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Ecotourism Potential in the Northern Province of Sri Lanka

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ABSTRACT

Enriched with biodiversity, cultural, and historical significance, the northern province has a high ecotourism potential. However, the province has not been achieved its full potential for ecotourism development even after the armed conflict. A one-year study was conducted from April 2020 to May 2021 to investigate the ecotourism potential. Data were collected through an online questionnaire survey and field visits. The ecotourism potentiality was evaluated using Pralong's method selecting 20 prominent places. Potentiality map for the northern province was produced using ARC GIS 10.3 software. According to the survey, the majority (89%) answered that there is a high potential for the northern province to develop as an ecotourism destination. However, there are several hindrances for this namely lack of community and institution participation, lack of infrastructure, lack of transportation, and the lack of accessibility. According to the analyzed map, the Jaffna district has the highest potentiality for ecotourism development, followed by Mannar, Killinochchi, and Mullaittivu. The Vavuniya district has a low potential for ecotourism development. Therefore, necessary infrastructure development and promotional activities should be operationalized to improve the area as an ecotourism destination. Hence, the northern province has an amazing ecotourism potential for future ecotourism developments in Sri Lanka.

Keywords: Destination, District, Ecotourism, Northern Province, Potential, Sri Lanka

1. INTRODUCTION

Ecotourism is a widely recognized term in sustainable tourism that promotes the sustainable development concept (Wickramasinghe, 2013; Dahanayaka *et al.*, 2015). Moreover, it is a niche market (Weaver, 2001) that helps to reduce the negative impacts on the society, economy, and environment (Cristina, 2004; Dahanayaka *et al.*, 2015). Sri Lanka has an exceptional potential to develop as an ecotourism destination (Bandara, 2009; Zoysa, 2021). Particularly the northern province has unbelievable potential for ecotourism activities. Despite that, the northern province had not become a popular destination in terms of tourism or ecotourism even after ending the civil unrest in Sri Lanka (Aloysius *et al.*, 2020; Wijewardena, 2021). Hence, there are still challenges existing to make it a better destination in this post-war development scenario. However, the northern province on the other hand is enriched with many resources including natural, cultural, and historical values. These resources were not exposed to visitors until 2009 due to political instability in the country. Hence, these values may create some novel opportunities for ecotourists that tourists may have never been experienced before. Despite its splendid resources (Weerakoon *et al.*, 2020), the total contribution to ecotourism income is minimum compared to the other parts of Sri Lanka. This is because people may have fear of past experiences and they still stay away from the northern province. Moreover, less popularity, the lack of accessibility, lack of support from the local community, and the lack of infrastructure facilities make it further difficult. Nevertheless, the northern province became one of the important provinces in Sri Lanka that was developing fast. However, this growth can negatively affect the cultural identity of the community and the natural resources (Vaughan 2000; Cristina, 2004; Dahanayaka *et al.*, 2015), if we can't properly manage it. Therefore, ecotourism is suitable as a win-win solution for sustainable development (Barna, 2009; Barna *et al.*, 2011) that plays an important role in preserving the cultural identity of people, biodiversity, and natural resources (Nelson, 2004; Baromey, 2008) in this post-war developing context. However, the past three decades were not given chances to study and explore the resources in the province hence lack of studies were subjected to concern particularly in ecotourism. Therefore, the paucity of knowledge must be addressed. Hence the present study focuses on revealing the ecotourism potential that will be a base for future ecotourism development in the northern province (Wijewardena, 2021).

2. STATUS OF ECOTOURISM IN SRI LANKA

Ecotourism is the "responsible travel that conserves natural environments and sustains the well-being of local community" (Wood, 1999). Ecotourism had been introduced to Sri Lanka in 1980 with the objectives of conservation of nature and sustainable tourism (Pathmasiri, 2017). The major objective was to attract tourists to natural areas that are protected and to support the local economy (Bandara, 2009). Having been blessed with various ecological and favorable climatic conditions on relatively a small island, Sri Lanka possesses a unique potential for ecotourism. However, Sri Lanka at present, contributes far below its potential of ecotourism (Wickramasinghe, 2013). Despite its significant potential, Sri Lanka has failed to capitalize on this concept (Bandara, 2009), and various organizations have implemented the ecotourism concept differently (Pathmasiri and Bandara, 2019). It is highly doubtful whether the existing ecotourism activities in Sri Lanka meet ecotourism concepts and principles.

Simply visiting to a natural area is not ecotourism and even mass tourism into the natural areas cannot be considered ecotourism (Bandara, 2009). Therefore, mass tourism into the protected areas can affect negatively (Belsoy *et al.*, 2012). However, many tourists and travel business have used the term “ecotourism” extensively to promote the destination without concerning the most basic principles. This ‘green washing’ has undermined the true value of ecotourism (Bandara, 2009), and it is a result of a lack of understanding of basic principles of ecotourism (Diamantis, 1999; Wondirad *et al.*, 2020). Consequently, this has resulted to reduce benefits for many of the sectors which ecotourism intends to support (Pathmasiri and Bandara, 2019). According to Bandara (2009) most of the operators are not willing to practice ecotourism in its true sense although they believed in the importance of implementation. Therefore, the majority of them can be categorized into nature-based tourism and a few combinations of nature and adventure-based tourism but not authentic ecotourism. Most of them use the eco-label without genuinely practicing its concept (Pathmasiri and Bandara, 2019). Moreover, the lack of a proper guiding mechanism and certification make this concept into a loose cannon. Therefore, it is pragmatic to implement true ecotourism rather than changing some of the its underline basic principles. Developing authentic ecotourism activities will enhance the economy and conserve biodiversity.

3. MATERIALS AND METHODS

3. 1. Study area

The northern province was selected as the study area which consists of five districts such as Jaffna, Mullaitivu, Kilinochchi, Vavuniya, and Mannar (Figure 1). The province is the third largest province in Sri Lanka and the size is about 8,884 km² in an extent that accounts for about 13.22% of the total land area in Sri Lanka (Nadanasabesan, 2015). It is surrounded by the Gulf of Mannar and the Palk Bay to the west, the Bay of Bengal to the north and east, and the northcentral and the northwestern provinces to the south. The northern province is located in law land dry zone that is characterized by dry climatic conditions (Nadanasabesan, 2015). The province is covered by tropical dry mixed evergreen forests of 1,980 km², with numerous rivers flowing through them. It is estimated that 49% of land is covered by dense forest. The annual rainfall is less than 1,250 mm from northeast monsoon during November and February and very less from southwest monsoon from May to August (Nadanasabesan, 2015). The climate is typically tropical with the average temperature varies between 28 °C to 32 °C and relative humidity changes from 70% during the day to 91% at night. The population of the northern province is about 1.253 million with the majority are Sri Lankan Tamil (93.86%), and a minority Sri Lankan Moor (3.06%) and Sinhalese (3.05%) population (Nadanasabesan, 2015).

3. 2. Data Collection

Both quantitative and qualitative methods were adopted to collect data. We collected the primary data from the respondents using an online questionnaire and the collected data were fed in the Microsoft Excel sheet. Moreover, occasional field visits to the selected locations were done to collect the field data. The questionnaires that are consisting of 15 questions were sent through emails for the respondent and the data collection was done for one year from April 2020 to May 2021. The respondents belong to different sectors such as international and

domestic ecotourists, hotel owners, employees, university students, researchers, conservationists and naturalists that have engaged in the ecotourism field.

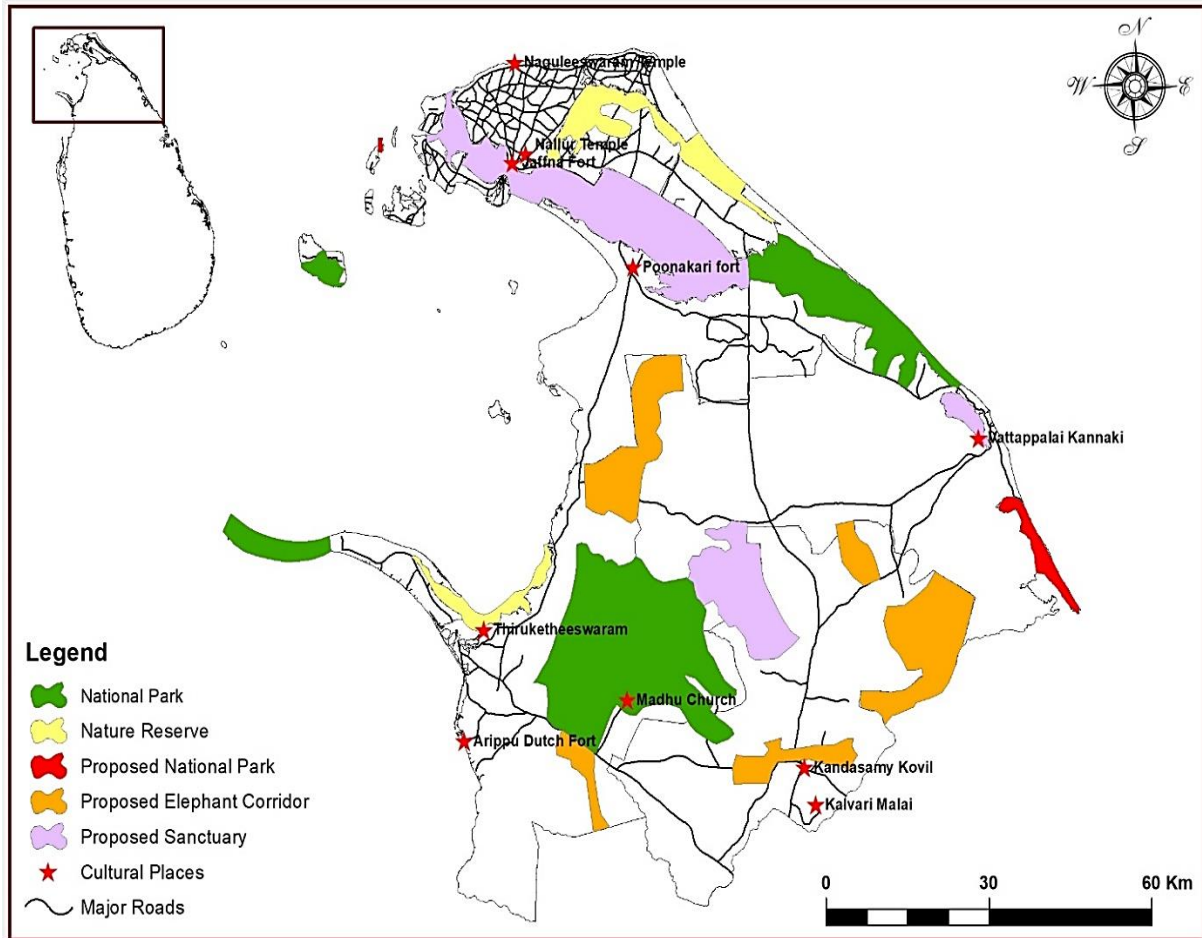


Figure 1. The map of study area showing the important wildlife areas and cultural places.

3. 3. Analysis

Descriptive statistic method was used to analyze the questionnaire data. Using both the questionnaire and field data the ecotourism potential of the area was evaluated based on Pralong's method (Safarabadi, 2016). 20 locations that have ecotourism potential in the northern province were selected to analyze using this method. The selection was based on existing literature, field visits to the area, discussion with experts, and discussion with the local people.

Then identifying the attractions of the province in terms of ecotourism attractiveness (Aesthetic, Scientific, Cultural, Participation, Economic, and Additional Attractiveness), and scoring each of these values. A comparison was done in terms of ecotourism attractions and productivity scale and potentialities were determined (Safarabadi, 2016). Evaluation of ecotourism scale was carried out by six criteria: Aesthetic value, Scientific value, Cultural, Economic, Participation, and Additional values of the location, which is expressed in the following equation:

$$\text{Tourism Scale} = (\text{Aesthetic value} + \text{Scientific value} + \text{Cultural value} + \text{Economic value} + \text{Participation} + \text{Additional value})/12$$

These factors were selected based on the experiences, discussion with experts in related fields of study, and analyzing the authenticated literature. In the above equation, the weight of none of the tourism scale criteria is more or less than any of the other criteria, as there is no special reason for increasing or decreasing the importance of any criterion in comparison to other criteria (Table 1) (Mokhtari, 2010). The Aesthetic Value was calculated using both the distance from the main road and the average distance from the closer ecotourism location. The Scientific Value was calculated considering location status, ecological attractions, and the Cultural factor value including the status of historically significance and spiritual evidence. The Economic value was calculated using benefits to the local people and level of attraction. The participation value was formulated using both community participation and institutional participation, and the state of contribution by the local people, District Secretariat, Divisional Secretariat, Department of Wildlife Conservation, Forest Department, and Provincial Tourism Bureau. Finally, the additional value was calculated including the status of Promotion and Infrastructure facilities and promotion factor including all promotional activities for ecotourism by considering questionnaire survey and field data using the Likert scale. These responses were calculated based on the Likert scale, and all the six factors' mean values were calculated and considered for final site suitability of ecotourism in the northern province to prepare a potentiality map. The mean values (Table 2) were imported to the attributes table in the location map (20 locations) then Inverse Distance Weighting (IDW) method was used to produce the potentiality map in ARC GIS 10.3. The degree of suitability was ranged as high potential, moderate potential, low penitential, and very low potential based on numbers and Likert scales (Table 1).

Table 1. Evaluation of ecotourism scale according to Pralong's method (Safarabadi, 2016).

No	Description		Unit	Weights	Ranking		
					High	Moderate	Low
1	Aesthetic Value	The distance from the main road	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
2		The average distance from the closer ecotourism location	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
3	Scientific Value	Location status	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
4		Ecological attractions	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5

5	Cultural Value	Historical evidence/ Historical significant	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
6		Religious and spiritual evidence	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
7	Economic Value	Benefit to the local people	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
8		Level of tourist attraction	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
9	Participation Value	Community participation	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
10		Institutional participation	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
11	Additional Value	Promotion	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5
12		Infrastructure	Numbers	Mean Value	> 3.5	2.5 - 3.5	< 2.5

Table 2. Average Likert value for the prominent natural and cultural places in the northern province.

No	Location	Total Average (Ecotourism Potentiality)
1	Nallur temple	3.92
2	Jaffna fort	2.92
3	Naguleeswaram temple	2.92
4	Kandasamy kovil	2.08
5	Kalvari malai	1.58
6	Arippu dutch fort	1.67
7	Thiruketheeswaram	3.42
8	Madhu church	3.58
9	Vattappalai kannaki amman kovil	3.25

10	Poonakari fort	2.17
11	Delft island national park	3.17
12	Adam's bridge marine national park	2.58
13	Chundikulam national park	3.5
14	Madhu road national park	3.42
15	Jaffna lagoon sanctuary	3.5
16	Vidaltivu nature reserve	2.17
17	Vavunikulam sanctuary	2.17
18	Paraitivu Island sanctuary	1.67
19	Nanthi kadal sanctuary	2.33
20	Kokkilai sanctuary	2.08

4. RESULTS

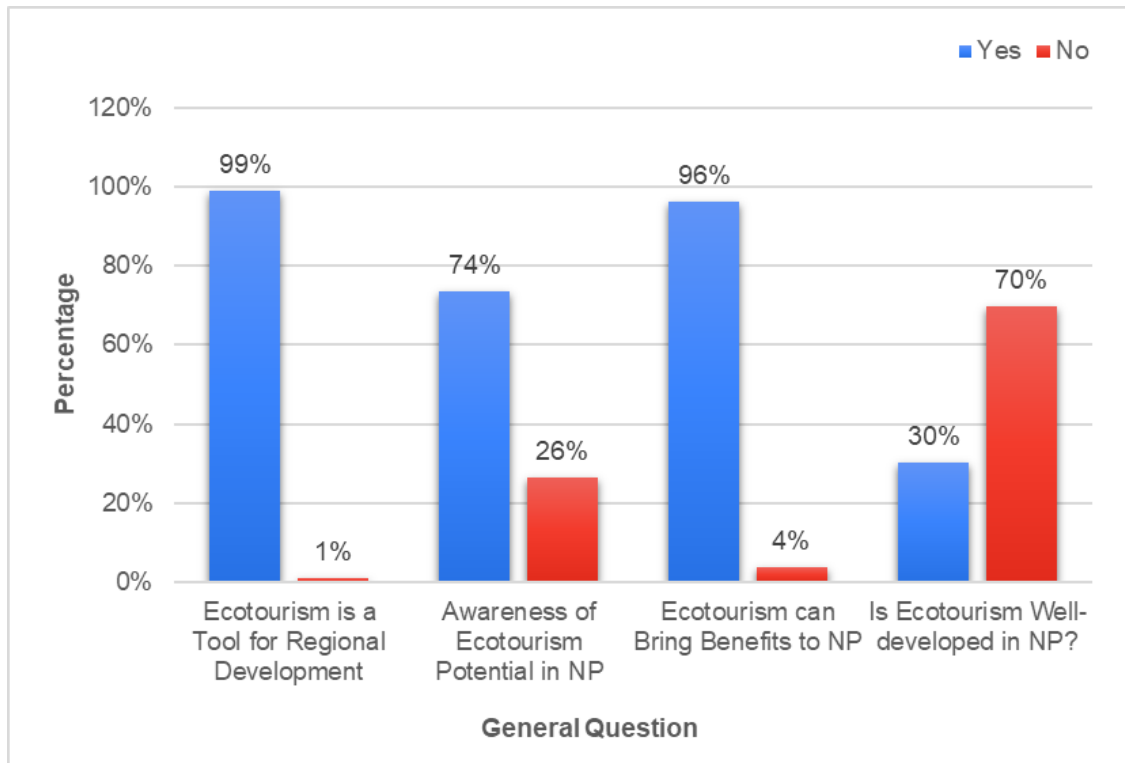


Figure 2. People responses for the general questions

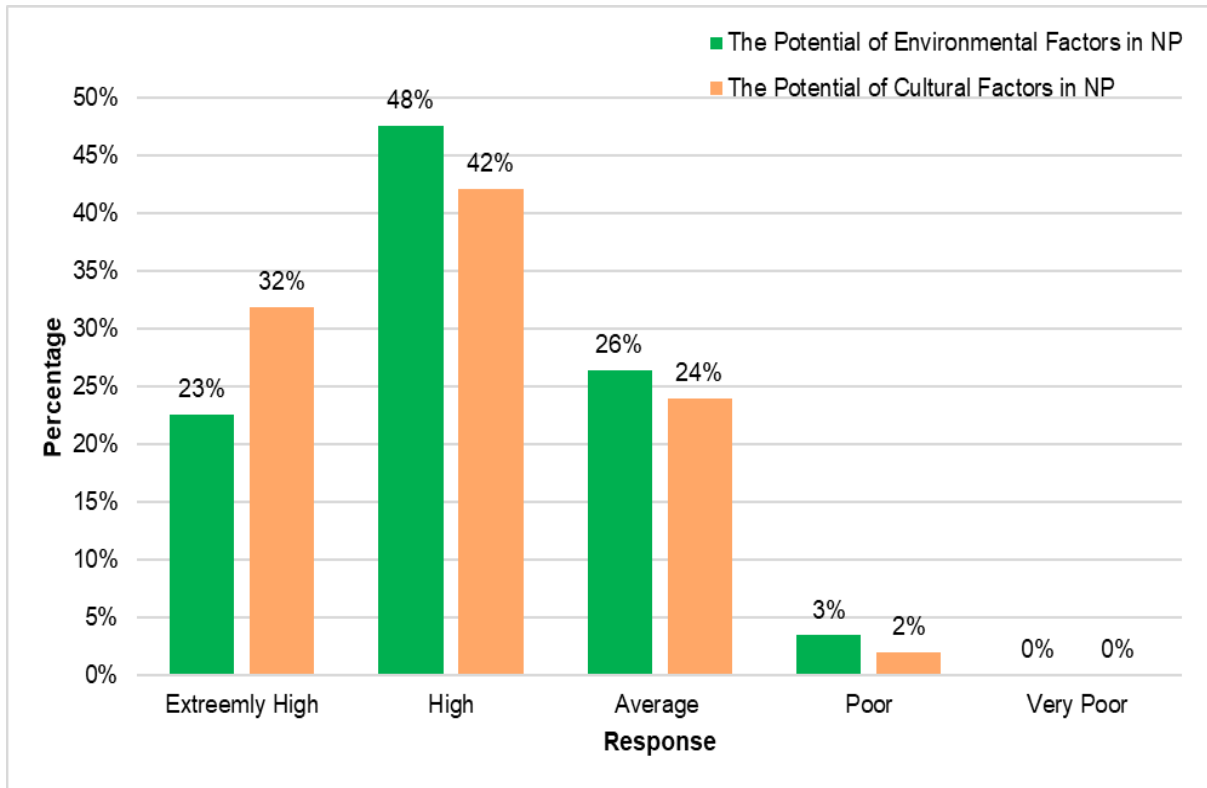


Figure 3. Environmental and cultural potential in the northern province

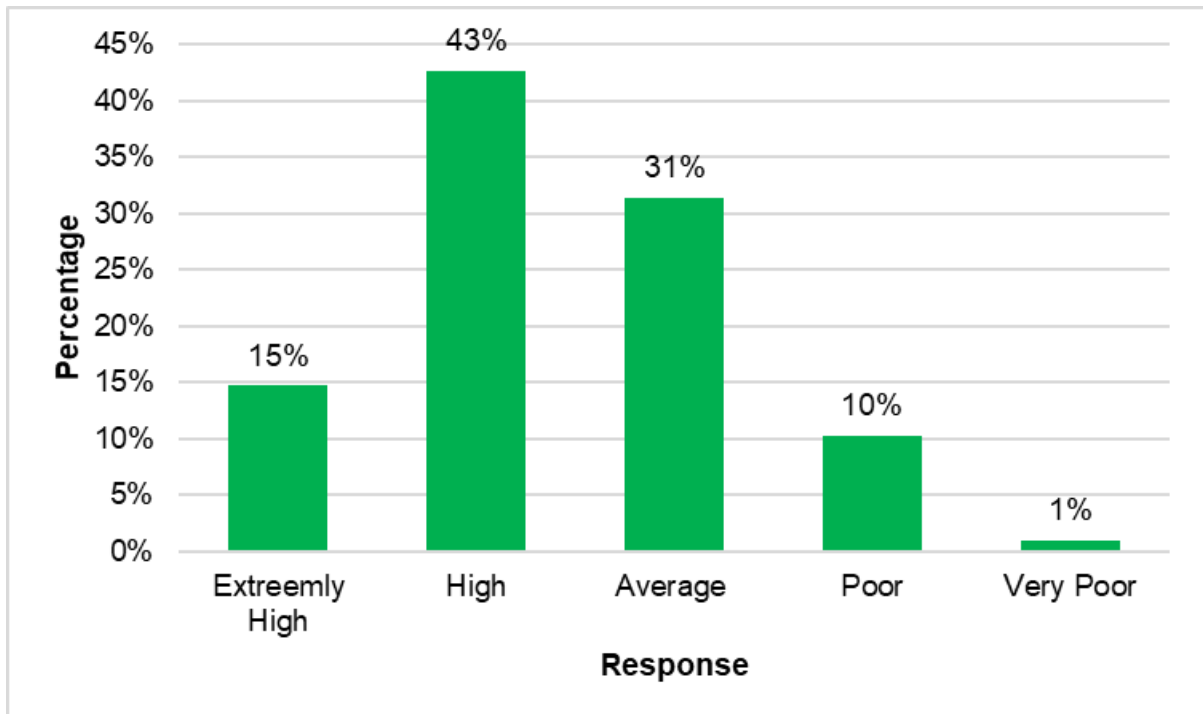


Figure 4. Ecotourism potential in the northern province

There were 204 respondents who successfully completed the online questionnaire survey. Among them, the majority (99%) answered that ecotourism is a tool for regional development and the majority (98%) answered that it can bring benefits for regional development (Figure 2). However, ecotourism has not been yet developed to the expected level as they (70%) replied in the northern province. Moreover, the respondents' awareness about ecotourism potential in the northern province is also quite high (74%). The potential of environmental and cultural resources in the province is also high according to the answers (Figure 3). However, infrastructure facilities (Transports and accessibility (82%) and accommodation (83%)) for ecotourism are in very poor, poor, and average level as they answered. Moreover, institutional and community participation are also not at satisfactory level according to the respondents. Nevertheless, there is a very high potential (Average and above-89%) for ecotourism development in the northern province (Figure 4).

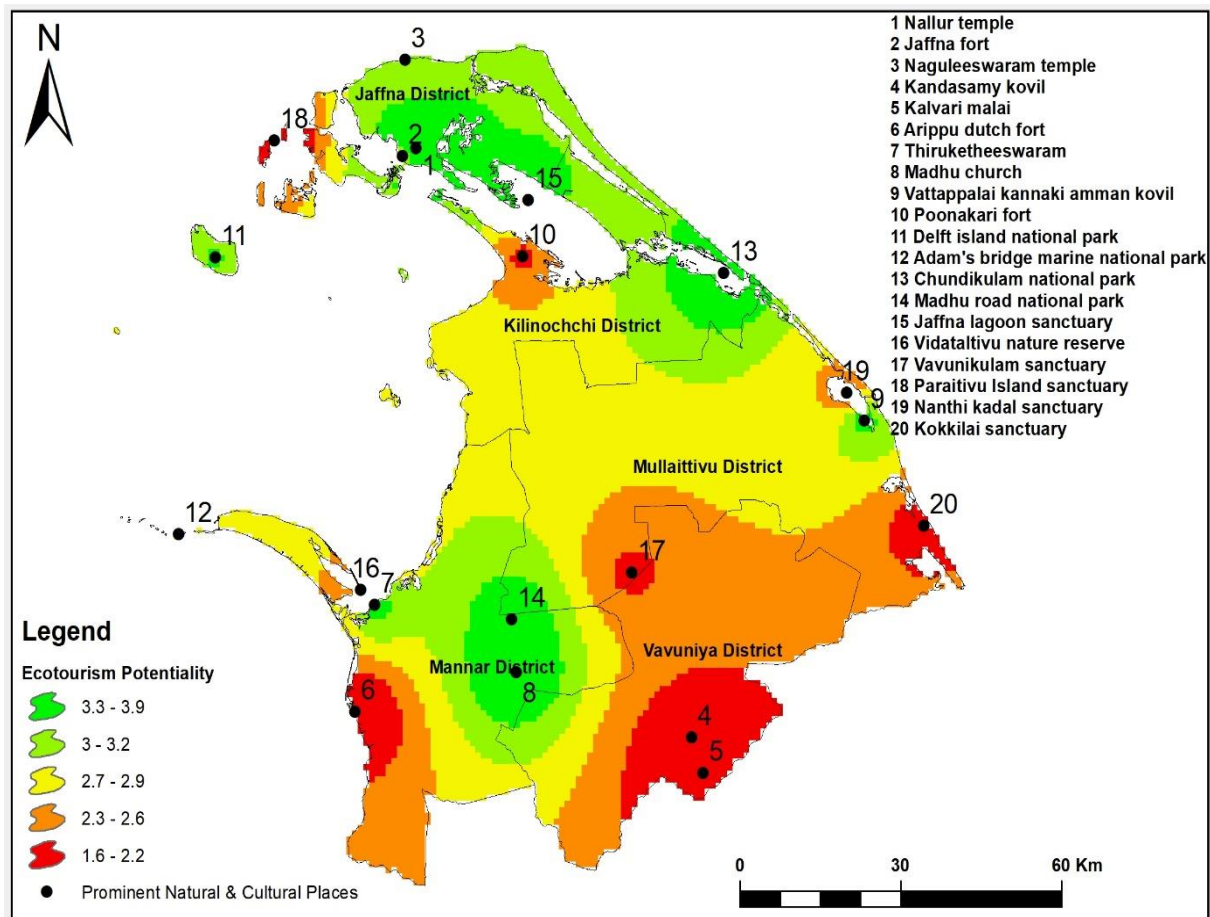


Figure 5. Ecotourism Potentiality map for the Northern Province (high > 3.5, Moderate = 2.5 - 3.5, Low < 2.5)

According to the analyzed and prepared potentiality map, the Jaffna district has the highest ecotourism potentiality among the five districts. Kilinochchi, and Mannar also have the potentiality for ecotourism development. Mullaitivu district on the other hand has a low

potential for ecotourism development. However, among the five districts Vavuniya has the lowest potential for the ecotourism development (Figure 5).

5. DISCUSSION

According to the questionnaire survey, the majority answered there is a very high potential for northern province to develop as an ecotourism destination. For instance, environmental and cultural resources for ecotourism development are available within the province. However, there are several barriers that exist for implementation of these such as the lack of community participation, lack of institutional participation, lack of infrastructure for ecotourism, and lack of accessibility. Respondents further suggested that awareness programs are vital and necessary for the local community. We selected 20 locations from the northern province that had natural and cultural significance and possibly can be developed as ecotourism destinations.

Based on the prepared map of the northern province, the Jaffna district takes the highest value for the ecotourism development among the five districts. Moreover, Kilinochchi district and Mannar district have considerable potential for ecotourism development. Mullaitivu district also has some potential for ecotourism. Nevertheless, the Vavuniya district has taken the lowest potential for ecotourism. Even though the Jaffna district takes high potential, we cannot conclude that other districts have no potential particularly the Vavuniya district. The Vavuniya district takes low value primarily due to the lack of infrastructure, lack of community participation, and institutional participation, and lack of promotions. On the other hand, the Jaffna district is particularly high in those aspects.

Therefore, well-managed action plans, strategies, regulations are pragmatic thus ecotourism has clear ecological and economic impacts (Stronza, 2007). Moreover, policies and legislation should be in place to give clear authority and different stakeholders of ecotourism. Further, increasing awareness and altering consumer behavior require responsive policies on ecotourism.

Therefore, necessary steps should be taken to develop these aspects for the development of the province in general and ecotourism in particular. The northern province has mangrove forests, a large extent of dry forests, lagoons, wetlands. They form some unique experiences for the visitors who travel to the area. Moreover, the province is most suitable for wildlife activities particularly birdwatching thus there are many rare residents and migrant waterbird potential areas. Even though whale watching activities are not prominent and popular in the northern province, there is a potential to develop whale watching activities, especially in Mullaitivu district. Further, Asian Elephants are a common sight in Mullaitivu district thus it makes the potential for elephants watching activities. Given its long-term isolation from the other provinces, Northern Province has developed a unique culture that is different from the other local cultures in Sri Lanka.

There is some form of cultural activities, dancing, foods that are confined to the province. Thus they form most novel experiences for visitors thus really helpful for ecotourism development. Ecotourism should be genuinely practiced to gain its benefits to all the sectors without changing its basic principles as in other areas in Sri Lanka. Then only we can expect the true benefits out of ecotourism. Especially in many areas in Sri Lanka the local people are not helpful and have little faith in tourism because of this problem.

When the local people receive benefits out of tourism, they will take challenges and engage more in ecotourism activities. Therefore, to implement the true concept we must consider the participation of all the relevant stakeholders.

6. CONCLUSION

Endowed with rich natural, cultural and historical values, the northern province has exceptional potential for ecotourism development. However, ecotourism is on the infant stage in the province thus there are minimum ecotourism activities within the province. Further people still have fear and avoid selecting the northern province as a destination due to past experiences.

Therefore, proper promotional activities should be conducted about attractions within the province for ecotourism development. Since the province has a rich biodiversity, it can be threatened with these rapid post-war development activities. Hence, ecotourism is suggested to implement as a proper tool for the conservation of biodiversity and the cultural identity of the people.

Moreover, it provides sustainable living income for the people around the area thus better for the sustainable development paradigm as a win-win solution. Lack of awareness and participation among the local people is the major problem, as a result, they are not much supportive. Hence proper awareness programs are essential prior to any ecotourism program. Despite its high potential, the government has given little attention to the Northern Province. Hence, participation of all the stakeholders is pragmatic and necessary to make the province a better destination. The lack of studies on the potential that exists within the province makes difficult to achieve this. Therefore, further studies on ecotourism are recommended to explore the potential within the province. Finally, this study will provide the basement for future ecotourism development in the northern province.

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