FACTORS OF COASTAL TOURISM MANAGEMENT WITH DPSIR ANALYSIS (CASE STUDY: TANJUNG LESUNG SPECIAL ECONOMIC ZONE, PANDEGLANG REGENCY, BANTEN PROVINCE)

FAKTOR-FAKTOR PENGELOLAAN WISATA PESISIR DENGAN ANALISIS DPSIR (STUDI KASUS: KAWASAN EKONOMI KHUSUS TANJUNG LESUNG, KABUPATEN PANDEGLANG, PROVINSI BANTEN)

Lilis Sri Mulyawati1,2, Luky Adrianto2, Kadarwan Soewandi2, and Handoko Adi Susanto2

1) Departemen of Urban and Regional Planning, Faculty of Engineering, Pakuan University
2) Graduate School of Coastal and Marine Resource Management, Departemen of Aquatic Resource Management, Faculty of Fisheries and Marine Science, Bogor Agricultural University

Received: June 22, 2020 / Accepted: October 29, 2020

ABSTRACT

Tourism in general is often seen as an opportunity to promote economic and social development, as well as coastal tourism. Coastal tourism activities are also a driving force that can affect ecosystem structures and processes and reduce existing resources on the coast. The research aims to manage tourism coastal areas, both mainland and waters, therefore integrated zone development and sustainable between land and water can be realized. DPSIR analysis (Drivers, Pressure, State, Impact, Response) is a descriptive study with primary and secondary data obtained from respondents (tourist, community, expert) and literature review. The analysis was carried out with qualitative analysis and to test the results of the literature review and the results of field observations, an expert survey was carried out so that the factors in the management of coastal tourism in an area designated as a tourism zone were obtained. The dominant factors resulting from the DPSIR analysis can be concluded as influencing factors in the management of coastal tourism so that they will provide solutions for the realization of an ecologically, socially, and economically sustainable tourism area plan. Suggestions to managers, both private and government, to keep the environment in order to create a sustainable tourist area.

Keywords: qualitative analysis, social economy development, coastal tourism.

ABSTRAK

Pariwisata secara umum sering dianggap sebagai peluang untuk mempromosikan pembangunan ekonomi dan sosial, demikian pula halnya dengan wisata pesisir. Di sisi lain aktivitas wisata pesisir juga menjadi kekuatan pendorong yang dapat mempengaruhi struktur dan proses ekosistem serta menurunkan sumber daya yang ada di pesisir. Penelitian ini bertujuan untuk mengelola kawasan wisata pesisir baik di daratan maupun perairan agar terwujud pembangunan zonasi yang terintegrasi dan berkelanjutan antara darat dan perairan pesisir. Analisa DPSIR (Drivers, Pressure, State, Impact, Response) merupakan penelitian deskriptif dengan data primer dan sekunder yang diperoleh dari responden maupun kajian pakar sehingga didapatkan faktor-faktor dalam pengelolaan wisata pesisir di sebuah kawasan yang ditetapkan sebagai zona pariwisata. Faktor-faktor dominan yang dihasilkan dari analisis DPSIR dapat disimpulkan sebagai faktor yang berpengaruh dalam pengelolaan wisata pesisir sehingga akan memberikan solusi bagi terwujudnya sebuah perencanaan kawasan wisata yang berkelanjutan secara ekologi, sosial, dan ekonomi. Saran kepada pengelola baik swasta dan pemerintah agar tetap menjaga lingkungan demi terwujudnya kawasan wisata yang berkelanjutan.

Kata kunci: analisa kualitatif, pembangunan sosial ekonomi, wisata pesisir.

* Corresponding author: Lilis Sri Mulyawati, lilissrimulyawati@unpak.ac.id
Departemen of Urban and Regional Planning, Faculty of Engineering, Pakuan University

Cite this as: Mulyawati, L. S et al. (2020). Factors of Coastal Tourism Management with DPSIR Analysis (Case Study: Tanjung Lesung Special Economic Zone, Pandeglang Regency, Banten Province). ECSOFiM: Economic and Social of Fisheries and Marine Journal. 08(01): 123-137
Available online at http://ecsofim.ub.ac.id/
INTRODUCTION

Marine and coastal tourism is widely regarded as one of the fastest growing regions in contemporary tourism (Pollard, 1995; Kim & Kim, 1996; Orams, 1999; Hall, 2001). While tourism development has been spatially focused on the coast for the past 50 years and the overall marine environment has become one of the new and fastest growing frontiers in the area of the world tourism industry (Miller & Auyoung, 1991; Hall, 2001). The development of tourism in the coastal region, is currently being encouraged to develop and become one of the leading sectors in regional development to increase economic growth. Growth in the number of tourists who grow exponentially and spread to areas that were previously quite remote in the world has become a character that has potential to become a paradox for nature-based tourism (Hillery, Nancarrow, Griffin, & Syme, 2001; Lynn & Brown, 2003; Lacitignola et al., 2007).

The dynamics of the use of coastal space for tourism activities continues to develop in line with the growth of tourism activities carried out by tourists. Coastal characteristics and dynamics, which are dynamic systems interrelated between human community systems and natural systems, so that these two systems move dynamically in magnitude integrated in the management of coastal and ocean areas (Adrianto & Aziz, 2006). The dynamics of coastal tourism utilizes ecosystem services in the activities mainly related to the tourist attractions they have which originate from coastal ecosystems such as beach sand, coral reefs, and other marine and coastal beauty. The related between components of coastal and marine ecosystems in tourism development is very important to be utilized become a tourist attraction that is not only provides economic benefits but also social and environmental benefits.

Sustainability of the linkage of the social ecological system depends on the health and functioning of the ecosystem so as to make environmental sustainability a key for sustainable regional development (Graymore, Anne, & Anneke, 2009). The dynamics of the relationship between management of coastal tourism areas both on land and waters will help in integrated and sustainable zoning between land and coastal waters. Tanjung Lesung SEZ as a tourism area whose development has only been going on for a few years requires an integrated approach in order to continue the realization of sustainable development. The aim of the research is to manage tourism coastal area, both mainland and waters, therefore integrated zone development and sustainable between land and water can be realized. The DPSIR (Drivers-Pressures-State-Impact-Response) approach in this study was using to see the dynamics of the relationship between the use of tourism zones on land and coastal waters. The DPSIR approach is possible to understand about an impact caused by ecosystems caused by human activities both in water and on land. With DPSIR, it is expected that the development of tourism zones in the Tanjung Lesung SEZ will provide an overview of the conditions that occur and how the management process should be carried out so that the resources managed can be sustainable.
RESEARCH METHODS

Research Location and Time

The research location is focused on the Tanjung Lesung SEZ in the Panimbang District covering 1,500 hectares with a beach length of 13.8 km. While the management area towards the sea area is 4 miles (RZWP3K Pandeglang Regency, 2014) with a regional study of Pandeglang Regency Banten Province (Figure 1). Determination of the research location is based on the following considerations: 1) Determination of the width of the Tanjung Lesung SEZ in PP number 26 of 2012; 2) Limits based on observations in the preliminary survey namely coastal and marine tourism space towards the sea at SEZ where there are still snorkeling activities conducted by tourists; 3) Management boundary towards the sea from RZWP3K Pandeglang Regency 2014; and 4) administrative boundary of Panimbang District and Pandeglang Regency including the coastal areas. The research was conducted in June–December 2019. Data collection was done on July 2019 in the area of Tanjung Lesung SEZ Panimbang District. Data analysis was in July and the research was completed in December 2019.

Types and Data Collection Methods

The research applied primary and secondary data including social, economic, environmental data. Secondary data collected were from institutions related to the Tanjung Lesung SEZ at both the Pandeglang Regency and Banten Province levels. In addition to the government agencies, secondary data will also be obtained from the manager of the Tanjung Lesung SEZ, namely PT. Banten West Java. Other secondary data sources are libraries and electronic media. Secondary data consists of spatial data and documents (soft copy and hard copy). Secondary data collection is done through document and literature review and downloading from electronic media.

Figure 1. Location of Research Area

Primary data is data from observations in the field. Primary data sources are study locations, experts and local government officials in Pandeglang Regency and Banten Province and policy makers in the management of Tanjung Lesung SEZ. Primary data collection to explore the opinions of stakeholders is done by in-depth interviews. Primary data obtained from the results of in-depth
interviews included in semi-structured interviews, the resource persons/participants were also asked for their opinions and ideas (Sugiyono, 2009). Interviews with experts are conducted to explore expert opinions as comprehensive qualitative data. Expert opinions were obtained from interviews with 9 experts representing various groups such as academics, government and business actors involved in managing Tanjung Lesung SEZ as follows:

1. Academics and Researchers consisting of 7 experts from the field of tourism in general, the field of regional and city planning and coastal tourism management.
2. The Government represents the Regional Government of Pandeglang Regency who is also a Former Administrator of the Tanjung Lesung SEZ namely Mrs. Joyce Irinawanti SP, MSE, MM.
3. Business Actors representing PT Banten West Java as the manager of the SEZ namely the Head of Project of the Tanjung Lesung SEZ Mr. Ir. Indra Bastian Effendi.

In-depth interview material is identifying Drivers-Pressures-States-Impacts-Responses related to the use of coastal areas for tourism zones. While secondary data is used to strengthen and explain the potential and existing issues as DPSIR analysis material. Whereas primary data collection to measure the accuracy of spatial data, is done through direct checking (ground check) in the field, especially coastal resource data available at the study site. Sampling for coastal resource data was conducted at 6 observation stations, namely 1) Cipenyu Beach; 2) Bodur Beach; 3) Resort and Beach Club; 4) Tanjung Kuntianak Beach; 5) Lagon Dadap Village; 6) Sailing Club. The number of tourist and community respondents respectively is 50 people. Data from community and tourist respondents were obtained through filling out a questionnaire. Community respondents are people in the KEK Tanjung Lesung, while tourist respondents are distributed online via the link [https://forms.gle/odTkDdAj2rbg1XVE7](https://forms.gle/odTkDdAj2rbg1XVE7)

Data Analysis

The DPSIR framework developed by the Pressure-State-Response (PSR) model originally developed by the Organization of Economic Co-operation and Development (OECD) in 1993. This model was subsequently developed by the European Environmental Agency (EEA) in 1999 which developed into a model DPSIR is known today (Sekovis, Newton, & Dennison, 2011). Analysis of the dynamics of spatial use will be carried out qualitatively with the DPSIR approach covering aspects related to the development of SEZ. Within the DPSIR framework there is chain of cause-and-effect relationships that begin with ‘driving forces’ (economic sector, human activities) through ‘pressure’ (emissions, waste) to ‘environment’ (physical, chemical and biological) and ‘impacts’ on ecosystems, health and human functioning ultimately lead to political ‘responses’ (priorities, targeting, indicators) (Kristensen, 2004; Baldwin et al., 2016).

The research method was carried out with a qualitative analysis with the following step:

1. Identifying and selecting key elements that are driving forces and responses. The driving force is understood as the factors that cause changes in the system. These factors are social, economic or ecological factors and can have positive or negative influences under pressure.
Responses is an effort made by the community as a result of changes, the response can be in the form of policies or regulations. This identification is carried out through a literature review of several literatures that discuss DPSIR.

2. Analyzing DPSIR factors from the results of the literature review based on data from primary and secondary survey results in Tanjung Lesung SEZ particularly and Pandeglang Regency and Banten Province to support the regional data needed in the analysis.

3. Conducting in-depth interviews, namely semi-structured interviews, resource persons/participants are also asked for their opinions and ideas. Interviews were conducted with experts to explore expert opinions as comprehensive qualitative data. The experts presented came from universities/academics and researchers, the government and business people in the Tanjung Lesung SEZ.

4. The final step is to determine the dominant factors or key elements in the management of coastal tourism. The key elements are chosen by considering the results of the analysis and in depth interviews conducted, so that key elements are identified as driving forces, putting pressure on the environment, which impacts on the environmental, social and economic conditions of the people at finally requires responses from the government through a variety of policies and regulations that support the development of coastal tourism undertaken.

**RESULT AND DISCUSSION**

The coastal and marine areas are a major factor in the development of the tourism zone in the Tanjung Lesung SEZ, because the location is on the coast of the Sunda Strait. The development of spatial use in SEZ which continues to increase, especially physical development, must continue to be endeavored to be able to maintain the balance of ecological, economic and social functions, so that sustainable development goals can be achieved. The condition of the coastal ecosystem of Tanjung Lesung SEZ is strongly influenced by the development of tourism facilities which are increasing, such as hotels, resorts and other tourist accommodations, thereby increasing the amount of domestic waste. Fisheries activities carried out by the fishing community also cause a decrease in the quality of the ecosystem due to lack of awareness to keep protecting the environment, especially the increase in domestic waste and other pollutants. The tsunami disaster that hit the Tanjung Lesung SEZ in December 2018 was also one of the factors that caused changes in coastal ecosystems, especially the changes in the coastline that increasingly protruded inland.

These factors cause the status of the environment to change with the occurrence of abrasion, sedimentation, enrichment of aquatic nutrients, degradation of the quality of coral reefs, seagrass and mangroves which ultimately impact on the ecosystem and socioeconomic. The formulation of ecological, economic and social factors in anticipating complex spatial use in the Tanjung Lesung SEZ is carried out using DPSIR analysis, because this model in the coastal system has been used primarily to support and develop conceptual understanding of complex coastal Social Ecological Systems (SES) and to identify driving forces and pressure in the coast (Baldwin et al., 2016).
Coastal Tourism Driving Forces

In the development of the Tanjung Lesung SEZ as a tourism zone there are driving forces of the population, the number of tourists, and tourism activities. These three aspects are interrelated with one another.

1. Local Population as Driving Force

The residents of the Tanjung Lesung SEZ are Bantenese people who have a fairly strong religious culture and hold traditions, that are still believed to be ancestral heritage that must be maintained. The Tanjung Lesung SEZ community is part of the community included in the administrative area of Tanjungjaya Village, Panimbang District. Based on data from BPS, the population growth of Tanjungjaya Village in the last ten years has not changed too much, only increasing by 5.2%. Meanwhile from 2018 BPS data, the population of Panimbang District residents generally work in the trade, hotel, and restaurant sector at 69% of the total population based on livelihoods (Table 1).

<table>
<thead>
<tr>
<th>Type of Livelihood</th>
<th>Total Population (person)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture, Animal Husbandry, Fisheries</td>
<td>247</td>
<td>26.5</td>
</tr>
<tr>
<td>2. Industry and Crafts</td>
<td>42</td>
<td>4.5</td>
</tr>
<tr>
<td>3. Trade, Hotels and Restaurants</td>
<td>642</td>
<td>69.0</td>
</tr>
<tr>
<td>Total</td>
<td>931</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: BPS Pandeglang Regency (2018)

The existence of the Tanjung Lesung SEZ has spurred new financial activities including livelihoods as tour guides as well as increasing community dwellings into homestays that can be rented by tourists coming to Tanjung Lesung. From the results of interviews with the community in Tanjung Lesung SEZ with a sample of 50 peoples as much as 93.8% approved the development of the Tanjung Lesung SEZ and as many as 90% produced floating net cages and cages (KJA) which were raised as one of the objects and tourist attractions. The support of local residents to the Tanjung Lesung SEZ as a tourism zone is quite large, because the community feels the benefits of the existence of SEZ for increasing the economy.

2. Number of Tourists as Driving Force

Since its establishment as a tourism zone in 2012, the Tanjung Lesung SEZ has received considerable attention from tourists. This is evidenced by the high increase in the number of tourist arrivals to SEZ from 2010 to 2018 with an average increase in tourist arrivals reaching 37.02% per year. From the data it can be seen that the number of tourist arrivals continues to increase to reach 917,072 people in 2018, although the percentage of growth in tourist visits continues to decline and in 2017–2018 the growth rate is only 14.63%. The highest percentage of growth rate occurred in 2014–2015 which reached 59.96%, this happened because at that time the Tanjung Lesung SEZ had begun to be widely known by local and foreign tourists. Since 2015–2018 there has been a continuing decline in the number of tourist visits despite a slight increase in 2017 and a fall in 2018 due to the tsunami in the Sunda Strait in December 2018 (Figure 2).
Figure 2. Number and Growth of Tourist Visit in Tanjung Lesung SEZ 2010–2018

In the graph, the x-axis shows the year and y-axis, which one is number of tourist and % growth. Meanwhile based on the results of the distribution of questionnaires to 50 tourist respondents who came to the Tanjung Lesung SEZ had a big enough desire to return to the Tanjung Lesung Lesung SEZ due to several reasons, one of which was due the natural beauty and diversity of attractions and tourists loved it such as beach sand (38%) coral reef (13%) islands in the sea (15%), marine parks (6%), and sunset and sunrise views (28%).

3. Objects and Attractions (ODTW) as Driving Force

The establishment of Tanjung Lesung SEZ as a tourism zone by the government is not without reason, but because Tanjung Lesung has many potential tourist objects and attractions. The ODTW in the Tanjung Lesung SEZ had existed before the government established it as a tourism zone and was an individual business traditionally managed by the local community. After its establishment, several new ODTW also began to grow and develop and become an attraction for tourists to visit. The distribution of ODTW (Figure 3) in Tanjung Lesung SEZ is almost entirely in the coastal area and utilizes the resources contained therein.

Figure 3. Distribution of Objects and Attractions in the Tanjung Lesung SEZ
Source: Survey (2019)

The beauty of ODTW in Tanjung Lesung SEZ and the variety of tourism activities that can be carried out (Figure 4) is a driving factor for the continued development of tourism in the region. In addition to having a beautiful beach with white sand, small coral reefs and waves that are not so big, in this place tourists can enjoy the panoramic beauty of Mount Anak Krakatau in the Sunda Strait. The activities carried out by tourists usually swim, play sand, relax, snorkel, sunbathe, take pictures, and enjoy the beauty of the sunset.
Environmental Pressure (Pressure) on Coastal Tourism

The driving factors (drivers) directly or indirectly will put pressure on the Tanjung Lesung SEZ. Tanjung Lesung SEZ which is planned as a tourism zone and a growth center for new regions, continues to carry out physical development to accommodate the developed tourism activities. This physical development has put pressure on the environmental conditions in the Tanjung Lesung SEZ.

1. Development of Tourism Infrastructure as Pressure

Tourism infrastructure development is a necessity in the Tanjung Lesung SEZ as a tourism zone that will become a new center of growth in Banten Province. Some of the infrastructure that has been and will be built is guided by the development plans in the Tanjung Lesung SEZ Master Plan such as the construction of transportation infrastructure (highway, docks, railroad tracks). In addition, transportation infrastructure is also built with other infrastructure such as clean water and wastewater, telecommunications, flood control, waste management, electricity, fire fighting.

2. Waste Tourism Activities as Pressure

The high number of tourist visits to a destination and activities carried out by tourists, can not be denied will cause solid and liquid waste generation. Tourism is an industry whose survival is largely determined by the pros and cons of the environment. Tanjung Lesung SEZ as a tourism zone will have various facilities such as hotels, apartments, villas, restaurants, and other infrastructure, which will certainly produce a lot of waste both solid and liquid waste. According to the law of tourism demand, environmental quality is an integral part of natural treats. Thus, maintenance of environmental quality becomes an absolute requirement for endurance against tourist destination selection competition. If the environmental quality of a tourist destination decreases, then the place tends to be ignored.

3. Natural Disasters as Pressure

Natural events such as the tsunami that occurred at the Tanjung Lesung SEZ on December 22, 2018 caused the condition of the destination to be damaged and physically changed, especially the existing tourist facilities. Even though not all ODTW in Tanjung Lesung SEZ were affected by the tsunami, the impact also hit other ODTW, especially causing ODTW to be devoid of tourist visits. In addition to the tsunami, Tanjung Lesung SEZ which is not far from Ujung Kulon National Park also...
has considerable potential affected by the earthquake disaster. The earthquake itself is one of the triggers that results in around 80-90% of tsunami disasters. Another disaster that may have occurred in the Tanjung Lesung SEZ because of its presence in Pandeglang Regency, Banten Province is the disaster of the landslide/volcano and volcanic disasters. This can happen considering the location of the Tanjung Lesung SEZ which is very close to the Anak Krakatau Mountain. The eruption of Anak Krakatau which caused the 2018 tsunami shows that Tanjung Lesung which was first hit tsunami wave followed by Sumur and Ujung Kulon (Solihuddin et al., 2020). Therefore, the construction of tourist facilities and accommodation in the Tanjung Lesung SEZ must take this into account, so that the earthquake disaster that occurs can be anticipated early on.

**Changes in Environmental Conditions (State) Affecting Coastal Tourism**

Development in the Tanjung Lesung SEZ has caused a change in the environmental conditions (State) that affect the utilization of tourism space such as:

1. **Water Pollution**

Water pollution can be seen from one indicator, including transparency. Transparency is the level of intensity of sunlight entering the waters observed using a secchi disk (Effendi, 2003). Transparency at the observation site (6 station) is influenced by the depth of the water. At the Sailing Club station, the transparency value reaches 8.25 m with depths ranging from 8-10 m. Transparency in the waters is one important factor to control productivity. Redness is influenced by the level of turbidity that will affect the entry of sunlight into the waters (Diansyah, 2004). From the results of post-tsunami observations at the 6 stations shows that the tsunami was not significantly affected by the transparency of the sea water in Tanjung Lesung SEZ (Figure 5) so that it is beneficial for tourism activities (Mulyawati et al., 2019). In the Figure 5 describes the classification water transparency which consists of low (20%–50%), moderate (> 50%–80%) and high (>80%).

![Figure 5. Transparency of the Water in Tanjung Lesung SEZ](image)

2. **Damage to Coral Reefs**

The impact of climate change will be potentially accelerate coral bleaching. The existence of coral reefs is one of the attractions of coastal tourism in various regions of the world, including the Tanjung Lesung SEZ. Coral reefs at sea provide a major impetus for tourism development throughout the tropics (Hawkins & Roberts, 1994). Despite the fact that beach tourism activities around coral reefs are not always good, negative impacts can include degradation and loss of...
marine life through activities such as diving and snorkeling (Hasler & Ott, 2008; Lamb, J, J, S, & B, 2014). In addition, indirect impacts arising from unplanned coastal development, including dredging, building intertidal spaces, and increasing pollution and solid waste cause damage to coral reefs (Liu et al., 2012; Wongthong & Harvey, 2014). From observations at 6 stations in Tanjung Lesung, in general the condition of coral reefs in the Tanjung Lesung SEZ is still good and can be one of the tourist attraction objects (Figure 6). The composition of the distribution of live coral ranges between 10.92–49.74% and dead coral around 8.94–30.22%. The beauty of coral reefs in the Tanjung Lesung SEZ is only around the Resort and Beach Club, which is favourite tourist spot.

Figure 6. Condition of Coral Reefs in 6 Observation Stations
Source: Survey (2019)

3. Change in Land Use

Analysis of land use change in the Tanjung Lesung SEZ uses broader data, namely the land use of Panimbang District so that changes are more widely seen so that the impact will be more comprehensive in a wider area. In the analysis process overlapping operations were conducted (overlays) on the Panimbang District land use in 2007 and 2017. The analysis was carried out to find out changes in land use between 2007–2017, to obtain the results of the changes that occurred and the extent of the changes (Figure 7).

Figure 7. Land Use Changes 2007–2017 in Panimbang District
Source: Data Analysis (2020)
Based on the identification results, the development of land use changes that occurred in Panimbang District in the period 2007–2017, showed a change in land use on production forest land and fishponds. The reduction in the area of production forest land from 2007 to 2017 was 3,48.76 hectares (30.7%), while the reduction in the area of ponds from 2007 to 2017 was 168.37 hectares (1.7%) while residential land increased by 833.4 hectares (8.4%). Although the loss of fishponds land was only 1.7% and generally turned into settlements and paddy fields, as a coastal area this would certainly have an impact on coastal characteristics related to the life of fishermen namely fishponds and other fisheries.

Impact Factors on Coastal Tourism

The development of coastal tourism activities in the Tanjung Lesung SEZ affect to the ecology, economy, and society.

1. Ecological Impact

Ecologically, the coastal area is formed from a variety of ecosystems that exist on land and at sea including the coast, so that the ecological impact can be assessed from various sides of interest. Since being designated as a tourism zone, in the Tanjung Lesung SEZ there have been considerable changes in land use. Panimbang sub-district experienced changes in land use from production forests and plantations to more than 50% which were converted into settlements or other cultivated land and most of the changes occurred in the Tanjung Lesung SEZ and surrounding areas.

The changes in land use mentioned above are important, because they will have an impact on the ecology in the Tanjung Lesung SEZ, one of which is coastal ecosystems such as mangroves and silting that occur between the confluence of rivers and seas (downstream areas). As a result of silting in some ODTW like in Lada Beach, the beach is very dirty because the sand material has been mixed with mud from the mainland. This condition will certainly also affect the beach tourism activities that do take advantage of the natural beauty of the coast. Some things that need to be anticipated by managers in the development of tourism in the Tanjung Lesung SEZ in the future related to the impact on ecology are water quality especially due to liquid and solid waste from hotels, the beauty of beaches and islands which are the main destinations of tourists and environmental carrying capacity such as biophysics the coast as a determinant of the good and bad ecosystems.

2. Economic Impact

The tourism industry is one of the right tools in increasing the economic progress of the community both locally and globally. Tourism has many impacts and benefits, in addition to being able to generate foreign exchange and expand employment, the tourism sector can also play a role in preserving nature and developing local culture. The tourism sector is a multi-sector which includes various economic activities. The linkage of the tourism sector with various economic sectors can drive the growth rate of other sectors.

The development of the Tanjung Lesung SEZ is a breakthrough for regional economic growth in general in Pandeglang Regency in particular and Banten Province in the south, so that it is expected to have an economic impact for the community. Based on the survey results with a total of
50 peoples to the community around the SEZ, 67.3% of the community had a positive economic impact because they could open new businesses as homestay owners, food stalls or other businesses related to tourism. While 30.6% felt economically benefited because it could be an additional livelihood such as being a tour guide or working in SEZ as a hotel or restaurant employee. Therefore, the positive impact of the existence of the Tanjung Lesung SEZ on the economy of the community will continue to generate demand for tourism goods and services so as to stimulate industrial growth, increase production activities, provide jobs, and can be one of the sources of local revenue in the form of taxes.

3. Social Impact

The arrival of tourists to a tourist destination, it is certain that interaction will occur between tourists and local residents. Tourists who come have different geographical, social, economic, cultural backgrounds from the locals. Local residents will absorb the culture of tourism, on the contrary tourists also absorb local culture. The impact of these interactions is positive and negative. As expressed by Cohen (1984); Pearce (1989); Ross (1998), some changes occur as impacts affecting the lives of tourists and society, both socially and culturally. The existence of the Tanjung Lesung SEZ as a tourism zone targeting tourists not only domestic but also foreign tourists will certainly also have a social impact on the people of Tanjungjaya Village, Panimbang District, which is known to be very religious. From the survey results with a sample of 50 peoples, 90% of people said they would warn well if there are tourist behaviors that deviate from local customs, and 10% said they did not care.

Although the survey results suggest that of course the community around the SEZ also needs to be careful in approaching tourists, so that mutual cooperation can occur and tourism activities in the SEZ can continue. Communities around Tanjung Lesung SEZ must be able to adjust the changes that will occur in the SEZ, if this area if it really becomes a tourist destination because it will certainly have a great social impact on the religious life of the community. It is expected that the progress of tourism in the Tanjung Lesung SEZ will have a positive social impact on the lives of the people in the village of Tanjungjaya in particular and Panimbang District and Pandeglang Regency in general.

Response to the Dynamics of Tanjung Lesung SEZ Spatial Use

The Tanjung Lesung SEZ development is the implementation of several national and local policies. The policy made by the government is intended as a form of intervention that drives environmental pressures and impacts that will occur in the coastal area of the Tanjung Lesung SEZ. Government Regulation nu. 26 of 2012 which sets an area of 1,500 hectares Tanjung Lesung SEZ as a tourism zone, which is also listed in the 2015–2019 RPJMN as an internationally oriented tourism service industry area, of course, must be responded positively, but this must also be supported by more comprehensive implementation rules so the environment remains sustainable. In addition to these two national policies, another challenge is the establishment of the Tanjung Lesung SEZ as a strategic area for the benefit of national tourism in Government Regulation nu. 50 of 2011 concerning the National Tourism Development Master Plan 2010–2025.
Before being designated as a tourism zone SEZ, Tanjung Lesung in Perda nu. 3 of 2011 Pandeglang Regency Spatial Planning 2011–2031 in spatial pattern is determined as an area with natural tourism designation. Another policy that is response to the dynamics of spatial use in the Tanjung Lesung SEZ is the Zoning Plan for the Coastal Areas and Small Islands (RZWP3K) of Banten Province which is in the process of establishing a Regional Regulation in the Provincial Parliament of Banten. In the draft RZWP3K that is being discussed at the DPRD it is stated that the purpose of spatial planning for coastal areas and small islands of Banten Province is to provide direction for zoning planning, zone utilization and control of the utilization of coastal zones and small islands in the Province so as to create sustainability and sustainable development coastal regions and small islands in the future. Specifically in detail for the development of marine tourism activities the targets to be achieved in the Banten Province RZWP3K are: (1) Allocating space in the waters of Banten Province for marine tourism and coastal tourism activities; (2) Synergizing the use of space for marine tourism activities and coastal tourism with using space for conservation; (3) Synergizing the using space for marine tourism activities and cultural tourism with the use of both space activities.

**DPSIR Factors in the Development of Coastal Tourism in SEZ**

In order to provide reinforcement of the DPSIR factors from the results of the literature review and analysis based on the results of the primary and secondary surveys in Tanjung Lesung SEZ, an in-depth interview was conducted with the experts. The results of in-depth interviews, several experts stated that accessibility, information and promotion factors, tax incentives and ease of investment are Drivers for the development of a tourist area. Community behavior is also in the spotlight of some experts as the State of the tourism area development policy. While for Impact, some experts stated that the impact of the development of a tourist area would be an over-exploitation of resources, changes in land use and changes in community culture. Based on the results of the analysis conducted and the opinions of experts in the development of tourist areas, especially in the Tanjung Lesung SEZ, the factors of coastal tourism management by using DPSIR analysis are as follows:

![Figure 8. Factors of Coastal Tourism Management in SEZ](image-url)
The factors of coastal tourism management which are built from the results of the analysis and expert support are expected to create a dynamic utilization of sustainable coastal tourism space. With such DPSIR analysis factors, it will bring about good quality ecosystems, so the higher the attractiveness of tourism. Thus, the development of tourism in SEZ where the livelihoods of the people are fishermen can be realized coastal management policies towards the needs of fishermen in the tourist spots/locations. In the end, the analysis of DPSIR factors can create a tourism area that continues to grow and keep the environment sustainable.

CONCLUSION AND SUGGESTION

Conclusion

The DPSIR analysis process that begins with a literature review and in-depth qualitative analysis at the study site gives a very detailed picture of the drivers-pressures-state-impact-responses factors that are interrelated with one another. The factors analyzed were strengthened by in-depth interviews with experts becoming a new thought in the management of coastal tourism in general, especially in a tourist area such as the Tanjung Lesung SEZ. Based on the results of the analysis of DPSIR factors in the SEZ tourism zone, it is expected to realize ecologically, economically, and socially sustainable coastal tourism management. In the end, the concept that was built could realize the SEZ development goals as the center of regional economic activities and be able to improve the welfare of the community.

Suggestion

In realizing the factors of drivers-pressures-state-impact-responses in the management of coastal tourism required a large support from all stakeholders involved in managing areas such as SEZ. Stakeholders (managers, tourists, communities, government) must have high awareness in utilizing coastal resources and not destroy the ecosystem in the Tanjung Lesung SEZ. With the involvement and high awareness of all parties who enjoy the beauty of coastal tourism, they will be able to achieve the objectives of sustainable coastal tourism management.

REFERENCES


Mulyawati, L. S et al: Factors of Coastal Tourism Management with DPSIR Analysis (Case Study: Tanjung Lesung...)


