

Current perceptions and the need for a strategic plan for the whale watching industry in Mirissa, Sri Lanka

T.G. Supun Lahiru Prakash* Department of Forestry and Environmental Science University of Sri Jayewardenepura Gangodawila, Nugegoda, Sri Lanka Email: prakashtgsl@gmail.com

Sevvandi Jayakody Department of Aquaculture and Fisheries Wayamba University of Sri Lanka, Makandura, Gonawila, Sri Lanka

N.S. Amarasinghe Department of Forestry and Environmental Science University of Sri Jayewardenepura Gangodawila, Nugegoda, Sri Lanka

Corresponding author *

Abstract

Marine mammal watching is a sub-category of wildlife tourism and has shown continual growth as a global industry. Sri Lanka is an island nation in the south of the Indian Ocean with one of the busiest whale watching industries. Three locations in Sri Lanka provide facilities for marine mammal watching enthusiasts namely Mirissa in the south-west, Trincomalee in the north-east and Kalpitiya on the west coast. This study attempts to explore the positive and negative factors associated with the whale watching industry in Mirissa which is predominantly based on reviews posted on *Tripadvisor's* travel website. In addition to this, statistics gleaned by Sri Lanka Coast Guard were also taken into consideration. According to the respondents' views, the study found five positive factors, two moderate factors and four negative factors affecting the whale watching industry in Mirissa. According to these factors authors have discussed the requirement for a strategic plan in order to ensure sustainability and improve the quality of services provided of the whale watching industry in Sri Lanka.

Keywords: Marine mammal, tourism management, whaling, wildlife conservation, wildlife management

Introduction

Marine mammal watching is a sub-category of wildlife tourism and is defined as "tours by boat, air or from land, formal or informal, with at least some commercial aspect, to see, swim with, and/or listen to any of the species of whales, dolphins and porpoises" (Hoyt, 2001). Whale watching is one of the fastest growing, economical tourist activities in the world (Cisneros-Montemayor et al., 2010; Hoyt, 2001; Hoyt and Hvenegaard, 2002; Orams, 2002), worth at over US\$ 2 billion per year (Bailey, 2012; Chen, 2011; O'Connor et al., 2009). Whale watching attracts over 13 million visitors annually in more than 119 destinations and whale watching operations around the world are now run by more than 3000 operators and employ about 13,200 people (O'Connor et al., 2009). This activity not only provides employment and economic benefits for many local communities worldwide, but also is an incentive for the conservation of whales that provides important information of cetaceans and their environment (International Fund for Animal Welfare, Tethys Research Institute, and Europe Conservation, 1995) and encourages people to appreciate and protect whales (Duffus and Dearden, 1993; Wearing et al., 2014). Therefore, whale-watching is a sustainable way of using cetaceans for economic benefits and a feasible alternative to whaling (Hoyt, 2001; O'Connor et al., 2009) There has also, over the last 20 years, been an awakening interest and a general fascination in observing marine wildlife in their natural environment (Bertellotti et al., 2013; Corkeron,



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2004; Curtin, 2003; Muloin, 1998; Neil and Breeze, 1998; Orams, 2000; Schofield et al., 2015; Seminiuk et al., 2009; Topelko and Dearden, 2005; Villanueva et al., 2014).

In Asia, where whale watching has emerged as the world's important new destination, the number of whale watchers has grown from 220,000 in 1998 to over 1 million in 2008: expanding from 13 countries offering whale watching activities in 1998 to 20 in 2008 (O'Connor et al., 2009). Sri Lanka (7.8731° N, 80.7718° E), an island nation in the south of Indian Ocean, is one of the most popular tourist destinations for whale watching and three locations in Sri Lanka provide facilities for marine mammal watching enthusiasts. These are Mirissa in the south-west, Trincomalee in the north-east and Kalpitiya on the west coast. In addition, a large navy boat leaves from Galle; a town located 34 km north from Mirissa during the season (Anver, 2012; de Vos et al., 2013). Whale watching in Sri Lanka began from small scale operators in 1983 departing from Trincomalee, however, the industry did not show adequate development due to the civil war in the region (Hoyt, 2001). The next phase of the industry's development began in 2008 in Mirissa after sightings of blue (Balaenoptera musculus) and sperm (*Physeter macrocephalus*) whales close to the shore were sighted in the previous year (Anver, 2012; Buultiens et al, 2016). Since 2008, there has been a rapid and substantial increase in whale watching at this site (Williams, 2013a) and numbers have increased from an estimated 620 tour participants (O'Connor et al., 2009) to nearly 80,000 in 2014 (Buultjens et al, 2016).

The Sri Lankan government has taken steps to develop the tourism sector in Sri Lanka as one of the key ways of earning needed foreign exchange. By the year 2016, an accelerated development program for the tourism industry had been introduced in order to attract 2.5 million tourists annually. Sri Lanka's position as the worlds' most treasured island for tourism is a key objective of the Tourism Development Strategy 2011 – 2016. '8 wonderful experiences in 8 wonderful days' is the theme of Sri Lanka Tourism and focuses on eight product categories; Wildlife and Nature are among these eight categories. Marine mammal watching is identified as wildlife-related tourism products used for achieving the key objectives of the strategy (Ministry of Economic Development, 2011). 'Top Seven Wild Sri Lanka', which promotes wildlife-based tourism in Sri Lanka, was launched by the Department of Wildlife Conservation (DWC) and it included Blue whales (Balaenoptera musculus), which are the most commonly documented whale species in Sri Lankan waters (de Silva, 1987; Alling et al., 1991; Ballance and Pitman, 1998; Ilangakoon, 2002; Ilangakoon, 2006a; Branch et al., 2007; Afsal et al., 2008; Broker and Ilangakoon, 2008; de Vos et al., 2012). Sperm whales (Physeter macrocephalus) can also be seen (Anver, 2012; de Vos et al., 2013) providing remarkable opportunities for wildlife enthusiasts to observe them from within a short distance and a reasonable length of time (DWC, 2016).

Visitor satisfaction and quality of experience are the key factors affecting re-visitations and destination recommendations while positively influencing the destination image (Chen and Tsai, 2007; Lee, 2009; Perera and Vlosky 2013; Dedeoğlu et al., 2016). Visitor feedback provides a valuable opportunity for tourism operators to understand problems associated with their operations. The internet has become one of the major sources of information for travellers around the world, user-generated content such as reviews, blogs, comments and even video clips posted by travellers for the use of their peers have gained wider recognition as credible and unbiased sources of information for both travellers and the industry (O'Connor, 2010). TripAdvisor https://www.tripadvisor.com is a popular American travel website company providing reviews of travel-related content. This study explores the positive and negative factors associated with the whale watching industry in Mirissa, in the Southern Province of Sri Lanka, using TripAdvisor reviews for the purpose of providing the groundwork to streamline the whale watching industry in the country with the objective of strategies to improve the visitors' perceptions.



Methodology

Study sites



Figure 1: Location of the study sites; Mirissa in the Southern province of Sri Lanka

Mirissa (5.9483° N, 80.4716° E) is a small town on the south coast of Sri Lanka, located in the Matara District of the Southern Province. It is approximately 150 kilometres south of Colombo, the commercial capital of the country and is situated at an elevation of 4 meters above the mean sea level. Mirissa has close proximity to Dondra Point, the ideal location for whale watching (Sri Lanka Tourism Promotion Bureau, 2016) and a large number of tourism operators have clustered there to provide facilities for whale watching enthusiasts to observe whales and other available marine wildlife. Since the beginning (2008), there has been a rapid and substantial increase in whale watching at this site (Williams, 2013a). This growth has occurred to a large extent because the tourism industry is well-established in the region with a number of large resorts and popular beaches located in close proximity. In addition, tourism in the region was largely unaffected during the war and has rapidly increased since it finished.

Data source

The travel website TripAdvisor (www.tripadvisor.com) was selected as the data source for this study due to its popularity as an unbiased source of visitor feedback information on travel destinations and services (Xiang and Gretzel, 2010). The well-defined structure and functionality of the TripAdvisor website allow visitors to provide quantitative and qualitative feedback on their satisfaction with the visit. When adding reviews, respondents are given the option to rank their travel experience on a 5-point Likert scale ranging from "*5=excellent*" to "*1=terrible*" (Allen and Seaman, 2007). Reviewers are also asked whether they would



recommend the destination to others and some trip characteristics such as the group size are also gathered by the website. The opportunity to post a descriptive review, and upload photos and videos as evidence are also available. After being scrutinized by the TripAdvisor site administrators to verify that reviews are in accordance with the content guidelines of the site, reviews are added to the respective business/property's page. Furthermore, the Sri Lankan Coast Guard was used as a data source for obtaining visitation statistics.

Data collection and analysis

This study was predominantly based on a qualitative approach. The primary objective was to identify the positive and negative factors associated with the whale watching industry at the site, in order to study the current perceptions and emphasize the need for a strategic plan. The searching tools 'Things to do' and keywords 'Whale watching', 'Mirissa', and 'Sri Lanka' were used for the search. In this study, authors analysed all reviews posted in English language in 2 consecutive years from 1st January 2015 to 31st December 2016 and the total number of reviews analysed was 131. Extracted information was entered into Microsoft Excel 2013 spreadsheets manually and then the data was then sorted and cleaned through careful inspection. During this process, all responses/reviews rated as "Excellent", "Very Good", "Average", "Poor", and "Terrible" were taken into consideration. In this study, we used Latent content analysis to analyses the qualitative data (Holsti, 1969; Babbie, 2014; Catanzaro, 1988; Morse and Field, 1995). The method was previously used for a study of visitor discontent at five ex-situ elephant conservation establishments in Asia (Prakash et al., 2017) and reasons for visitor dissatisfaction with wildlife tourism experiences at highly visited national parks in Sri Lanka (Prakash et al., 2018).

Moreover, visitation statistics from the year 2014 to 2017 gathered by the Sri Lankan Coast Guard were used to identify the seasonality and trends of visitation through ANOVA. It was found that there were missing values in three months (June and September 2014, January 2015) and authors applied Cubic Spline Interpolation method using Microsoft Office Excel 2013 with aid of the NumXL 1.65.

Results

Statistics of the Sri Lankan Coast Guard in 2014, revealed that 71266 foreign visitors from 80 countries arrived in Sri Lanka for whale watching (Table 1). Most of them from Western Europe followed by Asia, Eastern Europe, Australasia, North America, Middle East, Latin America, and Africa. However, the data for the respective years were not available for content analysis.

Table 1. Foreign visitors arrived Sri Lanka for whale watching in 2014 according to SLTDA) visitor statistics reporting regions				
Region	Number of Visitors	Percentage (%)		
Western Europe	39642	55.6		
Asia	15741	22.1		
Eastern Europe	8052	11.3		
Australasia	3046	4.3		
North America	2365	3.3		
Middle East	1379	1.9		
Latin America	586	0.8		
Africa	455	0.6		

When it comes to the reviews subjected to the content analysis, foreign tourists belonging to 29 countries had posted their reviews during the study period and 43% of reviews were made



by visitors from the United Kingdom. Other top countries which posted reviews were India (15%), Australia, Ireland, Singapore, and Spain who represented 3% respectively. Eighty-six (66%) of the considered reviews were posted by foreign tourists, 8 (6%) by resident tourists and 37 respondents (28%) with unknown origin. The number of reviewers in Western Europe and Asia is proportionate to the number of visitors who arrived in Sri Lanka in 2014, however, the other regions are not.



Figure 2. Reviews by the geographical region of residence

According to the Sri Lanka Tourism Development Authority (SLTDA) visitor statistics reporting regions, the highest number of comments were posted by visitors from Western Europe, followed by Asia, Middle East, Australasia, and Africa (Figure 2). Approximately 30% of reviews were posted by visitors who did not mention their country of residence in their TripAdvisor user profiles (Figure 2).

Visitation statistics from January 2014 to December 2017 were used to understand the behaviour of visitation. Foreign visitations have shown an increasing trend. The total number of foreign visitors that have participated in whale watching in 2014 has increased at least 27 times within three years. However, local visitations have shown a decreasing trend during the period (Figure 5).



Figure 5. Trend of visitation during the 2014 - 2017



Furthermore, ANOVA was used to study the seasonality (Table 2) and trend (Table 3) of the whale watching in Sri Lanka.

Table 2. Average number of visitors per month and test for significance				
Month	Average Local visitors	Average Foreign visitors	Average Total visitors	
January	6215	11779	17994	
February	6124	12481	18605	
March	6238	9759	15997	
April	6079	7464	13543	
May	1538	1940	3478	
June	912	1131	2043	
July	1599	2808	4408	
August	2983	4365	7348	
September	2216	2685	4901	
October	2853	4183	7036	
November	3981	5762	9743	
December	7164	10381	17546	
P value	0.318	0.421	0.000	

Table 3. Average number of visitors per annum and test for significance				
Month	Average Local visitors	Average Foreign visitors		
2014	6384	457		
2015	7436	579		
2016	1064	11116		
2017	1081	12761		
P value	0.000	0.000		

Thirty-four respondents (26 %) ranked their whale watching experience as excellent and 32 (24 %) as very good. 26 (20 %) respondents had average experiences. However, 9 (7 %) respondents had poor experiences and 30 (23 %) respondents terrible experiences (Figure 3).



Figure 3: Summary of reviews appeared in TripAdvisor

According to the respondents' views, the study found five positive factors, two moderate factors and four negative factors with regard to the whale watching industry in Mirissa. Interestingly, 88 % of respondents were satisfied with the observations and the rest were unsatisfied, 64 % of respondents were also satisfied with the service given. 79 % of respondents were satisfied with crew performance whilst 76 % of respondents were satisfied with the organization of whale watching tours. 59 % of respondents were satisfied with the conservational aspect of the tour operators, however, 41 % were not satisfied with the



conservation aspects. The respondents' satisfied and unsatisfied percentages were equal (50%) with regard to size and quality of the vessels.

The study also revealed that 57 % of respondents believed that the prices were too high. A total of 59% of respondents believed that the vessels spent more time at the ocean unnecessarily. Only 41 % were satisfied with the duration of the whale watching tour. Importantly 62 % of respondents have encountered a large number of vessels chasing whales and merely annoying them and found this to be unacceptable. Only 38 % of the respondents believed that their vessels maintained a safe distance from whales. Also, 71 % of respondents believed that the vessels are generally overloaded, while the rest were satisfied with the number of passengers allocated per vessel (Figure 4).



Figure 4. Level of satisfaction (Black: satisfied, Gray: unsatisfied) amongst respondents on observations (OB), crew performance (CR), organization (OR), services given (SE), conservation aspect (CO), vessel size (VS), vessel quality (VQ), price (PR), duration (DU), distance with whales (DI) and number of passengers per vessel (PA).

Discussion

The study found that Mirissa is becoming a more popular destination for whale watching among foreign tourists coming from all over the world, and the number of visitations is increasing annually. According to ANOVA, local and foreign visitation did not show any significant differences between months in a year, and the whale watching tours that are operated throughout the year without any seasonality trends. However, when considering all the visitations together, there is a significant difference among months within a year. The number of visitors' increases in January, February, and December. Most eco-tourism destinations are crowded during the main tourist season from November to April (Fernando and Shariff, 2013) and the researchers' found whale watching visitations have shown the same pattern. Furthermore, there was a statistically significant growth of foreign visitors found.

Therefore, Sri Lanka has a good opportunity to develop the whale watching industry in order to earn more foreign exchange and alleviate the economy. Hence, this discussion mainly focusses on developing a strategic plan to improve the quality of the tourism experience in key areas identified throughout the study. The researchers mainly pay attention to sustain the opportunity to watch a good number of marine mammals and improve the quality of the services provide.



Ensure the sustainability of whale watching

The opportunity to watch a decent number of marine mammals can be identified as the best sign for the development of the whale watching tourism industry in the country. The waters of Sri Lanka are inhabited by a rich diversity of cetaceans with apparent year-round abundance. Based on current taxonomy, 27 species of cetaceans under the two sub-orders, *Mysticeti* and *Odontoceti*, and placed within the six families of *Balaenopteridae*, *Physeteridae*, *Kogiidae*, *Ziphiidae*, *Delphinidae* and *Phocoenidae*, have been recorded from the waters around the island (Ilangakoon, 1997; Ilangakoon, 2002; Ilangakoon, 2006a; Ilangakoon, 2006b; Ilangakoon, Ratnasooriya, and Miththapala, 2000; Leatherwood and Reeves, 1989). However, a strategic plan should be implemented to sustain these observations by promoting responsible whale watching practices and conservation. Comparatively, a high percentage of tourists are satisfied with the conservation aspect and it is a good sign in this regard. They believe that the tour operators respect the ocean ecosystems and marine mammals.

Whale watching can cause both short and long term negative effects on cetaceans: changes in vocalization and respiration patterns, surfacing and swimming behaviour, feeding times, modifications in swimming behaviour, travelling direction, travelling path, travelling speed, group size and coordination, feeding time, surfacing intervals, group size, and displacement from the disturbance area (Nowacek, Wells, and Solow, 2001; Williams et al., 2002; Lusseau, 2003; Christiansen et al., 2010; Bejder et al., 2006; Fortuna, 2006; Lusseau, Slooten, and Currey, 2006; Chen, 2011; Higham, Bejder, and Lusseau, 2009; Parsons, 2012; Weinrich and Corbelli, 2009). Longer term impacts can include chronic levels of stress resulting in negative effects on health as well as reduced reproductive rates (Orams, 2004; Parsons, 2012). Furthermore, whales could be subjected to death or injuries from collisions with whalewatching vessels, especially in areas where there is a high intensity of whale watching traffic. The speed of the vessels also contributes to collisions (International Whaling Commission, 2003).

However, tourists show different behaviour in responding to whale watching from a distance. Most of the respondents have encountered a large number of vessels chasing whales and causing annoyances for them. Therefore, further improvement in the conservation aspect is important.

Many countries introduce different laws, guidelines and codes to control the negative impacts of the industry (Cole, 2007; Garrod and Fennell, 2004; Parsons, 2012). The introduction of guidelines and/or regulations has been the most common method of trying to mitigate the impacts of tour boat whale-watching (Parsons, 2012; Nicolaides & Vettori, 2019). Most guidelines attempt to prevent vessels from 'harassing animals' and/or striking whales, and include features such as minimum approach distances, speed zones, buffer zones, approach angles, noise controls and spatial or temporal 'refuges' (Australian Government Department of the Environment and Heritage, 2006; Parsons, 2012; Nicolaides & Vettori, 2019;Wiley et al., 2008).

In Sri Lanka, The Sea Mammals (Observation, Regulation, and Control) Regulations, No. 1 of 2012 was enacted by the government, intending to ensure to the greatest extent possible, the peaceful and natural existence of all sea mammals whose natural habitat is within the territorial waters of Sri Lanka and assist to regulate and control vessels used by visitors for the purpose of observing such sea mammals (Government of Sri Lanka, 2012). However, the effectiveness of the Regulations will depend on the DWC having the required expertise and finances. To minimize the impacts on whales and ensure a consistent quality visitor experience, a stable and effective management structure is required.

The introduction of the regulations is a good first step in an attempt to establish management guidelines. However, there needs to be sufficient resources provided to enable the DWC to



implement and police them effectively. It is highly likely that adequate resources will not be a forthcoming characteristic feature of protected area management in Sri Lanka (Buultjens et al., 2005) and many other countries. The lack of resources is likely to constrain the strengthening of the institutional capacity of the DWC to respond to actual or potential issues facing the industry (de Oliveira, 2003). The lack of funding will prevent the DWC from effectively monitoring the behaviour of the tour boats. It is also likely to prevent management from conducting carrying capacity studies that are required to determine appropriate visitation levels. There is recognition of the need for these studies however, it is recognized that the funding is unlikely to be available in at least the short term (Buultjens et al, 2016). Another method for managing the impacts of whale watching is to limit the number of licenses issued to operators (Kessler and Harcourt, 2013).

Firm enactment of The Sea Mammals (Observation, Regulation, and Control) Regulations, No. 1 of 2012 is essential in this regard. Empowering the DWC officers by the required skills and infrastructure facilities would be beneficial to improve the performance in legal activities. Furthermore, mutual understanding should be improved between DWC officers and entrepreneurs to convince them that all these efforts are not for distress but to sustain the industry. The tourism industry points out the loopholes of the legislation; therefore, all the stakeholders should come around a table and deliberate on the present legislation and reform it, if needed. Meanwhile, improving awareness among the entrepreneurs about the impacts of whale watching on marine mammals and how it can be managed by responsible tourism practices is vital.

Improve the quality of the services provided

Improving the quality of the services provided is another key factor that should be taken into consideration. The conditions of the vessel and crew performance are the main factors that come into play in this regard. The respondents equally reacted (50 %) against the size and quality of the vessels. Tourists have encountered bad boat conditions like those for example, emitting a high amount of fuel exhausts (this will affect the breathing of whales at water surface), bad seating facilities, and overcrowding; therefore, the industry should pay much more attention to this. Uncomfortable travelling facilities and not providing adequate seating facilities may fuel the problem further. The situation will be worse when the sea is rough, and a boat is too small. Obstructed views are another problem in watching marine mammals in overcrowded boats. Overcrowding is a serious concern which not only affects the view for tourists while whale watching but also threaten the tourists' lives due to possible accidents and overloading.

Crew performance, organization, quality of the services given, and conservation aspects are also identified as positive factors from this study which can help provide an opportunity to boost the whale watching tourism industry in the country. Meals and refreshments given were highlighted by the respondents who were satisfied with the service. However, some tourists have complained that meals, refreshments, sanitary facilities, and the life jackets given were in poor condition and the tour operators should pay more attention in this regard. The tourists were satisfied with crew performance, but they had some concerns about their professional status, knowledge, and ultimatel, experience. It is mandatory for vessels boarded with passengers to observe sea-mammals to have a registered guide on board, this can promote both satisfaction and awareness. Improving professional status, knowledge, experience, and friendliness of guides requires appropriate training and awareness. Training is viewed as an incentive to the employee but contributes to the sustainability because productivity and service quality is improved (Sao Joao et al., 2019).

In addition to the provision of the guidelines, it is becoming increasingly accepted that education and interpretation are important components of satisfying tourism experience, especially those occurring in the natural environment and involving wildlife (Luck, 2003).



Education/interpretation provided on-board whale-watching vessels is likely to be viewed as an important part of the tour (Mayes & Richins, 2008) as well as increasing customer satisfaction (Parsons et al., 2003). Moscardo and Saltzer (2005) note that "there is a substantial correlation between the amount visitors believed they learnt about the wildlife during their visit and their overall satisfaction with the wildlife experience". An equally important outcome from education/interpretation is that it can help reduce the negative impacts on whales (Newsome, Moore, and Dowling, 2002). Bentz et al., (2015) also note that overcrowding can also reduce visitor satisfaction.

Price and duration have been identified as negative factors. If the tour operators can improve services, then their prices will not be a problem. A higher number of respondents believed that the vessels spend more time in the ocean than necessary. This may occur because the tour operators promise to reimburse tourists the money, if they are unable to show them whales, hence they spend more time in the ocean to show marine mammals and satisfy their customers. Tourists have given both positive and negative feedbacks in this regard. Sometimes this attempt interrupts the itinerary of the tourists and therefore the tour operators should pay much attention to manage this issue. Garbage management in the boats is also very poor, and the food wastes generated by lunch packets and plastic water bottles which is offered to every visitor is merely dumped into the sea. Another concern is the sewage from lavatories in all boats are drained to the sea without any treatment. Garbage management in the harbour without proper management have been recorded (personal observation).

The variability in the behaviour of the operators (Williams, 2013b; Buultjens, Ratnayake, and Gnanapala, 2016) resulted in highly uneven visitor experiences and this variability was reflected in the reviews on the websites. The harassment of whales by the boats, overcrowding, considerable time spent on rough seas with some boats spending up to six hours at sea, seasickness and safety concerns on board the ships (Williams, 2013b; Williams, 2013c; Sri Lankan Airlines, 2012) contributed to poor visitor experiences. The management issues facing the industry are almost similar to other countries where whale watching operations are occurring (Parsons, 2012). This concurs with findings by Buultjens et al (2016) who also found the same issues in the same study site during their study in 2012 - 2013, and this study further confirms that these problems have remained unresolved for a long time. Therefore, the management of the industry needs to address these problems, immediately if they wish to remain in business.

Stakeholders should pay much more attention to the factors mentioned above and necessary steps should be taken to develop a strategic plan in order to strengthen the positive and moderate factors and avoid the negative factors, this will provide fruitful benefits to the tourism industry in Sri Lanka. Both governmental agencies like DWC, Sri Lanka Tourism Development Authority, Central Environment Authority, National Aquatic Resources Research and Development Agency, and Marine Environment Protection Authority, tourism service providers, local communities, tourists, and interested non-governmental agencies have specific responsibilities in order to streamline the whale watching industry in Sri Lanka and their strong intervention is essential for the sustainability of the industry. The end of the armed conflicts would also facilitate the future development of the whale watching industry in Trincomalee (Buultjens et al., 2015) and the government has also identified the feasibility of Kalpitiya, a relatively undeveloped tourism destination on the west coast, for substantial tourism development, including whale and dolphin watching (Tjolle, 2011). The availability of a strategic plan will be beneficial for the good management of the operations in these sites as well.

Consequently, the study has shown that the attention of local visitors to the destination is decreasing annually. The price could be the reason behind this decline, as not all foreign



visitors are able to afford the price; however, further studies would be required to find out the possible other reasons, and steps should be taken to resolve problematic issues.

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