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Coastal Community Empowerment Policy Model After Natural Disasters in Lhokseumawe City, Aceh, Indonesia

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ABSTRACT : Coastal areas are the interface between land and sea. The landward boundary encompasses the land, both dry and submerged, that is still influenced by marine characteristics such as sea breezes, tides, and seawater intrusion, modified by its distinctive vegetation. The seaward boundary encompasses the outermost portion of the continental shelf, where these characteristics are still influenced by natural processes occurring on land, such as sedimentation and freshwater flow, as well as processes caused by human activities. This study employed a qualitative methodology, with questionnaires administered to 50 respondents, consisting of individuals and groups. The Ujung Blang coastal area is a densely populated urban area. Geographically, it is located in the city center. The area along the Lhokseumawe coastline is part of the bay. This is because Lhokseumawe itself is formed from land surrounded by sea. The Ujung Blang area has a dual function in terms of layout: it serves as both a coastline and a densely populated area.

Keywords: *Policy Model, empowerment, disaster area, Aceh, Indonesia*

I.   INTRODUCTION

This coastal area experiences erosion year after year, especially after the 2004 tsunami and the flash floods in 2025, which caused erosion to reach tens of meters. The most productive coastal area is the coastal surface or beach. It is considered productive because the coastal surface or beach is able to accommodate all human activities. Human activities are accommodated by space, because space encompasses land, sea, and airspace, including space within the earth as a unified territory, where humans and other creatures live, conduct activities, and maintain their survival.

Coastal areas also experience development and expansion, but this development is not aligned with the context of the coastal environment. The development of an urban area also impacts coastal development. This is also the case in the Ujung Blang area. The expanding development area of Lhokseumawe city has led to increasing land values and prices. For lower-middle-class people, they lack the ability to purchase land for agricultural purposes. Building houses has forced coastal areas to become slums and squatter settlements, forcing them to choose between them. The coastal area's location within densely populated settlements has resulted in increasingly scarce land due to rapid population growth. Urban infrastructure, such as roads, is also increasingly lacking. The Ujung Blang coastal area has undergone several road widening projects, resulting in a decline in coastal runoff, in addition to the impacts of abrasion that has been occurring for decades.

The community plays a significant role in maintaining and assessing the existence of built-up areas around them. Humans have the capacity to strive for the sustainability of built-up areas. However, sometimes not everyone is willing to make these efforts; many, intentionally or unintentionally, damage built-up areas in these coastal areas. Therefore, this study aims to determine the existence of coastal built-up areas based on the perceptions of the community living in this coastal area and to identify the built-up areas that serve as spaces for local daily activities. Review perception is based on physical and social attributes.

II.   HEADING S

Perception of Built Space/Built Environment Environmental perception is the interpretation of a setting by an individual/human being, based on their background. Each individual has a different perception of built space and the environment. Therefore, a regional government policy model is needed to quickly anticipate problems experienced by the people of Lhokseumawe City and its surroundings to prevent differing perceptions within the community. However, this does not rule out the possibility that some groups of individuals have the same or similar environmental perceptions. In the scientific study of environmental architecture and behavior, this concept is dominant because the study of environmental architecture and behavior emphasizes the diversity and similarities in environmental perceptions of several individuals or groups of individuals (Setiawan, 2010).

In the context of environmental design, the role of perception is crucial, because decisions or design choices will be determined by the perception of the design environment (Rapoport, 1977). Therefore, if a designed area must understand the perception of the community's environment, whether it has been designed or built, it will not improve the quality of environmental conditions. Built space is both a built environment and a living environment already occupied by humans. The built environment can be formed due to the increasing population and human needs, forcing humans to change the natural environment. The process of forming the built environment is always marked by waste that has direct and indirect impacts on humans, both physical and social. Space is a form of dedication to popularizing architecture.

Coastal areas are areas where various natural forces originating from the sea, land, and air interact and create the shape of the coast. Coastal forms are dynamic and constantly changing. These changes can occur naturally, caused by currents, waves, and weather, as well as due to human activity. Changes to the shape of the coast human activity is inseparable from efforts to utilize coastal areas, both in terms of natural resource exploitation and spatial utilization for various other activities such as tourism, fisheries, ports, and others. Coastal areas serve as transitional areas between land and sea. When viewed from the coastline, a coastal area has two types of boundaries: one parallel to the shoreline (longshore) and one perpendicular to the shoreline (crossshore) (Dahuri et al. 2004).

The coastal area used in Indonesia is the interface between land and sea. Landward, the coastal area includes both dry and submerged land areas, which are still influenced by marine characteristics such as tides, sea breezes, and saltwater infiltration. Meanwhile, seaward, the coastal area includes the sea that is still influenced by natural processes occurring on land, such as sedimentation and freshwater flow, as well as those caused by human activities on land, such as deforestation and pollution (Soegiarto, 1976).

III. INDENTATIONS AND EQUATIONS

In this research, the primary objective of the study of environmental architecture and behavior is to understanding the complexity and diversity of perceptions regarding the existence of built space in the Ujung Blang coastal area aims to gain a comprehensive understanding of the perception of that built space. Perception is a collection of sensory inputs or sensations. These sensory inputs are organized in a specific way, linked to experience and given meaning. According to Human Perception theory, perception is defined as the process of recognizing, organizing, and interpreting existing sensory information (Mag, 2010).

The activity of recognizing objects is a mental activity referred to as cognitive activity. Environmental cognition is the process of understanding and giving meaning to the environment or built space. This process plays a crucial role in the study of environmental architecture and behavior because it explains the mechanisms of the relationship between humans and their built space, using physical and social components as benchmarks for assessing community perceptions of the surrounding built space. Based on the description above, this study applies the theoretical framework of perception to built space as follows: The existing condition of the Ujung Blang coastal built space and

The community's perceptions within the area are then described using physical and social attributes. Furthermore, individual or community perceptions of the constructed space are analyzed as follows. It is hoped that through this process of community interpretation of the constructed space, a diverse range of community perceptions regarding the presence of constructed space in coastal areas will be obtained. The extent to which these physical and social attributes influence community perceptions will be explored.

This study employed a qualitative method (Creswell, 2008), by administering questionnaires to 50 respondents, consisting of individuals and groups. These respondents were residents of the Ujung Blang coastal area and several residents who visited the coastal area. The research location was the Ujung Blang coastal area, located in the Banda Sakti sub-district of Lhokseumawe City. Data collection from respondents was conducted over a one-week period.

The data collection method used was a survey and observation, followed by interviews with respondents to obtain detailed data when administering the questionnaire. In this environmental perception study, the data analysis used perceptual quality by identifying existing conditions in the coastal area, allowing for interpretation of the intensity of the built space, using physical and social attributes. The data analysis used to uncover the research findings was qualitative, namely by evaluating the built spaces related to the research objectives. The built spaces observed were both open spaces used for daily community activities.

The built spaces referred to are both naturally formed and man-made structures. The built environment can be formed due to increasing population and human needs, forcing humans to change the natural environment. Unconsciously, the process of forming the built environment is always marked by the presence of waste that has a direct impact or Indirect impacts on humans, both Data collected from respondents during observations of the built space in the Ujung Blang coastal area revealed several groups of respondents classified as above.The data classification revealed that respondents aged 36-55 years old are the group whose presence is predominantly perceived through visual and other senses. The relationship between humans and the built space or environment is very close and interconnected. A person's perception of the built space is influenced by their

daily activity patterns. in using the built space in the Ujung Blang coastal area. Based on their age classification, they are able to interpret the existence of the built space with knowledge, and the respondents' education can influence the cognitive processes they experience. This is because perception is the basis of each individual's experience.

The existing environmental conditions consist of objects that must be... From the diagram above, the existence of built-up space for most respondents indicates that the coastal surface, which is the most productive area of the coastal area, is decreasing in area. For respondents in classification (A), the reduction in coastal surface area is not solely caused by natural factors but also by the impact of development carried out by individuals and local community groups on the coastal surface, namely the built-up space. Built-up space, or the built environment, is an environment characterized by the dominance of human-made structures. The built-up environment system relies on human resources and engineering for survival. It is not surprising that in coastal areas, growing houses are often found built right on the shoreline. Based on the observed physical attributes, the built-up space, which is the productive area, namely the coastal surface or coastal boundary line, is decreasing in area. In the regulations stipulated by the government, contained in the Regency/City Spatial Plan (RTRW), the coastal boundary line is defined as being proportional to the shape and physical condition of the coast.

The coastal boundary is calculated from the highest tide point and varies according to the function/activity along its edge. These include: gently sloping beaches with waves <2 meters, with a boundary width of 30–75 meters, and gently sloping beaches with waves >2 meters, with a boundary width of 50–100 meters. The Ujung Blang coastal area is considered a gently sloping beach with waves >2 meters, with a shoreline width of 50–100 meters. However, existing conditions do not meet these standards. The shoreline extends only 20–30 meters from the shoreline.

Based on observed physical attributes, the area of the productive area, namely the shoreline or coastal boundary, has decreased. According to government regulations stipulated in the Regency/City Spatial Plan (RTRW), the coastal boundary is defined as a strip of land along the shoreline whose width is proportional to the shape and physical condition of the coast. The width of the coastal boundary is calculated from the highest tide point, varying according to the function/activity on the edge, namely: Sloping coastal shape with waves < 2 meters, boundary width 30-75 meters and Sloping coastal shape with waves > 2 meters, boundary width 50-100 meters.The Ujung Blang coastal area is characterized by gently sloping beaches with waves >2m and a shoreline width of 50–100m. However, existing conditions do not meet these standards. The beach front extends only 20–30m from the shoreline, with a wider landmass along the shoreline. Based on observations and identification of community perceptions regarding the existence of the built-up area in the Ujung Blang coastal area, using a physical and social attribute component approach, the local community indirectly degrades the built-up area, leading to a decline in the quality of its built-up environment. The lifestyle of coastal residents, who primarily earn their living as fishermen, has left this productive coastal area dirty and littered with trash. Furthermore, local residents still frequently dump trash into the ocean. Sometimes damaged boats are left unattended, and trawls or nets are scattered along the shoreline. Drainage and sanitation in this area are minimal, often non-existent. Some residents still use the beach as a place to dispose of waste.

IV.CONCLUSION

Referring to the research conducted, community perception of coastal built space is considered quite good. This means that the cognitive process of perceived built space conditions produces varying perceptions. Some communities feel comfortable with dirty environments.

The coastline is littered with 4.35% of waste. Adults aged 35-55 years will find it easier to cognitively interpret their perceptions of existing built spaces. Although this cognition of built spaces is subjective, using physical and social attributes as benchmarks makes it easier to project. This environmental perception research can be used as a way to identify the existence of built spaces with the community based on the space's character, function, and community activities within it.

V.ACKNOWLEDGEMENTS

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