VERNACULARISM OF MANTUIL WATER VILLAGE IN BANJARMASIN

Ira Mentayani[1], Ibnu Saud, Dila Nadya Andini[3], Irwan Yudha[4]
[1,2,3,4] Architecture Department, Faculty of Engineering, Lambung Mangkurat University
Jl. A.Yani, Km. 35,5 Banjarbaru, Kalimatan Selatan
Email: ira_arch@ulm.ac.id; ibnusaud@ulm.ac.id; dila.andini@ulm.ac.id

Abstract

A village generally grows and develops according to its character and its potential of environment and culture. The characteristics of wetlands and swamps illustrated by typo morphology of settlements, buildings, and environments are the manifestations of the uniqueness of the water villages in the city of Banjarmasin. Mantuil water village located on a delta in Bromo Island, Banjarmasin City, is a village that is entirely on the water. Access and circulation to this village can only be achieved through water transportation. Water-based local wisdom is a potential for mitigation and resilience of settlements which must be maintained. This vernacularism research uses a realism paradigm with a qualitative approach; a research with a basis of trust in real data and accountable sources. The findings of this study are the concept of vernacularism in Mantuil water village drawn from the components of the riverfront architecture and its relationship to the function and meaning of the river. The culture of river life is identified in the form of local identity, collective memory, and place attachment. There is the dependence of a place to live, water sources, access and transportation, sources of livelihood and ease of gathering with high kinship ties on the function of the river. There are aspects of resilience and disaster mitigation that must be improved for stability so that the sustainability of this water village can be maintained.

Keywords: riverfront architecture, Banjarmasin, water village, Mantuil, vernacularism.

Abstrak

Judul: Vernakularisme Kampung Air Mantuil di Banjarmasin

Sejatinya sebuah kampung bertumbuh dan berkembang sesuai karakter dan potensi lingkungan dan budayanya. Karakter lahan basah dan rawa yang tergambar dari tipomorfologi permukiman, bangunan dan lingkungan merupakan perwujudan keunikan kampung-kampung air di Kota Banjarmasin. Kampung air Mantuil yang terletak pada sebuah delta di Pulau Bromo Kota Banjarmasin merupakan kampung yang sepenuhnya berada di atas air. Akses dan sirkulasi menuju kampung ini hanya bisa dicapai melalui transportasi air. Kearifan lokal berbasis lingkungan air menjadi potensi mitigasi dan resiliensi permukiman yang sejatinya harus dipertahankan. Penelitian vernakularisme ini menggunakan paradigma realism dengan pendekatan kualitatif yaitu penelitian dengan basis kepercayaan terhadap data ril dan sumber- sumber yang dapat dipertanggung-jawabkan. Temuan penelitian ini berupa konsep vernakularisme kampung air Mantuil yang tergambar dari komponen arsitektur tepi sungai dan keterkaitannya dengan fungsi dan makna sungai. Budaya kehidupan sungai teridentifikasi berupa identitas lokal, memori kolektif dan 'attachment to place". Terdapat ketergantungan terhadap fungsi sungai sebagai tempat bermukim, sumber air, akses dan transportasi, sumber mata pencaharian dan kemudahan berkumpul dengan ikatan kekerabatan yang tinggi. Terdapat aspek resiliensi dan mitigasi bencana yang harus ditingkatkan stabilitasnya sehingga keberlangsungan kampung air ini dapat dipertahankan.

***Kata kunci**: arsitektur tepi sungai, Banjarmasin, kampung air, Mantuil, vernakularisme.*

Introduction

Generally, cities in Kalimantan have specific geographical conditions namely wetlands in the form of rivers, swamps, and wilderness. Cities in Kalimantan are always described as river towns as many rivers found throughout the cities and become the source of life for their people. The same goes for cities in South Kalimantan Province, such as Banjarmasin, Martapura, Amuntai, Negara, Kandangan, Barabai and other cities.

Rivers for the people in Banjarmasin City are very important natural resources. As a means of transpor- tation, the rivers function as a mode of transportation for (1) passengers, (2) agricultural produce, (3) transportation of goods, (4) industrial coal and timber transportation, and (5) traditional trade (floating markets). The rivers are the only link between economic centres and supporting areas in South Kalimantan.

Banjarmasin as one of the river cities that has a common typology in the form of aspects of the utilization of the riverbank area as a residential area. Based on Banjarmasin City's ground figure from time to time, it is clearly seen the influence of the rivers in the formation of city morphology (Hadinata, 2017).

Judging from the settlement typology, there are three typologies of riverfront settlements, namely riverfront settlements, riverbank settlements and settlements on the rivers (Mentayani, 2015). From the typology of riverfront settlements, riverfront architecture in the city of Banjarmasin consists of floating houses, riverfront and riverbank houses, walkways, docks, latrines, and the living culture on the banks of the rivers (Mentayani, 2016).

Until now, even though the roads have developed, but the settlements on riverbanks tend to grow. This symptom is not caused by an increase in the function of the river as a transportation route, but because of limited urban land to accommodate population growth and buildings. This condition is indicated by the reduced role of the rivers as a means of transportation.

The next phenomenon found is the tendency to ignore the existence of the rivers. Most of the houses stand entirely on the river, but access and orientation to the rivers as a form of dependency actually decreases. The rivers are only seen as an "empty" land that can be built, as a place of disposal, and as a strategic area near the roads.

The contradiction between the development on lands and on rivers is an important concern when paying attention to local identity but also the limitations or ignorance of the ability of the community to build where it should be.

A city will no longer be a memorable image and a portrait of longing for its people when there is no more collective memory that will unite memories in the past that are able to become a spirit in the present life of the people. The development of a city can be a new thing and obscure the closeness when it is hardly to find characters that hold memories of the past that are able to grow along with the development of the present.

Mantuil water village is part of the history of river civilization in the city of Banjarmasin. We can find uniqueness and authenticity as a village in several

corners of this area. The closeness of the community to the river and its aspects of dependence on its functions are still visible in daily life. This research will highlight more deeply the locality and authenticity of this village based on its vernacular character. This research will provide findings of vernacularism that still become a local wisdom in the development of a water village.

Literature Review

Kalimantan Wetland Architecture

Settlements on the riverbanks are formed as a result of unique historical processes, process templates, and the influence of the surrounding environment, which is the existence of rivers and swamps. The rivers are the main factor in traffic and transportation, economic arteries, the path of cultural distribution, the territory of the palace, and also the colonial territories in the 17th to 19th centuries (Saleh et al., 1982: 13). The long process produces concentration of the population on the banks of the rivers, which is a relatively higher plain compared to the surrounding area which is generally still in the form of swamps. Then, it developed to form a community with its river culture.

According to Saleh, et al (1986 : 27), the emergence of river culture (including the form of settlement patterns on the banks of rivers) in the Banjar tribe (Banjarmasin City) due to several factors, namely: 1) The effect of South Kalimantan's geomorphological development; 2) The effect of ecosystems formed by nature (social, economic, political); 3) The effect of cultural contacts between the geographical location of Banjar; 4) Amalgamation between origin and migrant tribes as historical evolution; 5) Islam as a political and religious factor that is unifying and separating. The existence of a very high community dependency (due to a very long process) cannot be simply ignored.

Riverfront Vernacular Architecture

Based on Muchamad (2011), the traditional/vernacular architectural (design) characteristics of residential Banjar communities that have been proven to be able to anticipate disasters are:

1. *Land use*. Land use takes into account the needs and availability of land. Balance is always maintained and land is never spent on buildings.
2. *Open space*. Open space is maintained, even for the daily interests of the community often utilizing the bottom of the house or building a multipurpose yard.
3. *Floor Average Ratio* (FAR). Buildings as much as possible take lands or every development means making changes, so this is always avoided or minimized.
4. *Water body*. Rivers and swamps are kept as much as possible. Even for the circulation of water ponds or canals are often built that connect sites / land with other water bodies.
5. *Construction of the stage.* To make room for water, the building uses a stage construction model. The material used is wood material by minimizing space with the kacapuri construction system.

6. *Space organization.* Space is arranged functionally. The spaces that require access to water / rivers are prioritized.
7. *Material.* Materials used are in accordance with the character as well as building problems in wet areas, namely the strength and durability of water. For this reason, local wood (ulin, kapur naga, galam, etc.) is selected and adapted to the construction technique.
8. *Access / achievement.* The river is always an orientation; both for access and circulation and view. Achievements from the river are always there and there is also a pier for access from the river. Agriculture, economic life, and social life depend on rivers, creeks or canals where the location and placement of settlements are closely related to river geography (Davis in Oliver, 1997: 157).

Based on Mentayani (2015), the occurrence of changes in riverbank settlements can be viewed from the following aspects:

1. Cultural aspects of river life are influenced by knowledge, aware-ness and dependence on river functions.
2. Mitigation of fires, ease of obtaining materials, and more affordable prices are the main reasons for material and construction transformation.
3. Adaptation to the decline in river function is the reason for changing the orientation and function of the building.
4. Blood kinship (children, cousins, siblings, brother-in-law) is a forming factor for walkways and wooden docks that connect floating houses and riverbank houses.
5. The opening of riverbank access, high tide limits and the ease of obtaining permanent permits are considered as the reasons for the floating houses and longitudinal houses being anchored.
6. The closeness to the city centre and commercial facilities, the availability of access to the river for *MCK* (a place for bath, wash, toilet), and the low price of renting a house attract the riverbank houses more attractive to migrants from outside Kalimantan.

The Culture of River Life

The tradition of river culture was formed when the Malays came in the 3rd-4th century AD. Until now the cultural heritage of Malay still feels thick in parts of the city of Banjarmasin.

Various functions and daily activities, both routine (MCK), economic activities, transportation, social functi- ons, worship, and so on are still utilizing the existing rivers. This makes the life of the people of Banjarmasin City with its river culture become its own uniqueness (Mentayani, 2010).

Place attachment refers to the formation of one's inner bond with a place, such as a residential environ- ment. Inner bonds which are attachments and love of a residential environment will positively provide a sense of security, comfort, peace, which in turn will provide prosperity and happiness for the community in carrying out their lives (Ernawati, 1992). Conversely, the absence of inner attachments (place attachment) can cause a sense of "alienation" from the

environment, a sense of not at home in the environment, which in turn will have a negative psychological impact on the residents. If conditions like this continue, these conditions may cause mental stress that can adversely affect the well-being of human life. Therefore, it is necessary to study the factors that influence the formation of inner bonds or attachments and love of the environment (Ernawati, 2014).

Methodology

This study uses a case study approach with a single case based on uniqueness (a special case). The research location was in the form of a pristine water village and was a representation of the Banjar community water village which is now rarely found in Banjarmasin City, so it can be a unique case.

According to Yin (2003), intrinsic case studies can be the right foundation especially for unique cases. The research technique uses two ways of collecting data, namely primary data with field observations and interviews with key informants and respondents, and secondary data by analyzing content from urban planning and settlement documents, previous studies, and scientific information written previously. There are two types of variables in this study, first is the general variable, namely the physical content of the architecture in the form of physical data of building and residential elements as well as non- architectural physical content such as the function and role of the river for the community.

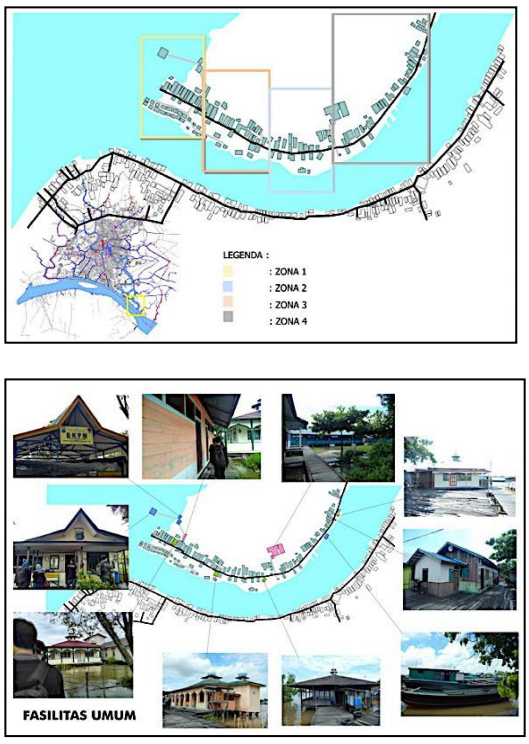

Figure 1. Research location and distribution of public facilities

In addition to using a qualitative approach for the sake of interpretation of secondary data, this study also uses a quantitative approach to identify residential elements and analyze the role of rivers in settlements and the level of dependence of residents on the role and function of rivers in daily life.

The study population consisted of 100 houses and then determined 30 samples purposively with sample criteria based on the diversity of residential patterns and physical characteristics of occupancy. Qualitative data is analyzed so as to produce factors that influence the formation and growth of water villages.

The Mantuil water village has a linear archetype following the morphology of the estuary of the Martapura River to the basin area of Bromo Island. Based on history, the name Mantuil / Pantuil is schans van Thuyl, located at the southern point of the island of Tatas, where there is a fort called van Thuyl which was built in 1819.

To reach this village from the land area some transportation modes are needed. From Mantuil Permai Road to the river bank it is about 80 meters away by using a wheeled vehicle, then it must be continued on foot along the wooden walkway as far as 100 meters, then rent the kelotok / getek owned by local residents to cross to Mantuil Water Village. People in this village usually use ferries that can carry passengers and vehicles that will be used during activities on land. Whereas for outsiders who want to visit or access this village, they can use kelotok transportation which allows them to directly dock in the area of the lanting house and the stilt house located in the front of the settlement.

Result and Discussion

Based on a study of references and compilation of data at the research location, four themes were found which became the character of the vernacularism of the water village in Mantuil. These themes are arranged in a tagline of inhabited concepts which are formed from the character of riverbank architecture.

1. **Domination of riverbank architectural characters**
   The riverfront architecture becomes the natural character of a water village anywhere. The community explores naturally and acts as an architect in the village. The Mantuil water village was formed because of the close relationship of residents to the river became the most basic reason so that the village survived until now. The residences in this village are 36 riverbank houses, 60 riverbank houses and 4 floating houses (lanting houses).

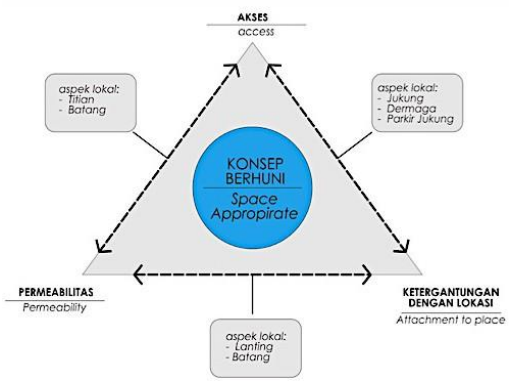

Figure 2. The concept of inhabiting the water village community

Linear settlement patterns follow the shape of the river and dock to the swamp area (land) with a linear line of settlements in the form of walkways followed by branching of dwellings on the right and left sides. The whole village occupancy is on water which is not directly connected to the mainland. There are three types of circulation paths in the village; primary circulation in the form of a pedestrian road that connects houses, secondary circulation that connects the main footpath with wide to the residential, direct circulation path from the secondary to the front of the dwelling.

Access to and from this village can only be reached through water transportation. Circulation in the village is associated with catwalks and secondary. Primary walkways become the main road that functions like a highway on land while secondary walkways can be analogous to environmental roads in villages on land.

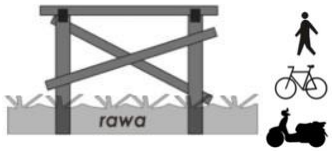

Figure 3. Pedestrian construction and transportation modes

Figure 4. The primary walkways is the main circulation path in the village

Wooden boards and latrines as community service areas can still be found in some parts of the village. Material and construction on stilts still use wood material with ironwood sticks as supporting buildings. The walls of the house use boards that are flat or tiered. The form of *limasan* and saddle roofs that dominate the houses in this village. There are *kelotok* or *jukung* (local boats) in front of several houses, this tool becomes the main means of transportation to get to the village or other places. This tool is usually moored directly in front of the house by tying the ends with a pole or between the other parts of the building.

a). secondary walkway as direct access to housing

b). primary and secondary walkways patterns

2. The residential component is formed based on the relationship with the river

The river is the lifeblood of the people of the *Mantuil* water village. The pattern of occupancy, access and orientation as well as material and construction mostly still consider its relationship with the river.

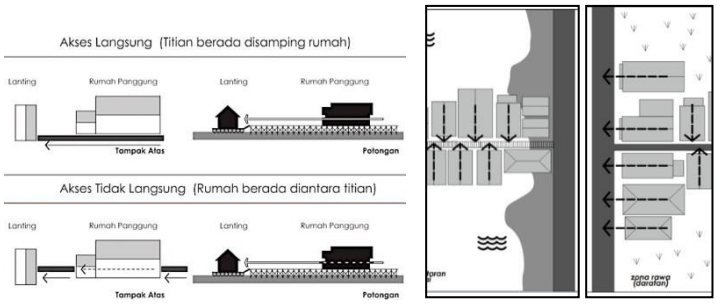

Figure 5. Residential orientation facing primary and secondary walks

Judging from residential access and orientation, there are 7 typologies formed from walkways patterns. The residential pattern on the side of the swamp area follows the formation of the river that was built and docked / attached to the swamp area.From the analysis of access and orientation of the housing it can be concluded that the main circulation path which is the node of the water village is a

primary pattern of linear pattern. This is formed naturally so that the value of the vernacular is still felt.

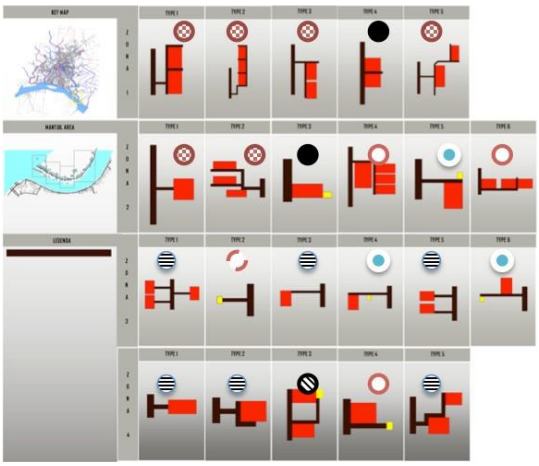

Figure 6. Analysis of occupancy, access and orientation patterns

Access to direct occupancy from primary walkways, orientation facing primary walkways.
Access through secondary walkways, orientation to primary walkways, can be directly accessed from the river and has a boat mooring area.
Access to residential via secondary walkway connected by private walkway, orientation to primary walkway to the back layer.
Access to residential areas via secondary walks and branch off into communal latrines.
Direct and branched access to residential or communal latrines, orientation to primary walkways, can be accessed from the river.
Direct access to residential and branching to communal latrines, orientation to primary walkways.
Access is only to communal latrines, built as public facilities independently.

Primary walkways function as connecting lines that unite, bind and connect between dwellings. The role of the primary walkway is not only as a 2- wheeled vehicle traffic lane but as a pedestrian path from and to the ferry crossing area.

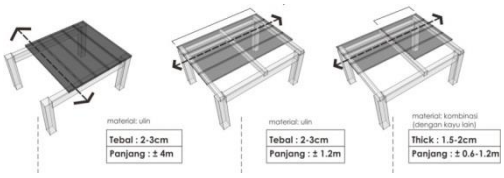

Figure 7. Development of walkways material
Source: Hadinata (2014) Serving (2017)

The primary walkway was built along the Mantuil water village with a width of 2 - 2.5m with construction of ironwood pillars. At the end of the village direction on land, Mantuil Village has a number of new walkways built by the city government using concrete materials.

3. The role and function of the river based on aspects of awareness, knowledge and dependence

Roles and functions of rivers are identified through aspects of awareness, knowledge, and dependence on river functions (access and orientation, material and construction) As a water village that cannot be accessed directly from land, this village is a picture of an independent village that is still attached to the river's life. Based on Mentayani (2004, 2009) the life of the riverbank community is very dependent on the function of the river as a source of water for cooking and MCK, means of transportation to markets, schools, workplaces to rice fields and fields across the island, rivers as well as livelihoods, socialize and live. The whole function of the river cannot be found in its entirety in the Mantuil water village.

Based on in-depth interviews, more than 50% of residents use the river only for transportation facilities and waste disposal locations. While for water sources, 48% have used PDAM channels and the rest use river water as MCK facilities but not for clean water sources (not for cook).

There is a dependence on the function of the river as a place of residence, water resources, access and transportation, sources of livelihood and ease of gathering with high kinship ties.

Knowledge factors have a major influence in determining the material and construction, the style and shape of the building, and awareness of the use of river functions as open spaces and socialization spaces.

The awareness factor provides an understanding of the importance of maintaining the cleanliness of the river by not throwing garbage into the river. The culture of river life is identified in the form of local identity, collective memory and 'attachment to place'. There is a dependence on the functions of the river as a place to live, water resources, access and transportation, sources of livelihood and ease of gathering with high kinship ties. the stability must be improved so that the sustainability of this water village can be maintained.

4. Factors Forming of Water Village

There are several factors that influence the growth and development of the Mantuil water village, namely:

a. Material and Construction Selection

The use of natural materials in the form of wood and boards into a

combination of concrete and wood is influenced by factors of knowledge and economic capacity in building additional space. Besides that the growth of family members also affects the dimensions of space, material selection, ornamen- tation on windows and doors. The use of latrines and communal stems developed into toilets inside the house to direct access from the river to the dwelling.

b. Culture and Kinship

- Cultural factors gather after marriage, making a house adjacent to the parents' house, usually by connecting to the side or back of the house in the same row of houses.
- Factors of strong kinship in determining distance and proximity when building a house and develop- ing the length of a secondary walkway.
- Most of the people come from Hulu Sungai Selatan with a very high level of kinship (family relations). Mutual cooperation activities are still maintained especially when there is celebration. They make open areas stand on empty land as a place to cook and prepare other needs. The material borrowing tube system is a unique tradition in this village.

c. Factor of dependence on rivers

- Factor dependence on river function as a source of water for MCK provides connectivity for residential space in the form of walkways and trunks. Transport functions and collective memory functions related to childhood on the banks of rivers.
- Knowledge factors have a major influence in determining the material and construction, style and shape of the building, and awareness of the use of river functions as open spaces and socialization spaces.
- The awareness factor provides an understanding of the importance of maintaining the cleanliness of the river by not throwing garbage into the river, utilizing the functions of the river as an alternative transportation.
- Lifestyle aspects and demands for privacy also affect the transformation of residential patterns. Bathing habits on rivers (communal latrines) turn to individual toilets inside the house.

Conclusion

This study produced the concept of vernacularism of the Mantuil water village which was illustrated by:

1. Riverfront architecture component and its relation to the function and meaning of the river.
2. The culture of river life is identified in the form of local identity, collective memory and 'attachment to place'.
3. There is a dependence on the function of the river as a place of residence, water resources, access and transportation, sources of livelihood and ease of gathering with high kinship ties.
4. There are aspects of resilience and disaster mitigation that have to be improved so that the sustainability of this water village can be maintained.

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