

Exploring the river-based tourism product for Muar River: A tourism opportunity spectrum (TOS) approach

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Abstract. River-based tourism product development is regarded as one of the critical segments that focus on proper physical, social, and economic expansion. To date, the lack of depth and concern is tapped into this market by either scholars or stakeholders accordingly. Currently, a part of the local plan for Muar development is envisioned towards developing and promoting the tourism industry. However, the primary challenge of river-based tourism is maximising the usage and livability of its waters and natural resources. Therefore, this research aimed to explore the suitable tourism product for river-based tourism, with the most significant market potential in the context of the Muar River through an assessment of the Tourism Opportunity Spectrum (TOS). The TOS approach is the methodology suitable as an assessment tool for tourism planning and management towards sustainability. The instrument was adopted from previous studies and executed through site inspection and familiarisation trips, namely observation and resources inventory. The main finding of this study was the zonation of five main areas, which contributed to the characterisation of different tourism products along Muar River, and the five scopes of TOS assessment. The recommendations will primarily support the enhancement of river-based tourism development and assist the stakeholders in achieving the visions and missions of Muar's local plan.

1. Introduction

A river is an essential water resource to the community's prosperity in order to reap the social and economic benefits. Planning a river implementation towards a more sustainable water resource management requires for effective zoning and protection of river activities such as transportation and water tourism to be proposed and highlighted in maximising the usage and liveability of the river area [1]. River-based tourism development is thus seen as one of the most critical aspects so as to ensure the sustainability of any development, since it incorporates various resources from the water sources, history, and the unique culture of the local community. A significant number of tourism-based developments in various river area projects have failed to identify these opportunities. The importance of this improvement is not specifically limited to tourism activities but also the conservation and preservation of its natural resources and the local community alike. The primary challenge of river-based tourism is maximising the usage and livability of its waters and natural resources [1] [2]. However, it is more important to uphold the notion of preserving and conserving the cultural and



ecosystem of the river area and the quality of life for the local communities, especially in terms of economic opportunities [3]. Previous studies on tourism development for the river area have enabled a critical discussion in planning and managing tourism development. The emphasis on sustainability in any tourism development has forced every destination manager worldwide, including Malaysia, to review their tourism policy and encourage various research works in order to minimise the impact of such development.

The current condition of the Muar River in terms of water quality is quite alarming. A study done in Muar [4] has shown that the significant sources of the river's pollution involve natural degradation or natural processes, and anthropogenic sources (i.e. agricultural runoff, industrial discharge, domestic waste, natural erosion, livestock farming, and presence of nitrogenous species). Hence, all proposed developments along a river have to be critically planned and proposed. By considering these precautions, the negative impacts of any tourism product development along the Muar River can be minimised.

Furthermore, Muar is currently aiming to be the Hub for Education, Furniture Manufacturer, Nursery, and Heritage Tourism, which is a part of the local plan (Rancangan Tempatan Daerah Muar 2030). This comprehensive development plan for Muar envisions towards developing and promoting the tourism industry. However, the major issue of tourism development in the locality is the scant recognition of the role played by its river, which can serve as a vast potential for tourism product development. In fact, developing the district based on its water and natural resources alone are costly in terms of providing and constructing the facilities and infrastructure, let alone the effort to conserve and preserve its ecosystem. Besides, a previous study [5] has revealed the moderate and high levels of local community agreement regarding river development. Unfortunately, there are limited studies that view the potential development ideas, especially regarding river-based tourism products in the Muar River area, despite the beautiful and clean river. Due to these issues and challenges, the Tourism Opportunity Spectrum (TOS) approach is adapted to maximise the opportunities for river-based tourism products and minimise the risk in the competitive tourism environment. Additionally, the TOS approach creates the opportunities and enhances the synergy between the stakeholders of local university, tourism industry, state government, and communities to develop a strategic river-based tourism product [6].

Therefore, this paper intends to explore the suitable tourism product for river-based tourism offering the most significant market potential, namely in the context of the Muar River through the assessment of TOS. It designates five river-based tourism zones based on the characterisation of attractions found along the river. Further discoveries on the aspects requiring assessment through the TOS matrix for managing a sustainable river-based tourism product development are also discussed accordingly. Therefore, the findings that advocated for further study in assessing the TOS matrix according to each enhanced aspect are explained in this paper.

2. Tourism Opportunity Spectrum (TOS)

Tourism Opportunity Spectrum (TOS) is one of the tools for tourism planning to identify the zonation areas and assess the potential of tourism development suitable for each zone. The TOS aims to assess the market potential and provide the inputs for the strength, constraints, opportunities, and risk of the selected destination, as well as the inputs of the proposals and recommendations of potential tourism product. Furthermore, TOS is a valuable tool to assess tourism viability and host community-visitor relationships [7, 8]. It has been developed by [7] and [8] based on Clarke and Stankey's [9] Recreation Opportunity Spectrum (ROS). The zonation can be assessed during on-site assessment with six main aspects, namely: (1) access, (2) other non-adventure uses, (3) tourism plant, (4) social interaction, (5) acceptability of tourism impacts, and (6) acceptability of regimentation [7, 8]. On the other hand, [7] has classified the zonation into six different classes, which range from Urban (U), Suburban (S), Rural Developed (RD), Rural Natural (RN), Semi-Primitive (SP), and Primitive (P). Based on these findings, the TOS provides a visualisation depicting the amount and types of different site conditions available

to visitors [6]. Additionally, it informs regarding the diversification into more natural or cultural-based tourism, especially if the area has the resources and settings for these types of experiences [6].

Therefore, the TOS is implemented as the foundation towards achieving the aim of this study, which is to explore the suitable tourism product for river-based tourism that offers the highest market potential. The approach will provide the opportunities and potential of the tourism product based on the different characters or site conditions observed along the Muar River. The implication behind this idea, specifically for the river, is to assist the stakeholders in establishing the initial ideas and inputs of potential river-based tourism product along its length. Consequently, this will yield benefits for the university-industry-government-community population in developing the river-based tourism product and assist the stakeholders in achieving the visions and missions of the local plan, namely Rancangan Tempatan Daerah Muar 2030.

3. Background of Muar

Muar district is bordered by the State of Melaka on the northbound side, Segamat district on the East, and Batu Pahat district on the South. The town of Muar is located 150 kilometres away from the southeast from Malaysia's capital city of Kuala Lumpur and 50 kilometres north of Batu Pahat. The word 'Muar' is said to be derived from the word 'Muara' [10]. Meanwhile, other opinions claim the word to be derived from the Hindu word 'Muna' and 'Ar', which means 'three' and 'the river' and symbolising the Muar River that flows along the district area [10]. Hence, it shows that the Muar River plays a vital role in terms of the history of Muar District.

Generally, Muar offers a strategic location, good accessibility, and a road network, which are important factors for attracting tourists, especially those from Singapore. It offers various attractions, such as gastronomic experiences, built heritage, and its cultural landscape. However, Muar faces various challenges, one of which is the stiff competition from the State of Melaka due to the latter's renowned cultural and heritage tourism destination as a World Heritage Site. Therefore, strategic planning, management, and marketing aspects need to be implemented in the district to ensure its competitiveness as one of the most preferred tourism destinations in Malaysia.

4. Methodology

Currently, the need for a practical planning and management tool is increased towards achieving sustainability. Tourism Opportunity Spectrum (TOS) is one of the tools for tourism planning to identify the zonation area and explore potential tourism activities suitable for the zonation. In order to create a field-ready TOS measurement instrument, the combination of well-established instruments and protocol from Water and Land Recreation Opportunity Spectrum (WALROS) [11] was used to lay out the design of TOS instrument. Meanwhile, the data collection procedure was implemented in a way to ensure all crucial information about the tourism destination was assessed accordingly. The format and procedure of conducting the TOS assessment were thus modified to ensure the results were justifiable.

The method implemented in this study was site inspection through observation, which was undertaken primarily to determine the zoning area along the Muar River. The checklist and inventory list were both used to describe the characteristics of the whole area before it was divided into the zoning areas. The outcomes of the resource inventory sheet were used to analyse the potential for river-based tourism along the river that was supported by the data obtained from the observations and documentations of the local authorities. Hence, the outcome from this site inspection was the division of the study area into five zones, which covered eight kilometres of the river route.

5. Findings and Discussion

A few series of data collection were conducted from September until October 2018 in which different types of attractions were identified during on-site inspection and observation for the resource inventory of TOS assessment. The observation was clustered into different aspects, whereby the existing attributes were grouped to create the zonation and produce the preliminary river-based

tourism conceptualisation along the Muar River. Figures 1 until 4 depict the data gathered during site inspection.



Figure 1. Don-Hu Jurassic Park



Figure 2. Mural paintings



Figure 3. Sultan Ibrahim Jamek Mosque

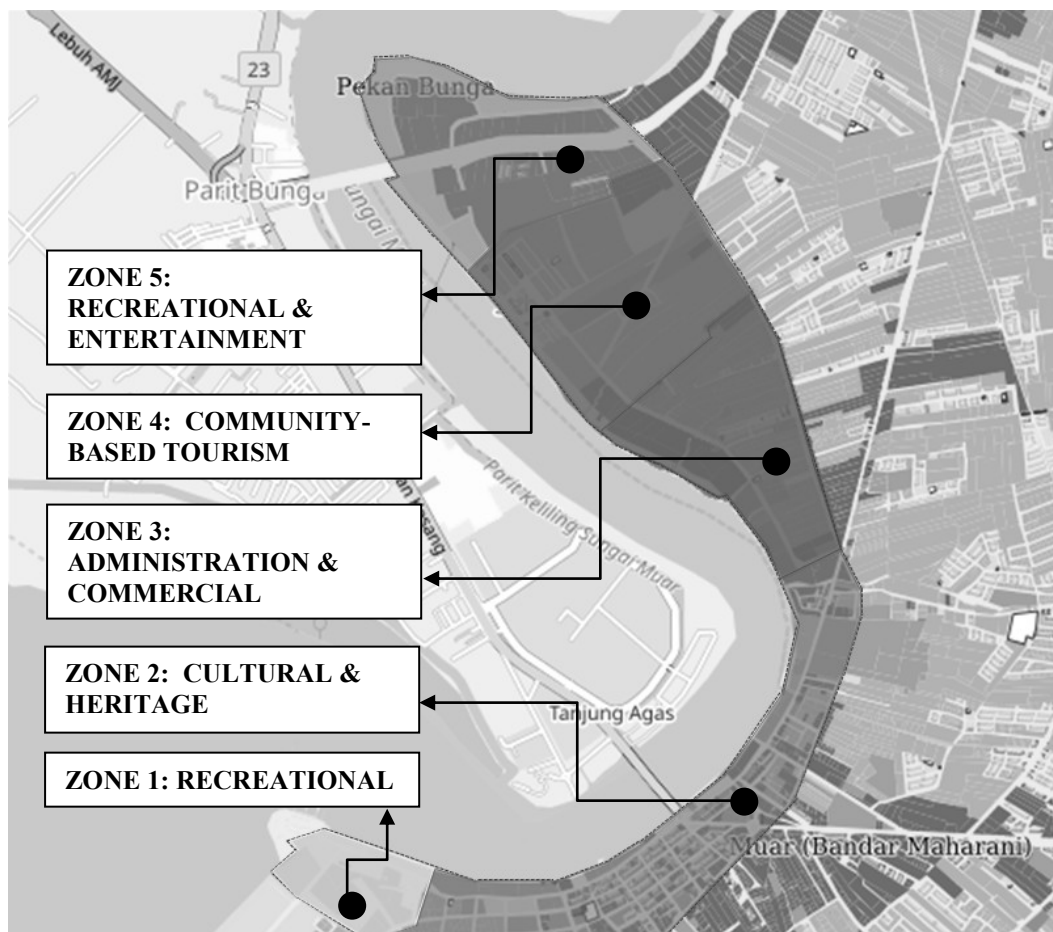


Figure 4. Cultural Walk

Based on the findings from on-site inspection and observation, the data were categorised into a few main area characteristics based on the activities and space utilisation. Table 1 shows the division of five zones with different characteristics based on the on-site inspection and observation. From the categorisation on the zoning according to the TOS assessment, a new conceptual area of river-based tourism product could be identified. An illustration of the overall concept for river-based tourism along the Muar River is shown in Figure 5.

Table 1. Zoning for TOS

No	Zoning	Characteristics	Existing Attributes
1	Zone 1	Recreational	Marina Bay, Tanjung Emas, Tanjung Ketapang, Muar River Cruise, Laman Maharani
2	Zone 2	Cultural and Heritage	Majlis Perbandaran Muar, Muar Bridge, Sultan Ibrahim Jamek Mosque, Colonial Buildings, Bentayan Square
3	Zone 3	Administration & Commercial	Muar Hospital, Fire Station
4	Zone 4	Community-based Tourism	Fisherman Village
5	Zone 5	Recreational & Entertainment	Don-hu Jurassic Park, Sure Jade Deer Farm, Medan Ikan Bakar Sabak Awor

**Figure 5.** The concept plan of river-based tourism zonation along the Muar River

The preliminary concept plan for each zone is identified in Figure 5. Zone 1 contributed to the characteristic of recreational tourism due to most recreational activities undertaken around the area, such as cruising the Muar River, jogging, and cycling. Next, Zone 2 contributed to the cultural and heritage tourism since multiple colonial buildings encroached the area as its commercial and administration buildings. Then, Zone 3 portrayed the character of commercial and administrative purposes since the leading facilities in the area consisted of Muar Hospital and the fire station. Following this, Zone 4 was characterised as community-based tourism since the area was well-known

for its fisherman village and activities. Finally, Zone 5 could be depicted as recreational and entertainment tourism due to the existing attractions of Don Hu Jurassic Park, Sure Jade Deer Farm, and Medan Ikan Bakar Sabak Awor.

Previously, there are six scopes of TOS assessment by [7], but five scopes of assessment for the TOS inventory sheet were modified from [7] and [11]. The modification was done to reflect the current situation and availability of resources in terms of attractions, facilities, and services along the Muar River. Hence, the five scopes of TOS assessment identified in the context of Muar River were: (1) tourism site/onsite management, (2) compatibility of other non-adventure uses, (3) social inventory, (4) potential visitor impacts, and (5) regimentation/control of tourism experience. Table 2 shows the scopes, aspects, and elements of assessment for TOS inventory sheet in order to discover the potential of tourism product for the river.

Table 2. Scope of TOS assessment

No	Scope	Aspects	Element of Assessment
1.	Tourism Site/Onsite Management	Physical Buildings Accommodations Difficulty of access	Facilities Infrastructure Signage Accessibility Resorts Hotel Residential Area Road/entrance Signage
2.	Compatibility of other Non-Adventure Uses	Manmade Elements	Jetty Constructed elements Landmark
3.	Social Inventory	A visitor to Visitor Contact A visitor to host contact	Frequency of contact Quality of visitor to visitor contact Frequency of contact Quality of Visitor to host contact
4.	Potential Impacts	Visitor Amount of impacts Frequency of impacts	
5.	Regimentation/Control of Tourism Experience	Existing Tourism product Time	Facilities Activities Price Availability of facilities Operation of services Availability of activities

Even though this study identified five scopes of TOS assessment and five zones of potential river-based tourism product development along the Muar River, further study should be done to assess each zone in order to recognise the current condition of existing tourist attractions, facilities, and services. Moreover, further modification of the current TOS assessment is essential since this is merely a preliminary assessment that gathers the basic information of TOS assessment for river-based tourism.

6. Conclusion

In conclusion, this research contributed in terms of enhancing the development of an assessment tool for the TOS approach. The findings showed the discovery of different types of tourism product, especially in terms of river-based tourism destination. The TOS approach provides an opportunity for

destination planners and managers to manage the different types of attractions based on the zonation along the Muar River. This is due to the fact that the TOS approach involve assessing the existing management, such as the physical attributes, as well as the involvement of local community in the management process, especially in terms of the social attributes. Hence, a precise action can be planned for the future development for river-based tourism product, specifically for the Muar River. Thus, this study intended to clarify and contribute to the knowledge development in managing river-based tourism product through the assessment tool of TOS, as well as provide better planning for Rancangan Tempatan Daerah Muar 2030.

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