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RESEARCH NOTE



## Sustainable Coastal Tourism in Tanjung Kelayang, Indonesia

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### ABSTRACT

Special economic zone established in Tanjung Kelayang aims at the development of coastal tourism. We conducted a survey to assess how sustainably this development is managed. We distributed 150 semi-structured questionnaires and asked the stakeholders (tourists, local residents, administrators, employees, etc.) to rate three main components of management: (1) the effectiveness of the policy of coastal tourism management planning, (2) the increase in socio-economic activity and (3) minimizing environmental impact. We also asked the respondents to assess the existing as well as the expected management. The respondents gave highest ratings to socio-economic activity followed by planning policy, whilst minimizing environmental impacts received least rating; this ranking was maintained both for the existing and expected management. Our results suggest that more efforts should be given to minimizing environmental efforts to ensure sustainable development of coastal tourism in Tanjung Kelayang.

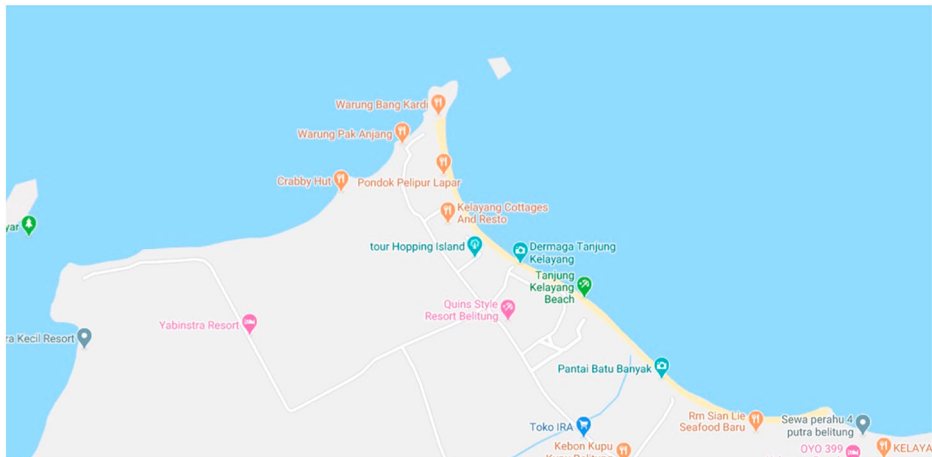
### KEYWORDS

Coastal tourism; sustainability; special economic zone; Tanjung Kelayang; Indonesia

## Introduction

Indonesia has ambitious plans for tourism development: to date, the Government of Indonesia has built 12 Special Economic Zones (SEZ), four of which are tourism zones (Ministry of State Sekretariat, 2019). Tanjung Kelayang is part of these plans and the President of the Republic of Indonesia inaugurated Tanjung Kelayang SEZ on 14 March 2019. Various popular trip-advising agencies publicize this place and a dedicated web-page is set up advertising the natural marvels and touristic prospects of this destination (<http://www.visitbangkabelitung.com/content/pantai-tanjung-kelayang>).

Tanjung Kelayang belongs to the island of Belitung (107°31.5′–108°18′ E and 2°31.5′–3° 6.5′ S, [Figure 1](#)). The main attraction of Tanjung Kelayang is its natural beauty—the white, 27 km long sandy beach with bird-head-shaped rocks, blue sea and the beautiful natural scenery (Valeriani & Wardhani, 2015). The beach allows for swimming, sunbathing, diving, snorkelling and other activities as well as enjoying very attractive ocean views. Average wave height at tide 13.1 cm, while at low tide the average wave height is only 1.8 cm. The average temperature of the coastal area is 28–30°C. Water salinity reaches 28 mg per liter, the water is clear allowing for visibility up to 10 meters deep along the western coast. Seabed is formed by a white sand under calm currents and low waves,



**Figure 1.** Tanjung Kelayang beach, Belitung, Indonesia.

whilst maximum sea depth within 1 mile of sea from coastline is 5 m. There is a great diversity of coral reefs, interspersed with equally diverse and beautiful seagrass beds, and the distance to coral reef ecosystems from the beach is around 800 m. Coral reefs actually represent the greatest asset of this natural beauty (Sari et al., 2018).

Given the utmost importance of natural ecosystems in general and the coral reefs in particular to sustainable development of coastal tourism in Tanjung Kelayang, environmental protection is included as one of the pillars of the established SEZ (Firdaus & Endah, 2016). However, there are reports that coral reefs around Belitung are suffering owing to increased human impacts (Sari et al., 2018), whilst it is expected that the number of foreign tourists in coastal area of Tanjung Kelayang will increase more than 50 times (Valeriani & Wardhani, 2015). Therefore, the aim of our study was to assess how sustainable tourism management is in Tanjung Kelayang. We conducted a survey and interviewed the stakeholders (tourists, local residents, administrators, employees, etc.) about three main components of the management: (1) the policy of coastal tourism planning, (2) the socio-economic activity and (3) minimizing environmental impact. We also asked the respondents to assess the existing as well as the expected performance.

## Methodology

This one-year descriptive study has been conducted from March 2017 to March 2018 at Tanjung-Kelayang, Belitung islands, Indonesia (Figure 1). Semi-structured questionnaires based on the concept of sustainable coastal tourism were used to identify and collect data. 150 questionnaires were distributed among the major stakeholders including local residents, tour operators, officers of special economic zone administration, etc. All data collected had made using triangulation techniques to identify data onto multilevel sampling (Jennings, 2010), which included open observation, structured interview, and comparison with secondary data. The collected data was tabulated for content analysis (Cohen, 1960; Gottschalk, 1995), which was based on three major indicators for coastal tourism

management: how effective is the policy of management planning, whether tourism enhances social and economic activities and whether increased economic growth is balanced mitigation of negative environmental impacts (Liu & Mwanza, 2014). Comparison of secondary data included the results from reports on sustainable coastal tourism (Liu & Mwanza, 2014; Mavris, 2011), exposing the parameters of sustainable coastal tourism such as the frequency of sustainable coastal tourism cases reported (Henderson, 1991).

## Results

The data obtained show that, overall, the respondents rated positively the current performance of tourism management at Tanjung-Kelayang beach, and inter-rater agreement ( $K_1$ ) was nearly substantial closing to the value of 0.6 (Table 1). Enhancing socio-economic activities were rated highest, followed by tourism planning policy and minimizing environmental impacts, and this order was retained in the ratings of the expected performance (Table 2). Inter-raters' agreement ( $K_2$ ) in this case was remarkably high exceeding the value of 0.7 and overall ratings of the expected performance were slightly but significantly higher than those for the existing one (compare Tables 1 and 2,  $P < 0.0003$  by Paired  $t$ -Test). When compared to the existing versus expected performance, we observed a certain gap in the values of kappa ( $K_g = K_1 - K_2 = 0.113$ , Table 3).

## Discussion

Our results show that the crucial importance of an intact nature to sustainable development of tourism in Tanjung Kelayang might not be fully appreciated by the stakeholders. This is surprising because it is self-evident that natural ecosystems such as coral reefs in an

**Table 1.** Existing performance of Tanjung Kelayang beach.

Tanjung Kelayang beach	Value	% Freq
Policy of coastal tourism management planning	30	0.337
Enhancing socio-economic activity	33	0.371
Minimizing environmental impact	26	0.292

Kappa coefficient =  $K_1 = 0.593$ .

**Table 2.** Expecting performance of Tanjung Kelayang beach.

Tanjung Kelayang beach	Value	% Freq
Policy of coastal tourism management planning	35	0.330
Enhancing socio-economic activity	39	0.368
Minimizing environmental impact	32	0.302

Kappa coefficient =  $K_2 = 0.707$ .

**Table 3.** Performance gaps of Tanjung Kelayang beach.

Tanjung Kelayang beach	% Freq existing	% Freq expected	Diff. freq
Policy of coastal tourism management planning	0.337	0.330	-0.007
Enhancing socio-economic activity	0.371	0.368	-0.003
Minimizing environmental impact	0.292	0.302	0.010
Kappa's performance gaps = $K_g = 0.113$	0.593	0.707	0.113

area like Tanjung Kelayang underpins coastal tourism (Nara et al., 2014). Coastal tourism is especially sensitive to environmental problems (Hall, 2001), therefore the low rating of minimizing environmental impacts, produced by the stakeholders of coastal tourism in Tanjung Kelayang, indicates that the excellence of tourism management there will not be easy to achieve without more attention to this aspect.

The conflict between conserving ecologically valuable environment and massive tourism is not new (Hall, 2001), and the potential and real impacts on coral reefs have been reported from various areas where coastal tourism had been developing (e.g. see Filous et al., 2017 for Hawaii; Halim, 2017 for Indonesia; Johnson et al., 2019 for Mexico; Masud et al., 2017 for Malaysia; Rhormens et al., 2017 for Brazil, etc.). Tanjung Kelayang is special in the sense that it is freshly established and its coastal environment remains relatively pristine. Whether this environment will continue to be ecologically intact and thus touristically attractive, does depend on how local communities perceive the benefits and responsibilities of the establishment of the special zone (e.g. Noh et al., 2018). Another prerequisite of success is the need for collaboration from all stakeholder groups (Johnson et al., 2019). As a solution, a community-based marine ecotourism, which warrants the local community's participation in managing coral reef ecotourism, is advocated (Masud et al., 2017; Rhormens et al., 2017). In the community-based management, the stakeholders are motivated to participate by gaining knowledge on environmental threats and understanding the principles of sustainable development together with perceived economic, social and cultural impacts (Masud et al., 2017). These beneficial impacts encourage community involvement in coastal tourism management and planning, and ensure environmental conservation practices both among the tourists and residents.

We conclude that, to ensure sustainable development of coastal tourism in Tanjung Kelayang, more efforts should be directed to minimizing environmental efforts. Deeper ecological and sociological studies are needed to provide the management with the necessary data on the environmental, economic and social processes during the development stage of coastal tourism in Tanjung Kelayang, in combination with educating and training local communities for their engagement in sustainable tourism (Lee & Syah, 2018). Only after successful and culturally friendly development of natural resource management (Brake & Addo, 2014), will the implementation of other concepts of ecotourism such as zoning and landscaping enhance the competitiveness of coastal tourism but still maintain its sustainability (Hengky, 2014).

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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