



THE FORM OF THE BAJO TRIBE'S HOUSE AS AN ADAPTATION PROCESS RESIDENTIAL ENVIRONMENT

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ABSTRACT

KEYWORDS

Bajo, House, Residential,
Environmental,
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The Bajo tribe is a tribe that lives on the coast or islands. This is related to their livelihood, namely fishermen. Even though most already occupy land, fishermen still choose land close to the beach. The research aims to discover the essential things in their lives as a process of adaptation to the residential environment. The method used is naturalistic qualitative research by selecting several samples of residential houses on land and those that still choose land above water as cases to be analyzed. Even though there have been changes in occupying residential land, the Bajo tribe still has several adjustments regarding the placement of their homes, which are incredibly close to water or the coast. Residential houses on coastal land still have a back room facing the sea as the main room and are shaped like a house on stilts, while the front faces the road as a space for social interaction. Residential houses that occupy land and highways are the primary orientation and areas for social interaction. Although there is still a back room, it is not the main room. The shape of the building has changed both in structure and building materials. Almost all buildings on the land are permanent, consisting of several rooms, functioning as a bedroom, living room, etc.. In contrast, houses that occupy water land still use wood, bamboo, and woven sago leaf roofs and only have a one-bedroom family room equipped with a back terrace.

INTRODUCTION

The earthquake disaster followed by a tsunami and liquefaction in Palu, Sigi and Donggala, Central Sulawesi Province, has made the majority of the population aware of the risk of disasters in coastal and beach areas. Many residents in coastal areas experienced "trauma" or "phobia" from the earthquake and tsunami with the level of danger that may occur in residential areas along the coast and coast. Settlements are the most important component in natural disaster mitigation activities, because they are places where people live and gather (Katayama, 2000) and experience enormous material losses. Therefore, it is necessary to identify the characteristics of coastal settlements in relation to the level of disaster risk that may occur.

Humans make adjustments to their settlements based on economic factors and kinship factors which are conceptualized as local policies (Local Wisdom). Likewise, with settlements affected by disasters, settlers form spatial patterns according to their needs using their local knowledge (Local Knowledge) to ensure a sense of security and comfort in their environment. Through their intelligence (Local Genius) settlers protect themselves from various types of threats or disasters caused by the environment, form settlements by choosing places that allow them to build families and communities, and utilize natural resources to live and thrive in a residential space.

The implementation of policies, knowledge and intelligence is an embodiment of 'local wisdom' which is also owned and found in the lives and livelihoods of communities in coastal areas, especially in disaster-responsive settlements. The environment as part of the place of residence has a great influence on the existence of the community and the management of its settlements in order to create a sense of security and comfort. The relationship between humans and an environment that has the potential for disaster is not only a relationship of dependency and cause and effect, but is a relationship that influences each other, so that it can change a residential environment that is responsive to disasters.

The development of the concept of living with local knowledge, sustainability and environmental conservation, always synergizes so that it is able to support the environmental conservation program launched by the government. The spaces created should be environmentally friendly. The existence and implementation of the concept of residential space patterns will become a characteristic of post-disaster residential areas, and constitute a specific residential space development model. The alternative models produced will be evaluated and revised until a design is obtained that is appropriate to environmental conditions in order to become a reference for planning a residential area that utilizes the potential of its residential land. Management of residential space is important in connection with the existence of culture and local wisdom in settlements affected by disasters. The management and responsibility for development in a broad sense is completely handed over to the local regional government.

Mattulada (1997) in Mulyati, A. (2014) explains that settlers are driven by the need to protect their lives from various types of threats or disasters, as well as the need to obtain infrastructure and means of life, so humans begin to form settlements by choosing places that allow them to build their communities. in a residential space. This is in line with Jim Ife (2002) who explains that the category of tangible local wisdom (Tangible) includes several aspects, and one of them is traditional buildings/architecture.

Disaster response environmental management in Poso district continues to maintain residential spaces and livelihood spaces on the same land, even though there has been a shift in location, especially in residential spaces. Spaces for facilities occupy the remaining space in the settlement, are safe and easily accessible by settlers, especially educational facilities, worship, toilets and interaction spaces. Clean water and drinking water infrastructure is still very individualistic according to needs, so it is also placed on their land. The arrangement has not been fully carried out properly, this is because the settlers refused to be resettled in the new place on the grounds that it was far from sources of livelihood, namely plantation land, livestock and fisheries.

Based on the description above, research questions arise: a. What does the Bajo tribe's settlement look like as a process of adaptation to the environment?

Literature Review

Settlement of Architecture

A settlement is a form of living space, a work of architecture, so it is known as residential architecture. Mulyati, A. (2014) looks at architectural works in the form of space, not just solid mass. Purbadi, D. (2010) divides two objects, namely, settlements as material objects, while residential architecture is a formal object. Settlement architecture has a spatial aspect, so that residential architecture is a material object and the formal object is spatial (Hiller, 1985 in Purbadi, D., 2010). Likewise, Doxiadis (1968) in Mulyati, A. (2015) views architecture as a space for life, including human behavior and social life.

Settlements are areas where residents gather and live together, building residences and facilities for their benefit. Settlement covers a very broad definition, namely the area where people live and all forms of residence within it. If the term residence refers to the meaning of function, then the term residence is understood as an architectural work, part of a settlement

and one of the objects of residence (Muchamad, 2013). Apart from that, settlements are a collection of places to live, inhabited by residents, forming a community as a place to live, work and a place to communicate.

Muyati, A. (2013) believes that vernacular architecture is a development of folk architecture which has ecological and natural values because it refers to natural conditions, community culture and the environment. Likewise, the opinion of Oliver, P. (1997) in Mulyati, A. (2015) states that there is a connection between natural/environmental elements and the culture of the people. In forming an environmental setting, there are several elements that influence it, including: climate, location, site, natural disaster, population and settlement.

Settlers' Behavior Towards Settlement Land

Living in essence means living and staying together, therefore the function of residence in human life is as a place that humans need to socialize themselves. Socio-cultural aspects also influence the way a residence is built (spatial arrangement and form) but the functions of space are still preserved. The cultural system is the background to the creation of the form of residence, in this case the cultural system is the factors that are taken into consideration when designing and establishing a residence. These factors are religion, social relations, livelihoods, and the natural environment.

A residential environment that has local community values is referred to as an environment that supports the core cultural aspects of the community, for example religion, ritual, social structure, ways of using space and so on (Rapoport, 1979 in Mulyati, A., 2015). Settlements are part of human life so that culture will be interconnected with other cosmic entities (Mulyati, A., 2013), where each social stratum has an appropriate space. Spatial planning is the result of community behavior, where spatial design is in accordance with behavior and social contact with the place (Mulyati, A., 2015).

Adaptation of Settlers to Changes in the Settlement Environment

Humans will create defenses according to their needs, as well as the need for shelter and shelter. Love for the house and its environment is a way to survive in a residential location. This can be influenced by several factors, namely: the physical condition of the house and environment, socio-cultural, economic and psychological (Hamidah, 2016). There are two types of adaptation/adjustment processes, namely: changing behavior to suit the environment, secondly changing the environment to suit behavior. Humans adapt to the environment because of the ease of living according to their needs, economic factors (close to the workplace), kinship factors and love of home and the environment. In relation to adaptation and settlement culture, several aspects influence the formation of settlements, namely the shape of the house, religion and community knowledge (Naing, 2011).

Each particular geographical location has different physical environmental conditions and socio-economic conditions of the community, so that the determinants of the formation of settlement distribution patterns in each place are also different (Fajita, 1982 in Najib, M et al, 2020). Social change is a picture of dynamics that take over traditional values, where aspects of rural community life are based on the spirit of kinship, mutual cooperation, religion, and are not yet capital oriented, leading to a life that has capitalist values (Hamidah, 2016). The consequences of tangible changes in norms, values, and cultural adaptation, as a result of external influences on internal life, where one element will influence other elements.

They persist in staying and settling because there is no other choice as a place to live, especially because this is where they were born and raised, so it is necessary to restore the function of the village as it should, and it will be arranged according to the condition of the land and its use (Winarto, G., 2017; Mulyati, A., and colleagues, 2020). Arrangement starts from arranging the area as a whole, residences and their environment as well as residences

(buildings) that are adequate and disaster-friendly according to standards (SNI) and based on local wisdom (Rachmawati, et al., 2018; Idham, NC., 2014).

RESEARCH METHOD

This study uses a qualitative naturalistic approach to discover the form of residential space as a process of adaptation to the environment in Tumora village, Poso Pesisir District, Poso Regency. The research tool is a researcher as the main instrument equipped with several tools and taking pictures of the base map using a drone. Data analysis uses an inductive method through case descriptions determined by purposive sampling, repeated cyclically until saturation is reached. Discussion of research findings using explanatory techniques and confirmed with related theories and other conditions in various fields. The results of the discussion and conclusions are 'local theory' or 'substantive theory', temporary in nature, and apply specifically to the research area (Mulyati, A., 2015).

RESULTS AND DISCUSSION

Tumora Village is a village consisting of several settlements inhabited by various ethnic groups, namely the Balinese and Javanese ethnicities (which are the majority ethnic groups), the Bugis ethnic group and several other ethnic minorities. Especially in hamlet 2, the majority of settlements have been inhabited by Bajo ethnic groups for decades. Even though the marriage process has taken place with members of the same Bajo ethnic group, some settlers are of the Kaili ethnic group. This is what characterizes the settlement of Hamlet 2, the diversity of settlers does not cause any differences, but the kinship as Bajo ethnic group is very strong and colors the lives of the people (also stated by Purbadi, Y.D., 2010).

As a Bajo tribe, most of the houses still occupy land above water using wooden construction and using umpaks, built on land that is always submerged in sea water. Settlements are equipped with embankments throughout the settlement, so that several houses are located between two areas of land, namely land and water. Several facilities have equipped the settlement, especially mosques and prayer rooms because the majority of settlers are Muslim, while other facilities, namely schools and churches, are still part of the Tumora village facilities.

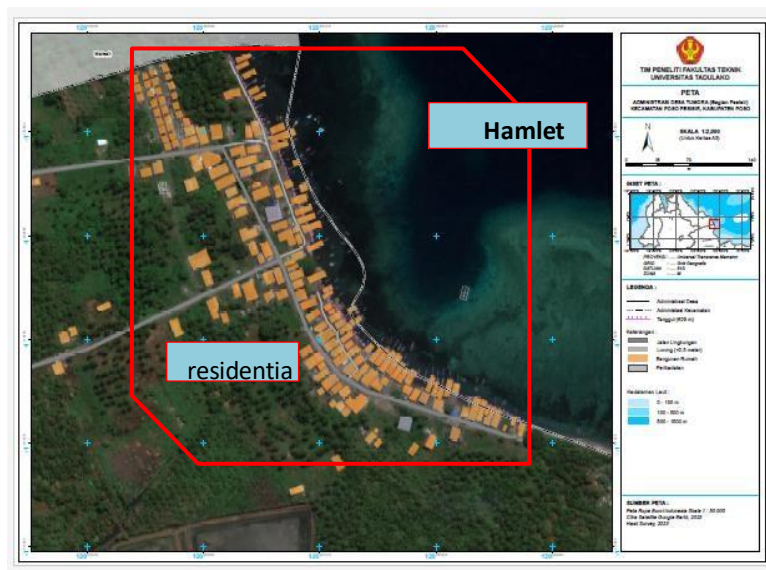


Figure1: Map of Administrative Boundaries of Tumora Village, Poso Pesisir District, Hamlet II is a Bajo tribe settlement (Source : google earth, February, 14, 2023 and RPI, 2023)

Settlement Environment of the Bajo Tribe Hamlet II

Since the beginning, settlers (the Bajo tribe) have immigrated from several areas in Central Sulawesi province, looking for new settlements that still produce marine biota as their livelihood, namely fishing. The coastal area is the main land targeted and can provide life for them both as a nuclear family and as a wider Bajo tribal community. In subsequent developments, they began to form new families with local tribes, namely the Kaili tribe, which is the dominant tribe that occupies Central Sulawesi province and other tribes, including the Bugis, Balantak, and Gorontalo ethnic groups (the same thing was stated by Fajita, M. 1982 ; Ife, Jim and Tesoriero, F., 2002).

They continue to occupy coastal land and build houses above the tidal level. Spaces that occupy water are oriented towards the sea as the main space, while spaces located on land are oriented towards environmental roads (Mulyati, A., 2013; 2014; 2015; 2018). Residential houses use pillars placed on the ground (tidal), still using wood as the main construction (poles or columns) and planks as wall coverings. The residence is completely above the water, connected by a wooden bridge from the land to the front of the residence.



Figure 2 : Settlement of the Bajo Tribe, Tumora Village, Poso Pesisir District (Source : google earth, February 14, 2023; RPI, 2023, and field data July 2023)

Characteristics, Patterns and Forms of the Residential Environment

In general, Bajo tribal settlements predominantly occupy water land, both in the form of coastal areas and groups of islands. This is related to the livelihood of the population, namely fishermen. The choice of place to live is based on the need for shelter and protection from natural disasters, including wind, waves, storms, and so on (in Mulyati, A., 2015). Initially it was just the nuclear family, over time other families also joined in, forming a Bajo tribal community along the coast of Hamlet II.

Initially they occupied water areas, with very simple houses without rooms, forming family groups as they lived on boats while looking for sea products (Mulyati, A., 1015; Salipu, A., 2022). Then they began to approach the coastal land and build houses. Building settlements

begins with the local knowledge of settlers led by ada' elders so that this community has a safe and comfortable place to live, especially when fishermen go out to sea to look for sea products so they can support their families. Consideration of natural disasters is a major factor in shaping their settlements.

Settlements form curved lines in the direction of the coastline, residential buildings are not in the direction of the wind so the openings are made small, usually only in the form of doors. The linear curved pattern is characteristic, facing the sea as the center of orientation, connected by wooden bridges as a link between houses or between land and settlements. This space is also a space for interaction between settlers.



Figure 3 : Characteristics of Bajo Tribal Settlements
(Source : google earth, February 14, 2023; RPI, 2023; field data Juli 2023)

In accordance with government recommendations, settlements are moving closer to land, some settlers have built on land around the coast. The environment is then equipped with neighborhood streets so that residential homes are not only oriented towards the sea but also towards the land as an 'interaction space' and 'business space'. This is done during the east wind season when settlers look for income on land, because marine products are reduced and fishing conditions are also very dangerous. One thing that is still very well preserved in the marine space is the 'hol' space as a place to cultivate marine ecosystems, and this is done in certain months according to their local knowledge (Hamidah, N.,2016).

Adaptation of Settlers to Environmental Changes

The residential environment is no longer completely in the sea (water), because the designation of water land as a settlement no longer meets the requirements and agrarian law. Even though some settlers have not completely abandoned the water land, some or all of their homes have occupied land. The use of building materials, structural systems, space conditioning, spatial layout, building height and distance between buildings still takes into account environmental conditions adjacent to the sea (water) (Naing, N., 2011; Bani, N.M., 2013).

This is done because residential environments are very vulnerable to natural disasters, namely waves, storms, strong winds, rain, which always hit settlements (Katayama R et al., 2000; Wiarto, Giri, 2017; Prayitno, G., etc., 2018; Rahmawati TA. et al., 2018; Mulyati, A., 2020). Residential buildings and environmental facilities use non- wood building materials (blocks, bricks, concrete, zinc, etc.), in the form of non-stilt houses. They no longer live entirely as fishermen who depend on marine products for their living, but open sales businesses, or become civil servants (PNS). Cultural life is maintained as the Bajo tribe always lives in coastal areas, harmoniously, in a family or community.



Figure 4 : Adaptation to changes in the residential settlements (Source : google earth, Februari 14, 2023; RPI, 2023, field data, July 2023)

CONCLUSION

The settlement patterns formed are grouped and arranged based on a 'hamlet' hierarchy: residential building units, business houses, public facilities, environmental and social facilities, local roads, and main routes. Land use patterns in residential environmental units in Dusun II, Tumora village, are also greatly influenced by social resilience, which is built through strong social cohesion which can be seen through social feelings, and the sense of trust created between communities, as well as respect for existing culture and values. .

The formation of residential space in hamlet II, Tumora village, is also influenced by 'social cohesion, namely the strength of the community in the survival of the community (settlement community), which includes 1) social solidarity; 2) social control; 3) social networks; 4) shared values; and 5) love of place and identity; as a form of existence for settlers and the environmental units in which they live. The ongoing development of residential environmental units does not have much influence on residential space utilization patterns, even though some settlers have moved to mainland land.

Resident activities are often found on neighborhood roads, local roads, and main neighborhood roads; Likewise, social interactions are mainly carried out on roads, fields, mosques and other remaining spaces and open spaces. Young children generally interact in open areas, yards in house groups, or on quiet streets that they choose freely and carry out group activities (playing together). Physical land use is an area to increase the biological (size)

of a residence but also as an area for social interaction for settlers and 'business space' on a small scale.

Procurement and utilization of land as a place to live and the basis for obtaining government assistance is carried out as optimally as possible without abandoning their ancestral culture of living on coastal land in accordance with their livelihood as fishermen. They are still given the opportunity to live on coastal land by paying attention to and maintaining the environmental ecosystem around their settlement.

Settlers whose livelihood is fishermen build their houses in coastal areas (seaside), especially in tidal areas with the main room being the back terrace. The orientation center is the sea area, so spaces related to the sea continue to occupy sea space, as does the equipment, namely boats, fishing gear, and others. When the sea is low, the boat remains moored in the deep sea area, and vice versa, if the sea is high, the boat or canoe is moored around the house or the back pillars, namely the terrace. Installing sheet piles on the coastal areas of residential areas causes high waves to hit, so residential areas and residential house floors in coastal areas (sea areas) are inundated. To overcome strong winds, storms, and waves, in residential houses, openings are made that are not too wide, supports are made on the roof, concrete is used for the floor, and the floor height is according to high tide.

Residential houses in land areas generally have a neighborhood street orientation, so the terrace is the main part (front), no longer in the form of a stage but a permanent building with a floor height according to high tide, namely approximately 50-60 cm. Likewise, the openings are not too wide, even though the foundation still uses a line foundation. The spatial area of the settlement in the sea area curves along the coastline, while in the land area, it is linear according to the neighborhood roads

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