ECONOMICS OF ECOTOURISM IN KERALA: A COMPARATIVE ANALYSIS OF SELECTED ECOTOURISM CENTRES IN PATHANAMTHITTA DISTRICT, KERALA

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Abstract
Ecotourism is a widespread tourism practice that aims to promote tourism without compromising the sanity of socio-cultural and natural environments. It has more acceptance than mass tourism as it provides direct and indirect income to the natives. Kerala now focuses on ecotourism, using its rich biodiversity, and a lush green natural environment. Eco tourism sites in Pathanamthitta District are popular and economical among the ecotourism centres in the state. It has immense potential to expand ecotourism activities. The present paper examines the characteristics of different ecotourism sites in the Pathanamthitta district and their economic benefits from ecotourism. It is found out that among the major ecotourism sites in Pathanamthitta, despite having enough competency, the Aadavi Bowl boat Centre is more economically beneficial than other sites. Konni is the second economically beneficial ecotourism Centre in Pathanamthitta District.

Keywords: Ecotourism, Economic, Mass tourism, Competency.

Introduction
Kerala, God's Own Country, is blessed with spectacular geographical features, calm weather conditions, historical features, unique traditions, heritage, and culture. These unique features made Kerala one of the global tourist destinations in the world. The domestic and international flow of tourists flourish the state economy too. Kerala is unique from the rest of the states of India. It is different geographically, physiologically, and ways of living standards. The state is geographically located in the southwest of India and bordered by the Arabian Sea in the west and the Western Ghats in the east. The vast coastline throughout the western part provides a tropical climate. The existence of the Western Ghats, one of the significant mountain systems of India, provides mild climatic conditions to the state. Kerala is the first state to get monsoon, remains the greenest state in India. With the abundance of rain from southwest monsoon and northeast monsoon, along with 44 rivers and canals, the state's agriculture and allied sector flourished. The Western Ghats enable scenic beauty and attract global attention to districts like Wayanad, Idukki, Palakkad and Kottayam. Backwaters and long coastal lines are other major attractions.

The fourteen districts of Kerala are rich with their traditions and cultural practices, visible in the state's art, literature, and architecture. UNESCO recognised art forms like Koodiyattam and Mudiyettu, prominent traditional art forms in Kerala. With the unique traditions, the state's medicinal practices were remarkable. The term 'Ayurveda' representing natural treatment is another attraction in Kerala. People from different nations came to Kerala especially for Ayurveda treatment which is the best way of healing the body and mind. The mental and physical relief combines with spirituality as most Ayurveda centres are closer to temples; this gives a unique experience for the state will make a massive inflow of foreign remittances. Kerala had a flourishing economy with its abundant agricultural produce and variety of spices. Trade through sea routes existed in the state for centuries ago. Kerala was often called the 'Malabar coast' because of the sea route trades. The arrival of Vasco de Gama at Malabar Coast in the year 1498 turned a new chapter to Kerala and entire India.

As a developing nation, the Indian economy and the situation of the population is considered poor. Nevertheless, Kerala has high living standards, literacy rates, health and hygiene, and capita income. For centuries, the state was an agrarian economy, but the post-independent period changed from producing to the consumer. The economy is in the current standards from the earnings from the service sector. Tourism is one sector that provides massive income and employment to the state. Hence the state government did their best to promote tourism efficiently. Ecotourism, Backwater tourism, Argo tourism, and adventure tourism are developing.
In recent years, responsible tourism also emerged. Several institutions like District Tourism Promotion Councils (DTPCs), Kerala Tourism Development Council (KTDC), Kerala Tourism Infrastructure Limited (KTIL), Kerala Institute of Travel and Tourism Studies (KITTS), helped in the promotion of the tourism sector at various levels.

Pathanamthitta district is considered the hub of pilgrim centres in Kerala. It came into existence in 1982. According to census 2011, the district has two revenue divisions, five Taluks and 68 Villages. The district is surrounded by Idukki and Kottayam on the south, Alappuzha and Kollam on the West, and Tamil Nadu on the East. Achancoil, Manimala and Pampa are the major rivers flowing through the district originating from western Ghats. The Districts Forest area stretches over 1533.79 sq. km, around 60.43 per cent of its geographical location. Evergreen forest, semi-evergreen forest, and moist deciduous forest are the three main classifications in the district. The major ecotourism centres in Pathanamthitta Districts are listed as:

1. ADAVI BOWL BOATING
Adavi Ecotourism centre is a joint project of the Department of Forest and Tourism. It is situated near Konni and launched in the third phase of the Konni Ecotourism Project. It is on the banks of the Kallar river and 10 Km away from Konni. The picturesque forest patch provides bowl boat riding or Coracle rafting facilities to tourists.

2. KONNI ECOTOURISM
Konni ecotourism Centre is situated on the banks of river Achencoil. It has an extensive forest area with a rich history of man-forest interaction. The Maharaja of Travancore constituted Konni Reserve Forests and Achencoil Reserve Forests in 1897 and 1901, respectively, which have extensive forests and rich biodiversity. The Centre is one of the oldest reserve forests in the state.

3. TREETOP BAMBOO HUTS
The forest department built the treetop bamboo huts as a part of the Adavi Ecotourism project, which aimed to attract visitors. It is situated near the Kallar river.

4. GAVI ECOTOURISM
Gavi is one of the famous ecotourism destinations in the Pathanamthitta District. It is a successful project of Kerala Forest Development Corporation in the Pathanamthitta District. It is situated in the Ranni reserve forest, and its location is in the southwest of Vadiperiyar and Kumily near Thekkady. It is also a part of Periyar Tiger Reserves.

The district has many other ecotourism sites such as the Konni Forest area, jungle safari and Kurichi. However, Adavi-Gavi, Bowl boat centres and Bamboo huts are located close and develop independence. Moreover, it exists as a model for ecotourism development in the state. So, the present Paper aims to unearth the profitmaking ability of ecotourism centres in Pathanamthitta districts to identify their future potentials.

OBJECTIVES OF THE STUDY

- Comparing the income and expenditure of selected ecotourism centres in Pathanamthitta
- Comparing the impact of tourist arrivals on the profit of the selected ecotourism centres in Pathanamthitta

DATA AND METHODS

The study mainly used secondary data collected from Konni Forest department statistics from 20-15-16 to 2018-19. But the Konni Forest department provides data of Adavi and Gavi together. Because, tourism department provide the tour package for both Adavi and Gavi. The income-expenditure statements of each eco-tourism centre are presented with calculated expenditure per visit in the centres. A simple linear regression was employed to analyse the impact of the number of visitors on the net income of the centres.

RESULT AND DISCUSSION

Though considered the pilgrim tourism centre, the Pathanamthitta districts’ scenic beauty and rich biodiversity attract tourists. The ecotourism centres in the district are an example of the successful working of micro tourism sites which receives both national and international tourists.
Comparative analysis of the number of visitors (Figure 1) in the four main ecotourism sites in the Pathanamthitta district shows that the Konni ecotourism centre attracts more visitors than all other centres. The number of visitors during 2016-17 to 2018-19 experienced by other tourist centres also declines. Adavi-Gavi, Bamboo huts, and Bowl Boating centres exist as satellite centres of Konni. However, these centres have immense potential to attract more tourists independently.

**Source: Konni Forest department statistics**

**Income and Expenditure statements of Adavi-Gavi Tour Package (2015-16 to 2018-19)**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Visitors</th>
<th>Collection</th>
<th>Expenditure</th>
<th>Net Income</th>
<th>No of trips</th>
<th>Expenditure Per trip</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>1189</td>
<td>1941700</td>
<td>1386880</td>
<td>554820</td>
<td>82</td>
<td>16913.17073</td>
</tr>
<tr>
<td>2016-17</td>
<td>2549</td>
<td>4131900</td>
<td>2429371</td>
<td>1702529</td>
<td>193</td>
<td>12587.41451</td>
</tr>
<tr>
<td>2017-18</td>
<td>2438</td>
<td>3971600</td>
<td>2623918</td>
<td>1347682</td>
<td>183</td>
<td>14338.34973</td>
</tr>
<tr>
<td>2018-19</td>
<td>1155</td>
<td>2024650</td>
<td>1725209</td>
<td>299441</td>
<td>90</td>
<td>19168.98889</td>
</tr>
<tr>
<td>Grant total</td>
<td>7331</td>
<td>12069850</td>
<td>8165378</td>
<td>3904472</td>
<td>548</td>
<td>14900.32482</td>
</tr>
</tbody>
</table>

**Source: Konni Forest department statistics**

Income and expenditure of Adavi-Gavi Tour centre (Table 2) show that the total collection is at peak during 2016-17. During 2015-16, the collection and visitors were meagre. The expenditure per trip showed an increasing trend since 2015-16 and peaked during 2018-19. It is also evident that there is a continuous decrease in net income. Similarly (Table 3), Bamboo huts’ income and expenditure statement also exhibit a picture of loss of revenue. The treetop hut earned the highest profit (rupees176751) and had the most significant number of visitors (1305) during 2017-18 only.

**Income and Expenditure statements of treetop bamboo hut (2016-17 to 2018-19)**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Visitors</th>
<th>Collection</th>
<th>Expenditure</th>
<th>Net Income</th>
<th>No. Hut Booked</th>
<th>Expenditure per booking</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-17</td>
<td>558</td>
<td>700000</td>
<td>730522</td>
<td>-30522</td>
<td>116</td>
<td>6297.60345</td>
</tr>
<tr>
<td>2017-18</td>
<td>1305</td>
<td>1520000</td>
<td>1343248</td>
<td>176752</td>
<td>382</td>
<td>3516.35602</td>
</tr>
<tr>
<td>2018-19</td>
<td>163</td>
<td>1186000</td>
<td>1416153</td>
<td>-230153</td>
<td>296</td>
<td>4784.30068</td>
</tr>
<tr>
<td>Grant total</td>
<td>2026</td>
<td>3406000</td>
<td>3489923</td>
<td>-83923</td>
<td>794</td>
<td>4395.36902</td>
</tr>
</tbody>
</table>

**Source: Konni Forest department statistics**
PROFIT FROM ARRIVALS: A COMPARISON

Ecotourism centres have gained popularity among tourists in recent years. Though the recent natural calamities made a pause on the free flow of tourists, it still has potential growth. Analyzing tourist impact on the net profit will help to understand the present situation and formulate plans for the future.

\[ \ln Y_t = \beta_0 + \ln \beta_{\text{n of visitors}} + \epsilon_t \]

Where ‘n of visitors’ indicates the number of visitors in the Konni ecotourism centre.

Comparative analysis on the profitability of Ecotourism sites in Pathanamthitta

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Aadavi-Gavi</th>
<th>Bamboo Hut</th>
<th>Konni</th>
</tr>
</thead>
<tbody>
<tr>
<td>const</td>
<td>0.476577</td>
<td>-261665</td>
<td>-1.35094</td>
</tr>
<tr>
<td></td>
<td>(2.89468)</td>
<td>(47605.0)</td>
<td>(2.53073)</td>
</tr>
<tr>
<td>ln(n of Visitors)</td>
<td>1.75957 **</td>
<td>346.038 ***</td>
<td>1.31161 **</td>
</tr>
<tr>
<td></td>
<td>(0.388372) **</td>
<td>(57.7160) **</td>
<td>(0.223911) **</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.911216</td>
<td>0.972934</td>
<td>0.757245</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.866824</td>
<td>0.945867</td>
<td>0.735177</td>
</tr>
<tr>
<td>F (1, 2)</td>
<td>20.52653 (0.045424) *</td>
<td>35.94637 (0.105214) ***</td>
<td>34.31321 (0.00) ***</td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>0.631384</td>
<td>1.231927</td>
<td>1.417224</td>
</tr>
</tbody>
</table>

### *** <1%, ** <5% and * <10% level of significance.

# Standard Error in parenthesis

Source: Secondary data analysis

It is expected that the increase in the number of visitors will bring more income to the tourism spots. The comparative study on different tourist spots in the Pathanamthitta district affirms the same. As such, an increase in the number of visitors insert a positive influence on Adavi-Gavi and Konni. At the same time, the number of visitors showed no statistical significance in the net income of Bamboo huts. The lack of proper marketing and maintenance of the Bamboo tree huts made the venture a loss-making unit. Though Konni leads in terms of total net income and number of visitors, the rate of profit from Konni is less than Adavi-Gavi. However, the result of Adavi-Gavi shows a chance of spurious regression. So, the result of Konni is accepted beyond doubt.

Conclusion

The first outbreak of the COVID-19 pandemic and unexpected flood happened when the tourism industry peaked. Tourism has been affected crucially by the Covid-19. It makes deterioration in terms of domestic and international visitors in Kerala. The severe blow to the wealth and health of people is restricted mainly in leisure activities. Kerala estimated around rupees 35000 crores loss of revenue after the outbreak in the tourism industry. This also affected the tourism income of the Pathanamthitta district. However, the income from tourism and the pattern of the number of visitors in the past years show that the districts' ecotourism centres have untapped potentials.

Moreover, the independent development of each ecotourism centre will bring more income to the state, and people depend on it. A detailed analysis of income and expenditure statements and the impact of tourist arrivals on the profit of the centres support these arguments. In a nutshell, ecotourism is the future of the tourism industry.

Reference

