



The Development of Bakauheni's Area such as A Part of Economic and Tourism Strategic Planning

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Abstract. One of strategic point of transportation development is transportation nodes such as ports in logistic network system. Currently, the port not only as a place for loading and unloading but also as a central point for the development of the surrounding area. Especially in multimode transportation this node can't be separated from others transportation such as road transportation. Bakauheni is the gateway for movement from Java to Sumatra and vice versa, becoming one of the busiest ports in Indonesia. Same as the other nodes either ports, airport and terminals which has function not only hub or place of stop and loading/unloading but also as a part of surrounding area development. The potential of the area around the Bakauheni port as a strategic area for tourism and other economic activities is an opportunity to develop the Bakauheni strategic area. This development planning being supported by central and regional government policies in strategic regional planning and supported by transportation accessibility. Future challenges are infrastructure funding, better transportation connectivity, integration with other sector development plans and continuity of construction planning and implementation. Readiness of environmental impact studies and community development is an important part as well as disaster mitigation.

Keywords: Bakauheni, Economic, Tourism Strategic.

1 Introduction

1.1 Bakauheni Ports Description

Bakauheni port started operating in May 1981. With an area of 79.32 Ha, this port consists of 6 regular piers and 1 executive pier. Managed by ASDP, crossing operational Java-Sumatera served by 70 vessels, consisting of 8 vessels owned by ASDP and the others owned by private sector with 24 hours operation. The interregional route Bakauheni-Merak crossing is 15 miles long, with details of each pier as follows [3,6]:

- Pier I and II port time 60 minutes and sailing time 120 minutes.
- Pier III, IV, V and VI port time 72minutes and sailing time 108 minutes.
- Executive Pier port time 60 minutes and sailing time 90 minutes.

Transportation both passenger (by walk) and vehicle (motorcycle, private vehicle, pick up, bus and truck) served by vending machine (10 regular and 6 executive) to get

ticketing and there are 13 tollgates, which consist of 8 regular (1 for motorcycle and 7 for vehicle) and 5 executives to entering this port.

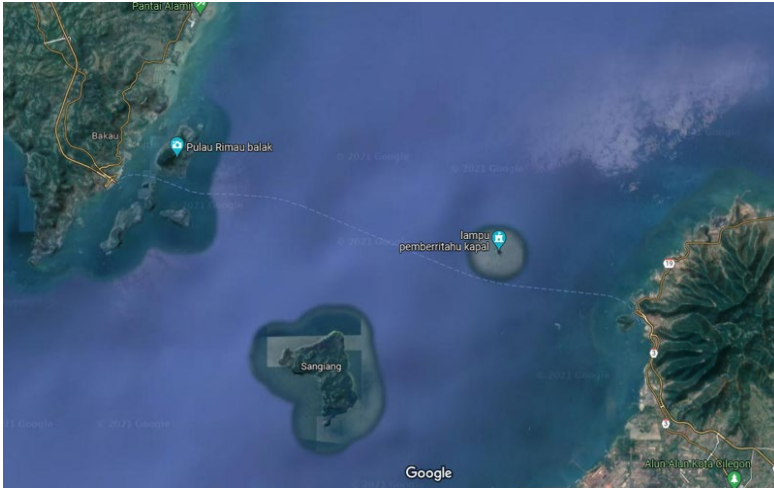


Fig. 1. The Distance of Bakauheni-Merak.



Fig. 2. The Layout of Piers in Bakauheni Ports.

Bakauheni-Merak crossing is served by a ro-ro ferry. Every day, hundreds of ferry trips serve the flow of passengers and vehicles to and from Sumatra Island via Bakauheni Port in Lampung. To support the services, there are several facilities provided by PT. ASDP, including:

1. Pier
2. Parking lot
3. Passenger Counter Facilities and Bus Terminal Facilities
4. Other Supporting Facilities

1.2 Bakauheni Ports Operational

Bakauheni port is the interface of multimodal transportation and as an entry and exit gateway through the Sunda Strait. Bakauheni Harbor will play an important role in the future compared to the Makasar Strait and Lombok Strait in international shipping routes especially if the Malacca Strait in "saturated" condition due to increased trips. So far, the Strait of Malacca has played an important role as a world trade route from the Indian Ocean to the Pacific Ocean with 60,000 ships per year. With the growth of ship volume and dimensions in the next year, an alternative to the Malacca Strait is needed and the next option is the Sunda Strait where Bakauheni Port is part of the crossing transportation node.

Currently there are 7 piers at Bakauheni Harbor, which the executive pier was put into operation on December 19, 2018, and built near Pier VII with 38,709 m² area and a smart building concept. For the express crossing is served by 7 ships with 17 trips and the number of vehicles 1673 units can be transported on weekdays while at certain times such as holidays are served by 9 ships with 22 trips, where the number of vehicles available 1825 units were transported. The highest daily volume according to data at May 10, 2021 were 114 trips with 1,787 motorcycles, 3,475 private vehicles, 277 buses and 3,584 trucks. The total number of vehicles per day is 9,123 units. In 2021, there are 63 ships serving the Bakauheni-Merak crossing, the average age of the ships 4-17 years as much as 10%, 18-30 years as much as 16% and 31-52 years as much as 74%. The minimum capacity of the ship is 45 units, and the maximum is 250 units [5].

One measure of port performance is the level of usage or BOR (Berth Occupancy Ratio) is the comparison between the number of ships berthed and the number capacity. On the other hand, another performance measure is BIT (Berth Idle Time) which describes the amount of time the dock is empty because it is not in use by the ship to loading and unloading, so it is stated that $BIT = 100\% - BOR$. International standards state a BOR value of 50% for ports that have 2 berths, 60% for ports that have 3 to 4 berths, 65% for ports that have 5 docks and 70% for ports that have 6 to 10 docks. From data in 2021 BOR at the executive pier is 76.28%, so with 7 piers currently there are enough supplies at Bakauheni Port. The BIT value of 23.72% describes the number of empty docks because they are not used for loading and unloading.

1.3 Bakauheni Ports Accessibility

There is two type of road network system to reach Bakauheni Port from Bandar Lampung or other province in Sumatera, Trans Sumatera Toll Road and Trans Sumatera Highway (consist of 4 parts namely jalan raya lintas barat/jalinbar, jalan raya lintas tengah/jalinteng, jalan raya lintas timur/jalintim and jalan raya lintas pantai timur). The Trans Sumatra toll road cuts travel time from Bandar Lampung (Kotabaru Toll Gate) to Bakauheni (South Bakauheni Toll Gate) along 79.9 km for 1 hour compared to the 86.29 km long Sumatra route for 2 to 3 hours. Meanwhile, the toll road from Bandar Lampung to Palembang with a distance of 371.5 km only 4 to 5 hours compared with Sumatera highway 8 to 9 hours and via train 10 to 12 hours.

The air mode from Raden Inten II Airport currently only serves flight routes to Jakarta and Krui. Lampung - Jakarta route to both Soekarno Hatta Airport and Halim Airport Perdanakusuma is only a 40 to 1 hour journey. Currently the airplane service is still limited, namely Garuda, Airasia and Lion. Whereas Flights to Taufik Kemas Airport in

Krui are served by Susi Air. Previously, flights from Lampung could be direct or go directly to Palembang, Medan, Yogyakarta and Semarang. The airlines serving also vary from Garuda, Batik Air, Sriwijaya, Citylink, Nam Air, Lion Air and Wings Air.

The variants of modes such as railway and travel from Palembang also bus from others province in Sumatera. The railway network currently only from Palembang to Tanjung Karang Lampung. The plan regarding the construction of a railway line to Bakauheni port initiated by the Ministry of Transportation of the Directorate General of Railways is expected to be implemented so as to reduce traffic load on the road. With the plan to build the Bakauheni port train line, it will provide a choice of a new, more competitive mode for people heading to or from Java Island through the Bakauheni port.

Distance between Tanjung Karang Station and Kertapati Station is 388 km. There is one type of economy train, namely Rajabasa Train, departing from Lampung at 08.30 with 530 passenger seats at a price of Rp. 35,000,-. Apart from trains, routes Lampung-Palembang is also served by travel with departures at 09.00, 14.00 and 19.00 via the Trans Sumatra Toll Road, with a ticket price of Rp. 250,000,-

Both of national roads and toll roads, end at the node Bakauheni ferry port will then be connected to the port Merak via the Sunda Strait. The crossing transportation using Ro-Ro (Roll on Roll off) ships, both regular and executive.

2 Potential Economic of Lampung Province

The potential of Lampung is so very extensive, from culture, agriculture, to tourism. Given the wealth of Lampung's potential, especially tourism sites, it could emerge as one of the main tourism destinations in the country. Lampung can be the main choice for traveling. If we look at the number of tourist attractions around the Greater Jakarta area, Lampung can serve as an alternative. With a distance (that can be covered in) only 2.5 hours, this is the closest tourist destination from the capital city.

Out of fifteen cities/regencies in Lampung province, four of them have the highest contribution to the gross regional domestic product (GRDP), namely Bandar Lampung city, South Lampung regency, West Lampung regency, and North Lampung regency. Furthermore, those with the highest population includes Central Lampung regency, Bandar Lampung, South Lampung regency and South Lampung Regency.

Location quotient (LQ) is used to identify the basic commodity or sectors that have similar potential with other areas in a region. LQ value over one [1] means the sector needs to be supported to generate more benefits to the local province. Nine economic sectors were investigated from agriculture; mining and quarrying; processing industry; electricity, gas, and water; building; trading, hotel, and restaurants; transport and communication; finance and retail; and services.

In Lampung province, Bandar Lampung city has most economic sectors exclude agriculture and mining and quarrying. Followed by Lampung Selatan regency and Lampung Utara regency with five featured economic sectors. (Berawi, 2018)

2.1 Potential Demand using Bakauheni Port

The potential demand referred to in this research is the traffic volume crossings from bakauheni port that could become part of the market for the development of the area around Bakauheni. The data shown in 2021 is below.

Table 1. Volume of Vehicle crossing Bakauheni-Merak Period 2017-2021.

No	Year	Motorcycle	Private vehicle	Bus	Truck
1	2017	364,381	606,830	78,755	789,063
2	2018	334,919	609,312	76,313	906,561
3	2019	302,640	567,292	76,122	927,607
4	2020	205,527	386,372	49,526	876,697
5	2021	155,980	357,430	49,124	888,624

Source: Verdianto, 2022

Characteristics of passengers at Bakauheni port from a survey conducted in 2023 include: the majority of travel purpose for work were 33 respondents. Then, 27 respondents intended to travel for family, 25 respondents intended to travel for recreation/tourism, 12 respondents intended to travel to school/college, and 3 respondents intended to travel for business.

Based on the results of the probability percentage values for each mode of transportation, the probability percentage values obtained for executive ships were 61.15% and regular ships were 38.85%. From the assessments given by passengers and from the total probability percentages, the regular ship must increase public interest so that it can be chosen as a transportation mode of choice, such as the level of service and travel time. As well as always improving capabilities, facilities, infrastructure and services so that in the future the regular ship will be in accordance with the community's criteria and expectations.

2.2 The Potential of Bakauheni Surrounding Area

South Lampung Regency is a National Strategic Area (KSN) which includes Sunda Strait and one of its developments is to synergize KSN with public use, conservation and sea lanes (international and national shipping lanes). The Bakauheni area is also included in the strategic area of Lampung Province and for economic interests. In the RTRW of South Lampung Regency, Bakauheni District is included in the PKWp with the main function being the center and distribution, also the main function of tourism. In the 2009-2029 Lampung RTRWP, it is stated that Bakauheni Port is being developed to support the development of regional economic activities with services mobility of people and goods as well as fisheries and tourism needs. This port has an important role in sea transportation and the distribution of goods and services between the islands of Java and Sumatra and makes Bakauheni Port one of the busiest ports in Indonesia. Ba-

kauheni Port has the main function of serving transportation crossings with service coverage between provinces. With the port Bakauheni and supported by the strategic location of Lampung Province makes it a Province Lampung is the gateway to Sumatra Island as well as a place of abundance and transit area economic activities between Java and Sumatra.

Good management of its tourism potential could bring more tourists to Lampung. The management of this potential also needs to be done properly, such as the Bakauheni Harbor city development plan, which can help attract tourist arrivals to Lampung. The integrated tourism area "Bakauheni Harbor City", South Lampung will be built Krakatau Park or a kind of Fantasy World in Jakarta. Lampung's emergence as the main tourist destination could boost the regional economy, which is still growing. Lampung's high economic growth can be realized by making it become the main tourist destination, as it can further encourage economic growth. Bakauheni area project is a construction for Bakauheni City that is near the port, but it can also be a tourism destination.

2.3 The Tourism Potential

Tourism development is a vital sector which government must take obey because it can be supporting variable to achieving development goals. Lampung is one of the provinces in Indonesia that has natural and cultural potential that can be developed as a tourist attraction, has beautiful and cool nature, is surrounded by green hills and mountains and has a diversity of cultural customs, based on the potential that exists in each district in Lampung Province.

Lampung province has more than 150 tourist sites, but most of them are yet to be optimally managed. The coastal areas in Lampungs Barat district offer good surfing opportunities for tourists and infrastructure facilities in the province need to be improved accordingly. With its white sandy beaches, pristine waterfalls, and lush nature preserves, Lampung is one of the many provinces in Indonesia that holds great appeal for international tourists. The Elephant Rehabilitation Center in Way Kambas, where wild, rampaging elephants are domesticated and taught useful skills, also offers a special attraction for visitors.

Lampung is very famous across the world because of the Krakatau Island volcano, one of the most fascinating sites globally; and for agricultural commodities, such as pepper and coffee. The Krakatau islands are accessible both from Jakarta through the province of Banten, and from Bandarlampung, the capital of the Lampung province. The Krakatau islands are comprised of three small and beautiful islands: Rakata, Panjang, and Serdang. Shaped in different ways by the impact and eruption of the Krakatau volcano eons ago, the beautiful beaches of Merak Belantung, Pasir Putih, and a tourist resort near the Lalaan waterfall and Mount Rajabasa are also worth visiting.

The rapid expansion of the tourism sector in Lampung is expected to provide viable opportunities for sustainable development and poverty reduction [4]. infrastructure and other supporting facilities on the islands should be improved in order to facilitate tourists' journey to their desired destinations in Lampung.

Lack of awareness and response of local communities to the potential of tourism objects that can be developed, such as the potential for natural tourism, agrotourism,

cultural tourism potential, potential facilities and infrastructure, to improve the community's economy and the lack of stakeholder roles in tourism development. Good roads and transportation, electricity, and security must be improved so that the tourists visiting these spots can enjoy the experience and feel at home.

As stated by Jiarui [2] there are four problems in tourism development, namely first, lack of tourism awareness and special planning. Second, the industrial foundation is weak. Third, the lack of tourism knowledge and skills. Fourth, the lack of private sector roles that can form the integration of multi-production, lack of special allocation funds. These four things are quite crucial issues in tourism development policies.

3 The Development of Bakauheni Surrounding Area

Closing the third quarter of 2019, PT Hutama Karya (Persero) (Hutama Karya) will work on a new mega project on the southern tip of the island of Sumatra. Collaborating with PT ASDP Indonesia Ferry (Persero) (ASDP), PT Indonesia Tourism Development (Persero) (ITDC), and the Lampung Provincial Government, Hutama Karya will officially participate in the development of an integrated tourism area in the Bakauheni region, South Lampung. The development of an integrated tourism area in South Lampung could make Bakauheni an alternative destination besides the city of Bandung, especially for residents of the capital to spend weekends or long holidays. The goal is that this integrated tourism area will not only be a charm for foreign tourists, but also increase the interest of local tourists for a vacation. South Lampung has become a complete tourist base because it has beautiful nature, charming beaches, conservation, until the famous Siger Tower.

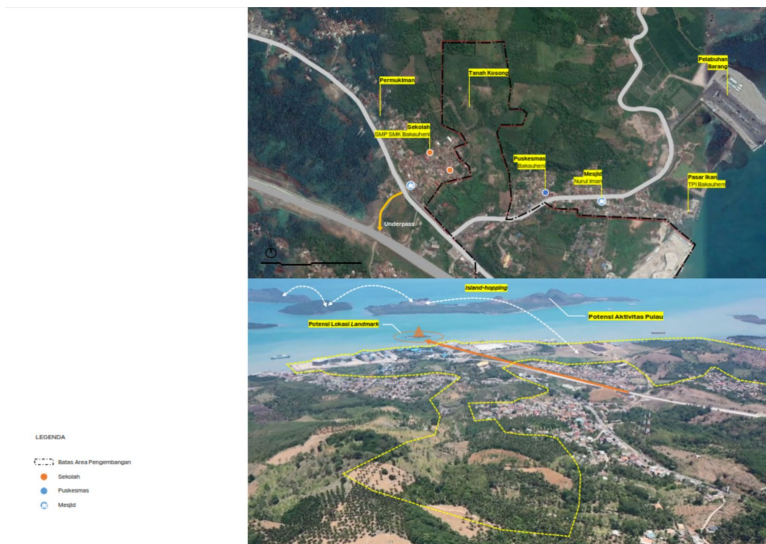


Fig. 3. Development Area Division Site.

Development This tourism area has the Bakauheni Harbor City concept where the development area is located before the entrance gate of the Bakauheni Selatan toll road. This project has a vision of To Establish Bakauheni Harbor City with the positioning of Transforming A Gateway Into A Vibrant Waterfront Destination. The land around the Bakauheni port, which is 91ha wide, then the Lampung Provincial Government is 14.8ha, and the ASDP is 69ha.

Bakauheni is surrounded by small islands which have the potential to be developed into water-based tourism so that it becomes a completely unified area. The development area is a port with high activity so careful planning is needed regarding routes and modes to get to these small islands, safety of port activities and tourism activities. This area also has good accessibility from toll roads, arterial roads and local roads. To separate traffic and activities as well as port and non-port circulation, a vertical separation is created in the form of a flyover where there is toll exit points, port entrances and port exits. Apart from public transportation in the form of buses, there are plans to develop trains to the Bakauheni port. To facilitate transportation operations, an intermodal terminal is needed, including supporting tourism to Bakauheni development area.

There are five main ideas for Bakauheni area development, there are Siger Culture Park, Intermodal Terminal, Marina Village, Bakauheni Harbour Park and Mangrove Forest as seen in Fig. 4.

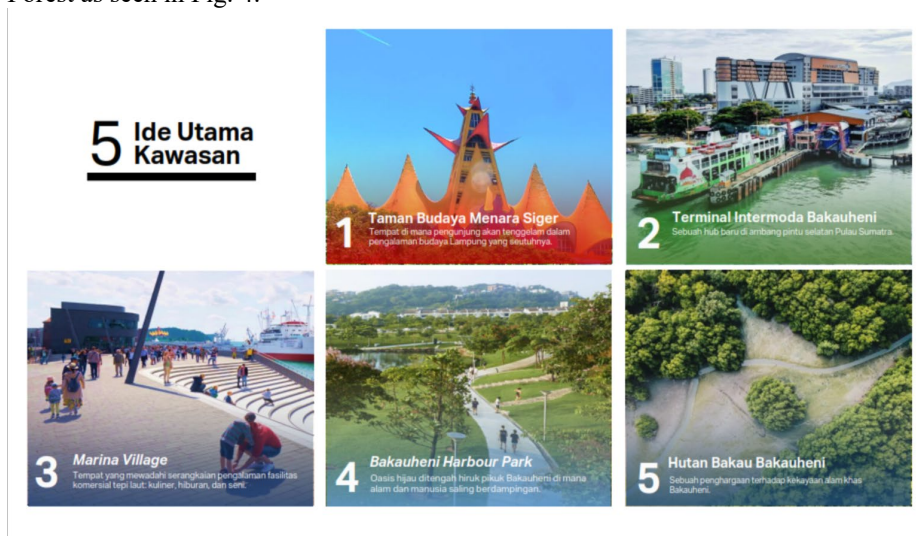


Fig. 4. Five Main Ideas of Bakauheni Development Area.

The development of the Siger Tower area will provide insight into the exploration of Lampung's traditional buildings, arts and culture with a place where people immerse themselves with true Sumatera culture experience. Bakauheni terminal intermodal is integration transportation between land and sea transportation. Marina village is a place that embraces the series of commercial waterfront scent culinary, leisure and art. Bakauheni Harbour Park is a green open area development which is a combination of land and sea.

The last one is the Bakauheni mangrove forest which is a mangrove conservation center which can be enjoyed via the boardwalk and other facilities.



Fig. 5. Plotting of Bakauheni Development Area.

Conclusion

The presence of Bakauheni Harbor City with a number of edutainments that provide entertainment as well as education, ease of transportation routes, and accommodation will certainly bring great benefits and new attractiveness for the people of Indonesia and abroad because it comes with international standard concepts and planning and is in a very strategic area. this will also have a tremendous impact on community because the Bakauheni - Terbanggi Besar toll road will get traffic from the many tourists who enter Indonesia, also provide them with convenient transportation routes (toll roads) to be able to lead directly towards Bakauheni Harbor City,

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