

## **Structuring Area Tourism Development Based Merauke Buti Beach Informal Sector (Small Business)**

**Henry Soleman Raubaba, Yosi Valentina Simorangkir and Sari Octavia**

Department of Architecture, Faculty of Engineering, Musamus University, Merauke, Papua, Indonesia.

[henry\\_soleman@unmus.ac.id](mailto:henry_soleman@unmus.ac.id)

**Abstract.** The extraction or mining of sand along Buti Beach's lips makes the coastal tourism condition increasingly insecure and its environment results in abrasion along Buti Beach and becomes a threat to the surrounding settlements. This happened, one of which was due to the condition of the people who did not understand and this condition was made worse by making mining as a result of livelihoods. The development of tourist areas should involve the community because the purpose of development is to improve the welfare of the people, especially the local people. Development through structuring activities needs to be followed by fostering the potential of human and natural resources in order to strengthen the economy of the people so that they can participate in the development of urban facilities and are not marginalized. This research was conducted qualitatively, by conducting questionnaires, discussions and interviews. Through discussion and interviews, local responses to alternative arrangements for users are the main thinking. Alternative structuring is carried out based on the results of literature review with the viewpoint of practical empirical theory and phenomenology used in helping them choose arrangements that are appropriate to the environment. The results achieved in this study are sustainable settlement arrangements and can encourage the development of potential community empowerment in the coastal area of Buti.

### **1. Introduction**

The rapid development of the city of Merauke has an impact on indigenous people in the suburbs specifically at Buti Beach. Buti Beach is the only beach in the coastal city of Merauke and is one of the tourist destinations in the city of Merauke. Buti Beach is also a historical area, where Buti Beach became the first place for missionaries who spread religion to make their first trip in Merauke Regency. The impact of urban development that does not look towards community empowerment, especially indigenous people, has a serious impact on the community. This impact is very visible from the livelihoods of these communities.

The settlements on Buti Beach currently have indigenous tribal settlements and immigrant tribal settlements where the livelihoods of residents around Buti Beach are fishermen. Migrants, most of whom are Bugis tribes whose daily fishing in the sea have good expertise and knowledge in this regard. Indigenous peoples whose daily life is also looking for fish have inadequate knowledge and expertise, this has resulted in indigenous people not competing with immigrant communities in increasing their income. Indigenous people seek income by extracting sand or illegally mining sand along the coast.

The impact of this mining caused environmental damage around Buti Beach, because the sand that had been eroded by the waves was scraped away from illegal miners by indigenous people. This caused

the beauty of Buti Beach to gradually disappear, so that the residents on the coast lost their livelihoods and natural beauty. Based on the explanation, several research problems can be elaborated, among others, how the settlement arrangement directives are in accordance with the daily life and activities of fishermen and indigenous people in Buti Beach, what potential can be developed in Buti Beach residents' settlements and how potential development directions residential area on the beach. The expected benefit is to increase the opportunity for the Buti Beach settlement community to improve settlement life by utilizing the potential and attractiveness of their environment.

## 2. Theoretical basis

The National Housing and Settlement Policy and Strategy (KSNPP) of 2002 [1] has a vision that every person (families) in Indonesia is able to meet the needs of a decent and affordable home in a healthy, safety, harmonious, and sustainable in the effort to form a society that is self-sufficient, independent and productive. While its mission is to empower the community and other key actors in the implementation of housing and settlements, facilitate and encourage the creation of a conducive climate in the implementation of housing and settlements and optimize the utilization of supporting resources for housing and settlements.

Man-Environment Studies is a study of mutual interactions between humans and the built environment around them, in this design there are three variables to consider, namely human characteristics as forming the character of the environment, physical and human environment and the mechanism that connects humans with environment in two-way interaction.

Development is an activity to create or create something from potential that already exists with the aim of producing something more. A development process generally begins by analyzing the potential of a person or an environment and objects in it because that potential has an influence on the surrounding environment [2]. This requires sustainable activities by involving the community in the construction of settlements.

The settlements grow and develop with the effect of natural aspect known as natural forces and human creative aspect in creating a place as a quality relationship with the environment known as figural quality. According to Rapoport [3] the character of settlements can be seen from residential space organizations and more specifically points to the orientation outline. There are two orientations put forward, namely the orientation of settlements along the / along the streets where the house is along the road and across from the waterfront and inside-out orientation where the space organization has a focus on the inner courtyard, and which differentiating from central space orientation is the private and public domain.

Fisherman settlements are residential areas that have the potential as fishing grounds, fish farmers and processing which tend to experience many problems in their settlements [4]. The government's program regarding the arrangement of coastal settlements was realized in the Masterplan of Merauke Regency [5] for the development of coastal areas owned by Merauke Regency.

The handling of the fishermen's settlement environment must depart from the specific character because it will relate to the functions of fishermen's daily activities, the impact on the settlement environment, the limited facilities and infrastructure and the most fundamental thing is the economic capacity of the fishermen's household [4]. Good and orderly settlements will be created if they meet the ideal criteria of physical aspects which include geographical location, natural environment and guidance, as well as facilities and infrastructure and non-physical aspects covering political, economic, social and cultural aspects [6]. Common problems that can be seen in fisherman settlement areas are physical problems. Marwati [7] states that if viewed from the physical aspect, organized fisherman settlements should at least include the following: 1. settlement spatial planning that is friendly to coastal ecology, 2. environment that is responsive to tidal patterns, 3. existence clean water that meets health requirements and 4. Waste water and waste treatment systems that meet health requirements.

### 3. Research methodology

The research method used in this study is a qualitative method with a rationalistic approach that is based on rationalism thinking that comes from understanding intellectual abilities built on the ability of logical argumentation, so that it is more emphasized in empirical meaning [8] where the results of literature and data studies. The secondary is identified through several variables which are then processed with several techniques of collection and analysis and interpretation so as to produce a study result in the form of structuring directions for fisherman settlements on Buti Beach.

The main strategy chosen in this structuring study was to study the social conditions of occupant communities as users of the structuring area and approach to the general plan of the related area. This structuring study is empirically practical, so qualitative strategies will be used in the research method. In order to simplify and narrow down the topic of discussion, the research aspects are divided into two variables, namely dependent variables in this case the population of Buti Beach settlements and settlement patterns and their criteria and independent variables in this case the physical location and condition of the Buti Beach area as an existing part of the coastal arrangement Buti.

Merauke Regency is the selected geographical area with Merauke District as the main focus of the settlement of Buti Beach located in Samkai Village. The specifications for the characteristics of the respondents were the people involved in the study, namely the indigenous people whose livelihoods were uncertain and the non-indigenous population whose livelihoods were fishermen and settled in the Buti Beach area.

### 4. Discussion

The area structuring scenario was prepared by considering several technical conditions including the identification of fisherman settlement issues in settlement environment structuring, identification of fisherman settlement environment problems, a list of varied fishing locations with their slum levels and specific slum characteristics to be handled. This is done to determine the objectives of the arrangement, the handling policies needed and the preparation of structuring scenarios that are carried out in stages to obtain the determined results.

Identification and assessment of the existing physical condition of residential settlements in Buti Beach, Merauke is to evaluate the physical condition of existing settlements based on the standards of the Ditjen Cipta Karya [9]. In table 1, explained the criteria that include the components of the residential environment, namely facilities and infrastructure and assessment standards.

**Table 1.** Criteria for assessing the physical condition of the settlement environment.

Settlement Facilities and Infrastructure	Condition				
	1 <sup>a</sup>	2 <sup>a</sup>	3 <sup>a</sup>	4 <sup>a</sup>	5 <sup>a</sup>
Housing	Size <5m <sup>2</sup> /person	Size <7m <sup>2</sup> /person	Size ≥ 7m <sup>2</sup> /person	Size > 10m <sup>2</sup> /person	Size > 12m <sup>2</sup> /person
Clean water	<10 L / Day / person	<30 L / Day / person	≤ 50 L / Day / person	> 50 L / Day / person	> 70 L / Day / person
Environment sanitation					
• Footpath	No exists	Exists, irregular, ground	Exists, of compacted soil	Exists, of rocklike	Exists, paved
• Drainage	No exists	Exists, 25% of the long road	Exists, 50% long road	Exists, 75% long road	Exists, according long road
• Garbage dumpster	No exists	No trash accommodated	Trash can accommodated	Trash be carried in 2 days	Trash be carried every day
Toilet	No exists	Used by > 10 families	Used by <10 families	Used by <5 family	Used by ≤ 2 families

Environmental facilities

• Village meeting hall	No exists	Exists, just holds <50%	Accommodate $\geq 75\%$	Accommodate $\geq 90\%$	Accommodate all
• Market	No exists	Distance > 5 km	Distance <5 km	Distance <3 km	Distance <1 km

<sup>a</sup> Note: 5 = Very good, 4 = Good, 3 = Enough, 2 = Less, 1 = Poor

Based on the criteria for assessing the physical conditions of residential environments in Buti Beach, the results of the evaluation of the existing conditions of the inhabitants of Buti Beach in Merauke are presented in table 2.

**Table 2.** Evaluation of existing conditions based on the assessment criteria.

		Existing condition	Value
<b>Settlement</b>		Fisherman settlements on Buti Beach are quite good with an average of 7m <sup>2</sup> / person	3
		Clean water is not available in every home	2
		There is a footpath irregular	2
		No drainage	1
		Trash, garbage ill accommodated	2
		Toilet is used by <5 family	4
		Village hall to accommodate all	5
		Market within <1 km	5
		Average	3

From the evaluation results obtained an average value of 3. Based on the assessment standards of the Ditjen Cipta Karya (9), it was concluded that the existing conditions of fishing settlements were quite good. The next step is to evaluate the condition of the natural environment using the standards shown in table 3.

**Table 3.** Criteria for assessing the physical condition of the natural environment.

Natural environment	Condition				
	1 <sup>a</sup>	2 <sup>a</sup>	3 <sup>a</sup>	4 <sup>a</sup>	5 <sup>a</sup>
Mangrove	<20% Coastlines	> 20% Coastline	> 40% Coastline	> 60% Coastline	> 75% Coastline
Beach	Steepness > 45%	Steepness $\leq 45\%$	Steepness <20%	Steepness <10%	Steepness <5%
Land village	Awakened $\geq 75\%$	Awakened $\geq 60\%$	Awakened <60%	Awakened <50%	Awakened <40%
Soil	<20%	<40%	<60%	<70%	> 70%

<sup>a</sup> Note: 5 = Very good, 4 = Good, 3 = Enough, 2 = Less, 1 = Poor

After the criteria for evaluating the physical conditions of the fishermen's residential environment in Buti Beach were assessed, then the results of the evaluation of the conditions of the natural settlements of the Buti Beach in Merauke Coast were obtained in Table 4.

**Table 4.** Evaluate the condition of the natural environment based on the assessment criteria.

		Existing condition	Value
<b>Natural Environmental Conditions</b>		Mangrove, <20% Coastlines	1
		Beach, steepness <20%	3
		The village land, Waking <60%	2
		Productivity land <40%	2
			Average

Based on the assessment standards of the Ditjen Cipta Karya [9] approaching the number 2, it was concluded that the existing conditions of the natural environment in the fishing settlements were not good.

The traditional fishermen settlement environment (fishing village) is a life order (within territorial boundaries) which consists of a spatial arrangement in a residential group, which is formed conventionally with the rules (procedures) of the people who have inherited it. For this reason, in arranging fisherman settlement areas, it is necessary to emphasize the physical aspects as a component of forming the environment so that it is in accordance with the criteria for the creation of a residential physical environment in accordance with the government's, standard and community's plans. The first thing is geographical location, based on interviews with local leaders, what the local community needs regarding the location of their settlements is the ease of access to the beach and the anchoring of boats. The second thing is the natural environment, for settlement security and coastal activities, the placement must pay attention to the boundary line of the beach (GSP) of at least 100 m from the highest tide point. The width of the coastal land is an area that is considered safe for berth placement and residential areas is between 400 m - 2 km from the coastline (Research Center for Settlements). Current conditions faced, resident settlements are located close to the shoreline. And this results in environmental damage because of the untreated Buti Beach area. The last thing is the built environment, Buti Beach is a waterfront area where the orientation or direction is dominant towards the element of water, in this case the beach. This means that every building in the area has access to the sea or at least to a road facing the sea or other water elements. Communities respond to aspects of the built environment through preference orientation or direction toward residential space plans. From the results of group discussions and interviews, two different preferences were obtained. In table 5 shows people's preferences regarding the orientation of residential space.

**Table 5.** People's preferences regarding settlement spatial orientation.

Built Environment Variables	Respondents preferences		Theoretical
	Group	Preference	
Orientation room settlement	Woman	Facing neighbors	Cluster: orientation inside out
	Man	Facing the beach > neighbor	Waterfront: orientation street and Beach
	Fisherman	Facing the beach > neighbor	Waterfront: orientation street and Beach
	Fish processing	Facing the beach < neighbor	Cluster: orientation inside out

From table 5 above, it can be identified theoretically that the orientation for the needs of fishermen and fish processors can be combined. The waterfront orientation, namely the orientation of the settlements that are directly connected to the road and the water element will greatly support the work of the fishermen while the inside-out orientation (inverted/inward) will greatly support the fish processing work, because the central space that is the orientation inward can be a fish processing room.

The direction for structuring the residential area of Buti Beach in Merauke is a conclusion of the discussions that have been carried out on the existing environmental components against the criteria of government plans, applicable standards, and the community's desire for good settlements in the future.

**Table 6.** Direction for structuring the physical environment of residential settlements.

Geographical location	Existing	Criteria	Referrals
	Located right next to western town of Merauke, and in the south of Bina Loka Street.	Accessibility, reach to the line beach	Ease of accessibility in and out for residents who work as fishermen in reaching the coastline and the ease of

			tourists to enjoy the beauty of Buti Beach.
<b>Natural environment</b>	Existing Assessment: 1 (less) Mangroves are <20% shoreline. Habitat conditions damaged due to excessive sand mining	Criteria The existence of mangrove forest conservation Determination Coast Line Border Zoning district functions The response to the issue of global warming	Referrals Mangrove forests replanted with the procurement of at least 60% wetland coastline GSP is set at least 100 meters from the highest tide The width of the coastal plain 400 m - 2 km Some of the land activities should be protected from the possibility of flooding because of the rising sea levels due to global warming
<b>Built environment</b>	Existing Assessment: 3 (enough) Settlements grew unevenly Not all homes have access to the road	Criteria The structure of space settlements that maintain social space	Referrals Organization of cluster-shaped space by maintaining social space inside Dual orientation for every house whose occupants work as fishermen and fish processors. (waterfront and inside out clustering)
<b>Water infrastructure</b>	Existing Assessment: 2 (less) Not all the residents get clean water through the taps. Most still purchase of water from street vendors.	Criteria Access to clean water Clean water supply a major focus on infrastructure planning of settlements	Referrals Ease of access to clean water is the right of every person. Providers should facilitate the provision of a minimum of 50 liters / day / person
<b>Transport infrastructure</b>	Existing Assessment: 2 (less) The road environment there is still a dirt road and the road is not uniform. Not all the way to reach all of the existing house.	Criteria Conditions / material maker of roads, not only as a means of transportation, but also as a deterrent to propagation of fire and road ambulance	Referrals Procurement of road width (at least 5 m on the environment, and 3 m on-ramp) Achievement way into every home
<b>Drainage infrastructure</b>	Existing Assessment: 1 (poor) no drainage system along the road leading to waterlogging in low lying areas	Criteria The drainage system in accordance with the conditions of the mainland coast	Referrals Repair / construction of drainage, Drainage system can use a fork shape as well as a fishing settlement patterns.
<b>Waste treatment facility</b>	Existing Not available	Criteria Processing system in accordance with the mainland coast	Referrals IPAL Procurement System and can use the latest technology that is suitable for land with high groundwater levels
<b>Infrastructure landscape, cemetery, cleanliness</b>	Existing Assessment: 2 (less) Transporting waste do not optimal, unavailability of garbage bins in every home.	Criteria Availability of open space Availability of garbage storage	Referrals Open space as a sports facility Procurement of temporary waste disposal sites, garbage transportation is carried out

	Open area for landscaping there. Play activities carried out at the seaside	Availability of janitors and trash dumps, as well as public awareness	every day, garbage is stored in every house.
<b>Economic facilities</b>	Existing	Criteria	Referrals
	Assessment: 5 (very good) There is a market, and the distribution of catches	Availability markets, fish markets, or commodity distribution locations.	Strengthening the distribution system through fishing cooperatives

Achievement of the direction of potential development is also carried out by assessing existing conditions, analyzing based on government plans and applicable standards, and responding to the community. This non-physical aspect covers political, economic, social and cultural aspects.

Good structuring of settlements is the achievement of minimum criteria for physical and non-physical aspects [6]. In developing the potential of settlements it is focused on non-physical aspects as supporting components forming the environment. The non-physical aspects include political, economic, social and cultural aspects. Evaluation of criteria for settlement development in accordance with government, standard and community plans as follows:

Politics, the political conditions of a settlement can be seen from the policy regarding settlements and the environment and the community institutions contained in it. In looking for potential, the emphasis is on evaluating the community institutions contained in it. In the location of institutional studies that exist for indigenous people are customary institutions that are recognized by the community and obeyed by the population and while for fishermen there is no place to accommodate because the understanding of institutional benefits is still minimal, but their activities so far have been conducive.

Economy, the economic life in this residential area is classified as marine fishermen, indigenous fishermen, fish sellers and there are still many whose jobs are erratic. Things that need to be considered in economic aspects are economic articulation of population activities. Jobs on land services include drying fish and collecting catches and processed products to middlemen or selling directly to the market. It should be thought that in future settlement planning, it would be nice if these settlements had an independent economic life. One way is to develop the potential of the existing fish processing industry. In addition to the lives of fishermen, indigenous people whose lives are uncertain, sand mining is their livelihood. This mining causes environmental damage so it needs to find a solution for their economic life.

Social, social aspects can be learned from observing community characteristics and resources and social activities. Fishermen in various parts of the world have common characteristics, including having a clear focus, accustomed to simple life, having extraordinary patience, courageous, and diligent, having strong beliefs and being able to cooperate well and be loyal to their profession. Based on the results of discussions with leaders and the community, actually the willingness to develop according to the expertise they have is quite large. In addition, the social life of the indigenous population in the coastal area of Buti Beach is very alarming. They are like being knocked out of competition to find a life or a living. With lack of experience and education, they are unable to compete with outside migrants who also work as fishermen.

Culture, the culture of the indigenous population on the coast is actually a culture of balance with nature. Along with the development of rapid development in Merauke Regency, the indigenous population forgets this. The abundant natural products on the coast of Buti Beach are lost with sand extraction which does not see the impact of existing environmental damage. In addition to the lost culture of the indigenous population, the culture of migrant fishermen who in fact are Bugis tribes who work as fishermen is a hereditary profession and since childhood they are accustomed to working in teams.

Judging from the physical and non-physical aspects which constitute the existing conditions in the residential settlements on Buti Beach, it is necessary to direct the development of the potential of residential settlements in these locations. This directive is a conclusion of the discussion that has been carried out on the non-physical aspects of the existing location to explore the uniqueness of the culture and the desires of the community towards life in the future. Synergy between government plans and

involvement from various literatures is needed in maintaining the direction of potential development in accordance with the planned settlement of coastal areas.

**Table 7.** Direction for structuring the physical environment of residential settlements.

<b>Potential of Fishermen Institutions (Politics)</b>		
Existing	Criteria	Referrals
The existing institutions are customary institutions	The existence of local community institutions	Fisherman institutions need to be established so that fishermen are always encouraged in fair competition
There is no fishing institution because of minimal understanding	Institutional benefits to people's lives	
<b>Potential of Fishermen's Independence (Economy)</b>		
Existing	Criteria	Referrals
Onshore service work includes the sale and processing of fish	Ability to make ends meet	The concept of smoked fish-to-go, namely the package process and sales is carried out in fishermen's settlements
The average income of fishermen is 100 - 500 thousand.	Community independence in economic life	The procurement of fishing cooperatives and for indigenous people is given assistance regarding informal small businesses.
Employment of the indigenous population is not feasible, due to inadequate work.		
<b>Potential of community (Social)</b>		
Existing	Criteria	Referrals
The education level of fishermen is very minimal	Quality Human Resources	The younger generation of fishermen should be provided with formal education on marine affairs.
The role of the wife is very large in the process of service on land.		Indigenous people are provided and given assistance to open informal small businesses.
Indigenous people are unable to compete for daily living because of lack of good knowledge.		
<b>Potential for Uniqueness and Tourism (Culture)</b>		
Existing	Criteria	Referrals
Buti Beach is a unique beach because it has water receding far from the shoreline, so it can be a high tourist value	Requires good regional arrangement	Repairing the decent Buti Beach area so that tourists can enjoy beach tourism well because it has a high selling value.

The development of the small business sector for indigenous people is one of the efforts that must continue to be sought to provide knowledge or assistance to the activities of various types of potential small businesses that are on the coast of Buti Beach. This assistance aims to develop other business potentials for indigenous people. In addition to mentoring activities, it is also necessary to stimulate the type of production and marketing assistance business. These activities can be carried out through assistance programs for small businesses such as food stalls businesses, homestay businesses, tourist vehicle parking businesses, toilet service businesses in tourist areas (hygiene and clean water), orchid cultivation businesses as special tourism attractions for agro-tourism, marine fisheries fishing businesses and inland fisheries, fishing tourism businesses and fishing, assistance with fishing cooperative businesses and coastal communities in Buti Beach.



## 5. Conclusion

Based on the analysis and discussion that has been described previously, the results and conclusions consist of 3 parts. Each part is concluded in the presentation below.

The direction for structuring the Buti Beach area, especially in residential areas from geographical locations, requires adequate accessibility to get out and into the settlements as well as the accessibility of fishermen to shoreline through special routes, and good access for tourists to enjoy the beauty of Buti Beach. Structuring the natural environment by setting a coastal border line of at least 100 meters from the highest tide point, coastal land designation with settlement functions and processing as wide as 400 m - 2 km from the boundary line of the beach, and to anticipate erosion caused by sand mining from the community, good waves must be made in the form of dikes, breakers and mangroves so that the ecosystem can be maintained properly. Settlement of settlement space is based on two-way orientation for residents living in these settlements, namely waterfront and inside-out which are arranged in a continuity of space composition and maintain a previously formed social space structure in existing settlements. Arrangement of facilities and infrastructure such as provision of clean water in residential spaces and processing rooms, procurement of roads as a means of transportation as well as prevention of fire propagation and evacuation through predetermined distances, repair and procurement of drainage according to road length, community empowerment in managing organic waste, cooperative procurement as economic means of the population of the fishermen economy and assistance for indigenous people for the development of small businesses.

Development of village potential and Buti Beach tourist areas in the political, economic, social and cultural fields. In the political field, namely the institutional potential of fishermen by maintaining existing local institutions, forming organized groups of fishermen and spurring healthy competition and early childhood development assistance. In the economic field, namely the potential for fisherman independence by developing the central fish processing industry through the smoke fish-to-go concept, namely the process, packaging and selling in an area. In the social field, namely the potential of society by honing formal and informal skills in early service (extracurricular level at elementary school). In the cultural field namely tourism potential by structuring a good coastal area so that the beauty of Buti Beach can be enjoyed by existing tourists.

The development of the small business sector for indigenous people is to provide a good business opportunity for indigenous people, so that the work of extracting sand on the coast can be overcome. The small business sector includes food stalls businesses, homestay businesses, tourist vehicle parking businesses, toilet service businesses, tourist areas (hygiene and clean water), orchid cultivation businesses as special tourism attractions for agro tourism, fisheries business for marine fisheries and inland fisheries, business fishing tours and fishing, accompaniment of fishing cooperatives and coastal communities of Buti Beach.

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