NEED FOR INFRASTRUCTURE DEVELOPMENT WITH SPECIAL FOCUS ON ECO-TOURISM

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ABSTRACT
Tourism industry one of the major industries in the world but is not fully developed and exploited in India. Eco-Tourism one of the forms of tourism has a great potential and not able attract national and international tourists due to lack of proper transport infrastructure. In this paper need for transportation infrastructure development, the issues associated and strategies required are discussed through Shimoga-Eco tourism as a case study. According to the Economic Survey 2011-12, the sector has the capacity to create large scale employment both direct and indirect, for the diverse sections of the society, from the most specialized to unskilled workforce. As per the UN’s World Tourism Organization (UNWTO), it provides 6-7 per cent of the world’s total jobs directly and millions more indirectly through the multiplier effect.

Key words: Eco-Tourism, Tourism Development, Infrastructure Linkages, UNWTO.


1. INTRODUCTION
Tourism is one of the largest global industries wherein many developed and developing countries like Singapore, Malaysia, and Mauritius are prospering by its contribution for the economic development of their nations. India has a vast cultural and religious heritage, varied natural attractions, but the Tourism industry has comparatively a small role in the world
tourism scene and is not fully explored and exploited. Tourism is not only a growth engine but also an employment generator. According to the Economic Survey 2011-12, the sector has the capacity to create large scale employment both direct and indirect, for the diverse sections of the society, from the most specialized to unskilled workforce. As per the UN’s World Tourism Organization (UNWTO), it provides 6-7 per cent of the world’s total jobs directly and millions more indirectly through the multiplier effect.

For every million invested in tourism in India it creates 47.5 jobs directly and around 85-90 jobs indirectly. In comparison, agriculture creates only 44.6 jobs and manufacturing a mere 12.6 jobs. Moreover tourism is the third largest foreign exchange earner after gems and jewellery and readymade garments.

2. MAJOR TOURISM IN INDIA
India with its vast resources and diversity in topography and cultural heritage offers various forms of Tourism: Pilgrimage and Religious Tourism: Mostly attracting local and regional tourists. Prominent among them are Amritsar Golden Temple, Lord Balaji Temple at Tirupati, Meenakshi Temple in South India, Shirdi in Maharashtra and many more.

2.1. Eco-Tourism
In recent years, it has picked up its growth. Having large potential in rural India, it needs to be explored without disturbing the ecosystem and local culture.

Wellness and Medical Tourism: India is one of the most lucrative market in the world for medical tourism, due to low cost, less waiting time and better health infrastructure, is attracting large number of foreign tourists. Tourists, who come to India on medical tourism, need to be linked with other form of tourism to exploit this sector.

Sports Tourism: Areas like Golf Tourism, Polo Tourism and Water Sports etc.

Tourist Arrivals: Review of the documents revealed that on an average about 6-8 million foreign tourists visited in India over the last three years. Most of the foreign tourist arrivals(97%) are by air. It also observed a growth of 9% over the last three years.

2.2. Modes of Travel
Transport system acts as a bridge between places of tourist origin and destination. It opens out a region by providing an access to its tourist places. In its absence, the resource potential for tourism i.e. attractions and amenities, can’t be of any benefit. The transport system consists of a network of routes or modes of transport (Road, Rail, Water and air). In tourism industry, transport cost is of little importance for speed loving busy tourists coming by air from rich countries. Places of Tourist destination should be properly connected to the nearest National Highway and nearest Airport.

2.2.1. Tourism A Multi-Dimensional Activity
Tourism development can be achieved through the involvement of local and regional administrative agencies through the following measures:

- Government should establish necessary linkages and synergies in the policies and programs of all concerned Departments/agencies through effective co-ordination mechanisms at Central, State and District levels.

- Should encourage local people’s participation in tourism development including Panchayat Raj institutions, local bodies, Co-operatives, non-governmental organizations and enterprising local youth to create public awareness and to achieve a wider spread of tourist facilities.
Need for Infrastructure Development with Special Focus on Eco - Tourism

- **Sustainable Development and Perspective Plans:** The principle of sustainable development stipulates that the level of development does not exceed the carrying capacity of the area. Efforts will be made to diversify the tourism products in such a way that it supplements the main stream of cultural tourism.

- **Conservation and Development:** Tourism development needs to be properly guided and regulated to avoid adverse impact on the natural environment and cultural heritage which constitute the tourist attraction. A judicious balance needs to be maintained between conservation and development.

- **Public and Private Sector Partnership:** A constructive and mutually beneficial partnership between the public and the private sectors through all feasible means is an absolute necessity for the sustained growth of tourism. It is, therefore, the policy of the Government to encourage emergence of such a partnership. This will be achieved by creating a Tourism Development Authority consisting of senior officials of the Government and tourism experts and professionals from the private sector.

### 2.3. Role of the Government

Tourism is a multi-sectoral activity. The State has to, therefore, ensure inter-governamental linkages and co-ordination. It also has to play a pivotal role in tourism management and promotion. The specific role of the Government would be to:

- Provide basic infrastructural facilities including local planning and zoning arrangements.
- Plan tourism development as a part of the overall area development strategy.
- Create nucleus infrastructure in the initial stages of development to demonstrate the potential of the area.
- Provide the required support facilities and incentives to both domestic and foreign investors to encourage private investment in the tourism sector.
- Rationalize taxation and land policies in the tourism sector in all the States and Union Territories and in respect of land owned by Government agencies like Railways.
- Introduce regulatory measures to ensure social, cultural and environmental sustainability as well as safety and security of tourists.
- Undertake research, prepare master plans, and facilitate formulation of marketing strategies.
- Organize overseas promotion and marketing jointly with the industry.
- Initiate specific measures to ensure safety and security of tourists and efficient facilitation services.
- Build and manage the required tourist facilities in all places of tourist interest.
- Assume collective responsibility for laying down industry standards, ethics and fair practices.
- Ensure preservation and protection of tourist attractions and give lead in green practices.
- Sponsored maintenance of monuments, museums and parks and provision of public conveniences and facilities.
- Involve the local community in tourism projects and ensure that the benefits of tourism accrue to them in right measures.
- Undertake industry training and man-power development to achieve excellence in quality of services.
- Participate in the preparation of investment guidelines and marketing strategies and assist in database creation and research.
Dr. N. Srinivasa Reddy, Dr. G. Venkat Ramana and SV Konda Reddy Sathi

- Facilitate safety and security of tourists
- Endeavour to promote tourism on a sustained and long term perspective.
- Collaborate with Government in the promotion and marketing of destinations.

**Eco Tourism:** India offers enormous diversity in topography, natural resources and climate. There are land-locked mountainous regions, lush valleys and plains, arid desert regions, white sandy beaches and islands. Southern India has numerous wildlife sanctuaries with countless varieties of flora and fauna. The country has unparallel cultural diversity, a kaleidoscope of races, languages, religions, customs and traditions. The geographical diversity of India provides opportunities for a wealth of outdoor and adventure sports activities.

### 2.4. Ecotourism Resources of India

The geographical diversity of India makes it home to a wealth of ecosystems which are well protected and preserved. The major resources for ecotourism in table 1.

<table>
<thead>
<tr>
<th>Indian Ecosystems and Resources</th>
<th>Biosphere Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosphere Reserves</td>
<td>Nilgiri</td>
</tr>
<tr>
<td>Mangroves</td>
<td>Nanda Devi</td>
</tr>
<tr>
<td>Coral Reefs</td>
<td>Nokrek</td>
</tr>
<tr>
<td>Deserts</td>
<td>Great Nicobar</td>
</tr>
<tr>
<td>Mountains and Forests</td>
<td>Gulf of Mannar</td>
</tr>
<tr>
<td>Flora and Fauna</td>
<td>Manas</td>
</tr>
<tr>
<td>Seas, Lakes and Rivers</td>
<td>Sunderbans</td>
</tr>
<tr>
<td>Caves</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Coral Reef Ecosystems</th>
<th>Major Mangrove Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Gulf of Mannar</td>
<td>Northern Adaman and Nicobar islands</td>
</tr>
<tr>
<td>Andaman and Nicobar Islands</td>
<td>Sunderbans (West Bengal)</td>
</tr>
<tr>
<td>Lakshadweep Islands</td>
<td>Bhitarkanika and Mahanadi Delta (Orissa)</td>
</tr>
<tr>
<td>Gulf of Kutch</td>
<td>Coringa, Godavari Delta and Kristna Estuary (Andhra Pradesh)</td>
</tr>
<tr>
<td></td>
<td>Pichavaram and Point Calimere (Tamil Nadu)</td>
</tr>
<tr>
<td></td>
<td>Goa</td>
</tr>
<tr>
<td></td>
<td>Gulf of Kutch (Gajarat)</td>
</tr>
<tr>
<td></td>
<td>Coonapur (Karnataka)</td>
</tr>
<tr>
<td></td>
<td>Achra/Ratnagiri (Maharashtra)</td>
</tr>
<tr>
<td></td>
<td>Vembanand (Kerala)</td>
</tr>
</tbody>
</table>

### 2.5. Other Facets of Eco-Tourism

- The Ecotourism society in 1991 defined it as “Responsible Travel to natural areas that conserves the Environment and sustains the well-being of the local people”.
- It came to be described as, “travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations found in these areas”
- Ecotourism focuses on wilderness adventures, volunteering, personal growth and learning new ways to live on our very vulnerable planet.
- It is environmentally friendly travel and an alternative to mass tourism
- Responsible travel to natural areas that conserves the environment and sustains the well being of the local people”.
- Contributes actively to the conservation of natural and cultural heritage,
- Includes local and indigenous communities in its planning, development and operation, and contributing to their well-being,
Need for Infrastructure Development with Special Focus on Eco - Tourism

- Interprets the natural and cultural heritage of the destination to visitors,
- Lends itself better to independent travelers, as well as to organized tours for small size groups.

3. STUDY AREA

3.1. Eco Tourism –at Shimoga infrastructure Linkages a Case Study:

Shimoga District is in the Karnataka state of India. A major part of Shimoga district lies in the Malnad region of the Western Ghats. Shimoga, the administrative headquarters of the district is a city in the central part of the state of Karnataka, India on the banks of the Tunga River. The population of the city is 3,22,428. Jog falls is a major tourist attraction. As of 2011, Shimoga district has a population of 1,755,512. The city is 569 m above sea level and is surrounded by lush green paddy fields, arecanut and coconut groves. The study area is shown in figure 1. Being the gateway for the hilly region of the Western Ghats, the city is popularly known as Capital of Malnad.

![Figure 1 Shimoga District in Karnataka State](image)

4. METHODOLOGY

4.1. SWOT (Strengths, Weaknesses, Opportunities & Threats) Analysis for Shimoga City

Development of tourism industry largely depends on its regional transportation linkages in terms of air and road. Air traffic potential not only depends on local tourism activity but also on industrial development and trade and commerce. Before proposing for eco-tourism infrastructure development, a SWOT (Strengths, Weaknesses, Opportunities & Threats) analysis of the city is carried and presented below in table 2. Also tourist arrivals from the year 1996 to 2005 with yearly growth is tabulated in the table 3.

4.2. Tourist Potential at Shimoga

Yearly tourist arrivals at Shimoga by all modes of travel are presented below. Also it can be seen that tourist arrival is constantly increasing. Various tourist potentials as shown in figure 2. There is need to focus on foreign tourists, by improving air travel facilities at Shimoga.
**Table 2 SWOT analysis of the City**

<table>
<thead>
<tr>
<th>Strengths:</th>
<th>Weakness:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Its natural resources, lush green forests, eye-catching waterfalls form a potential place for tourism industry. Regional Connectivity by road (NH-12 and NH-206) Location advantage- centrally located in Karnataka state. Its strong interactions with industrial town Bhadravathi and other neighboring districts. It’s a rice bowl of Karnataka. Availability of technical manpower and human resources due to the existence of good educational institutes.</td>
<td>Topographic constraints and limited regional connectivity by rail. Non availability of hospitality infrastructure for tourists. Poor access and connectivity to the existing tourist locations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities:</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presence of nearby airport at Hubli and Mangalore Possibility of networking with planned airports like Gulbarga and Mysore. GOI policy to boost tourism industry. Growing economy in the country. Auto mobile parts and castings &amp; Foundry Industry. Development of sandal wood carving, embroidery and other export oriented industries.</td>
<td>Local environment may be affected due to developments in Airport, tourism and other allied industries.</td>
</tr>
</tbody>
</table>

**Figure 2 Tourist Potential at Shimoga**

**Table 3 Tourist Arrivals at Shimoga**

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Tourist</th>
<th>Foreign Tourist</th>
<th>Total</th>
<th>Yearly Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>244681</td>
<td>1361</td>
<td>246042</td>
<td>--</td>
</tr>
<tr>
<td>1997</td>
<td>363225</td>
<td>1358</td>
<td>364583</td>
<td>48.18%</td>
</tr>
<tr>
<td>1998</td>
<td>353712</td>
<td>1159</td>
<td>354871</td>
<td>-2.66%</td>
</tr>
<tr>
<td>1999</td>
<td>276868</td>
<td>512</td>
<td>277380</td>
<td>-21.84%</td>
</tr>
<tr>
<td>2000</td>
<td>280575</td>
<td>589</td>
<td>281164</td>
<td>1.36%</td>
</tr>
<tr>
<td>2001</td>
<td>279624</td>
<td>982</td>
<td>280606</td>
<td>-0.20%</td>
</tr>
<tr>
<td>2002</td>
<td>192074</td>
<td>620</td>
<td>192694</td>
<td>-31.33%</td>
</tr>
<tr>
<td>2003</td>
<td>282813</td>
<td>569</td>
<td>283382</td>
<td>47.06%</td>
</tr>
<tr>
<td>2004</td>
<td>428095</td>
<td>671</td>
<td>428766</td>
<td>51.30%</td>
</tr>
<tr>
<td>2005</td>
<td>488585</td>
<td>953</td>
<td>489538</td>
<td>14.17%</td>
</tr>
<tr>
<td>2006</td>
<td>635458</td>
<td>1028</td>
<td>636486</td>
<td>30.02%</td>
</tr>
</tbody>
</table>

Source: Karnataka Tourism Dept.
Shimoga and the region have number of potential tourism places to visit.

- Enchanting natural scenery of hills
- Hillocks and green dales
- Rivers and streams
- Dense forests, flora & fauna, wildlife, bird-sanctuaries
- Forts, temples and historical places

5. RESULTS & DISCUSSIONS

5.1. Transportation Infrastructure Linkages

Road Linkages: Shimoga is connected to the nearest National Highway at Harihara through SH-25 which starts at Shimoga and ends at Hospet. The project road is passing through green fields / agricultural areas and few semi urban areas. Major semi urban settlements between Shimoga and Harihara are Malebennur and Honnali. Features of the project road are as follows.

- Project Length: 77.50 Km (from 114.000 Km at Shimoga to 192.16 Km at Harihara) – starts from Shimoga and ends at Harihara is part of SH-25 of Hospet – Shimoga.
- Project Cost: 171.78 Crores.
- Current Status: Intermediate lane (5.5m-6.0m) with one meter earthen shoulders on either side
- Project Proposal Description: Two Laning with Paved Shoulders from 114.00 Km to 192.16 Km.
- Toll Plaza: 2 No’s (at 177.000 Km Shimoga (TP-1) and at 137.00 Near Harihara (TP-2)).
- Bypasses: Nil.
- Major Structures costing more than 50 Crores : Nil

The project road has been invited for up-gradation under BOT-Viability Gap fund (VGF) by Karnataka State Road Development Corporation (KSRDC) but could not be initiated for construction. Proposed project road for up-gradation to 2 - L Paved Shoulder – Shimoga – Harihara is as shown in figure 3. Reasons for non execution of the project road are analyzed below.

Figure 3 Proposed Project Road for Upgradation to 2-L Paved Shoulder -Shimoga-Harihara
5.2. Reasons for Failure of Bid
The project corridor is currently an intermediate lane carriage-way with earthen shoulders on either side. The project road is largely serving local needs of the region. Most of the observed traffic is local in nature. The major goods traffic on this project road is agriculture based with observed growth rate less than 5%.

- Scope for growth in secondary sector (Industrial, SEZ (Special Economic Zone) and Green Field Development) is limited as possibility of conversion of Agricultural Lands for Non-Agricultural purposes is a constraint.
- Scope for Tertiary Sector (IT/ITES) development is also very limited as Bangalore is the Hub for IT/ITES.
- Expected overall CAGR for the next 25 years would be around 6%.
- Current revenue collection would be INR 4 lac/day at 12000 PCU (Passenger Car Units) /day
- As per the current traffic operating conditions, the project shall be qualified for 4-lane augmentation (>40,000 PCU), end of concession period.
- As per Bid invitation the project is recommended for DBFOT (Toll) with a Grant Limited to 20% for concession period of 25 years. As per realistic estimates road is feasible only at 40% VGF

5.3. Aviation Infrastructure
As discussed in the previous paragraphs efficient connectivity is the back bone of tourism development to attract National and International tourists. For the promotion of economic – agriculture –industrial and tourism development a Non Metro Green field airport development is invited under BOT model linked with city side development (400 acres). The project could not materialize due to various reasons like concessionaire could not mobilize funds, land acquisition and land development.

5.4. Non-Metro Green Field Airport at Shimoga
Air port is proposed in an area of 700 acres where in 300 acres is allocated for aviation activities and 400 acres is allocated for non aviation activity linked to City Side and Commercial Development, to enable the developer to meet his construction-operational cost and sustain his business. Proposed project site for non-metro green field airport at Shimoga is as shown in fig 4 and proposed city side development at non-metro green field airport is as shown in fig 5.
Need for Infrastructure Development with Special Focus on Eco - Tourism

Figure 5 Proposed City Side Development at Non-Metro Green Field AirPort

Table 4 Projected Air Traffic at Shimoga Non-Metro Green Field Airport

<table>
<thead>
<tr>
<th>Route</th>
<th>Year</th>
<th>ATR</th>
<th>Boeing</th>
<th>ATR</th>
<th>Boeing</th>
<th>ATR</th>
<th>Boeing</th>
<th>ATR</th>
<th>Boeing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
<td></td>
<td></td>
<td>2014</td>
<td></td>
<td>2019</td>
<td></td>
<td>2024</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATR</td>
<td>Boeing</td>
<td></td>
<td>ATR</td>
<td>Boeing</td>
<td></td>
<td>ATR</td>
<td>Boeing</td>
</tr>
<tr>
<td>To Bangalore</td>
<td></td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>To Hyderabad via Bangalore</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: DPR Shimoga Air port

Given due consideration to all the sectors of economic development like agriculture, educational, manufacturing, eco-tourism and present day travel pattern by all modes, air traffic estimate for the promising corridors to Bangalore and Hyderabad, are estimated and presented below in table 4. Perspective view of proposed airport at Shimoga shown in figure 6 and Transport Linkages of Shimoga with rest of the region is shown in figure 7.

Figure 6 Perspective View of Proposed Airport at Shimoga
6. CONCLUSIONS

In spite of government’s initiation for development of Ecotourism through various schemes and programs, it still could not achieve progress. The following strategies and options could be adopted on trial basis for the success of the industry.

- Need of coordination and inter-departmental co-ordination among various agencies like Aviation, State Public Works Department, and Tourism Department, to bring synergy.

- Infrastructure pertaining to the development of Tourism, like Roads, Airport Development, Transit Terminals, should be looked with integrated approach under one umbrella, rather than as individual departments in isolation.

- As the infrastructure projects could not attract much private participation through PPP models, all the infrastructure development could be offered to developers with a single package.

- Giving Tax-benefits and SEZ benefits in the eco tourism zones shall benefit the industry.

- Development of tourism as standalone industry may not yield the desired results. It has to be integrated with development of other Service Sector Industry like IT/ITES/Entertainment and Media to achieve desired progress.

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