


The philosophy of “*makdanakan*” in the community settlement of Bontang Kuala Urban Village, Bontang City

Puput Wahyu Budiman¹, Antariksa Sudikno^{2*} 

¹ Research and Development Agency of East Kalimantan Province, Samarinda

² Department of Architecture, Faculty of Engineering, Universitas Brawijaya
Jl. MT. Haryono, no. 167, Malang, Indonesia



ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received August 17, 2022 Received in revised form Dec. 13, 2022 Accepted January 15, 2023 Available online April 01, 2023</p> <p><i>Keywords:</i> Bajau tribe <i>Makdanakan</i> philosophy Phenomenology Settlement</p> <p>*Corresponding author: Antariksa Sudikno Department of Architecture, Faculty of Engineering, Universitas Brawijaya, Indonesia Email: antariksa@ub.ac.id ORCID: https://orcid.org/0000-0002-5270-4750</p>	<p><i>The Bontang Kuala urban village was originally a settlement of the Bajau tribe, which has a unique culture and tradition based on the local wisdom values in it. This study aimed to determine the concept that serves as the bottom-line for the unique spatial patterns of settlements formed by using a qualitative inductive method with a phenomenological approach. Study results showed that the formation of residential spaces for the people of Bontang Kuala urban village is based on the “makdanakan” philosophy. This philosophy gives both physical and non-physical influences in the formation of residential spaces.</i></p>

Introduction

Indonesia is the largest archipelagic country in the world (Putiamini et al. 2022), separated by waters causing most of its people to work as fishermen and are very much dependent on the sea. Fishing communities living in coastal areas carry the culture of the community altogether (Ginkel 2007) as an agreed system which is manifested in the form of social and cultural interactions that are formed through a long socio-historical process (Kusnadi 2017) and occurred in residential spaces (Harefa 2019; Refranisa 2019; Widodo 2019).

Maritime culture greatly influences coastal communities as indicated by daily socio-cultural activities (Pikner et al. 2022) which are reflected in the interdependent relationship between fishermen and the sea (Oliveira et al. 2022).

Coastal communities tend to be more open and egalitarian compared to inland communities (Takari 2017) which are agrarian and closed-agrarian (Ruslan 2014). Coastal communities are synonymous with economic and land resource limitations (Yudha, Siahaan, and Ismanto 2021) that in turn, increase the need for ‘open spaces’ (Widjajanti et al. 2018). Open space is a cultural expression as a form of response to the climate, customs, traditions and lifestyle of certain people (Vijayalaxmi and Arathy 2022; Subroto 2019; Purbadi, Sumardiyanto, and Vitasurya 2023; Pradono 2019). The cultural activities of fishing communities occurred in residential spaces are influenced by beliefs and philosophies related to the surrounding environment (Andri R.M., S.S., M.A. and Wulan S. 2020; Hermawan 2023).



The Bajau community is a local Southeast Asian entity whose lives depend on the sea. (Indrawasih and Antariksa 2003). The Bajau community is spread across various regions in Indonesia, playing the role of fishermen and traders who cross national maritime borders in the Southeast Asian region (Subekti 2019) that are scattered in the Philippines (Santamaria 2019), Malaysia (Ali 2010), Sulawesi (Rusba, Farid, and Tahara 2018), Kalimantan (Saththa 2014), and elsewhere.

The Bontang Kuala urban village is a residential area for Bajau fishermen which was the beginning of the formation of settlements in Bontang City. Bontang literally comes from two syllables, namely bone and datang (means coming) or 'coming from bone'. Bone refers to the origin of the Bajau tribe who came from Bone Regency, South Sulawesi (Tahara and Malim 2021) and settled in an area called Kampung Bontang Kuala during the time of Sultan Aji Mohammad Sulaiman II. Initially, the Bajau people were a nomadic tribe who lived in boats (Hukmiah 2020), depended on marine resources and had a tradition of preserving marine biodiversity (Clifton and Majors 2012). The urban village people of Bontang Kuala still maintain local values, traditions and culture which are their characteristics. These local cultural values form a specific (Tuan 2001) space and place. The settlements of the people of Bontang Kuala were influenced by culture which is reflected in their daily activities carried out in public and private spaces (Wahyu Budiman, Antariksa, and Usman 2010).

There are quite a lot of literatures about the Bajau community, but there is not yet one that discusses spatial patterns, concepts and philosophies for living in the Bajau community, especially in East Kalimantan. Some of the literature on the Bajau community discusses more about culture and its role in preserving the marine environment. The role of Bajau women in Berau district in utilizing and protecting the oceans in a social organization has also been reviewed in articles (Pauwelussen 2016). Then in Gorontalo there is a local tradition of the Bajau tribe in protecting the environment called mamia kadialo which has been going on for generations (Utina 2017).

The perception of Bajau community on the environment was studied (Pratiwi 2018) who found that the Bajau community in the coastal

settlements of the Konawe coast have adequate basic knowledge of environmental preservation.

Other literatures (Santamaria 2019) also found ways to distinguish the Bajau sub-ethnic diaspora which are being recognized through rituals and traditional musical instruments. In another article, it also discussed the vulnerability of the regional language of the Bajau tribe in North Penajam Paser Regency which is endangered (Nisah, Prasetya, and Musdolifah 2020). The relationship between Bajau culture and language was also discussed by Noviatussa'diyah, Sugiarti, and Andalas (2021). Absence of research on the concept underlying the settlements of the Bajau community in East Kalimantan made it interesting for further study.

By doing a grand tour and minitour (Hermanto, Djunaedi, and Sudaryono 2014) in Bontang Kuala urban village, several interesting spatial phenomenas were found, including settlement patterns that tended to be linear and clustered close to pavilions, uniform housing both in material, shape and construction height, houses among closely-related families were more approximate to each other forming a certain pattern, there was also a belief that one should not build houses near coral reefs, as well as the strong tradition in residential areas resulting in the question of this research, regarding what concept or philosophy underlies this phenomenon in forming settlements for the community of Bontang Kuala urban village.

It is not yet known what concept or philosophy underlies the formation of Bontang Kuala urban village community settlements. It is interesting to analyze in this study which aimed at finding local concepts that contain local wisdom values that underlie the formation of Bontang Kuala Community settlements so that the values and concepts explored can be an input to science.

Method

The research method used in this study was a qualitative inductive method with a phenomenological approach. Qualitative inductive research methods describe data and facts through a description that explains the entire research subject that expresses a phenomenon (Hukmiah 2020). According to Husserl (1999) the phenomenological approach, with continuous observation in the field, would eventually result in

the researcher's subjective experience (intentionality) which could capture the deep meaning of the phenomena that arise from the observed object. This is also supported by Pahude and Kristiadi (2017) the fact that with a phenomenological approach, what meaning is contained in a phenomenon will appear, and therefore, in this study it was expected that an in-depth understanding of the meaning of spatial phenomena that occurred, for example behavior, motivation, action, adaptation, culture, beliefs and so on would be obtained completely, holistically and profoundly (Kahija 2017; Eberle and Schnettler 2020).

Grand tour is the initial stage in inductive research in order to find empirical problems and phenomena (Sugiyono 2019). The grand tour is also a way to get an overview of the research and limit it through research questions (Rossman and Rallis 2017) In this study, data collection began with a grand tour and continued with a mini tour and in-depth interviews with 9 informants all of whom came from the urban village of Bontang Kuala selected using a purposive sampling technique, in which the sources or respondents were selected with certain criteria (Hajian et al. 2022) and carried out in-depth interviews by using snowball technique (Sugiyono 2019) by which 9 sources were obtained, namely Mr. Jafar, Mr. Suharto, Mrs. Aspiana, Mrs. Hj Emong, Mr. Yusran Tayip, Mr. Johansyah, Mr. Andiga, Mr. Rahmat Abdullah, and Mr. Soni. The nine key informants were chosen because they are native residents of the Bontang Kuala urban village, actively involved in traditional organizations and have sufficient knowledge about the urban village. Data analysis was carried out by deepening the 14 informational units obtained which were categorized into 7 (seven) empirical themes to which substantial relationships among those empirical themes were explored. The seven empirical themes were then dialogued to give rise to local theories regarding the concept or philosophy of settlement in the community of Bontang Kuala urban village, Bontang City.

Result and discussion

The results of in-depth interviews with 9 (nine) informants as described in the research methods section above found 14 (fourteen) units of information and 7 (seven) empirical themes

obtained from the in-depth results of the 14 (fourteen) units of information. The seven empirical themes forming community settlements in the Bontang Kuala urban village based on the findings in the field are as follows:

1. The theme of uniformity of building materials for housings

This theme consists of 1 information unit, namely ironwood as the main building material. The dwelling of the people of Bontang Kuala is called '*rumah panggong*' (panggong house), which is a type of house in the form of stilts which is located above the water. In building houses, the local community uses ironwood as a building material for both residential and other public facilities. Ironwood, which in Latin is called *Eusideroxylon zwageri*, is an endemic plant in East Kalimantan which has material strength and long durability. The use of ironwood as a building material is a form of adaptation by the community of Bontang Kuala to the dry coastal environment which affects the durability of building materials, especially for housing and settlement infrastructures. Ironwood is used as a foundation and floor material considering that this part is in direct contact with sea water, as can be seen in the following figure 1:



Figure 1. Ironwood as a building material in all houses

"Parents used to make panggong houses together, the roof was made of nipa palm but the walls and foundation were made of ironwood. Everyone used ironwood for the walls as a form of togetherness. People who were not using ironwood altogether, will be fined" (Mr. Yusran Tayip 2021).

The use of ironwood evenly is based on the community's understanding that comes from the *makdanakan* philosophy, which means 'equal experience/feelings and equal position/rank'. Even though ironwood is becoming scarce and the location of getting it is far from the surrounding dwellings, the community thinks that the use of

ironwood is a form of adaptation to the coastal environment and a form of togetherness in the use of ironwood. The value of togetherness is also reflected in the tradition of searching for ironwood, namely mutual cooperation in processing ironwood for housings.



Figure 2. Activities of ironwood searching and house building according to the *makdanakan* philosophy

2. The theme of *panggong* house as the residence of the Bontang Kuala community

This theme consists of 2 informational units, which are *panggong* house of the *pelimasan* type and the *panggong* house of the Palembang type. The *panggong* house of the *pelimasan* type is a traditional house for the people of Bontang Kuala with a pyramid-shaped roof and is considered simpler and cheaper to build. Due to its simplicity in shape, some parts of the house do not exist, such as ventilation for the front and back roof as well as having shorter house walls which are used to minimize the swift of incoming wind, as shown in the following [figure 3](#):



Figure 3. *Pelimasan* type house

For the Palembang type house, it has a triangular-shaped roof and vents on the front of the roof. The construction of Palembang type houses is slightly more expensive as it requires more wood and shingles. The Palembang type house also looks more aesthetically pleasing with

the *sempayang* pole ('*tiang sempayang*') added, which symbolizes the balance between the roofs as can be seen in the following [figure 4](#).



Figure 4. Palembang type house

The *panggong* house is the residence of the Bontang Kuala urban village community, which consists of 3 (three) rooms, namely the *barandah* (front room), *balai* (middle room/living room), and *Joro'* (kitchen). The distribution of residential space in *Panggong* houses can be seen in the picture below.

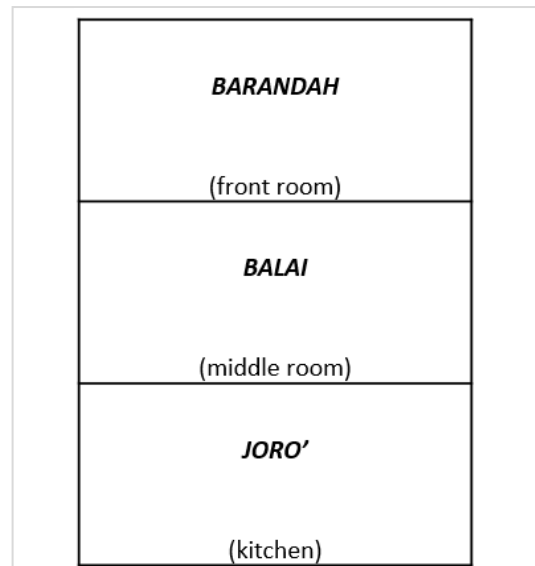


Figure 5. Room division in a *panggong* house

The pelimasan type house is a dwelling for fishermen residents, which has the meaning of protection. The shape of the roof which resembles a pyramid is considered as a form that surrounds the occupants inside it. This is a manifestation of the *makdanakan* philosophy, that all occupants in the house have the right to equal protection. In addition, the type of Palembang house with sempayang pole in the middle symbolizes the balance between the rights and obligations of occupants in the house. To obtain balance, there must be equality among the occupants of the house in accordance with the meaning contained in the *makdanakan* philosophy as explained by Mr. Jafar.

"There are 2 forms of our panggong house, the Palembang house and the Pelimasan house. Palembang houses has a triangular roof and lots of vents, which symbolizes balance, and for the Pelimasan house, it symbolizes protection, where the roof resembles a pyramid shape which is easier and cheaper to make. Protection and balance will be achieved if we make it happen together in an equal position according to the makdanakan philosophy" (Mr. Jafar 2021).

3. The theme of socio-cultural activities forming settlement patterns

This theme consists of 3 informational unit activities that form settlement patterns, which are Mejamu Karang, lowering the ance, bebalai (*mancap* pole).

Mejamu Karang is a traditional event of Bontang Kuala community, which is synonymous with maritime cultures. Mejamu Karang is held once a year in order to express gratitude to God's gift for the wealth of the sea around Bontang Kuala urban village. This event aims to pay homage to the inhabitants of the reef that have provided fish and other marine commodities that are very beneficial for the welfare of fishing communities. In their belief, the fishing community considers sea corals as brothers and sisters of God's creation, therefore, as a form of respect for these corals, corals need to be fed in the form of offerings. From this activity of feeding the corals which is called the mejamu karang ('serving the corals'), it is based on the *makdanakan* philosophy, in which the corals must also be respected and fed like humans as explained by Mr. Andiga as follows.

"mejamu karang is an annual event which is a form of gratitude to the almighty for His gift that has given corals to feed us through their fishes. In

return, we feed the corals through such ceremony (Mr. Andiga 2021).

The mejamu karang activity begins with the making of offerings in panggong houses, that is subsequently brought to the pavilion (open space) to perform rituals of reading mantras and traditional dancing. After that, the offerings that have been given a spell will then be anchored using a miniature ship containing the offerings while moving towards the sea as a form of feeding the sea corals. This procession was further explained by Mrs. Aspiana.

"Before docking the boat at the mejamu karang ceremony, the boat would be filled with offerings in the form of food made at the kitchen (dapo') of each house. When it is ready, the offerings are brought in a convoy along the road to the pavilion. The pavilion will be the center of events there" (Mrs. Aspiana 2021).

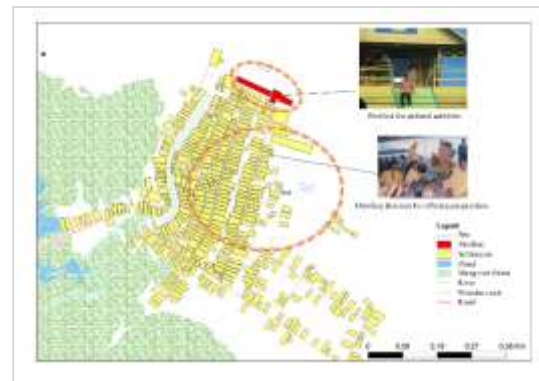


Figure 6. Activities of mejamu karang

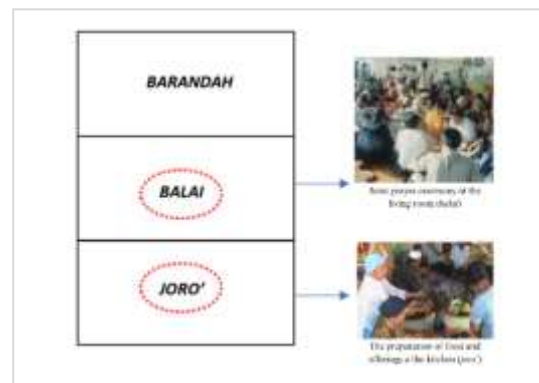


Figure 7. Space utilization during the preparation for the mejamu karang ceremony

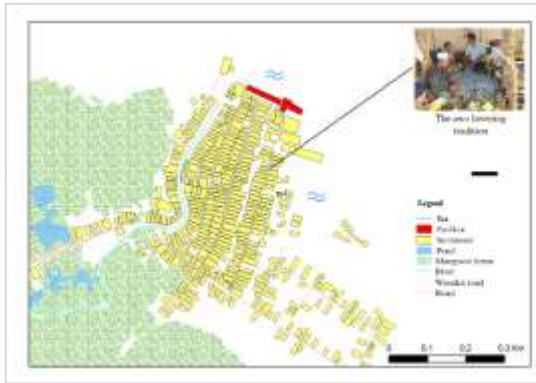


Figure 8. Activity of *ance* lowering

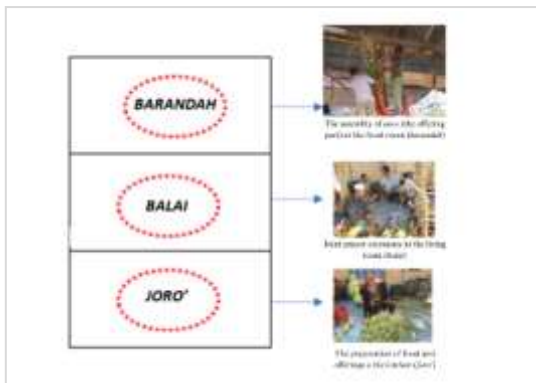


Figure 9. The use of the panggong house space in the activity of lowering the *ance*

The Bebalai tradition is an activity of the Bontang Kuala residents in building houses. The construction of a house is a symbol of strong togetherness among villagers as a manifestation of the *makdanakan* philosophy. Bebalai activities begin with a procession of *mancap tiang* or sticking a pole as the center of the house. Then a joint prayer was held after the *mancap tiang* procession and the construction of the foundation of the panggong house could be carried out. This development was assisted by the local residents as a symbol of togetherness originating from the *makdanakan* philosophy. After the construction of the panggong house has already completed, a thanksgiving ceremony was carried out in the *balai* (living room) by reciting the *sholawat* prayer to the Prophet Muhammad (*barzanji*) in accordance with Islamic teachings as explained by Mr. Suharto.

"In the *bebalai* custom, building a house is done in mutual cooperation, both in the construction and financing as the meaning of the *makdanakan* which is togetherness. This activity begins with a procession of 'mancap tiang' and is

held in the 'balai' (living room). This activity is coupled with the *barzanji* event" (Suharto, 2021).



Figure 10. *Bebalai* tradition

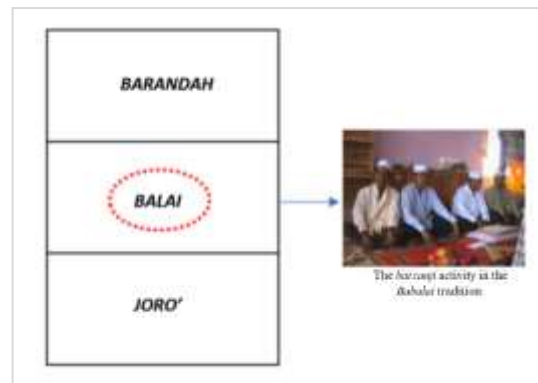


Figure 11. Room utilization of the *bebalai* tradition

4. The theme that between occupancy is a space for boat mooring and private *karamba* (*kelong*)

There are 2 informational units in this theme, which are the boat mooring space and the *karamba* (*kelong*) space activity. Most of the livelihoods of the people of Bontang Kuala are fishermen. In fishing activities, fishing communities use boats to catch fishes. Boats for fishing communities are an important means of supporting daily activities which consequently placed the location of the boat in very close proximity to the house to facilitate such fishing activities. Among fishermen, there is an agreement that there is no one who does not have a boat, hence, if there are fishermen who do not have a boat, then the residents would work together to help make those who do not have one as a form of the *makdanakan* philosophy. This causes fishermen to need space to moor their boats around their dwellings. Between one housing unit and another there is a separator,

namely a space for mooring boats with a distance ranging from 1 to 5 meters from each house displayed in the following figure as explained by Mr. Johansyah as follows:

"Making boats is always conducted in a togetherness manner as a part of the makdanakan rules. Therefore, in every house, we must provide a mooring room for the boat. If there are residents who don't have space to moor their boats, other residents will help with the space to place their boats" (Johansyah, 2021).



Figure 12. Boat mooring space



Figure 13. Karamba

Apart from going to the sea, the fishing community of Bontang Kuala urban village also carries out cultivation activities for various types of fish such as grouper, sea cucumbers, lobsters and others that have high economic value in the market. For fishermen families who have a side livelihood in the form of shrimp and sea cucumber cultivation, houses located in one yard will surround the kelong as a place for shrimp and sea cucumber cultivation. Management of kelong is carried out by fishermen's families or among fishermen who still have kinship. In addition to

ensuring control of economic assets in the form of kelong in the hands of the family itself, kelong cultivation activities carried out by the family or relatives themselves are based on an understanding of the *makdanakan* philosophy that each family member has the same rights and obligations together in fulfilling them. Management of kelong is carried out jointly among families who are still related as seen in the picture below.

"My house and the closely-related children are close to the kelong to make it easier to guard. We raise sea cucumbers in kelong which have a high selling value" (Mr. Jafar 2021).

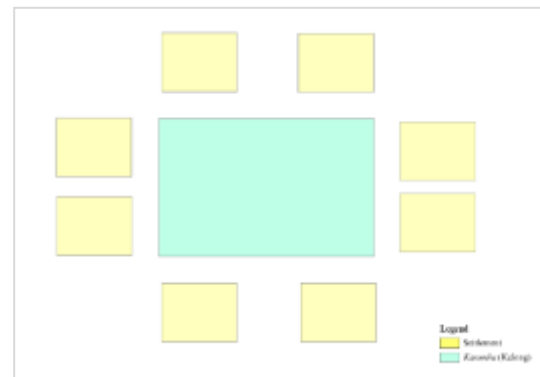


Figure 14. Illustration of the occupants surrounding the kelong as a form of implementing the *makdanakan* philosophy

5. The theme of the prevailing philosophy and slogan

In this theme, 2 informational units were obtained, namely the *makdanakan* philosophy and the *bessai berinta* slogan. The *makdanakan* philosophy is a view of life that has been passed down from generation to generation to the Bajau tribe which eventually has been passed on to the people of Bontang Kuala urban village. *Makdanakan* literally means ‘equal experience/feelings and equal position/rank’ but in terms it means togetherness in equality. *Makdanakan* philosophy influences the social and cultural life of the people of the Bontang Kuala urban village. This philosophy emphasizes equality and togetherness in their daily lives. Equality in this case is a balance in rights and obligations. *Makdanakan* philosophy aims to achieve a balanced relationship between humans and their creator, amongst humans themselves and between humans and the natural environment. The meaning contained in the *makdanakan* philosophy is found in the activities of the

mejamu karang and fishing activities (netting). In this activity, residents always carry out activities asking for safety through ceremonies and rituals according to hereditary traditions. This ritual is the obligation of the residents to respect God and protect nature in order to obtain safety and abundant catches which are the rights of the residents. In this case, it implies that residents have the right to get their catches to meet their daily needs with the accompanying obligation of protecting corals so that they remain sustainable as shown in the following figure 15.



Figure 15. Miniature offering boat as a symbol of Makdanakan philosophy

Bessai berinta is the slogan of the city of Bontang which literally means ‘rowing together quickly’ but in terms it means helping fellow occupants. The slogan of bessai berinta is a derivative of the *makdanakan* philosophy which emphasizes the helping of each other, aiding each other and mutually cooperative in helping fellow occupants who are in trouble. The implementation of this slogan can be seen from the location of the pangong dwellings which are close to each other. The proximity of this location aims to make it easier to help each other when there are fellow occupants who experience difficulties as in the opinion of Mr. Rahmat and can be seen in the following figure 16.

“Bessai berinta means rowing together. We are Bajo Bontang Kuala people who work as fishermen, so it is likened to us boarding the same boat and rowing together to achieve a common goal. We live closely together to make it easier to help” (Rahmat Abdulla 2021).



Figure 16. The implementation of bessai berinta in building public facilities

6. Kinship relations form a certain pattern

In this theme, there are 2 units of information, namely the linear pattern of the road, and the group pattern around the karamba (kelong). The location of the family dwellings that are still related to each other has a pattern in line with the road (linear) as seen in the following figure 17.

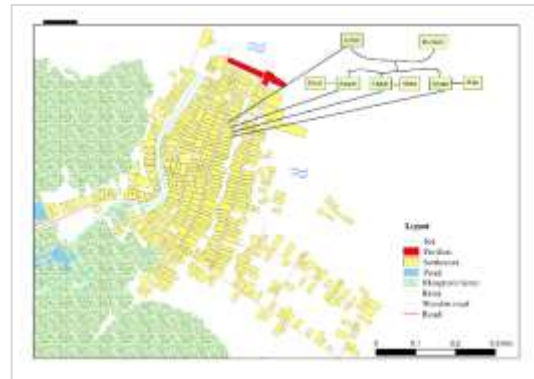


Figure 17. Linear settlement pattern based on kinship

For closely related families owning kelong, the settlement is more of a clustered pattern. In this case, the location of each family member's dwelling will surround the kelong with the aim of making it easier to monitor them as could be seen in the comment and picture below.

“My family and I live closely together along this road. My first, second and third child live along this line. Always staying close make it easier to help each other out should there be anything happened. Makdanakan rules also tell us to always help our family members as well as other residents (Yusran Tayip 2021).

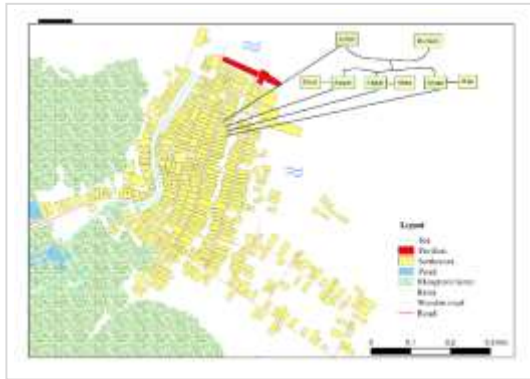


Figure 18. Clustered settlement patterns based on kinship around *karamba* (kelong)

The proximity of the dwelling locations among family members, both linear roads and clustered surrounding kelongs, aims to make it easier to help each other as the slogan of *bessai berinta* comes from the *makdanakan* philosophy.

7. Uniformity in the heights of the house buildings

In this theme, there are 2 information units, in which the buildings are designed both to get enough sunlight and to reduce the risk of fire disasters.

As a manifestation of the *makdanakan* philosophy, there are several customary agreements set forth in unwritten rules, namely that the occupancy of each fisherman may only be in one level. The people think that the sun is a source of sustenance and that every resident has the right to get enough sunlight, as seen in the following comment and [figure 19](#):

“Our houses here are in the same height, with the average of having one floor. If someone has a different height of his/her house building, then they will be reprimanded by the traditional leader. According to the Makdanakan philosophy, each house should receive sunlight equally” (Soni 2021).



Figure 19. The uniform height of a 1-storey building as a manifestation of the *makdanakan* philosophy

Occupancy with the same height also aims to reduce the risk of fire disasters. Residents in the Bontang Kuala urban village have a certain distance in such that they seem dense and populous and the dry weather causing the wind to blow quite fast which may bring potential risk of a fire disaster. For this reason, the community has unwritten customary rules, namely that each dwelling cannot have 2 floors so that they are not easily exposed to fires that grow due to strong winds blowing in the area and that there is a distance for adding boats. This rule, which originates from the *makdanakan* philosophy, indirectly answers the residents' need for limited land. All residents should be complied with this rule by building a house with a maximum of one floor only as a manifestation of the *makdanakan* philosophy implementation, which means ‘equal experience/feelings and equal position/rank’.

Concept and theory

Based on the informational unit explanation of the 7 (seven) empirical themes above, two concepts and one local theory were derived as seen in the following [figure 20](#):

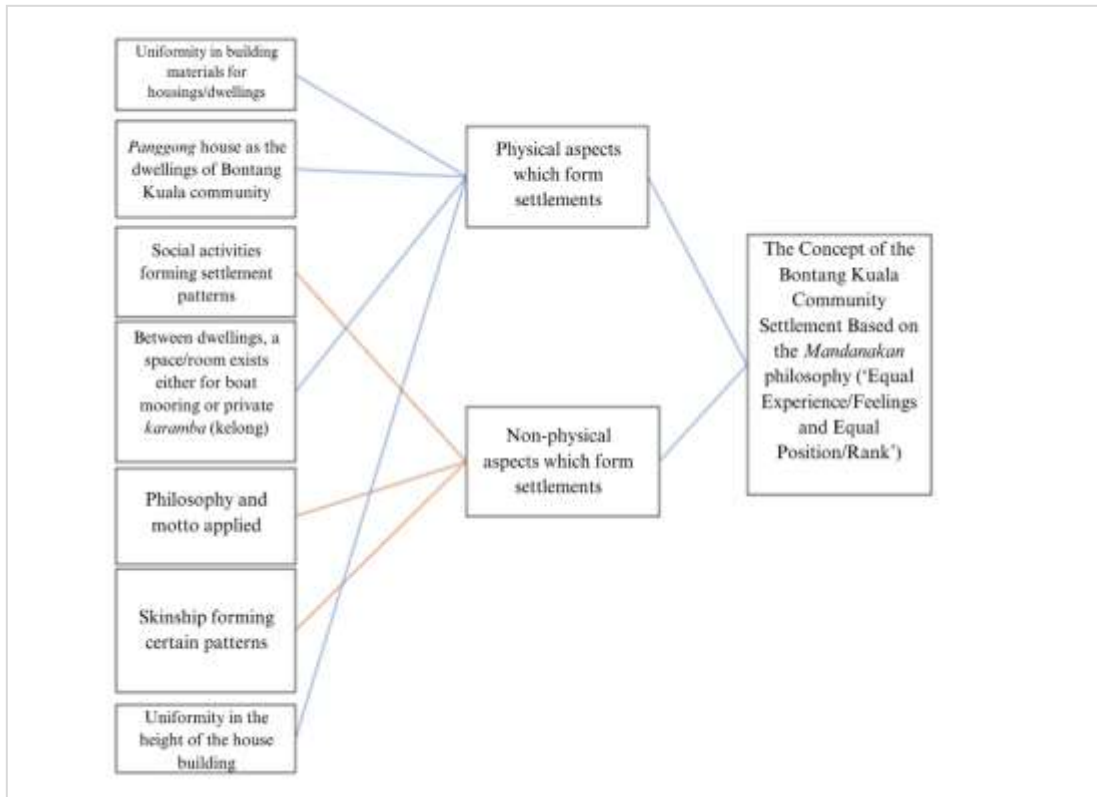


Figure 20. The flow of theory formation

Based on figure 20 above, it is known that the Bontang Kuala Village settlement is formed by 2 (two) aspects, namely physical aspects and non-physical aspects obtained from the deepening of 7 (seven) empirical themes. The physical aspects of forming settlements are formed by 4 (four) empirical themes including uniformity of building materials, panggong houses as dwellings of the Bontang Kuala community, the existence of a space between dwellings for mooring boats, and uniformity in house building heights.

The non-physical aspects of forming settlements are formed by 3 (three) empirical themes which include socio-cultural activities forming settlements, prevailing philosophies and slogans, and kinship relations that form settlements. Settlement space is formed from the physical and non-physical arrangements of settlements which are influenced by the *makdanakan* philosophy.

The uniformity of building materials made of ironwood is one of the implementations of the *makdanakan* philosophy, which means 'equal experience/feelings and equal position/rank'. Apart from its availability, the use of ironwood as a building material is also a form of obedience to

hereditary traditions originating from the *makdanakan* philosophy.

The panggong house which is the traditional residence of the people of Bontang Kuala urban village was built on the basis of the *makdanakan* philosophy. As for the pelimasan house type which literally means protection, also contain the philosophical meaning that every family member has the right to the same protection as shown by the pyramid shape of the roof which covers all parts of the house. The palembang type panggong house has the meaning of balance between rights and obligations. This balance refers to the equality of rights and obligations of the occupants of the house, that is, each occupant of the house will get his/her rights if his/her obligations have been completed. As an illustration, a father has the right to get a lunch if he has fulfilled his duty to net fishing in the sea.

Physically, each house is separated by a boat mooring room or a private *karamba* (kelong). Apart from the need for space to store their boats, the existence of space for mooring boats and *karamba* is also a tradition of the Bajau people who cannot be far apart from their boats. The *makdanakan* philosophy also emphasizes the

existence of a boat mooring space, that every occupant of the panggong house has the same right to have a space to moor a boat.

Panggong dwellings have the same height. There are customary rules that apply, namely that each dwelling cannot have a height of 2 floors. Apart from being a form of adaptation to fire disasters, the height of a one-story dwelling is a rule for panggong dwellings which requires every occupant to comply with it. If there is a violation, they will be given sanctions in the form of fines and will be assisted to renovate their homes. The one-floor occupancy rule is a manifestation of the *makdanakan* philosophy, meaning 'equal experience/feelings and equal position/rank'

In addition to physical aspects, non-physical aspects also affect the form of Bontang Kuala community settlements, both on macro and micro scales. This socio-cultural activity is a manifestation of the *makdanakan* philosophy which promotes equality and togetherness. This activity is carried out in physical spaces so as to produce certain patterns such as occupancy approaching the pavilion (public gathering place), parallel occupancy among related families, congregating dwellings to make it easier to help each other and dwellings around belongs for related families.

Some traditions and rituals also use spaces in settlements so as to form settlement spatial patterns both in micro and macro scales. Socio-cultural activities form residential spaces in a macro sense which are formed from the relationships between the people of Bontang Kuala urban village and the surrounding nature such as the mejamu karang ceremony which is carried out on the pavilion (*anjungan*) affecting the form of dwellings, where no dwelling is allowed to be located in front of the pavilion so that the settlement extends to the south. There is a sea reef across from the bridge which is considered a sacred place so as a form of respect for the coral reef, a customary rule was made which prohibited dwellings from being on the other side of the bridge. The people of the Bontang Kuala urban village believe that the sea coral across from the bridge is a manifestation of the presence of the Almighty in protecting and giving life to the fishing community of the Bontang Kuala urban village. Sea coral is considered to provide a living for fishermen so that it needs to be rewarded in the form of a mejamu karang ceremony as a manifestation of gratitude for the wealth of the sea enjoyed by the

residents of the Bontang Kuala urban village. Sea corals are considered sacred and based on the *makdanakan* philosophy, rules are made not to build dwellings that are close to the sea reefs with boundaries in the form of platforms. This causes residents' settlements to approach the pavilion either linearly or in aggregation. The mejamu karang tradition aims to feed sea corals which are considered as a source of life. In the *makdanakan* philosophy, sea corals are also respected and fed as they feed fellow human beings. The use of pavilions together in carrying out various social and cultural activities is a form of implementing the *makdanakan* philosophy which also solve the problem of limited land in the Bontang Kuala urban village.

Micro settlement spaces are formed as a result of socio-cultural activities which are interactions among fellow residents of the Bontang Kuala urban village. Micro-settlement spaces occur as a result of socio-cultural activities among residents of the house that occur in the dwelling, socio-cultural activities among residents that take place on the streets or other public facilities.

Various cultural activities forming micro spaces are activities of lowering the *ance* which are carried out in the dwelling, wedding ceremonies (*walimahan*), making offerings in the dwelling and other activities are carried out in a large room (*balai*). This tradition requires a large residential space so that it influences the shape of the panggong house which has a large living room (*balai*). By adhering to the *makdanakan* philosophy, each community dwelling also has a large living room (*balai*).

Based on this, the settlement of Bontang Kuala urban village pattern is formed by 2 (two) aspects, which are the physical and non-physical aspect based on the *makdanakan* philosophy. The *Makdanakan* philosophy literally means 'equal experience/feelings and equal position/rank', emphasizing togetherness in life, both between humans and nature and with fellow humans themselves. This value of togetherness is manifested in the physical aspects of settlements such as the uniformity of residential building materials, the uniformity of dwellings in the form of panggong houses, one-story building height rules, and each dwelling has a place to moor a boat or in the form of a karamba (*kelong*). The value of togetherness in the non-physical aspects of settlements is marked by the existence of socio-cultural activities carried out in settlement spaces by mutual cooperation, the implementation of the

slogan *bessai berinta* which originates from the *makdanakan* philosophy in various activities forming linear and clustering settlement patterns

and kinship relationships that form certain patterns.

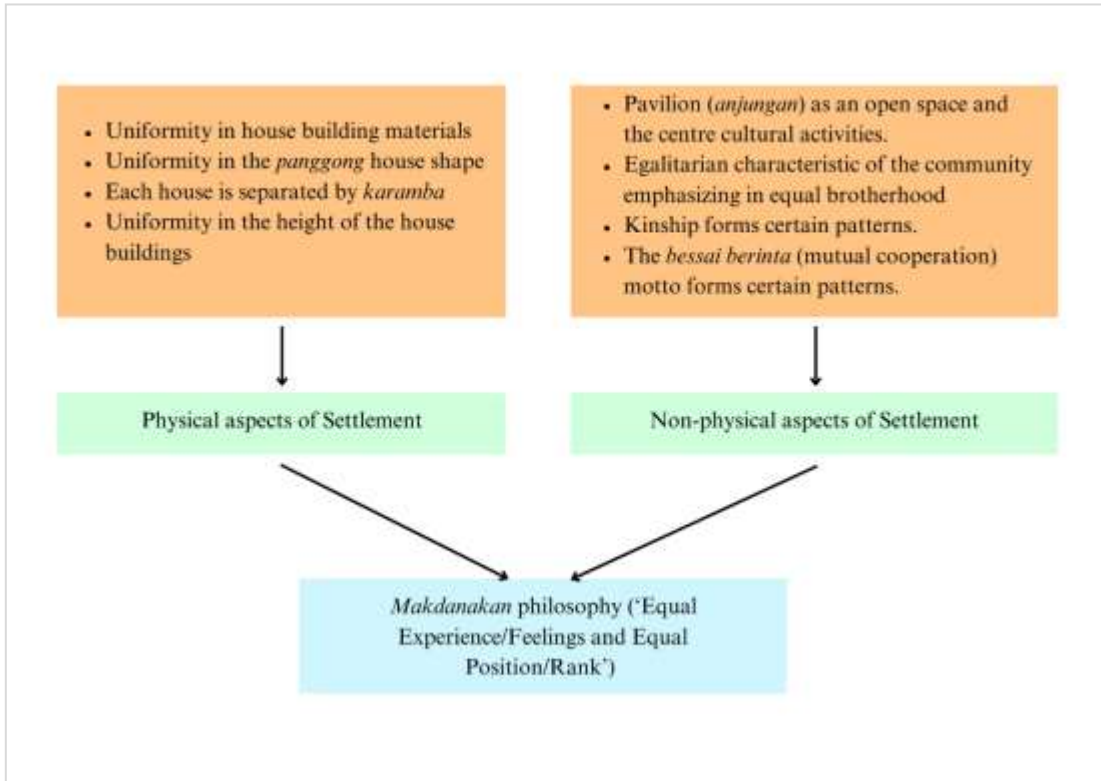


Figure 21. The *makdanakan* philosophy emphasizes the balance between humans and nature

Based on figure 21 above, it is known that the term *makdanakan* is a philosophy that influences the culture of settling in the egalitarian Bontang Kuala urban village community as well as local socio-cultural lives. The concept of *makdanakan*

also has an influence on efforts to preserve the environment, including paying respect to nature, in this case, that sea corals are considered like humans also, which must be protected and maintained.

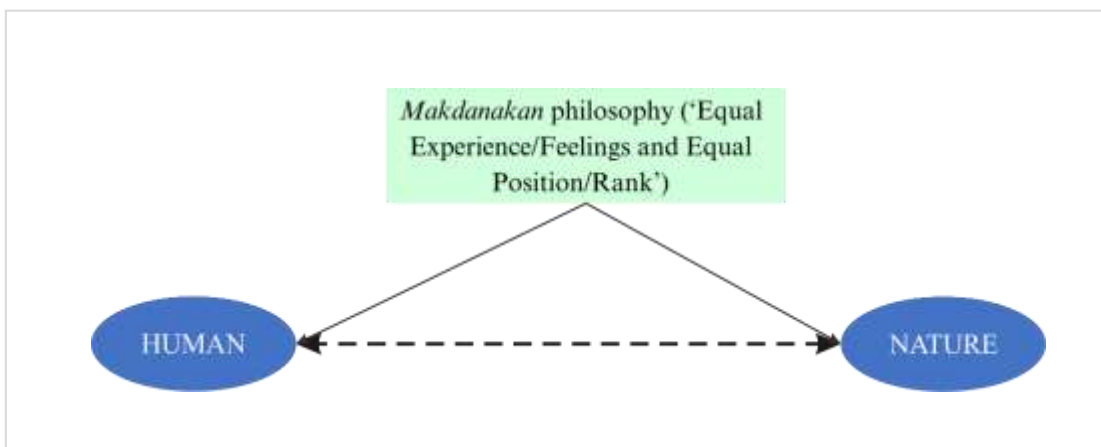


Figure 22. The formation of the theory

Conclusion

Formation of community settlements in the Bontang Kuala urban village is based on the *makdanakan* philosophy which means 'equal experience/feelings and equal position/rank'. *makdana* philosophy will form residential spaces both physically and non-physically. The physical aspect which is based on the *makdanakan* philosophy is reflected in the uniformity of building materials, the panggong house shape, and height of the house, as well as that each house is separated by karamba or kelong.

The non-physical aspect which is based on the *makdanakan* philosophy is also reflected in the following things, which are the existence of open space as a center for cultural activities, high values of togetherness (egalitarianism) in socio-cultural activities, kinship relations and the slogan *bessai berinta* which forms a certain pattern in settlement.

References

- Ali, Ismail. 2010. 'Pembudayaan Lepa Dan Sambulayang Dalam Kalangan Suku Kaum Bajau Di Semporna, Sabah, Malaysia: Satu Penelitian Semula'. *Sosiohumanika: Jurnal Pendidikan Sains Sosial Dan Kemanusiaan* 3 (2).
<https://journals.mindamas.com/index.php/sosiohumanika/article/view/412>.
- Andri R.M., S.S., M.A., Laura, and Rahma Wulan S. 2020. 'Meaning and Function of Sea Alms Ceremony for Coastal Communities Banyutowo Dukuhseti Pati'. Edited by B. Warsito, Sudarno, and T. Triadi Putranto. *E3S Web of Conferences* 202 (November): 07025.
<https://doi.org/10.1051/e3sconf/202020207025>.
- Clifton, Julian, and Chris Majors. 2012. 'Culture, Conservation, and Conflict: Perspectives on Marine Protection Among the Bajau of Southeast Asia'. *Society & Natural Resources* 25 (7): 716–25.
<https://doi.org/10.1080/08941920.2011.618487>.
- Eberle, Thomas S., and Bernt Schnettler. 2020. 'Phenomenology'. In *SAGE Research Methods Foundations*. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd.
<https://doi.org/10.4135/9781526421036848725>.
- Ginkel, Rob van. 2007. *Coastal Cultures: An Anthropology of Fishing and Whaling Traditions*. California: Transaction Pub.
- Hajian, Sepideh, Nahid Mehran, Masoumeh Simbar, and Hamid Alavi Majd. 2022. 'The Barriers and Facilitators of Iranian Men's Involvement in Perinatal Care: A Qualitative Study'. *Reproductive Health* 19 (1): 48.
<https://doi.org/10.1186/s12978-022-01350-9>.
- Harefa, Anugerah Septiawan. 2019. 'Pelestarian Desa Hilinawalo Mazino Di Kepulauan Nias Sebagai Destinasi Wisata'. *ARTEKS: Jurnal Teknik Arsitektur* 4 (1): 57–62.
<https://doi.org/10.30822/arteks.v4i1.79>.
- Hermanto, Heri, Achmad Djunaedi, and Sudaryono. 2014. 'Konsep Ruang Sakral-Profan Pada Tata Permukiman Di Dataran Tinggi Dieng'. *Jurnal PPKM II* 1 (2): 102–14.
<https://ojs.unsiq.ac.id/index.php/ppkm/article/view/242>.
- Hermawan. 2023. 'Fungsi Dan Makna Perapian Di Permukiman Desa Kalidesel, Wonosobo, Jawa Tengah'. *Archimane* 1 (1): 61–68.
<https://journal.gioarchitect.co.id/index.php/archimane/article/view/8>.
- Hukmiah. 2020. 'Community Economic Empowerment the Bajo Tribe Is Based on Local Potential (A Case Study in Bajoe Village, East Tanete Riattang Sub-District Bone)'. *International Journal of Scientific and Technology Research* 9 (4): 3327–31.
<http://www.ijstr.org/final-print/apr2020/Community-Economic-Empowerment-The-Bajo-Tribe-Is-Based-On-Local-Potential-A-Case-Study-In-Bajoe-Village-East-Tanete-Riattang-Sub-district-Bone.pdf>.
- Husserl, Edmund. 1999. *The Idea of Phenomenology*. United States: Springer.
- Indrawasih, Ratna, and I. G. P. Antariksa. 2003. 'Budaya Bajau: Pemanfaatan Dan Pelestarian Lingkungan'. *Jurnal Masyarakat Dan Budaya* 5 (2): 59–75.
<https://jmb.lipi.go.id/jmb/article/view/251>.
- Kahija, YF La. 2017. *Penelitian Fenomenologis*. Yogyakarta: Kanisius.
- Kusnadi. 2017. *Keberdayaan Nelayan & Dinamika Ekonomi Pesisir*. Edited by Abdul Qadir Shaleh. Yogyakarta: Ar-Ruzz Media.
- Nisah, Nurun, Kiftian Hady Prasetya, and Ari Musdolifah. 2020. 'Pemertahanan Bahasa Daerah Suku Bajau Samma Di Kelurahan

- Jenebora Kecamatan Penajam Kabupaten Penajam Paser Utara'. *Jurnal Basataka (JBT)* 3 (1): 51–65. <https://doi.org/10.36277/basataka.v3i1.86>.
- Noviatussa'diyah, Noviatussa'diyah, Sugiarti Sugiarti, and Eggy Fajar Andalas. 2021. 'Ekologi Budaya Suku Bajau Dalam Novel Mata Dan Manusia Laut Karya Okky Madasari'. *BELAJAR BAHASA: Jurnal Ilmiah Program Studi Pendidikan Bahasa Dan Sastra Indonesia* 6 (1): 15–30. <https://doi.org/10.32528/bb.v6i1.3780>.
- Oliveira, Bruno M., Roelof Boumans, Brian D. Fath, and Joseph Harari. 2022. 'Socio-Ecological Systems Modelling of Coastal Urban Area under a Changing Climate – Case Study for Ubatuba, Brazil'. *Ecological Modelling* 468 (June): 109953. <https://doi.org/10.1016/j.ecolmodel.2022.109953>.
- Pahude, Mansur S, and Didik Kristiadi. 2017. 'Konsep Ruang Permukiman Tradisional Sebagai Basis Wisata Di Desa Sabang Kabupaten Toli-Toli'. In *Prosiding Seminar Nasional Dan Call For Paper Ekonomi Dan Bisnis (SNAPER-EBIS 2017)*, 2017:27–28. Jember: Fakultas Ekonomi dan Bisnis Univesitas Jember. <https://jurnal.unej.ac.id/index.php/prosiding/article/view/6713>.
- Pauwelussen, Annet. 2016. 'Community as Network: Exploring a Relational Approach to Social Resilience in Coastal Indonesia'. *Maritime Studies* 15 (1): 2. <https://doi.org/10.1186/s40152-016-0041-5>.
- Pikner, Tarmo, Joanna Piwowarczyk, Anda Ruskule, Anu Printsman, Kristina Veidemane, Jacek Zaucha, Ivo Vinogradovs, and Hannes Palang. 2022. 'Sociocultural Dimension of Land–Sea Interactions in Maritime Spatial Planning: Three Case Studies in the Baltic Sea Region'. *Sustainability* 14 (4): 2194. <https://doi.org/10.3390/su14042194>.
- Pradono, Budi. 2019. 'The Interiority of Proximity Between Nature and Architecture in Contemporary and Tropicallly Context with Cases Studies'. *ARTEKS: Jurnal Teknik Arsitektur* 3 (2): 129–44. <https://doi.org/10.30822/arteks.v3i2.63>.
- Pratiwi, Putu Riris Elsha. 2018. 'Persepsi Masyarakat Suku Bajau Tentang Kelestarian Lingkungan Hidup Di Desa Bungin Permai Kecamatan Tinanggea Kabupaten Konawe Selatan'. *Jurnal Penelitian Pendidikan Geografi* 3 (4). <https://doi.org/10.36709/jppg.v3i4.4829>.
- Purbadi, Yohanes Djarot, B. Sumardiyanto, and Vincentia Reni Vitasurya. 2023. 'Kesenambungan Dan Perbedaan Rumah Sumba Di Dalam Dan Di Luar Praingu'. *Archimane* 1 (1): 37–52. <https://journal.gioarchitect.co.id/index.php/archimane/article/view/4/4>.
- Putiarni, Sepanie, Mari Mulyani, Mufti Petala Patria, Tri Edhi Budhi Soesilo, and Asep Karsidi. 2022. 'Social Vulnerability of Coastal Fish Farming Community to Tidal (Rob) Flooding: A Case Study from Indramayu, Indonesia'. *Journal of Coastal Conservation* 26 (2): 7. <https://doi.org/10.1007/s11852-022-00854-7>.
- Refranisa. 2019. 'Pola Permukiman Di Dusun Mantran Weran Magelang Dalam Bingkai Kebudayaan Jawa'. *ARTEKS: Jurnal Teknik Arsitektur* 3 (2): 159–70. <https://doi.org/10.30822/arteks.v3i2.67>.
- Rossmann, Gretchen B., and Sharon F. Rallis. 2017. *An Introduction to Qualitative Research: Learning in the Field*. 2455 Teller Road, Thousand Oaks California 91320: SAGE Publications, Inc. <https://doi.org/10.4135/9781071802694>.
- Rusba, N, M Farid, and T Tahara. 2018. 'Komunkasi Antar Orang Bajau Dan Orang Buton Dalam Upaya Membangun Hubungan Yang Harmonis Di Kabupaten Buton Tengah'. *KAREBA: Jurnal Ilmu Komunikasi* 7 (1): 7–15. <https://journal.unhas.ac.id/index.php/kareba/article/view/5245>.
- Ruslan, Idrus. 2014. 'Religiositas Masyarakat Pesisir'. *Al-Adyan* 9 (2): 63–88. <http://ejournal.radenintan.ac.id/index.php/alAdyan/article/view/1415/0>.
- Santamaria, Matthew Constancio Maglana. 2019. 'Music, Dance and the Sama-Bajau "Diaspora": Understanding Aspects of Links among Communities through Ethnochoreomusicological Perspectives'. *Journal of Maritime Studies and National Integration* 2 (2): 86. <https://doi.org/10.14710/jmsni.v2i2.3708>.
- Saththa, H. Bakhransyah L. 2014. 'Mission Expediency to Female Sendro in Bajau Tribe Community at Rampa Village the District Kotabaru Pulau Laut'. *Alhadharah: Jurnal Ilmu Dakwah* 13 (26). <https://jurnal.uin->

- antasari.ac.id/index.php/alhadharah/article/view/1711.
- Subekti, Slamet. 2019. 'A Bajau Tradeswoman: Between Trade Networks and Marine Conservation Issues (Review of Amphibious Anthropology: Engaging with Maritime Worlds in Indonesia by Annet P. Pauwelessen)'. *Journal of Maritime Studies and National Integration* 2 (2): 108. <https://doi.org/10.14710/jmsni.v2i2.4219>.
- Subroto, Tarcicius Yoyok Wahyu. 2019. 'Koeksistensi Alam Dan Budaya Dalam Arsitektur'. *ARTEKS: Jurnal Teknik Arsitektur* 3 (2). <https://doi.org/10.30822/arteks.v3i2.60>.
- Sugiyono. 2019. *Metode Penelitian Kuantitatif, Kualitatif Dan R&D*. Alfabeta. 2nd ed. Bandung: Alfabeta. <https://doi.org/2008>.
- Tahara, Tasrifin, and Dinna Dayana La Ode Malim. 2021. 'The Business Network of Bajau Tribe Sea Fisheries and Legal Problems in Indonesia-Malaysia Border'. *Academy of Entrepreneurship Journal* 27 (1): 1–8. http://digilib.unhas.ac.id/uploaded_files/temporary/DigitalCollection/NTIzNWMxNjk4MTIhYTAxZDMxNThkOGYyYTk4NTIzNTc4N2UyYzBmYQ==.pdf.
- Takari, Muhammad. 2017. 'Peranan Peradaban Masyarakat Pesisir Pada Era Globalisasi'. In *Seminar Budaya Pesisir Di Serdang Bedagai*. Medan. https://www.researchgate.net/publication/318452840_PERANAN_PERADABAN_MASYARAKAT_PESISIR_DI_ERA_GLOBALISASI#:~:text=Dalam konteks globalisasi%2C masyarakat pesisir,pemerintahan%2C pusat peradaban bisnis dan.
- Tuan, Yi-Fu. 2001. *Space and Place: The Perspective of Experience*. United States: Univ Of Minnesota Press.
- Utina, Ramli. 2017. 'Ecological Intelligence of Coastal Community on Biodiversity Conservation (Case Study of Bajau Coastal Communities, Gorontalo)'. *Metamorfosa: Journal of Biological Sciences* 4 (1): 54. <https://doi.org/10.24843/METAMORFOSA.2017.v04.i01.p09>.
- Vijayalaxmi, J., and K. C. Kalam Arathy. 2022. 'Critical Evaluation of Socio-Cultural and Climatic Aspects in a Traditional Community: A Case Study of Pillayarpalayam Weavers' Cluster, Kanchipuram'. *Built Heritage* 6 (1): 3. <https://doi.org/10.1186/s43238-022-00050-4>.
- Wahyu Budiman, Puput, Antariksa, and Fadly Usman. 2010. 'Pelestarian Pola Permukiman Kampung Bontang Kuala Kota Bontang'. *Arsitektur E-Journal* 3 (1): 24–39. https://www.researchgate.net/publication/315492784_Pelestarian_Pola_Permukiman_Kampung_Bontang_Kuala_Kota_Bontang/link/58d26d0e458515b8d28707a9/download.
- Widjajanti, Wiwik Widyo, Antariksa, Amin Setyo Leksono, and A. Tutut Subadyo. 2018. 'Socio-Cultural Studies to Open Space in Fisherman Settlement in Prigi, Trenggalek, East Java'. In , 040005. <https://doi.org/10.1063/1.5042975>.
- Widodo, Johannes. 2019. 'Human, Nature, And Architecture'. *ARTEKS: Jurnal Teknik Arsitektur* 3 (2): 145–48. <https://doi.org/10.30822/arteks.v3i2.65>.
- Yudha, M, U Siahaan, and R Ismanto. 2021. 'Design of Vertical Fisherman Village in Penjaringan with Sustainable Development Concept'. *IOP Conference Series: Earth and Environmental Science* 878 (1): 012020. <https://doi.org/10.1088/1755-1315/878/1/012020>.

Author(s) contribution

Puput Wahyu Budiman contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.

Antariksa Sudikno contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

