), the classification of the structure of traditional houses (heads, bodies and houses), and the classification of the four corners (north, south, west and east) (Yunus 2012).

The four corners represent as the architectural elements in the facade elements of the Bugis traditional house, such as the shape of the door, the composition of the roof, windows, and ornaments have their meaning in each component, namely: (a) Doors or called Tange, the door is usually always placed on an even number, (b) roof arrangement (*timpalaja*) has meaning according to the number of settings. The more the number of structures in the *timpalaja*, the higher the social level, (c) Tellongeng is a window, the placement is usually on the wall between two pillars of the house, (d) Ornaments generally have an archetype derived from natural flora and fauna (Marwati & Qur'ani 2016) (Marwati & Andriani 2017).

The traditional architecture of traditional Bugis houses is still widely found in Bulukumba district. With the existence of the traditional residence of the Bugis tribe and it becomes experiencing significant changes which will later lose its identity (Nurjannah & Anisa 2010). As previously explained that the existing problem is the absence of official rules about cultural heritage and the current needs factors. With the existence of this study aims to find the essence as documentation of traditional Bugis houses in Bulukumba from the facade of the building which later can become a development in archipelago architecture in the next research.

2 METHOD

The result recites the houses in a long the main corridor of *bulukumba* regency into *bantaeng* regency. The purpose of this research is giving a

more specific classification of the *timpalaja* house which has one line from the typology and the morphology that function as the references continue this research. The research object specifically for the homes with *timpalaja* which has one line with the total 18 houses of bugis. Bulukumba is located at division area between Bugis and Makassar. The object divided to be two locations there is the row of house in northern and southern.



Figure 1. The location of Bugis' first strata house

This research uses qualitative, descriptive methods, by explaining in the deductive form an overview of existing problems on typology and morphology of the traditional House of the Bugis Bulukumba Regency mainly from the typology of the roof with strata one. The type of data to be used in this study based on the source, the data source of this research comes from:

- a. Primary Data (Primary Data) primary Data is obtained through the collection of data on the physical form of the photos on the site.
- b. Secondary Data (Secondary Data) the secondary Data is data which consists of data collected through literature research was, and other trusted sources.

Methods of data analysis that is used to express the research findings in the form of qualitative data analysis conducted mutually establish with the process of collecting data to identify the range of typology and morphology at the traditional House of South Sulawesi. The observation is done taking into account variable typology and morphology (Härmănescu & Enache 2016). Variable typology, i.e. components that make up the shape of the facade of the house: roof form, *timpalaja*, windows, balconies, and stairs. Meanwhile, variable morphology form identification form of the facade of the House by looking at the changing shape of the intensity.

3 DISCUSSION

The object of the Bugis traditional house that is analyzed were 18 houses with a single strata type on the Bantaeng-Bulukumba axis road. In the row on the north side of the road consists of 11 homes, while the row on the south side consists of 7 houses. Rows of houses in figures 2 and 3 correspond to the order of houses starting from the west of the road.



Figure 2. Objects of houses in the north side of the road

The object of this research is devoted to the traditional Bugis house with the roof of the first strata *timpalaja* which is marked by the form of a line on the roof facade.



Figure 3. Objects of houses on the south side of the road

The identification of traditional Bugis houses with *timpalaja* strata one line as follows:

- a. The shape of the house is rectangular with a plan that extends backward.
- b. The roof used is generally in the form of a triangular saddle roof with a wooden structure and zinc cover material. The angle of the roof used is typically 30-40 degrees, in contrast to

the side cover roof with a slope of around 7-15 degrees.

- c. The shape of the roof facade with a lattice called *timpalaja* with a single stratum in the form of a line generally consisting of a rectangular or two rectangular shapes or a square canopy. There is also a gap between the roof cover. *Timpalaja* with strata one indicates the lowest social levels. The material used is zinc and wood as a roof facade cover.
- d. On the front of the house, there is generally a balcony that functions as the entrance to the living room. The terrace consists of stairs and railings. Material ladder uses wood, while railing material usually uses wood arranged vertically or horizontally, but some use zinc cover.
- e. The structure of the house building uses the construction of the stage house with wood material.
- f. The walls of the house generally use a wood material with a wall height of about 3-4 meters.
- g. The door, called *tange*, is used as a panel door with wood material.
- h. Windows or *tellongeng* generally use swing windows, awning windows.
- h. The window is called *tellongeng*, commonly uses swing window.

The traditional Bugis house object along the Bulukumba Bantaeng axle road was found in 18 samples of conventional Bugis house objects with the shape of the first strata *timpalaja* roof. Typology aspects are obtained from the constituent components of the home facade. These components are in the form of roofs, *timpalaja*, balconies, windows, and stairs.

Morphological typology analysis of the building is divided into two according to the location of the house. The first row of houses was on the north side of the road, the second row of houses was on the south side of the road. Many typologies were found from this analysis as components of the home facade.

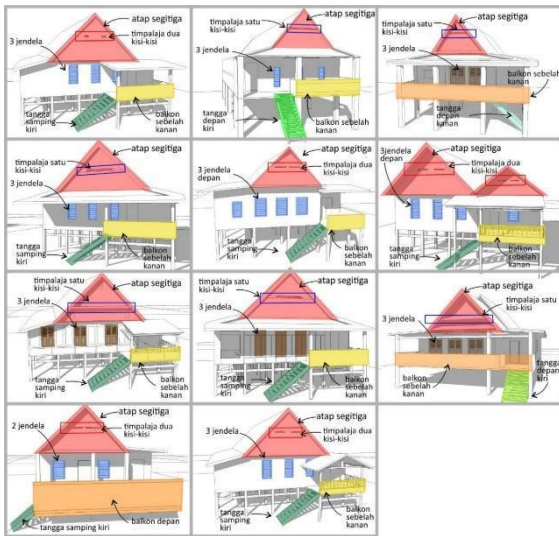


Figure 4. Typology analysis of the row of houses north side of the road

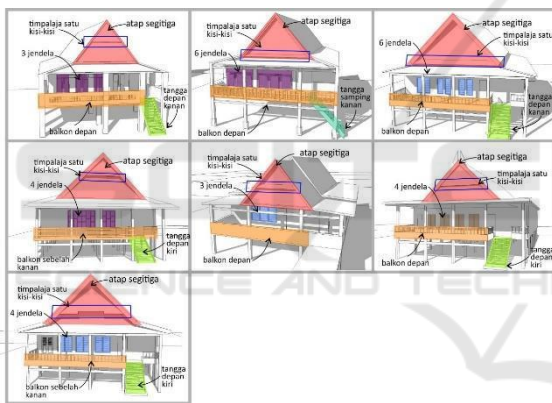


Figure 5. Typology analysis of the row of houses south side of the road

Typological aspects of the location of the row of houses north of the road are obtained:

- a. The typology of the triangle saddle roof.
- b. Timpalaja strata one with two lattice holes
- c. Timpalaja with one grid hole
- d. Timpalaja with a canopy form accompanied by a grid
- e. Generally, the position of the balcony is on the front left side with the location of the stairs which have two areas, namely the left side and front left
- f. Generally, the windows on the facade of the house consist of three pieces, but some have additional windows with small windows. The type of window used is generally jalousie windows, wooden awnings and glass windows, and window blinds.

Typological aspects of the southern row of houses are obtained:

- a. The basic shape of the roof is saddle
- b. Typical strata one which is generally a single hole grid
- c. There are also two lattice holes
- d. Usually, the position of the balcony is in front and broader, the location of the stair is generally on the right front, and there is also on the right side.
- e. Windows on facades generally line up with three and six pieces. The type of window used is typically wooden and glass awning windows, jalousie

Morphological aspects of the traditional Bugis southern house are obtained:

- a. There are differences in ladder placement
- b. Window materials that not only use wood but combine it with glass
- c. The existence of ornaments in the roof as the effect of the development of the ages.
- d. The existence of ornaments on the roof of the house due to the times
- e. The shape of the roof arrangement is increasingly varied e. The form of *timpalaja* which is not only in the form of an *ugaris*, but is more varied
- f. The number of windows can exceed three but cannot be up to 7
- g. The addition of ventilation on the roof



Figure 6. Analysis of the morphology of a row of Houses north of the road



Figure 7. Analysis of the morphology of a row of houses of the road.

4 CONCLUSIONS

From the data and study described above, it can be concluded that the influence of the typology and morphology of traditional Bugis houses can be seen from the physical and non-physical aspects. Physical aspects are in the form of area and climate, while the non-physical elements of local wisdom are included all the elements of the culture. The typology of the Bugis traditional house along the *bulukumba bantaeng* shaft road was obtained from the constituent components of the house facade. These components are in the form of roofs, *timpalaja*, balconies, windows, and stairs.

Meanwhile, the morphology can be seen from the physical structure that has changed or added from year to year. Existing changes do not change the original shape of the traditional house. Bugis tribal conventional house is a cultural asset that deserves to be preserved and preserved by the collaboration between the government and the Bugis tribe community. The government should be able to be firm with the implementation of regulations relating to the cultural preservation of a region. As we know that the impact of globalization is huge in Indonesia cannot be avoided and prevented anymore. Like the discussion from this study where the results of this study found changes that are influenced by modernity in the current of globalization.

REFERENCES

Abdel-azim, g.g. & osman, k.a.-a., 2017. The importance of cultural dimensions in the design process of the vernacular societies. *Ain shams engineering journal*.

Abidah, a., 2017. Perubahan bentuk dan fungsi rumah bugis-makassardi makassar. *Jurnal forum bangunan* , 3(1), pp.21–25. Available at: https://caridokumen.com/download/perubahan-bentuk-dan-fungsi-rumah-bugis-makassar-di-makassar-_5a466d94b7d7bc7b7a088a4a_pdf [accessed october 31, 2018].

Härmănescu, m. & enache, c., 2016. Vernacular and technology. Inbetween. *Procedia environmental sciences*, 32, pp.412–419.

Hematang, y.i.p. & sarina, 2017. Tipologi bangunan bersejarah rumah lepro merauke | mustek anim ha. *Mustek anim ha*, 6(3), pp.260–274. Available at: <http://ejournal.unmus.ac.id/index.php/mustek/article/view/709> [accessed october 31, 2018].

Marwati, m. & andriani, s., 2017. Tipologi bukaan pada rumah tradisional bugis di benteng somba opu

- makassar. *Nature: national academic journal of architecture*, 4(2), pp.107–120. Available at: <http://journal.uin-alauddin.ac.id/index.php/nucturenature/article/view/3601> [accessed october 31, 2018].
- Marwati, m. & qur'ani, k.r.r., 2016. Pengaruh adat terhadap fasad rumah tradisional bugis bone. *Teknosains*, 10(1), pp.69–88. Available at: <http://journal.uin-alauddin.ac.id/index.php/teknosains/article/view/1879/1819> [accessed october 31, 2018].
- Nurjannah, i. & anisa, a., 2010. Pola permukiman bugis di kendari. *Nalars*, 9(2), pp.139–146. Available at: <https://jurnal.umj.ac.id/index.php/nalars/article/view/612/572> [accessed october 31, 2018].
- Rahmansah, r. & rauf, b., 2015. Arsitektur tradisional bugis makassar (survei pada atap bangunan kantor di kota makassar). *Forum bangunan*, 12(2), pp.56–63. Available at: <http://ojs.unm.ac.id/fbangunan/article/view/1275> [accessed october 31, 2018].
- Rashid, m. & ara, d.r., 2015. Modernity in tradition: reflections on building design and technology in the asian vernacular. *Frontiers of architectural research*, 4(1), pp.46–55. Available at: <https://www.sciencedirect.com/science/article/pii/S2095263514000715?via%3Dihub> [accessed october 31, 2018].
- Sani, a.a., supriyadi, b. & rukayah, r.s., 2015. Bentuk dan proporsi pada perwujudan arsitektur vernakular bugis. *Jurnal teknik sipil dan perencanaan*, 17(2), pp.99–110. Available at: <https://journal.unnes.ac.id/nju/index.php/jtsp/article/view/6885> [accessed october 31, 2018].
- Santoni, s., 2014. Transformasi dan tipologi bangunan indo-europeeschen architectuur stijl kawasan braga bandung. *E-journal graduate unpar*, 1(2), pp.162–177. Available at: <http://journal.unpar.ac.id/index.php/unpargraduate/article/view/1193/1165> [accessed october 31, 2018].
- Setyabudi, i., antariksa & murti nugroho, a., 2012. Tipologi dan morfologi arsitektur rumah jengki di kota malang dan lawang. *Arsitektur e-journal*, 5(1), pp.32–46.
- Šiožinytė, e., antuchevičienė, j. & kutut, v., 2014. Upgrading the old vernacular building to contemporary norms: multiple criteria approach. *Journal of civil engineering and management*, 20(2), pp.291–298. Available at: <http://journals.vgtu.lt/index.php/jcem/article/view/3125> [accessed october 31, 2018].
- Ulusoy, m. & kuyrukcu, e.y., 2012. The meaning and importance of the traditional architecture in architecture education; gönen winter school model. *Procedia - social and behavioral sciences*, 47, pp.2120–2126.
- Yunus, p.p., 2012. Makna simbol bentuk dan seni hias pada rumah bugis sulawesi selatan. *Panggung*, 22(3).