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## Land convergence of superior economic resources, Potential: Land use and development planning in the North Rupert border area

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### Abstract

Rupert Island is the outermost border island in Riau Province. The potential of the fisheries sector is the driving force of the economy of its population. Livestock is also part of the socio-economic life of its people. The use of space for important economic potential sectors has overlapped in the area. This article aims to discuss the fisheries sector, livestock, convergent beach tourism, and planning to organize the area's space to be functional and mutually beneficial. Using qualitative and quantitative methods, a literature study approach, structured field observations, interviews, documentation, mapping, and depiction were employed. An analog map of the forest area on a scale of 1:50,000 from a government agency serves as a basis for repositioning the convergence that occurs. The study found that land convergence has caused some areas to swell and become unorganized. It is important to relocate the convergent area, as it will have implications for the emergence of new competitive concentration areas. However, this is very beneficial for spurring planned development of the border area. The use of spatial data and attribute data can help avoid repeated land convergence on the outermost border islands, which are predicted to become narrower in the future.

**Keywords:** Analog Map, Planning, Potential of North Rupert, Relocation.

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**Transparency:** The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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## 1. Introduction

Rupat Island is the outermost and foremost island in the Bengkalis District of Riau Province. Rupat Island and Sumatra Island are separated by the Rupat Strait [1]. The northern part of Rupat Island is an area that is very strategically located because it directly borders the Melaka Strait as an international traffic zone, which has implications for the region and its population. For this reason, the northern part of Rupat Island is the most important island for the Bengkalis Regency and Riau Province. As Figure 1 shows.



**Figure 1.**  
Rupat Island between Sumatra Island and the Malaysian Peninsula.

Alt Text 1.1. Rupat Island is one of the outermost islands of Indonesia, separated by the Rupat Strait from Sumatra Island. Rupat Island is located in the administrative area of Bengkalis Regency and Riau Province. It is also known as the Border Island due to its proximity to neighboring countries such as Malaysia.

As in Figure 1. Rupat Island covers an area of approximately 1,500 km<sup>2</sup>. The beach is 17 km long and is inhabited by approximately 15,000 people. In general, the North Rupat sub-district is divided into two areas: the residential area along the main rural road and the beach, which stretches from south to north in the western area of the island and back to the south in the eastern area of the island.

The fisheries sector has supported the economy of coastal communities in this border island region since time immemorial and even serves as a source of protein for communities in Riau Province in general. Fishing life has been passed down from generation to generation and is the main characteristic of the civilization of the people on this island and others. Apart from the fact that fishermen's lives have become their culture, institutionally, it also appears to be more developed than in other sectors, as shown by the existence of fishermen's groups in the North Rupat sub-district. Along the curve from West to North back to South (Kubu, Titi Akar, Tanjung Medang, Teluk Rhu, and Putri Sembilan) in the area to the east, it is a "way of life" area for two-thirds of the residents who are fishermen.

The livestock sector, such as cattle and goats, has also been a way of life for the economy of the community, which has developed well in the North Rupat sub-district since time immemorial, especially in Teluk Rhu village [2] Large livestock such as Balinese cattle (Bali cattle) in this region have developed quite well because of the support of the natural climate.

Since 2011, the enactment of Presidential Regulation No. 50 of 2011 concerning the National Tourism Strategic Area Master Plan has been implemented. It has been determined that several areas throughout Indonesia are included in the national tourism strategic area, including Rupat Island, specifically the North Rupat sub-district. With this government policy, the Riau provincial and district governments are seeking and exploring potential tourism areas through their regional policies, which have had a significant impact on the growth and development of the economy in this region. Today, for more than a decade since 2011, the coastal area of this outermost border island has become a beach tourism destination for many people, especially visitors from outside this region. Several villages in the North Rupat sub-district on the east coast have direct

access to the beach area, such as Tanjung Medang Beach village, Pesona Teluk Rhu Beach, and the beach in Tanjung Punak village and Kadur village beach.

The development of fisheries areas and the establishment of the coastal tourism sector as a tourist destination in North Rupat District, as well as the maintenance of livestock, which has long been close to the residential areas of residents who also live in coastal areas and their fishing areas. The North Rupat sub-district now requires spatial planning to accommodate increasingly complex community life activities, including the trade economy, tourism economy, fishing areas, and community livestock lands along the tourist coast.

Therefore, this research article discusses the convergence between leading economic sectors and potential sectors. What is the idea of converging spatial planning into a functional area without overlapping functions for economic development between sectors in border areas that have relatively limited spatial aspects, so that one area can grow mutually with other areas and the implications from the aspect of regional economic development planning?

## **2. Relevant Theoretical Concepts**

The Tanjung Medang village area has become the center of the government in terms of administration and political policy. Meanwhile, economically and socially, it has grown into a fishing, tourism, and residential center.

Tanjung Medang Village is also the most important point in the occurrence of spatial convergence in the coastal area of the North Rupat sub-district because this is where the center of innovation, production, distribution, and consumption by local residents takes place.

In general, the rural population's vision for the development planning process has been described [3]. The combination of natural and human resources in the village, as well as all the assets utilized, such as residents, land, institutions, and infrastructure and facilities for the advancement of social welfare, can be seen as village potential, which is also a short-term and long-term economic tool that can have a positive impact on the development of the rural environment [4].

Because the North Rupat sub-district is on the outermost island, it is a maritime country where the potential wealth of coastal natural resources has become a new focus, as the main capital for national development.

For example, the fisheries sector, where the fishing area according to International Maritime Law is limited to 12 nautical miles, is still included in the territorial sea area of a country. As confirmed in Article 2 of international maritime law concerning the sovereignty of coastal states, Article 2 concerns the legal status of the territorial sea, the airspace above the territorial sea, and the seabed and land beneath it.

In Article 2, paragraph 1, it is stated that the sovereignty of a coastal state, apart from its land area and inland waters, and, in the case of an archipelagic state, its archipelagic waters also include a sea lane that borders it, called the territorial sea; in paragraph (2), it is stated that this sovereignty includes the air space above the territorial sea as well as the seabed and land beneath it.

Article (3) concerns the width of the territorial sea, stating that every country has the right to determine the width of its territorial sea up to a limit not exceeding 12 nautical miles, measured from the baseline determined in accordance with the 1982 International Maritime Law Convention. The implication is that there are areas that are very remote in terms of developing the fisheries sector.

Apart from the availability of large fishery resources, the North Rupat coastal area is now a coastal tourism development area for the Bengkalis district.

Similar to potential resources, the coastal tourism sector is promoted as a destination for tourists in the Riau Province [5]. The tourism sector, such as ecotourism, has important value for the conservation of coastal ecosystems for several reasons, including: (1) encouraging sustainable use of natural resources, and (2) reducing threats to biodiversity.

According to Wang, the integration of agricultural and tourism development are two aspects that are positively correlated with the quality of the rural environment [6]. Research results [7] reveal that the tourism industry and agro-industry have proven to contribute greatly to the rural economy, but among the many challenges that exist, one of them is the lack of transparency in the rules and regulations enforced by government institutions.

The development of village tourism relies on utilizing village potential as the main basis of its strategy. However, in its development, a benefit-based model can become an alternative means of promoting rural tourism [8-10].

Returning to the complexity of resource combinations in rural areas, as the correlation has been discussed [4] the potential for protein food resources such as livestock is also a rural potential in the Rupat Island region. In general, in rural areas, the relationship between domesticated livestock and their owners is very close in terms of the use of living spaces. Most residents do not place their livestock pens far from the area where the owner lives.

Likewise, the culture of rural communities, in general, is always surrounded by potential natural resources that are utilized for economic, social, and cultural continuity throughout their lives. Traditional, but that is the reality where the spaces and areas of their lives increasingly label their land as converging.

Rural power holders play an important role in the development and structure of a region. The growth of a region, if given the opportunity by the government, but not in perfect management, will lead to chaos and even damage. As Lambin argues, society's response to economic opportunities, mediated by institutional factors, has driven land-cover change. Market units, local policies, and national policies provide opportunities and obstacles to new land use [11].

Perhaps because of the opportunities provided by the government at the rural area level, this has resulted in the use of space for the sustainability of livestock owned by local residents by developing and utilizing regional space for beach tourism and convergent pond fisheries. In general, rural areas have been intersected with different potential resource activities.

Connected with the general phenomena that occur in the coastal area of this research area, namely the northern part of Rupat Island, functional convergence has implications for the function of the original coastal area, which now faces many challenges in maintaining its sustainability from many economic aspects, such as the livelihoods of farmers, fishermen, and the sustainability of the area and space for its people [2, 5].

Experience shows that sectoral management or utilization of coastal areas is ineffective [12]. As Nawawi [13] stated, cooperation with local governments is needed because not everything can be done by the communities themselves. Other experts also emphasize that the key to prosperity lies in community participation. This needs to be supported by the availability of adequate regional infrastructure and accessibility [14].

In addition, the social economy of a community can be mapped. Mapping village potential from the agricultural sector also needs to be supported by the availability of production factors, infrastructure, and the village's ability to obtain financial support for sustainable development [15]. Furthermore, regional development planning as a place for potential resources such as fisheries, livestock, and tourism sectors is based on land use. The relationship between land administration and land markets as the main economic drivers in most countries has been explored [16].

As van Asselen and Verburg point out, the intensity of land use management and livestock rearing is also an important aspect of land use and is an integrated part of the land system. There is a strong relationship between land systems and various socio-economic and biophysical indicators of human-environment interactions [17].

For this reason, participatory space use planning supported by higher government policies will be the solution, of course by considering several land aspects because land use must take into account, among other things, land capacity, land availability and land sustainability [18].

### **3. Methods**

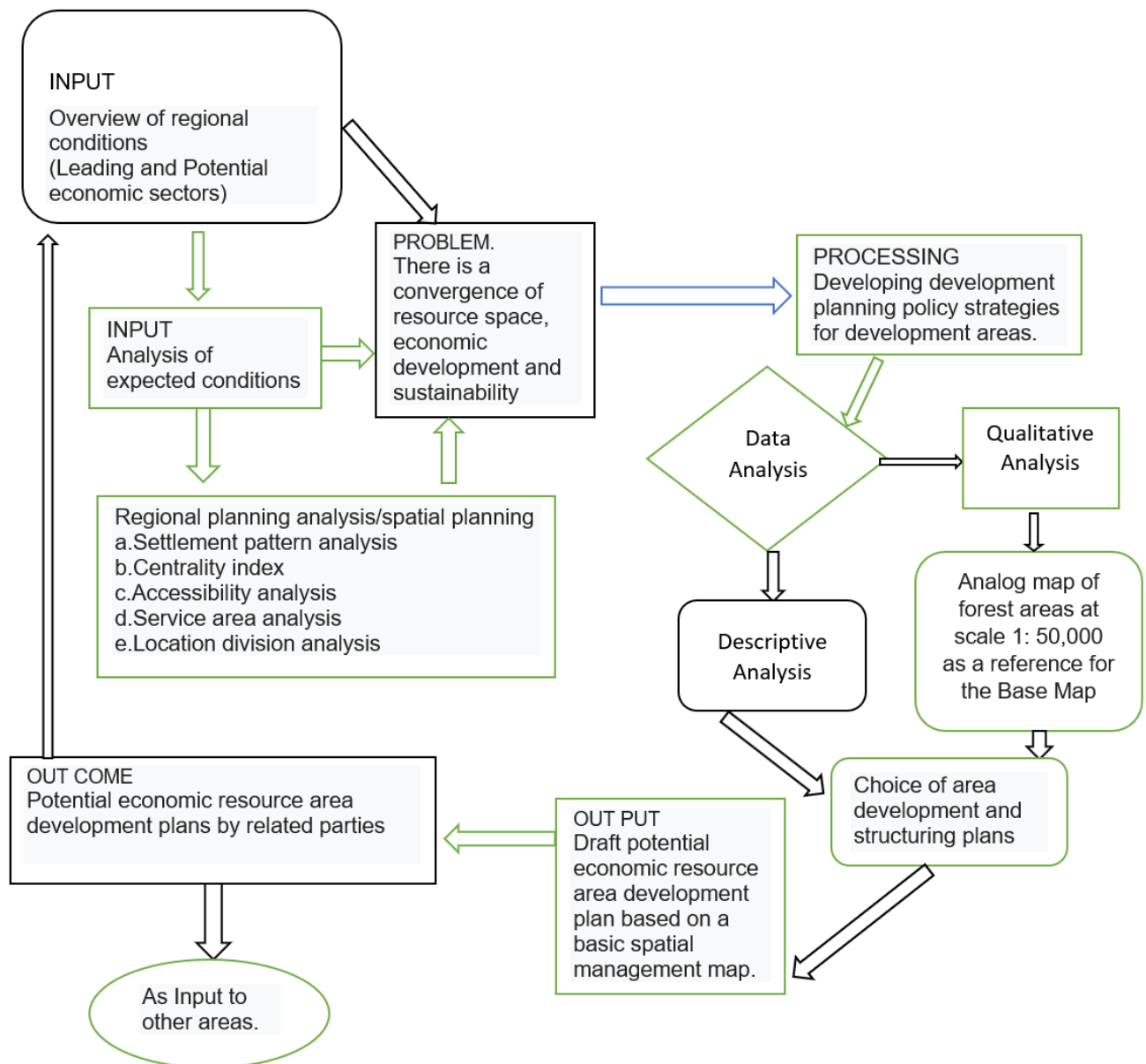
#### *3.1. Research Material*

(1) Convergence of land use and economic resource areas, specifically between the fisheries, livestock, and tourism sectors on Rupat Island, North Rupat Subdistrict, Bengkalis Regency, Riau Province. (2) The concept of spatial planning for land and areas whose uses overlap with areas that do not overlap in function for economic development per sector based on regional maps. (3) Relocation planning is necessary for the utilization of other areas that support superior and potential economic sectors in planning multi-sector development in the future.

This research employs both qualitative and quantitative methods, including a literature study approach, structured field observations, interviews, documentation, mapping, and depiction. An analog map of forest areas at a scale of 1:50,000 from government agencies serves as a basis for repositioning the convergence that occurs, illustrating the spatial relocation of existing land and economic resources, as well as the integrated regional potential for land use planning in the form of research location planning zoning.

#### *3.2. Frame Work for Research Results*

For this reason, in Figure 2. The following is a framework that shows the process for obtaining research results.



**Figure 2.**  
Framework approach for obtaining research results.

The author uses three main process stages, namely: (1) Data acquisition (secondary and primary); (2) determine the potential of leading subsectors based on available data; (3) Zoning of regional planning areas for potential relocation.

All respondents involved in collecting data for this research know that they are contributing to this study, as well as the parties who have provided verbal agreement for extracting data and information. The North Rupert sub-district government staff, where this research was conducted, are aware that we are conducting this research solely for academic purposes. We have shown research permission, and the North Rupert sub-district government office has provided us with data as long as it is needed. We are committed to using the data only for research purposes.

The Institute for Research and Community Service at the University of Riau granted permission to conduct research in the administrative area of North Rupert sub-district and has reviewed the approval of this methodology as an ethical and responsible research protocol.

### 3.3. Research Location

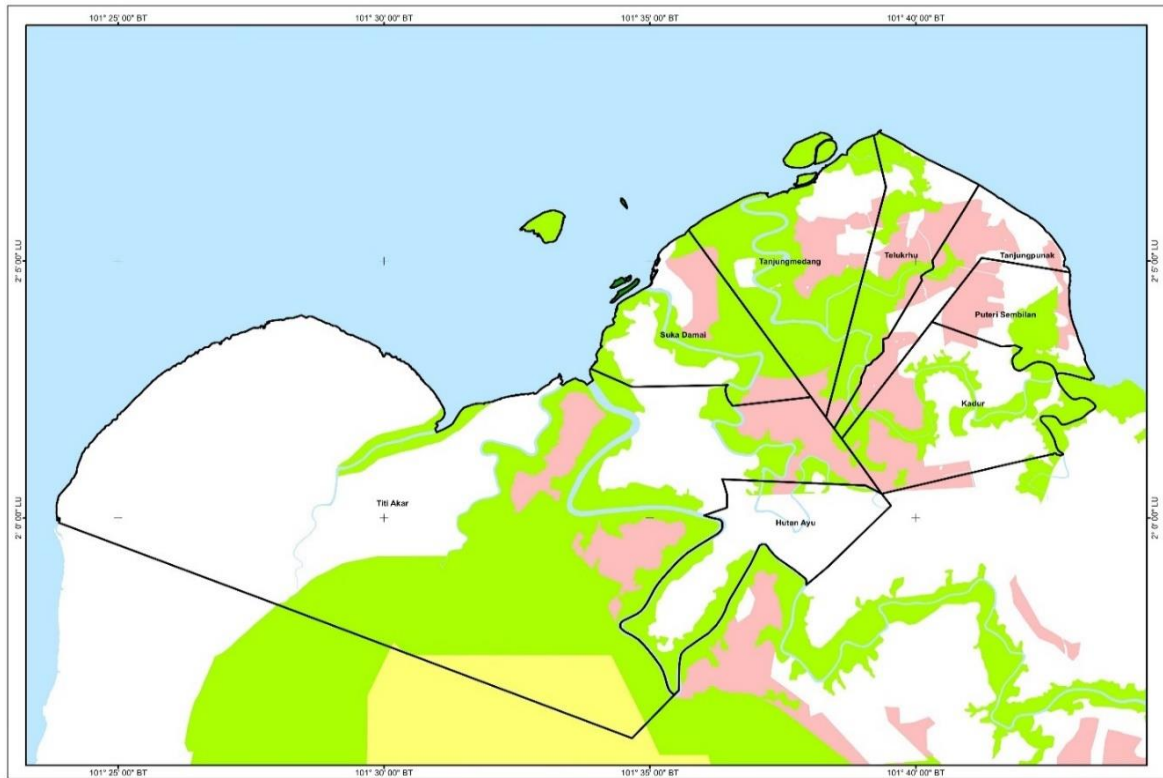
This study was conducted in the Rupert Island area, North Rupert sub-district, Bengkalis District, Riau Province, which is the outermost border island in Riau Province. The area of Rupert Island, North Rupert sub-district, reaches 628.50 km<sup>2</sup> with the following territorial boundaries: to the north, it borders directly on the Malacca Strait; to the south, it borders Rupert District; to the west, it borders directly on the Malacca Strait; and to the east, it is also directly bordered by the Malacca Strait.

### 3.4. Geographically and Topographically

The North Rupert District area is divided into two rivers, namely the Kadur River and the Titi Akar River, and a group of islands. This research area is approximately 0-6 m above sea level (above sea level). At a maximum and minimum



temperature of approximately 28°C. Astronomically, North Rupert District is located at 101°25'43" North Latitude, 101°47'14" North Latitude and 0°55'24" East Longitude, 2°7'41" East Longitude. The North Rupert District is generally located in a coastal/seaside/beach flat area dominated by a slope of -0-3%. The location of this research can be seen in Figure 3. the following.



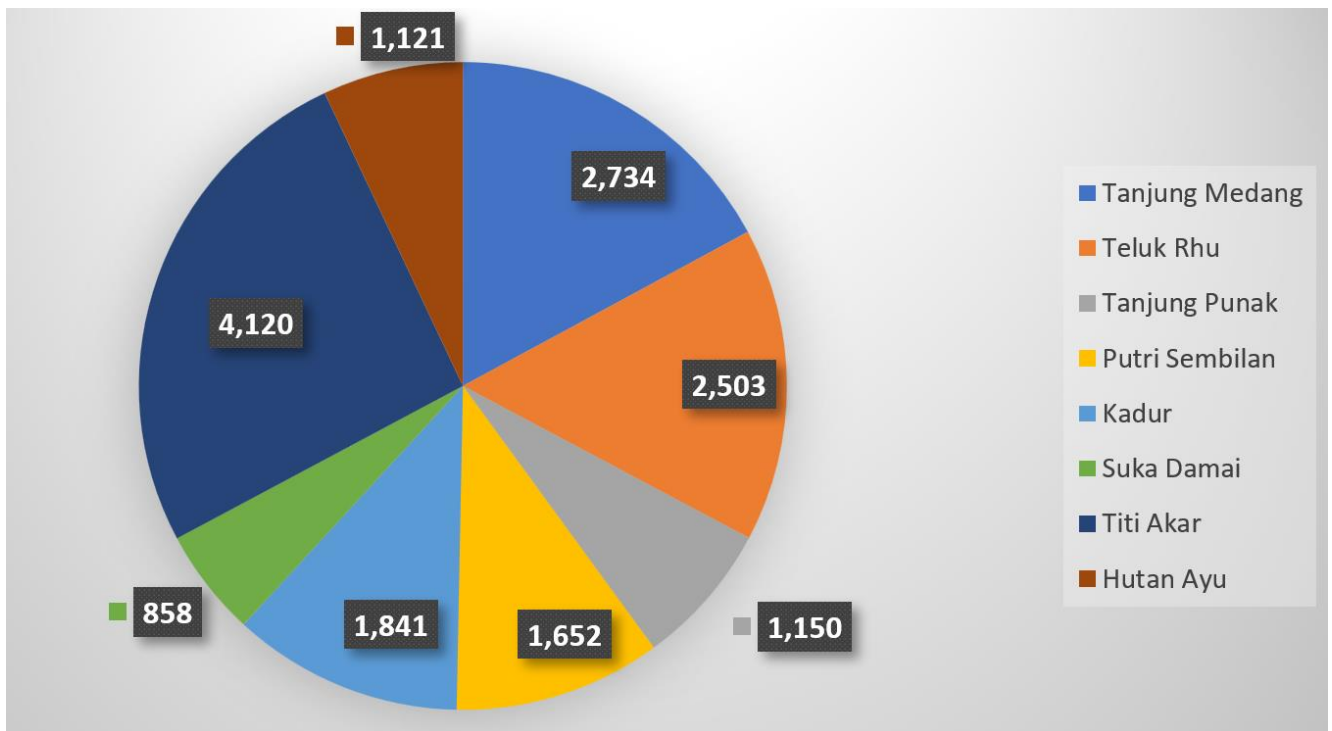
**Figure 3.**  
Is a the map where research on land convergence of potential economic resources and planning their utilization takes place.

Alt Text 1.2. Map of the North Rupert District area, which is one of the administrative areas of the Bengkalis Regency Government, Riau Province. It consists of eight villages, with a concentration in the Tanjung Medang area. In some of the administrative areas of these villages, this research was carried out. North Rupert District borders directly on the waters of the Malacca Strait to the west, east, and north.

## 4. Results and Discussion

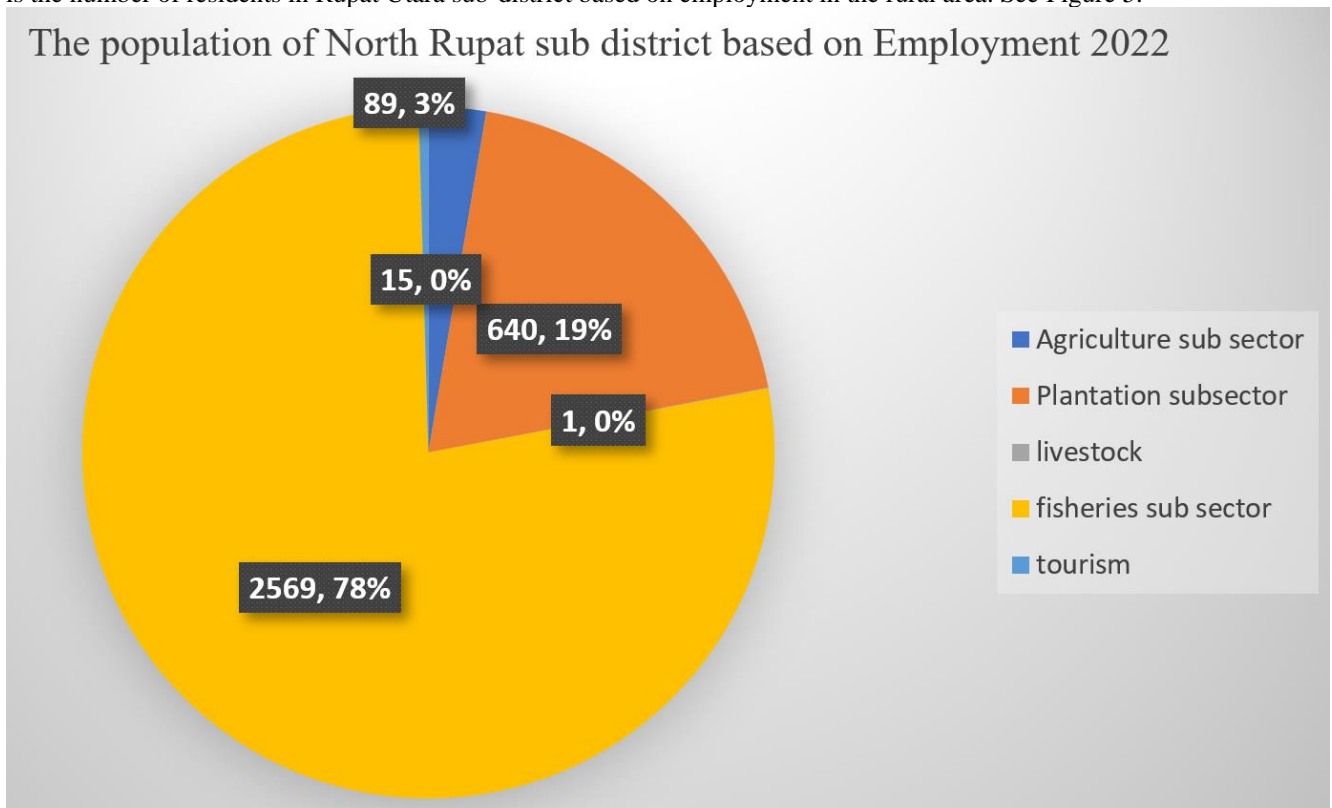
### 4.1. Population and Employment

The population in the research area, based on monographic data from the North Rupert sub-district, is 15,979 people [19]. The following Figure will show the population in rural areas in each Rupert Utara sub-district. See Figure 4.



**Figure 4.**  
Population based on Village name in the Rural area of North Rupert sub-district in 2024.

The population working in the agricultural sub-sector is recorded as 89 people, the population working in the plantation sub-sector is 640 people, the population working in the livestock sub-sector is only 1 person, the population working in the trade and accommodation (tourism) sub-sector is 15 people with the status of inn owner and as inn employee. Figure below is the number of residents in Rupert Utara sub-district based on employment in the rural area. See Figure 5.



**Figure 5.**  
Population in North Rupert sub-district based on employment in rural areas.

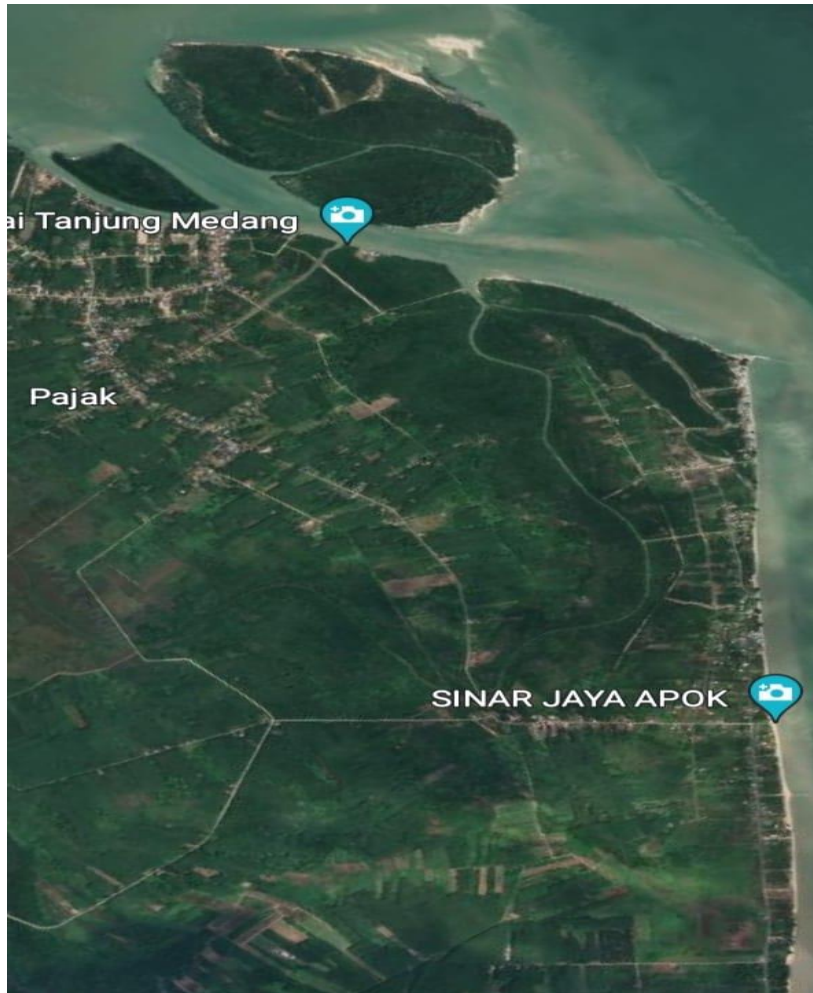
Meanwhile, the largest employment of the population working in the Rupert Utara sub-district is in the fisheries sub-sector, with details consisting of fishing boat owners and fishing boat crew, namely 2,569 people [20].

#### 4.2. Spatial Convergence on Land and Areas between Leading and Potential Economic Sectors

#### 4.2.1. Fishing Area

Rupat Island borders directly on the Melaka Strait; therefore, its fishing area is a marine area in the waters of the Melaka Strait, which has consequences for the implementation of international maritime law. The fishery area for catching marine products from the majority of the population refers to the 12-mile limit, which is still included in the territorial waters of a country (Indonesia).

The fishing area in the North Rupert sub-district includes several coastal fishing areas, which stretch and curve, where there are several villages in the North Rupert sub-district as coastal fisheries areas, such as Titi Akar village, which is on the west coast. Tanjung Medang village is located on the northern coast, and Teluk Rhu village, Tanjung Punak village, Putri Sembilan village, and Kadur village are in the east coast area towards the south, which is known as a coastal fishing village. See Figure 6. The following is a map of the appearance of populated and fishing areas in the North Rupert sub-district.



**Figure 6.**  
Appearance of the North Rupert coastal fishing area.

Alt Text 1.3. The appearance of part of the northern area of Rupert Utara sub-district (aerial photo from satellite, which is secondary data), which looks very green from its land cover.

In general, traditional fishermen in the North Rupert subdistrict are dominated by those who have limited capital; they are only able to go to sea at a distance of approximately 2 miles or as far as (1 mile = 1.609 km). Therefore, fishermen can only control the area and space available; they can only reach a distance of two miles into the deep sea, where this distance is calculated from the shoreline.

With only the ability to navigate the sea as far as 2 miles, this indicates that traditional fishermen are not fully able to explore the potential fisheries space in this region; they are only able to utilize the existing space, amounting to 16.6% of the available fishing area. Consequently, the maximum production achievements obtained are limited. Thus, efforts to increase the economic income of fishing households will hinder improvements in their welfare.

Fisheries production originating from capture fisheries in the ocean was 311.76 tons per year. The land and inland fisheries area is a pond area adjacent to the shoreline, serving as a beach tourism space in the North Rupert sub-district, with a production of approximately 90.27 tons per year.



#### **4.2.2. Beach Tourism Area, Residential Housing and Livestock Rearing**

##### **4.2.2.1. Coastal Tourism Area**

There are several villages in the North Rupert sub-district, which are located on land and in the eastern coastal area, which have direct access to fine sandy beaches as tourist destinations, including the beach in Tanjung Medang Village, the beach in Teluk Rhu Village, Tanjung Punak Village, and Kadur Village.

The Bengkalis district government has a government-owned coastal tourism development area of 20,000 square meters. However, the coastal tourism development land owned by the regional government intersects and borders the inland fisheries pond area directly.

Traveling in tourist areas is supposed to be a breath of fresh air, but in reality, it is actually breathing in evaporated fishpond waste. The development of tourism areas also conflicts with the land owned by people who have lived in these areas for a long time. In fact, they can also take advantage of tourism business opportunities, but they appear disorganized and unorganized.

##### **4.2.2.2. Residential and Livestock Grazing Areas**

Apart from cattle, people in North Rupert sub-district also have goats. In general, goat ownership is evenly distributed in almost all villages in North Rupert sub-district. Goat farming does not require the support of large grazing land as ideally as the land required by cattle if the cattle are released into the wild. Institutionally, goat farming community groups have been formed in each village of North Rupert sub-district. However, the cattle farming group has not been formed. Not all villages in the North Rupert sub-district have residents who raise cattle and goats. Cattle are mostly found in the Teluk Rhu village area during the day, which is precisely the time when tourists visit. Even though the number of tourists mostly comes from the same province, some herds of cattle also wander around in green open spaces along the coast, which is also the environment where the residents live. They are owners of livestock and residents who do not own them. From the economic point of view of rural households, domesticated livestock, such as cows, are life savers that continue to grow economically, where the weight growth of livestock is positively correlated with their economic value. This means that livestock is important for the economic future of rural communities. The integration of coastal tourist areas, residential areas and local cattle grazing areas in one area can be seen in Figure 7. following.

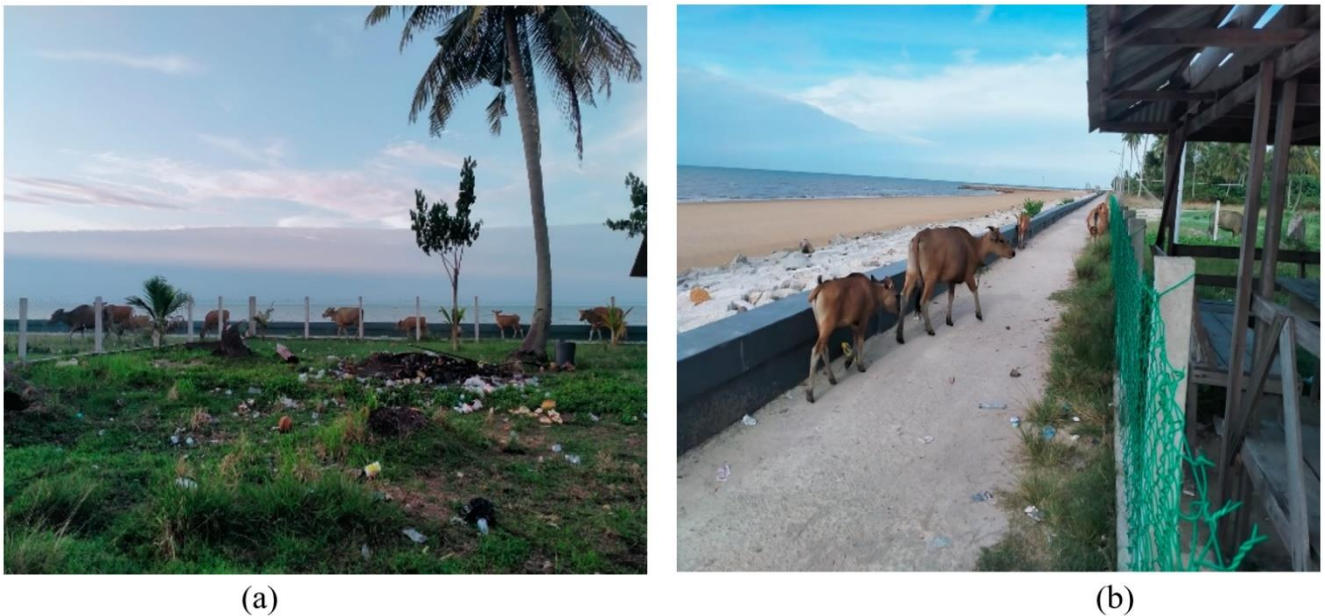


**Figure 7.**

View of the coastal tourism area, residential areas and local cattle grazing areas converging on each other in the Teluk Rhu Village area, North Rupert subdistrict.

Alt Text 1.4. The appearance of part of the coastal tourism area located in Teluk Rhu village, Rupert Utara sub-district (photo taken by the research team is primary data). The convergence of the local residential area and the grass where the residents' cattle are moored, as well as traditional fishing boats bordering the coastal tourism area that has been given a sea wave retaining wall. This is a manifestation of the convergence of superior and potential economic opportunities in the research area.

And then, the following Figure 8 (a,b) shows the appearance of local community cattle roaming along the tourist beach in the Teluk Rhu Village area, North Rupert District.



**Figure 8.**  
(a, b) below shows a herd of cattle while looking for food along the coast of Teluk Rhu Village, North Rupert Sub-District.

Alt Text 1.5 (a,b) Appearance of some herds of wild cattle in the morning (image b) and returning in the evening (image a) after looking for grass along the beach. This is a coastal tourism area located in Teluk Rhu village, North Rupert sub-district (photos taken by the research team are primary data). The convergence of the cattle area owned by residents and the charming coastal tourism area in the research area is visible.

Raising these cows naturally by releasing them wild in the coastal area causes livestock manure to be scattered along the coast of Teluk Rhu Village. Allowing the development of two economic sectors in one area and space to overlap, such as integrating cattle farming with coastal tourism areas, will have long-term negative impacts on the two potential sectors in this region.

#### 4.2.3. The Dilemma of Convergence of the Rural People's Economic Sector

It is true that there has been a convergent use of space on the land and areas on the coast of Teluk Rhu Village. The fisheries area, as an area for catching marine products on the North Rupert beach, starts from the shoreline towards the deep sea for 12 miles, which curves from the west coast towards the North and to the South on the right side of the northern part of Rupert Island.

In the same area, it is also an area for the growth and development of potential coastal tourism economic activities in the future. Furthermore, the land fishery pond area borders the coastline and borders development land with tourist areas, such as those in the villages of Tanjung Medang, Tanjung Punak, and others.

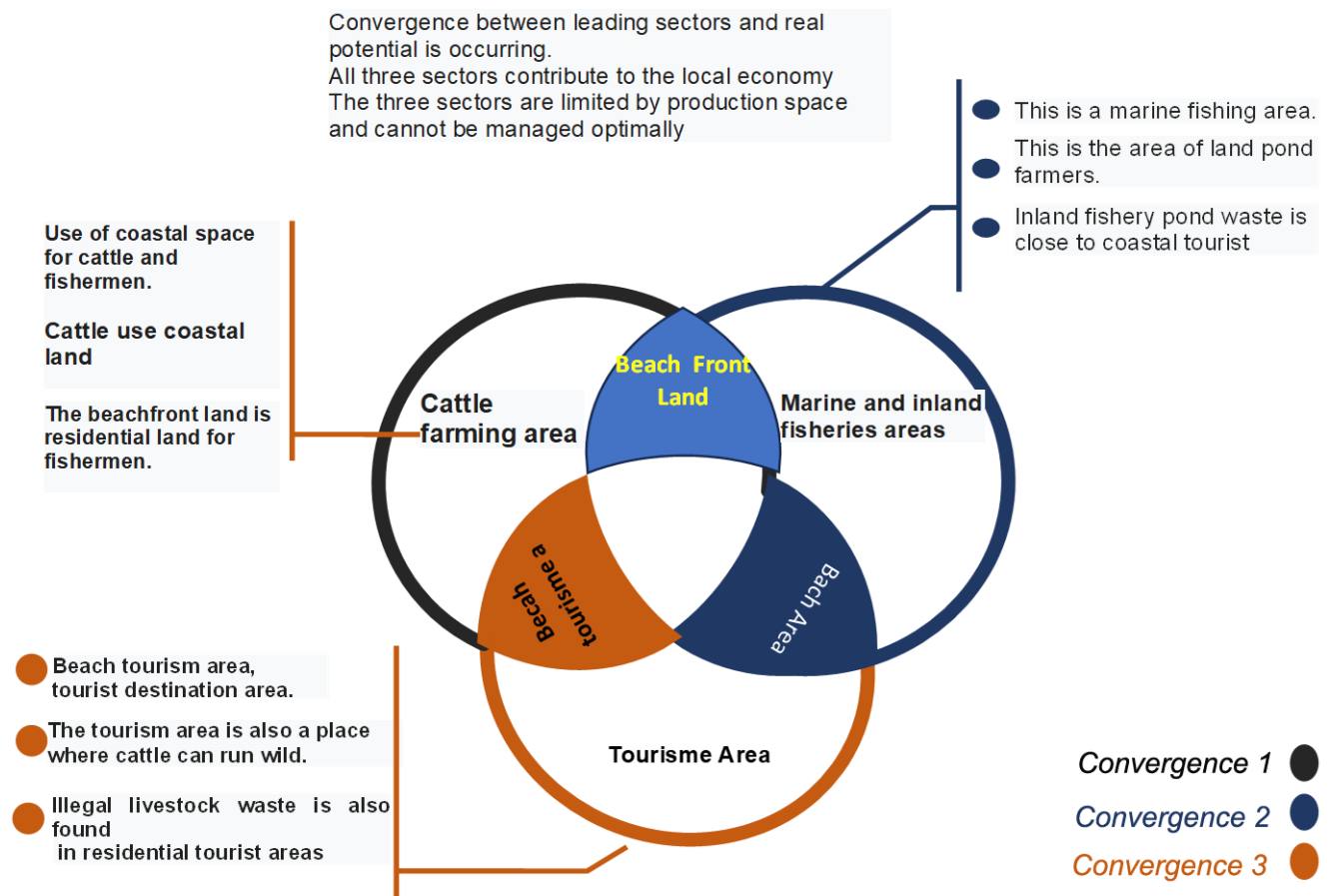
Apart from being a tourist attraction, the area is also a grazing area for cattle belonging to the local community, which has been integrated with residential areas or residences for residents in coastal rural communities since ancient times. As in rural areas in general, livestock pens are combined with residential areas and livestock grasslands.

Thus, space on land (land on the coast) is used as a mooring for fishing boats for the marine fisheries sector, and land close to the coast is also a location for developing land fisheries (ponds). In this space, the development of the coastal tourism sector is also taking place. Apart from that, in the same space, there are local residents' settlements, and it is also adjacent to their farms. Areas and spaces on the coast have been used simultaneously between development subsectors and have overlapping or intersecting functions with each other. Thus, the existing conditions on one piece of land and even space have several functions, all of which can make an economic contribution to local residents but are not yet optimal.

In general, land convergence includes aspects of land control, land control and utilization of space and areas.

From the aspect of land control, land in rural areas here is generally controlled by the local community who have inhabited it for generations since hundreds of years ago. Then from the aspect of land ownership, it was found that some of the land along the coast in Teluk Rhu Village, the beach in Tanjung Punak Village, the beach in Putri Sembilan Village had transferred ownership to residents who did not live or were domiciled in Rupert Utara District or were not local residents even though they were in a legal sale and purchase method. Meanwhile, from the aspect of land utilization, where the utilization of existing land, especially for the interests of developing coastal tourism as stated in the Bengkalis Regency regional regulation concerning the master plan for regional tourism development, has not been fully supported by regulations or provisions for the utilization of coastal land in the spatial planning document for its use.

In Figure 9 the convergence point is depicted between land in the fisheries sector, land in the residential and livestock sectors, as well as land for tourism development, especially beach tourism.



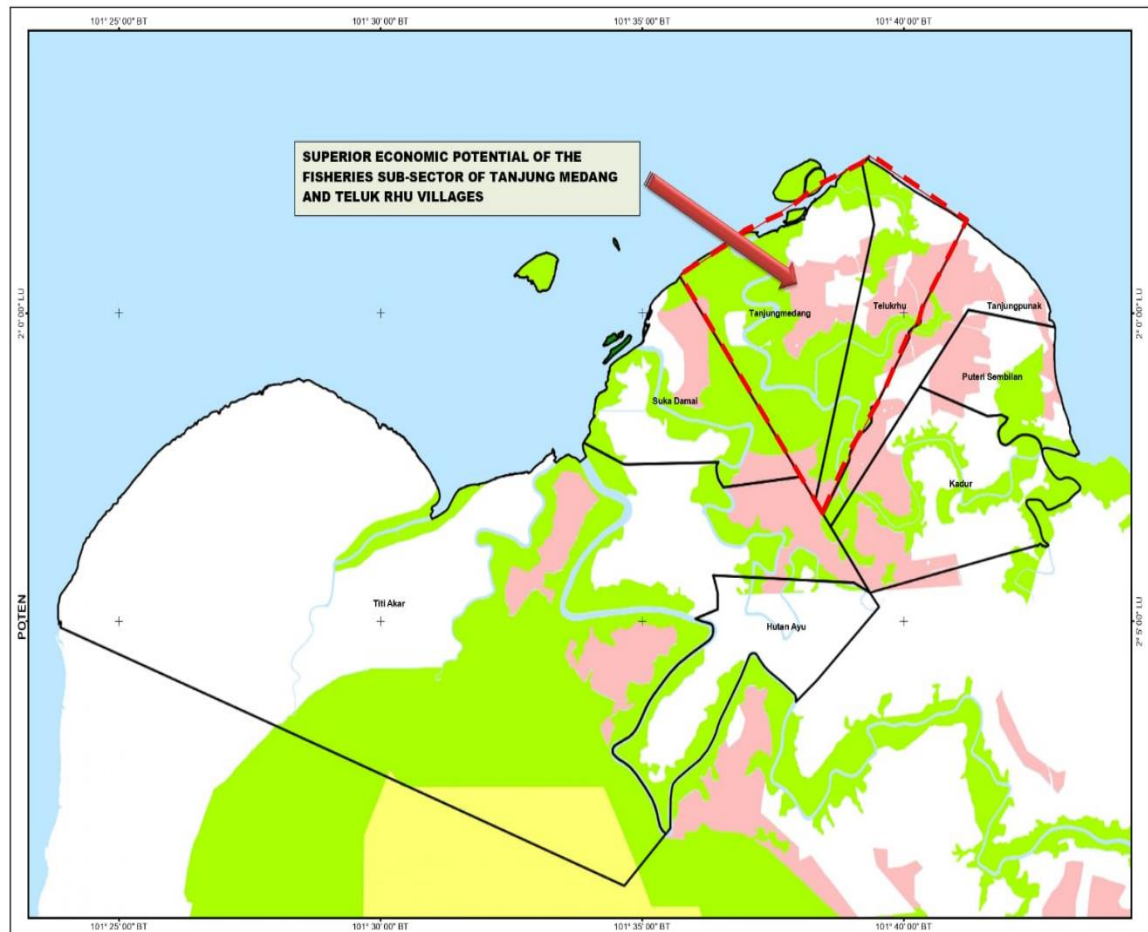
**Figure 9.**

The shape of a circle of convergence of leading and potential economic sectors in the research area which is dominated by coastal land in North Rupert sub district.

#### 4.3. The Idea of Converging Spatial Planning into A Functional Area Without Overlapping Functions for Economic Development Between Sectors.

##### 4.3.1. Inland Fisheries Area (Pond Area)

Mastery of capture fisheries at sea can be maximized by increasing fishing resources through fishermen's fishing equipment technology. Meanwhile, the treatment of inland fishing pond areas that overlap with tourism development land in Tanjung Lapin and along the coast of Rhu Bay can be relocated as in Figure 10. following.



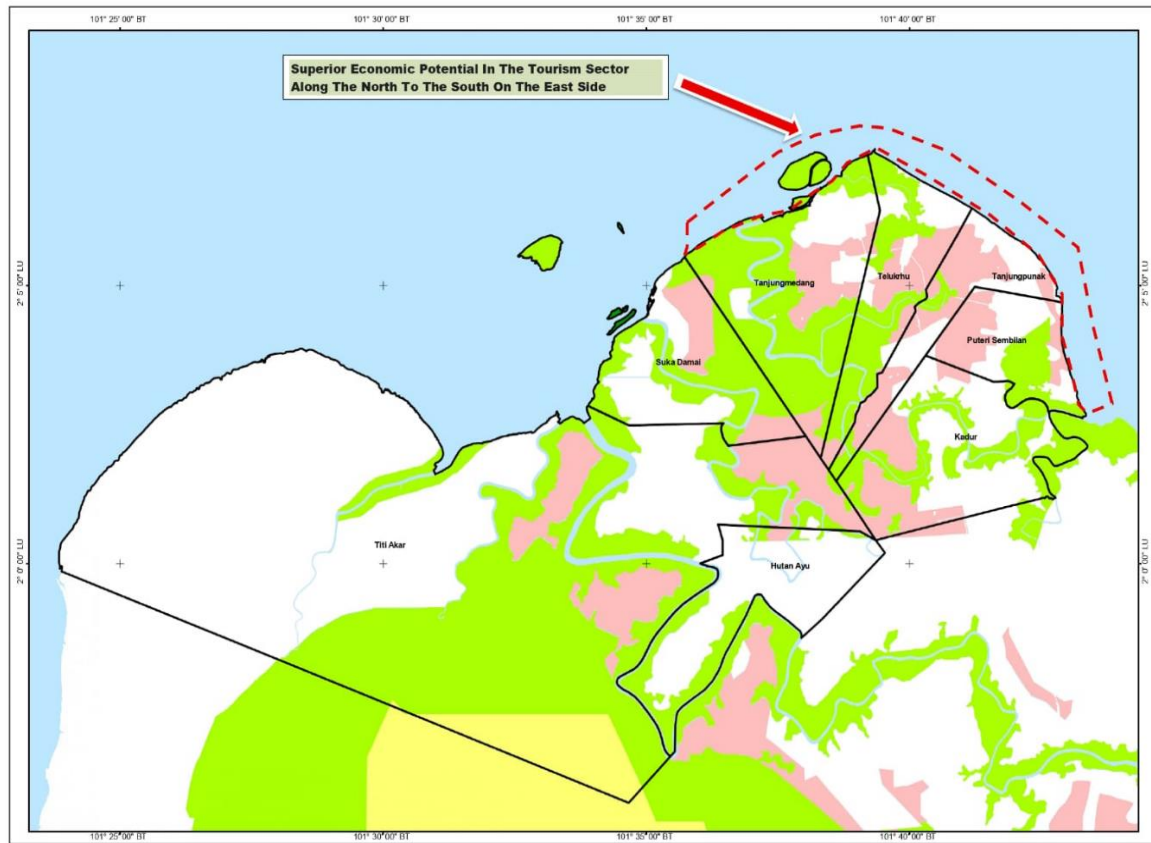
**Figure 10.**  
Recommended fisheries development areas.

Alt Text Figure 10. Teluk Rhu Village is an area that can be developed as a fishery zone for traditional fishermen by maximizing the management of marine capture fisheries. Meanwhile, in the dotted area image, the Tanjung Medang village area can be developed for traditional fishermen who cannot go to sea, as well as for inland fishery development areas such as fish ponds.

#### 4.3.2. Relocation of Coastal Community Livestock Grazing Land from the Coastal Tourism Area

Utilization of this space is important for the development of the Pesona Beach tourist area in Teluk Rhu Village as well as the beaches in Tanjung Punak Village and Kadur Village which are integrated with the local residents' cattle mooring areas. The beach tourism sector in a number of villages in the north of Rupert Island is a potential economic resource in the future, along with the labor absorption capacity of the rural tourism sector as in the UK and other developed European countries. Figure 11. The following is a map of the existing area as a basis for planning the development of beach tourism in North Rupert District.





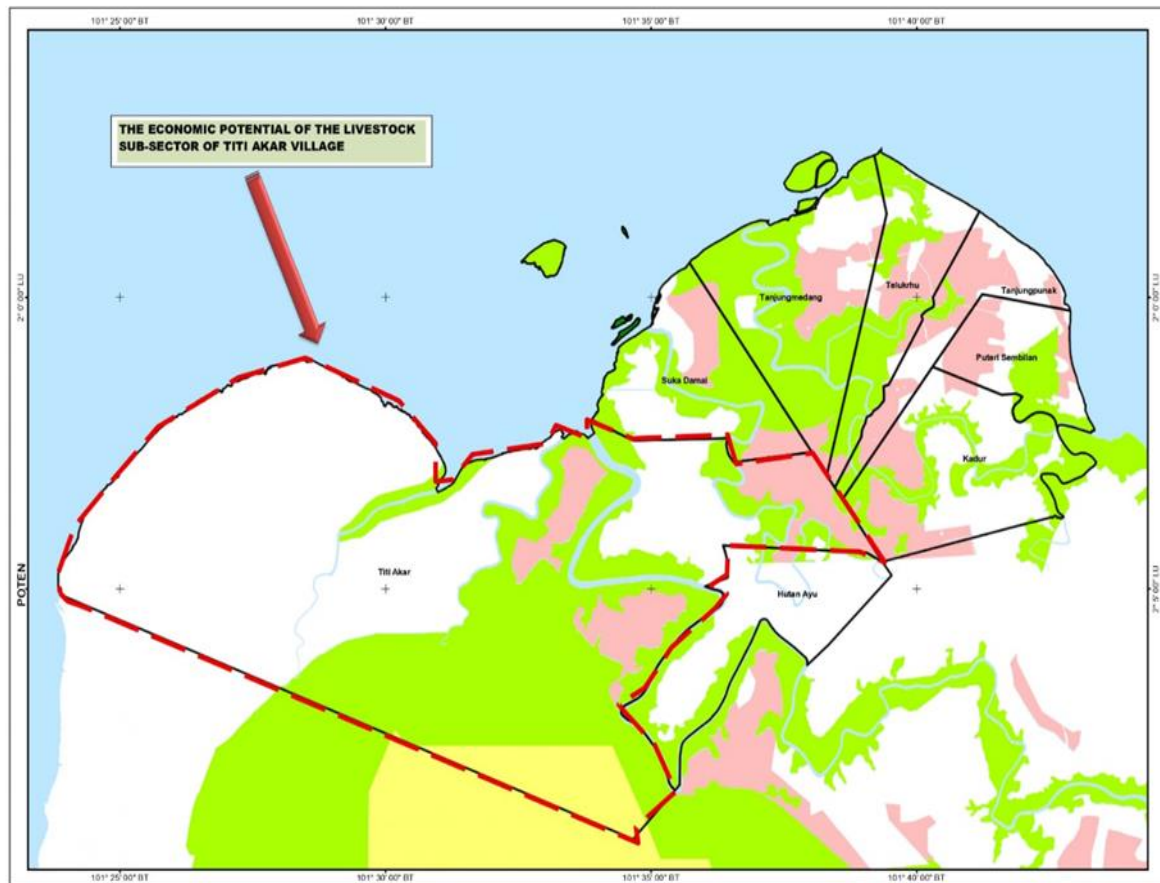
**Figure 11.**  
Map of the permanent area for planning beach tourism development in North Rupat District.

Alt Text Figure 11 . Space that must be maintained as a coastal tourism area, especially on Pesona Beach in Teluk Rhu Village and the beaches in Tanjung Punak Village and Kadur Village as a coastal tourism area and source of future economic for residents.

The fisheries economic sector, the agricultural economic sector, and even the livestock economic sector support each other at the output level with the development of coastal tourism. The results and production of the sectors and sub-sectors mentioned above are the main support for the development of the tourism sector, which also supports long-term rural development.

For this reason, space on land and areas for the relocation of the livestock economic sector can be integrated with community plantations and agricultural areas in Hutan Ayu Village and Titi Akar Village, which in this area is quite adequate compared to the space capacity in the North Rupat sub-district. As shown in Figure 12. following.





**Figure 12.**

Map of the planning area for livestock development as a result of recommendations from the ongoing research team in North Rupert District.

Alt Text Figure 12. It is a space on land and relocation areas for livestock, plantations and agriculture that can be integrated. Hutan Ayu Village, Titi Akar Village are quite adequate and can be considered as an integrated area in the research area.

## 5. Conclusions and Recommendations

Land convergence in space and area between the leading economic sectors of the region and the potential economic sectors in the border areas of North Rupert sub-district has occurred, which has grown culturally (developed from within) and structurally as an external force present in the lives of its people.

The fisheries sector has become a leading industry, but to have an impact on the welfare of its population by increasing and benefiting from fisheries sector production, it requires support from all parties and advocacy for the hard work of fishermen's groups by expanding the cruising range of traditional fishing vessels to the deep sea while still maximizing the capture of fisheries in the 12 nautical mile territorial sea area available.

In addition, it also intensifies alternative coastal fisheries areas by relocating inland fisheries areas such as aquaculture ponds that were originally adjacent to potential coastal tourism areas to other, looser areas.

The existence of livestock owned by residents who are currently also grazing in coastal tourism areas and residential areas is recommended to be integrated with existing plantation areas, both oil palm plantations and around people's rubber plantations, so that sufficient feed is available and does not interfere with the planning of coastal tourism development.

The development of Rupert Island, especially the North Rupert District as a coastal tourism area, is expected to be based on the Bengkalis Regency Tourism Development Master Plan for 2021-2035 or on the latest adjustments in the field.

For this reason, the planning map is geographic information that must also be continuously updated by considering internal and external limiting factors, as well as factors that cannot be controlled, because social, economic, and technological life is moving rapidly. This anticipation aims to reduce the convergence of different spaces and areas in the North Rupert border island area in the future.

The idea of reducing the convergence of space and areas of superior and potential economic sectors is the substance of physical planning and land economic planning, namely land control, land ownership, and utilization or use of land, which will have implications for the emergence of new competitive economic concentration areas on North Rupert Island for the physical and economic growth of the future welfare of its residents.

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