

Community Participation in Ecotourism: An Inclusive Development Option for Kerala

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by

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under the guidance of

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Certificate

This is to certify that the Ph.D. thesis entitled “**Community Participation in Ecotourism: An Inclusive Development Option for Kerala**” submitted by Mr. Bijith George Abraham is a record of bona fide research work carried out by him under my supervision and guidance in the Department of Applied Economics in partial fulfilment of the requirements for the Degree of Doctor of Philosophy of Cochin University of Science and Technology. The thesis has not formed the basis for award of any degree, diploma, associateship, fellowship or other similar title of any other University or Board and is worth submitting for the award of Doctor of Philosophy under the Faculty of Social Sciences of Cochin University of Science and Technology. I also certify that all the relevant corrections and modifications as suggested by the audience during the pre-synopsis seminar and recommended by the Doctoral Committee of the candidate have been incorporated in the thesis.

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Declaration

I hereby declare that the dissertation entitled “**Community Participation in Ecotourism: An Inclusive Development Option for Kerala**” is a record of bona fide research work done by me under the guidance of Prof. (Dr.) D. Rajasenan, Department of Applied Economics, Cochin University of Science and Technology, and that it has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or any other title of recognition.

Bijith George Abraham

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Abbreviations

CBET	Community Based Ecotourism
CREST	Center for Responsible Travel
DFO	Divisional Forest Officer
DTPC	District Tourism Promotion Councils
EDC	Eco development Committees
EIA	Environmental impact assessment
FCI	Food Craft Institutes
FDA	Forest Development Agencies
FEE	Foreign Exchange Earnings
FTA	Foreign Tourist Arrivals
FTVs	Foreign Tourist Visits
GDP	Gross Domestic Product
GEC	Global Ecotourism Conference
GoI	Government of India
GoK	Government of Kerala
IHMCT	Institute of Hotel Management & Catering Technology
IIFM	Indian Institute of Forest Management
IL&FS	Infrastructure Leasing & Financial Services Limited
KFRI	Kerala Forest Research Institute
KIHMS	Kerala Institute of Hospitality Management Studies
KITTS	Kerala Institute of Tourism and Travel Studies
KSPB	Kerala State Planning Board
KTDC	Kerala Tourism Development Corporation
KTIL	Kerala Tourism Infrastructure Ltd
NAEB	National Afforestation and Eco-development Board
NGO	Non-Governmental Organization
OBC	Other Backward Communities
PAs	Protected Areas
PFM	Participatory Forest Management
PRA	Participatory Rural Appraisal

PRI	Participation Rate Index
SC	Scheduled Caste
SHG	Self-Help Group
SIHM	State Institute of Hospitality Management
SLI	Standard of Living Index
SSLC	Secondary School Leaving Certificate
ST	Scheduled Tribes
STAC	State Tourism Advisory Committee
SWOT	Strength, Weakness, Opportunities and Threats
TEPS	Thenmala Ecotourism Promotion Society
TIES	The International Ecotourism Society
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNWTO	United Nations World Tourism Organization
US	United States
VSS	Vana Samrakshana Samathies
WTO	World Tourism Organisation
WTTC	World Travel & Tourism Council

Chapter 1 Introduction

1.1 Background of the Study

As an employment intensive and growth oriented sector, the tourism sector is important in Kerala in multiple ways. Tourism sector's contribution to the GDP of Kerala is significant in making the state's growth rate in two digits. The linkage and multiplier associated with tourism makes this sector vibrant by contributing direct and indirect employment opportunities in the areas of accommodation, food, entertainment, transportation (air, road and water), tour and travel agencies, handicrafts, rental companies, leisure activities, banking, insurance etc. Ecotourism, a part of the tourism industry, is special in Kerala in many ways as it protects the fragile environment through sustainable practices and gives livelihood and employment activities to the poor forest dependent communities. As per the tourists and forest statistics (2014), in the year 2013 the total tourist arrival comes to 1.17 crores, out of which 49.9 lakh are eco-tourists; giving 42.6 percent of the total tourists arrivals in the state, which in turn shows the importance of ecotourism and its potential in the state.

Kerala is a classic ecotourism hotspot in India, which provides income and livelihood options to the outliers of the society who are dwelling in difficult terrains. Community based ecotourism has always advocated the involvement of the local communities in the development initiatives as they are the most affected group during the conservation process. Most of the

Ecotourism destinations of Kerala are inhabited by the weaker sections of the society including tribes who still lag in the path of development process. The Ecotourism development of Kerala and the simultaneous increase in the flow of tourists to these destinations would help in providing livelihood opportunities to the local communities and the betterment of their lives. This pattern of tourism plays a pivotal role for the sustainable inclusive development option for the poor people.

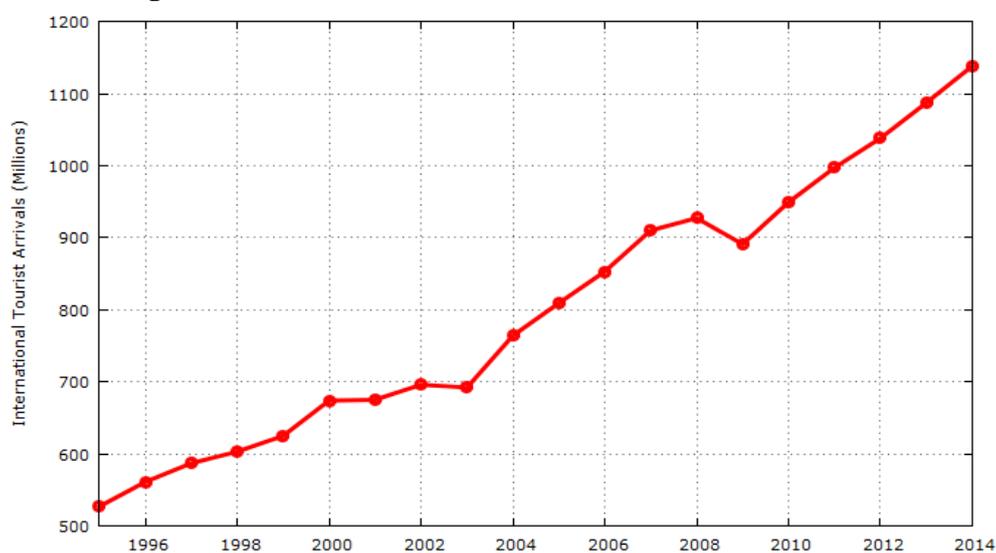
The central point of this scenario is how the community linked ecotourism activities are important in Kerala's tourism development, which, in turn, helps in Inclusive development of the local communities and benefiting the other stakeholders. Ecotourism can be instrumental in the inclusive development of the state particularly because, most of the ecotourism destinations are situated amidst the excluded communities, be it the tribes or other marginalised sections. Therefore the participation of the community in ecotourism can ensure their inclusion in the development process along with the development of ecotourism. This situation warrants a scientific inquiry into the role of participatory ecotourism in bringing about inclusive development and thereby an equitable social order in the state. With a view to addressing this aspect, various facets of ecotourism have been looked into *inter alia* in a community model framework linking stakeholders of the sector in their employment and other livelihood criteria and associated plans.

1.1.1 Overview of Tourism Scenario

Tourism has emerged as the major leisure activity with people spending a handsome amount of money for the purpose of visiting tourist places. According to the UNWTO (2014), the tourism industry, as an export category, ranks fifth position globally (after fuels, chemicals, food and

automotive products) and even first position for many developing countries. It generates employment opportunities in allied sectors and contributes overall economic growth. The role of tourism sector is prominent in many countries in terms of their national economy influencing the society and the environment which in turn acts as a key to socio-economic progress (UNESCAP, 2013). It provides huge employment opportunity to the native community in the linkage sectors like transportation services including airlines, taxis, cruise ships and hospitality services like hotels and resorts; and entertainment venues like amusement parks, shopping malls, wildlife sanctuaries etc. Over the two decades there has been an exponential increase in the international tourists i.e. from 527 million in 1995 to 1138 million in 2014 by giving a change of more than two fold. This is shown in the Figure 1.1.

Figure 1. 1 International Tourist Arrivals from 1995 to 2014



Source: Compiled from UNWTO, 2011- 2015; UNESCAP, 2011; Appendix 1.1

As a result of the global meltdown via financial turmoil, the tourism sector was worst affected and almost every country in the world in one way or the other faced decline. The international tourist arrivals declined from 926

million in 2008 to 890 million in 2009 with a change of 3.89 percent (UNWTO, 2011; 2014). However, the situation has improved with an increase in tourist arrivals to 948 million in 2010, 1087 million in 2013 and subsequently to 1138 million in 2014 (UNWTO, 2015) with an increase of 4.7 percent over the previous year 2013 as given in Table 1.1.

International visitor receipts in destinations in 2014 reached US \$ 1245 billion with an increase of 7.42 percent from previous year amount of US \$ 1159 billion (Table 1.1). This is mainly the expenditures incurred on accommodation, food and drink, entertainment, shopping and other services and goods. The other earnings of US \$ 221 billion came from international passenger transport services. Hence, the total export earnings generated through international tourism is US\$ 1.5 trillion in 2014 (UNWTO, 2015). This tremendous achievement the tourism industry has made in spite of the sluggish impact as a result of the global meltdown in the years 2007-09.

Table 1.1 International Arrival and Receipts

Region	Arrivals (Million)		Percent change	Receipts (US \$ Billions)		Percent change
	2014	2013		2014*	2013	
World	1138	1087	4.7	1245	1159	7.42
Europe	588.4	566.3	3.9	509	489.3	4.03
Asia and the Pacific	263	249.8	5.3	377	358.9	5.04
America	180.6	168.1	7.4	274	229.2	19.55
Africa	56	54.7	2.4	36	34.2	5.26
Middle East	50.3	48.2	4.4	49	47.3	3.59

Source: UNWTO Barometer April, 2015; *UNWTO, 2015

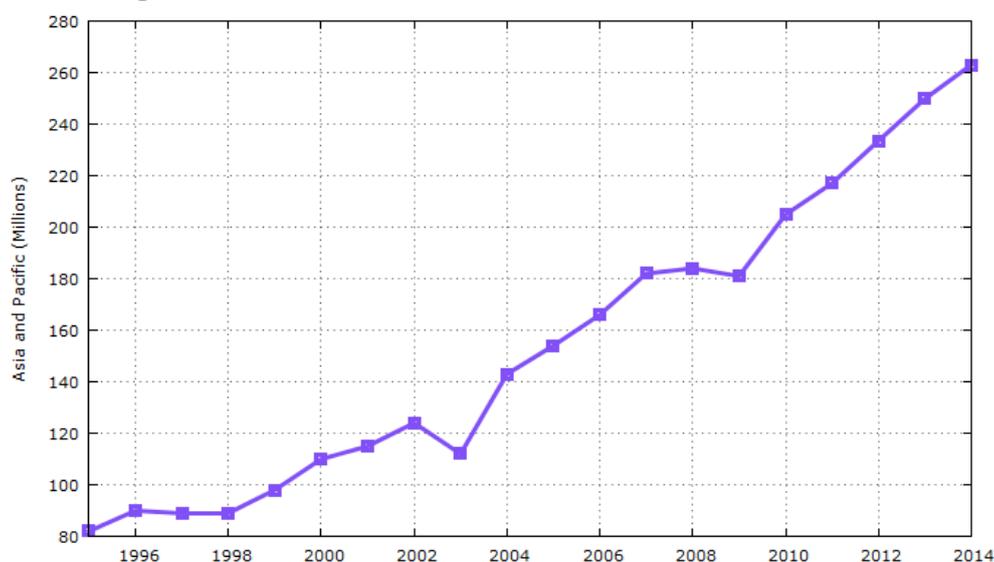
Europe occupies the highest number of international tourist arrivals and receipts, with 588.4 million foreign tourist arrivals (about 51 percent of the total arrivals) and 509 billion tourist receipts (about 40 percent of the total

receipts). Africa and Middle East are positioned lowest in terms of arrival and receipts, which is evident from Table 1.1.

1.1.2 Asia and Pacific Region

Tourism is the prime mover of growth in Asia and Pacific region. According to UNWTO (2015), Asia and the Pacific recorded the strongest growth with a 5.3 percent increase in arrivals in 2014. Visit to Asia and the Pacific accounted about 263 million of 2014 compared to 249.8 million international tourists of 2013, which comes about 13 million more than that of the previous year (Figure 1.2). With an increase of 5 percent in 2014 compared to 2013, the region recorded tourism earnings of US \$ 377 billion.

Figure 1. 2 Asia and Pacific Tourist Arrival from 1995 to 2014



Source: Compiled from UNWTO, 2011- 2015; UNESCAP, 2011; Appendix 1.2

As per the UNWTO (2010) during the global meltdown the tourist arrivals and receipts of the region also turn down but not as much as the other regions and the world average. While arrivals in the region accounted for 23 percent of the world's total, receipts accounted for 30 percent. The decadal

tourist arrivals of the destinations of this region are shown in the Figure 1.2. Asia and Pacific region show a drastic increase in terms of the tourist arrivals. In 1995 the FTAs was 82 million which had eventually increased to 263 million in 2014 with an increase of 220 percent in the last two decades.

1.1.3 Tourism Industry in India

Tourism industry's in India has a stupendous growth since Independence (Sinha, 2000). According to World Travel and Tourism Council (WTTC), tourism in India generates an overwhelming contribution of 6.6 percent to the national GDP in 2012 and 7.7 percent of the total employment in India. As per the Indian Tourism Statistics (2014), India stands 42nd in world ranking in terms of foreign tourist arrivals with a share of 0.64 percent, and 11th in Asia and Pacific region with a contribution of 2.81 percent, whereas India rank 16th in terms of world tourism receipts and 8th in Asia and Pacific region.

Figure 1.3 Foreign Tourist Arrivals in India



Source: Indian Tourism Statistics, 2014; Govt of India, 2015; Appendix 1.3

India attracted more than 7.46 million Foreign Tourist Arrivals (FTAs) annually in 2014 from a mere 16829 in 1951. The forecasted annual growth rate of the sector from 2013 to 2023 is 7.4 percent (WTTC, 2013).

Trend of foreign tourist arrivals in India shows an extensive increase while comparing the previous years. This is depicted in the Figure 1.3, which shows that the sector has undergone a tremendous increase with 250 percentages of FTAs from 1995 to the present. The problem that generated from the economic recession also hit the tourism industry of the country resulting in a decline of 2.2 percent in the 2008 FTAs (5.28 million) and to 5.17 million FTAs in 2009. Consequently, the sector has increased with 2.29 million FTAs in the country. As in the case of FTAs, the Foreign Exchange Earnings (FEE) has also shown a remarkable growth of US\$ 1861 million in 1991 to US\$ 18445 million (Appendix 1.4) in 2013 (Indian Tourism Statistics, 2014). This presumably implies a scope for further development.

1.1.4 Tourism Industry in Kerala

Tourism has emerged as one of the major income earners for Kerala with a total Revenue (including direct and indirect) of Rs. 24,885.44 Crores with an increase 12.11 percent (Kerala Tourism Statistics, 2015). It has emerged as the major income earner for the state economy to the tune of Rs. 6398.93 Crores of Foreign Exchange Earnings (FEEs) during the year 2014. Even though Kerala has a meager share in the country's tourist market, the flow of foreign tourists to Kerala during the year 2014 was 9.23 lakh, which shows an increase of 7.6 percent over the previous year's figure of 8.58 Lakh. The domestic tourist arrival in 2014 was 1.17 crores which shows an increase

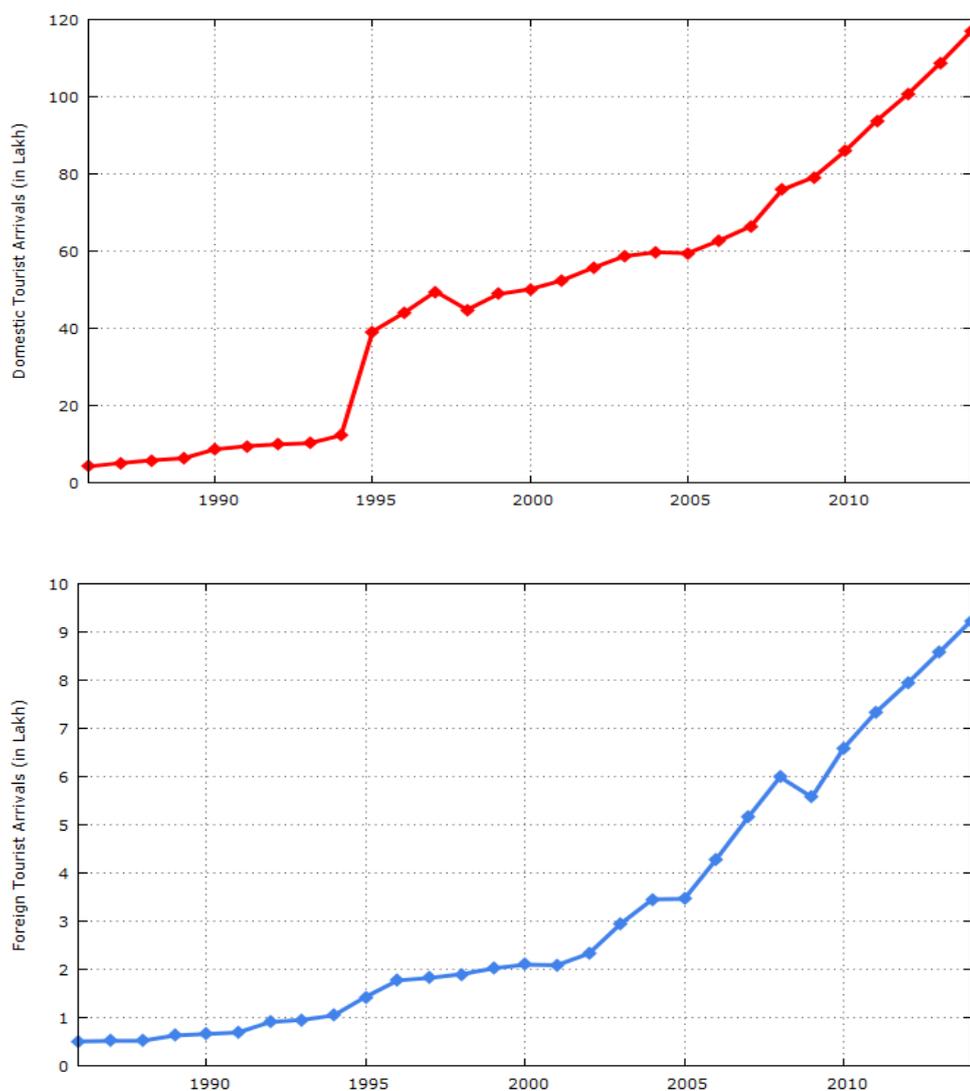
of 7.71 from 1.09 crores of the preceding year (Kerala Tourism Statistics, 2015).

The government of Kerala declared tourism as an industry in 1986. Subsequently, the first tourism policy of the state was announced in the year 1995. This has culminated in very high increase in the inflow of the tourists. Likewise the global, Asian and the Indian tourism market; the Kerala tourism market also bumped into the prevalence of the global turmoil. Even though it has not affected the domestic tourist arrivals to a large extent, the flow of the foreign tourist had declined from 5.99 lakh to 5.57 lakh with 6.94 percent. The FEEs of the state had decreased to Rs. 2853 crores with 6.96 percent from the Rs. 3066 crores of 2008. This situation has revamped due to the strong policy backups and the demand for its picturesque beauty and tourism resources. The trend and pattern of tourist arrival for both foreign and domestic tourists from 1986 to 2014 is shown in the Figure 1.4.

The Department of Tourism (2011) reveals that domestic tourists spend around Rs. 1800 per head whereas foreign tourists spend around Rs 3600 per head during their visit to Kerala. Regarding the days spend; domestic tourists spend around 5-6 days in the state whereas foreigners stay for around 16 days.

The arrivals of tourist to Kerala are highly depended on the weather condition. Based on the interim report of state tourism department submitted by IL&FS Infrastructure Development Corporation Ltd (2012) tourist's inflow for both domestic and foreign is maximum during December and January. The most promising season according to the domestic tourist arrival is October to May, whereas the foreign tourists prefer Kerala to visit in the period of December to February.

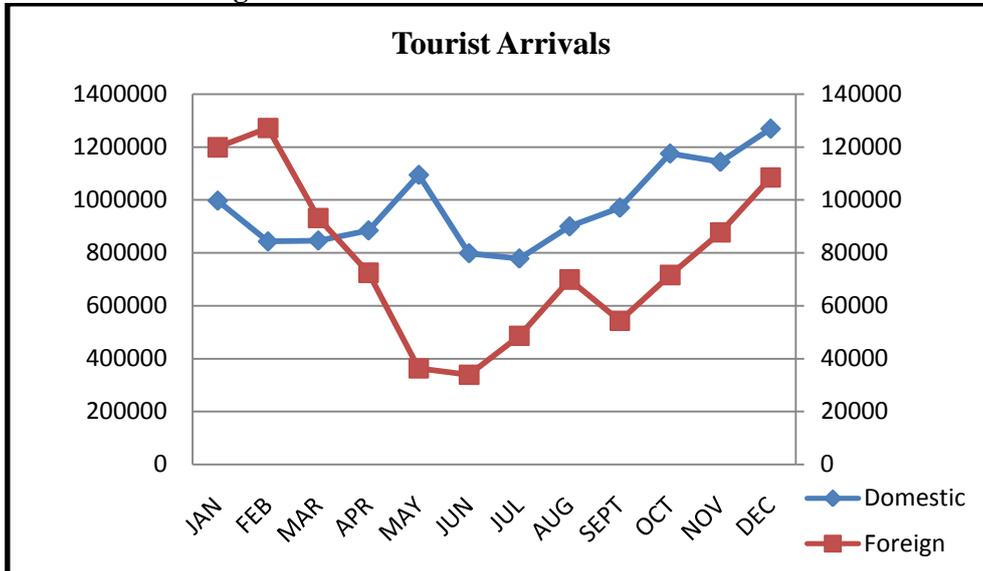
Figure 1.4 Tourist Arrivals in Kerala



Source: Kerala Tourism Statistics, 2010- 2015; Statistics for Planning, 2009; Appendix 1.5

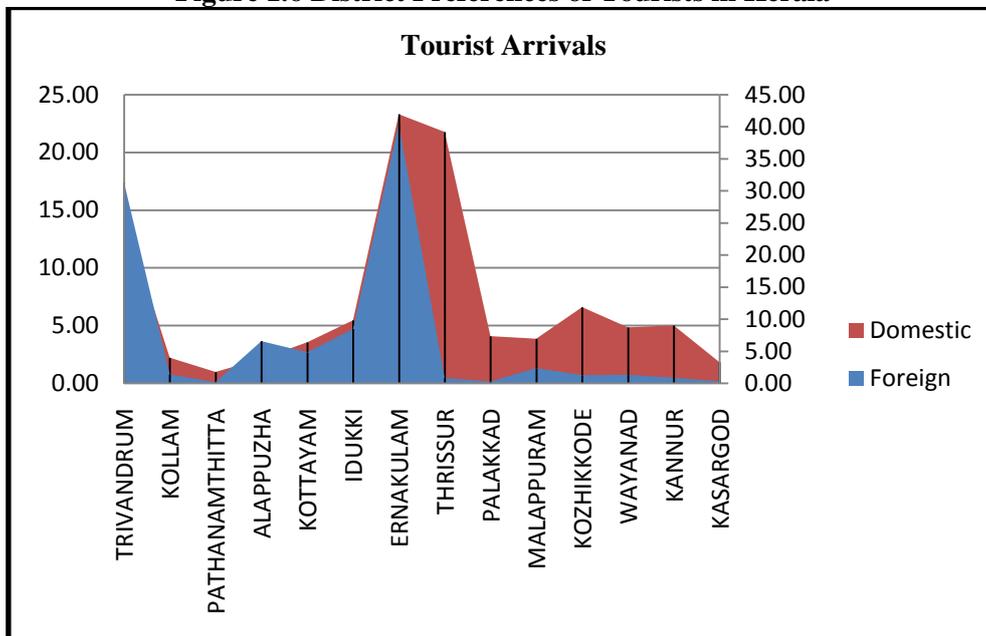
The month-wise domestic and foreign tourist arrival to Kerala during 2014 is illustrated in Figure 1.5. The district-wise tourist arrivals shows that most of the tourists prefer to visit Ernakulam district and Pathanamthitta is the least preferred destination (Figure 1.6).

Figure 1.5 Month-Wise Tourist Visit to Kerala



Source: Compiled from Kerala Tourism Statistics, 2015; Appendix 1.6

Figure 1.6 District Preferences of Tourists in Kerala



Source: Compiled from Kerala Tourism Statistics, 2015; Appendix 1.7

1.2 Ecotourism Experience

Ecotourism experience obtains wide acclaim and hence gaining popularity all over the world. Ecotourism has emerged as one of the most important segments in tourism, rapidly growing over the last few decades and growing with a pace of 20-25 percent each year (Lascurain, 2012). The UNWTO estimates that Ecotourism/nature tourism generates seven percent of all international travels. The eco-tourists will tend to stay more days and spend more compared to general tourists. Hence this helps to provide income generation to locals and plays a pivotal role in the poverty alleviation for more than 80 percent of low income countries (CREST, 2010). But the major issue with respect to ecotourism recently is connected with many new opportunities and challenges (GEC, 2007).

Presently ecotourism focuses on the concept that it needs to provide fewer damages to the environment and the people. With the emergence of ecotourism as a sub-sector in the global tourism market with due emphasis on environmental protection and conservation, the government of India prepared a policy document on ecotourism in 1998. The document identifies the ecotourism resource of the country and lays down the need for a specialized, participatory, policy planning approach for the development of the ecotourism destinations. It also stipulates the role to be played by the stakeholders such as the government, tour operators, destination managers, tourists, host communities and voluntary organizations.

Kerala's tourism development is focusing attention to the concept of ecotourism. With this end in view a separate Directorate the 'Thenmala Ecotourism Promotion Society (TEPS)' has been constituted in the year 1998

to give policy support and promotion of ecotourism in the state. The Western Ghats region of Kerala with rich biodiversity provides natural advantage for the development and promotion of ecotourism in the state. 17 Wild life Sanctuaries and 5 National parks form a predominant role in the ecotourism initiative of the state. Forest Department (2015) statistics show that there are 64 destinations in the state that promote ecotourism activities with community participation. The ecotourism activities are carried out by local communities. In Kerala, the ecotourism programmes are managed by the Eco development Committees (EDCs) and the Vana Samrakshana Samathies (VSS) under the Forest Development Agency (FDA) of Kerala forest. Few local inhabitants and Kudumbashree members are also the stakeholders of this venture. The Non Governmental Organisations (NGO) also plays a substantial role to ensure whether the ecotourism are managed on the principles of sustainable development and it also acts as linchpin in providing feasibility studies and development of strategies (Mohanlal, 2002). Well developed tourism circuits, international acclamations, natural resource advantages, attractive ecotourism activities, well connected roads, trained officials and locales with expert knowledge about wild life and ecotourism are an added advantage in the state's initiative for promoting ecotourism.

1.2.1 Principles of Ecotourism

TIES (1990) principle has recently been modified based on the concept of TIES (2015) 'environmental degradation and impacts on local cultures and non-human species'. This principle, by and large, hovers around conservation, communities, and sustainable travel. Based on this participation in ecotourism activities one should follow the following ecotourism principles:

Box 1.1 Principles of Ecotourism TIES, 2015

- Minimize physical, social, behavioral, and psychological impacts.
- Build environmental and cultural awareness, and respect.
- Provide positive experiences for both visitors and hosts.
- Produce direct financial benefits for conservation.
- Generate financial benefits for both local people and private industry.
- Deliver memorable interpretative experiences to visitors that help raise sensitivity to host countries' political, environmental, and social climates.
- Design, construct and operate low-impact facilities.
- Recognize the rights and spiritual beliefs of the Indigenous People in the community and work in partnership with them to create empowerment.

Eligibility criteria for ‘ecotourism accreditation program’ developed by the Ecotourism Association of Australia (2006) follows eight principles, which are:

Box 1.2 Principles of Ecotourism Association of Australia, 2006

1. Focuses on personally experiencing natural areas in ways that lead to great understanding and appreciation.
2. Integrate opportunities to understand natural areas in to each experience.
3. Represent best practice for ecologically sustainable tourism.
4. Positively contributes to the ongoing conservation of natural areas.
5. Providing constructive ongoing contribution to local communities.
6. Is sensitive to, interprets and involves different cultures particularly indigenous cultures.
7. Consistently meets client expectations.
8. Provide local employment in all aspects of business operations.

1.3 Review of Literature

As the tourism sector is wide with several sub-sectors, accordingly tourism literatures encompassing these areas are enormous.

1.3.1 Meaning and Scope of Tourism

Tourism Society of Britian (1976), defines tourism as a “temporary short term movement of people to destinations outside the places where they normally live and work and activities during their stay at the destinations; it includes movement for all purposes, as well as day visits or excursions”. Lett (1989) explains tourism as “the single largest peaceful movement of people across cultural boundaries in the history of the world”. In short it can be termed as a social, cultural and economic phenomenon which includes the movement of people to countries/places outside their usual environment for personal/business/other purposes. According to UNWTO the definition of tourism “comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited”. The International Association of Scientific Experts in Tourism defined tourism in terms of particular activities selected by choice and undertaken outside the home. In the economic perspective, tourism is defined as the activities of persons (visitors) who are travelling for holiday, leisure and recreation, business, health, education or other purposes (UNWTO, 2007). The UNESCAP (2013) definition of Tourism refers to “the activity of visitors, and a visitor is classified as a tourist (or overnight visitor) if his or her trip includes an overnight stay, or as a same-day visitor (or excursionist) otherwise”.

The UNWTO (2010) identifies three basic forms of tourism which include domestic, inbound and outbound tourism i.e., ‘involving the residents of the given country travelling only within their own country’; ‘the non-residents travelling in the given country’ and ‘the residents travelling in another country’. The concepts will makes it possible to identify the tourism between countries in addition to tourism within a country. By the combination of this three forms in different way UNWTO derived three different categories of tourism which are internal tourism (that comprising of domestic and in bound tourism) national tourism (i.e., the combination of domestic and out bound tourism) and international tourism (which is composed of in bound and out bound tourism).

The scope of the tourism has to be approached through the demand and supply side phenomenon (Dwyer, 2010). The determining factors of visitor’s behaviour including the motivation, the activities, duration etc and their impact on the acquisition of goods and services have prominence in the demand-side. The supply side considers the sector important with a set of productive activities/services/facilities that are available to the visitors. Bridging these components will facilitate service to the visitors and benefits to the livelihood of the poor through improvement in tourism-linked service sectors, including transport and communications, water supply, energy, health services etc (UNEP and UNWTO, 2012).

Tourism is beneficial for several reasons (Ardahaey, 2011; Harcombe, 1999; Stynes, 1997) irrespective of seasonality as most forms of tourism benefits the local economy even though the areas are not normally associated with tourist activity. First, it creates an extensive investment option (UNCTAD, 2010; Barrowclough, 2007) in other sectors leading to economic

growth to these areas; second, it stimulates economic diversification (Lejarraja and Walkenhorst, 2007; Honeck, 2012) across sectors and therefore to economic growth (Samimi, et.al, 2011); and third, it offers a strong potential for environmental and cultural linkages (Honey and Gilpin, 2009), by providing an economic incentive to the people for preserving nature, leading to social wellbeing of the community (Reeder and Brown, 2005). Stronza (2001) points out that tourism involves face-to-face encounters between people of different cultural backgrounds, which also emphasize that when there is cultural interaction, both the tourists and the locals have an opportunity to get to know the lives of each other.

By linking to a ‘touristic process’ several questions like ‘what makes a person a tourist, what motivates tourists to travel, and what determines the kinds of places and experiences tourists seek?’ have to be encountered (Stronza, 2001). The desire to travel and travel decisions are influenced by a host of factors such as socio-demographic, psychographic and travel behaviour patterns, which in turn provides a matrix of information enlightening positive attitudes (Rajasenan and Ajitkumar, 2004; Zhang and Marcussen, 2007). Motivation to travel and the associated behaviour of tourists are not unique (Krippendorf, 1987). Psychographic segmentation is analysed in literature as a useful tool to explore the link between satisfactions and revisit intention (Gountas and Gountas, 2001; Cole, 1997). Rajasenan et.al (2012) analyse the attributes of intention to revisit as well as to recommend the destination to others. Satisfaction acts as a key element in destination marketing (Kasim and Ngowsiri, 2011). Edward (2005) discusses the perception of the tourist and the attributes of the destination with which in turn provides strategic approach for the destination marketing and development. Shin (2009) foresees market segmentation as a powerful marketing tool for identifying target groups which

in turn, brings visitor identities. And these processes will certainly impact the socio-economic, psychological, cultural, and environmental changes that tourism has caused in host destinations (Stronza, 2001).

1.3.2 Tourism and Sustainability

Sustainable development, *ipso facto*, is based on the report of the World Commission on Environment and Development (1987) i.e., “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The concept of sustainable development is specifically important in tourism because “the benefits from tourism resources for the host communities while maintaining the cultural and environmental integrity of the host communities and enhancing the protection of ecologically sensitive areas and natural heritages” (Sharpley, 2010). In particular, it provides environmental protection, greater priority to community participation, avenues of employments, alleviate poverty (Neto, 2003) and increase export revenues (UNEP, 2013).

Sustainability practices are key to all kinds of tourism products and all type of destinations. According to the UNEP and UNWTO (2005) the sustainable tourism is defined as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, environment and host communities". The sustainable tourism practices minimizes the negative externalities to environment and cultural and also generates income (UNEP, 2013). The prime importance of sustainable tourism focuses on the optimal use of environmental resources, conserve natural heritage and biodiversity; inter-cultural understanding and tolerance; long-term economic operations, socio-economic benefits of stakeholders, stable employment and income opportunities and contributing to

poverty alleviation. It also recommends for participation of all relevant stakeholders, continuous monitoring of impacts and corrective measures. High level of tourist satisfaction, experience, sustainability awareness and promotion of sustainable tourism practices are also relevant. Hence such kind of practice considered to be the best green options for addressing poverty, employment and economic diversification initiatives in developing countries (Honeck, 2012).

1.3.3 Ecotourism, Meaning and Definition

Tourism significantly benefits the local community by generating new avenues of income and livelihood options (Smith, 1989). The sustainability concept in the context tourism and recreation is often associated with discussions of "ecotourism" and "nature-based tourism" (McCool, 1995). The nature based tourisms are primarily concerned with the 'direct satisfaction of some relatively undisturbed phenomenon of nature' (Valentine, 1992). In tourism, the 'Ecotourism' segment emerges as one of the most important segments to address this juncture. The term Ecotourism is first coined by Mexican Architect Hector Ceballos Lascurain in 1983. The preliminary definition of ecotourism emphasized as *"is traveling to relatively undisturbed natural areas with the specific object of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations found in these areas"* (Lascurain, 1987). It was then used to describe a nature-based travel to a particular undisturbed area mainly for the purpose of studying, admiring and enjoying. However, the segment has emerged as one of the most important segments in tourism which rapidly grows over the last few decades (Lascurain, 2012) and has many new opportunities and challenges (GEC, 2007).

Some of the prominent definitions of ecotourism during the initial phase are:-

The International Ecotourism Society (TIES), 1990: *"Responsible travel to natural areas that conserves the environment and improves the well-being of local people."*

Boo (1991) as *"nature tourism that contributes to conservation, through generating funds for protected areas, creating employment for local communities and offering environmental education"*.

Ecotourism Association of Australia, 1992: *"Ecologically sustainable tourism that fosters environmental and cultural understanding, appreciation and conservation"*.

"travel to enjoy the world's amazing diversity of natural life and human culture without causing damages" (Tickell, 1994).

"Ecotourism is nature based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable" The National Ecotourism Strategy (1994), Australia.

Though there are numerous definitions on ecotourism, the nature based sustainable development, environmental, education, local benefit and local participation are the central themes. Since it is nature based venture a set of laws of environmental sustainability and conservation need to be ensured (Wood, 2002). The eco-tourists are motivated by an interest in learning about nature and the decisions are primarily determined by their particular special interest (Hall and Weiler, 1992). These practices concerned within the tourism should be beneficial to the local community for ensuring environmental protection (UNEP, 2013). According to Ross and Wall (1999) there are five

fundamental functions of ecotourism (1) protection of natural areas; (2) education; (3) generation of money; (4) quality tourism and (5) local participation. Among these five factors the last three factors fall under the sustainably managed ecotourism. However, Honey, (1999) defines seven components of sound ecotourism, which are: 1) involves travel to natural destinations, 2) minimizes impact, 3) builds environmental awareness, 4) provides direct financial benefits for conservation, 5) provides financial benefits and empowerment for local people, 6) respects local culture, and 7) supports human rights and democratic movements. According to McCool (1995) the concept of sustainability in ecotourism should include four key challenges:

- A better understanding of how tourists value and use natural environments;
- Enhancement of the communities dependent on tourism as an industry;
- Identification of the social and environmental impact of tourism; and;
- Implementation of systems to manage these impacts.

With a time span of 25 years the TIES re-evaluates the principles of ecotourism published in 1990. The updated definition of ecotourism is as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015). The recent definition is a fragmented version of the previous one, which also have the preliminary characteristics of the commonly accepted definitions. However, special emphasis on the 'education' part is meant for the inclusive aspect for both staff and guests.

1.3.4 Stakeholders in Ecotourism

Stakeholders/actors in the ecotourism system includes “visitors, natural areas and their managers, including both public and private areas, communities, businesses, including various combinations of local businesses, in-bound operators, outbound operators, hotel and other accommodation providers, restaurants and other food providers, and so on, government, in addition to its role as a natural area manager and non-governmental organizations, such as environmental and rural development NGOs” (Lindberg et.al, 1997). The key stakeholders should, therefore, adhere to the norms and regulations associated with the ecotourism. If they fail in their responsibilities, there will be negative implications of ecotourism in the destinations.

Liliane (2012) assesses the stakeholder approach towards ecotourism in Tansania. The study reveals the level of the participation of stakeholders is less in ecotourism. This situation will put at risk the development and promotion of ecotourism in the country. He remarks that if all the stakeholders get together there is a great potentiality of sustainable ecotourism at any destinations. Buchsbaum (2004) highlights certain issues facing ecotourism in Costa Rica. The paper analyses the impacts, challenges and potentials of ecotourism as a strategy for sustainable development. The paper also identifies that ecotourism of Costa Rica has pure and water-downed ecotourism destinations. This is because of the demand for the new ecotourism activities. Since the destinations are increasing, the author calls for an education and awareness of both local and tourists and advocates for stringent policy and principles so as to cater the benefits of ecotourism in all destinations.

Ecotourism is justifiable in the sense of nature protection, enabling public enjoyment and understanding and providing income and employment

contributing to development of the concerned society. According to Marsh (1995) in Hussin (2006), such an indication should have a minimum social impact on soil, water, air, flora, fauna, and bio-physical processes, use little energy, cause little pollution, educate the tourist and contribute to the welfare of local and indigenous populations. This means that ecotourism is sustainable, only if due importance is given for the conservation and preservation of the bio diversity. In order to encourage ecotourism, it must be controlled inasmuch as it is ecologically and socially sustainable.

Müller (2000) argues that, if ecotourism act as a sustainable development strategy, it needs to incorporate measures like Environmental Impact Assessment (EIA), environmental assessment, and carrying capacity analyses then the ecotourism have potential to enhance the welfare of both tourists and locales in that natural settings. This is because the tourism industry is often blamed as the reason for environmental and socio-cultural damages (Goodwin, 1996; McCool, and Moisey, 2008). As a preventive and corrective measure, the Environmental Impact Assessment (EIA) and carrying capacity analyses can be used as a tool for describing the sustainable practice of the tourism development (Müller, 2000; Lundberg, 2011).

Stronza (2001) discusses that impact of ecotourism need to be analysed on a dual way, tourists and locals in all stages. This pattern will explore socio-economic and environmental benefits to the local communities and also create transformative experiences for tourists. Rajasenan et.al (2012) evaluates the profile of tourists visiting to the ecotourism destinations of Kerala in the background of foreign and domestic tourists. The paper unfolds the post-trip attributes like satisfaction and intentions to return have significant potential in the development of communities in the region.

1.3.5 Community and Ecotourism

Community here means a group of individuals living or working within the same geographic area with some shared cultures or common interests. The term community has been defined in multifarious manner by several researchers. The concept of ‘community’ is interpreted and defined in terms of historically shared geographical boundaries of one’s residence with a common interest (Aref et al, 2010; Bradshaw, 2008; Chapman and Kirk, 2001; Talbot and Verrinder, 2005). The community development is pivotal in capacity building and developing the social capital of the local communities by using the skills, knowledge and practice (Gilchrist, 2004; Kuponiyi, 2008). Community development has been interpreted in terms of “participation, empowerment and community capacity” when linked to tourism (Singh, Timothy and Dowling, 2003; Talbot and Verrinder, 2005).

Hall et al (2005) emphasized the need for increased community involvement in development of tourism in the region. According to Kepe (2004), local community participation is one of the best practice methods to extract positive benefits from tourism. The synergy between tourism in community development is well understood in that the educational opportunities and business mentoring not only helps in imparting skills and abilities of the locals, but also ensures improvement in their overall socio-economic matrix (Bushell and Eagles, 2007). Based on the principle that “biodiversity must pay for itself by generating economic benefits, particularly for local people”, the community participation in ecotourism has emerged as a tool for biodiversity conservation (Agnes, 2004).

Rajasenan and Abraham (2012) discuss the livelihood security and socio-economics of Community Based Ecotourism (CBET) in Kerala. The

article also point out that community support is the most important factor for the success of ecotourism projects as it also offers income and livelihood of the locale and sustainable development of the destination. Rajasenan et.al (2012) shed light on the socio-economic and sustainable livelihood aspect of the ecotourism programmes in Kerala. The result of the study confirms that ecotourism has helped to provide the livelihood security to the marginalized local communities.

Anitha and Muraleedharan (2006) evaluate the economic valuation of ecotourism development in the Southern-Western Ghats of Kerala. The study also attempts to estimate the economic potentials of the ecotourism. The results show that sustainable development initiatives through enhancement in employment, income, etc ensures the livelihood security of the people. This helps in achieving the primary goals of conservation of natural resources and improvement in the standard of living of the local households. The study recommends for “*One Tourist One Rupee Ten Trees Program*” and suggests suitable strategies and action plans.

Thampi (2005), evaluates the ecotourism projects at Periyar Tiger Reserve, Kerala and points out that the ecotourism project involving the local communities has been successful. The members of the community are originally the forest dwellers who make living by illegal trading of the forest goods. By involving them into ecotourism helps in the conservation of the forest. He concludes that their intimate knowledge about the plants and animals and their survival instinct act as prominent factors for a participatory ecotourism activities which in turn creates a balance between conservation and local livelihood.

Vinodhan and Manalel (2011) examine the local economic development of the members engaged in ecotourism activities in the Parambikulam Tiger Reserve, Kerala. They identify the benefits enjoyed by the local communities through participation in ecotourism programme are economic and non economic. They also reveal that ecotourism has resulted in lesser dependence and exploitation of forest resources for income and employment of the indigenous communities.

1.3.6 Ecotourism and Poverty Alleviation

Nature-based tourism is an effective tool to alleviate poverty of the local communities. The development strategies like ecotourism have become beneficial to developing nations (Honey, 1999). The WTO, (1998) has recognized tourism as a potential tool for the purpose of poverty alleviation through increase in employment particularly in the developing countries. It ensures environmental protection, avenues of employments, community participation and alleviation of poverty (Neto, 2003). Community based ecotourism can be an important force for developing disadvantaged rural areas (Frederick, 1992). Ecotourism inevitably ensures a sustainable and eco-friendly environment in the destination and provides an opportunity for economic and social improvement (Menkhaus and Lober, 1996). Fredline et al. (2006), state that sustainability in tourism ensures reduction in poverty, encourage social equity, improve standards of living, increasing local participation. Ecotourism provides income generation to locals and plays a pivotal role in the poverty alleviation for more than 80 percent of low income countries (CREST, 2010). The participation of community in ecotourism is a potential source of economic development and poverty alleviation, particularly among the marginalised communities in the rural areas (Aref and Gill, 2009).

Because of its scope and importance, many less developed countries have identified tourism as a noticeable one in their development goals (Diamond, 1977). Richardson (2010) elaborates that it is a prominent tool for economic growth, poverty alleviation, and improves food security.

1.3.7 Ecotourism and Inclusive Development

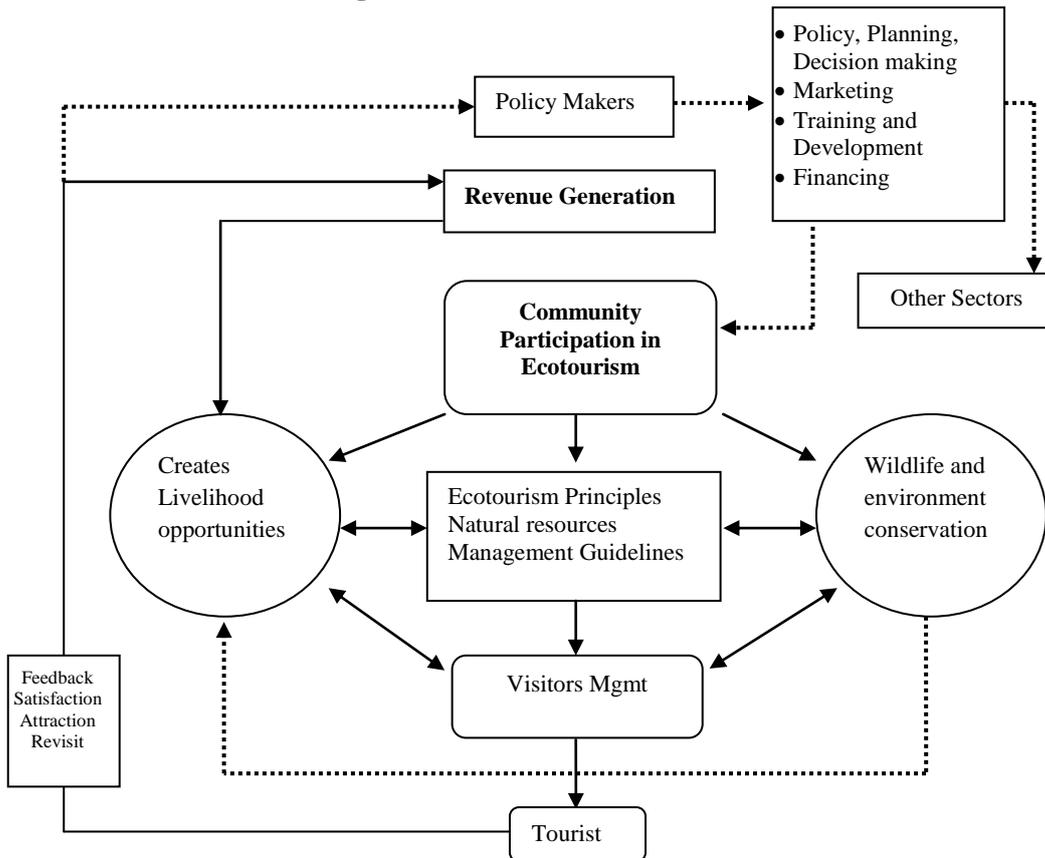
Development can be inclusive and reduce poverty if and only if all sections of the society contribute in creating opportunities, share the benefits of development and participate in decision-making. Inclusive development is the development that marginalized groups take part in and benefit from, regardless of their gender, ethnicity, age, sexual orientation, disability or poverty (UNDP, 2010). According to UNWTO (2012), tourism sector has the potential option for inclusive and sustainable development. Tourism has been recognized as one of the major engines for inclusive growth and employment (GoI, 2014). Inclusive growth is predicated upon broad-based growth across all sectors of an economy, including all among the low and middle-income groups, and has a distributional aspect aiming to reduce income inequality. It is a key question to describe how to maximise economic linkages to other sectors and how to minimise economic leakage (Hampton and Jeyacheya, 2013). Community participation in ecotourism can at the same time ensure sustainable development of tourism and inclusive development of the concerned community.

1.4 Theoretical Framework

The community participation in ecotourism creates livelihood security to the local communities without compromising the ecological balance of the destinations as given in Figure 1.7. The efficacy of the ecotourism programme

in achieving these objectives is ensured through the principles of ecotourism together with the guidelines stipulated by the authorities for natural resource management. This, in turn, results in better visitor management in the destinations, hence reduces the negative externalities. The overall satisfaction of the visitors can be understood from their impression, feedback, decision to revisit, etc., which plays a pivotal role in further income generation through biodiversity conservation. This not only assist the policy makers to develop action plans for effective management of destinations, but also have a positive impact on other sectors and sub-sectors like hospitality, travel, infrastructure, small scale industries etc.

Figure 1.7 Theoretical Framework



1.5 The Research Problem

Kerala's tourism focus is on sustainable and eco-friendly development and hence the various ecotourism projects in Kerala are based on the concept of sustainability by giving a balance between nature and the people living there. The state has an undeniable comparative advantage in terms of the variety and extent of unspoiled natural environments and biodiversity encompassing 17 wild life sanctuaries and 5 national parks.

The benefits of ecotourism are often concentrated in the hands of a few. The local people including tribes of the forest areas and the other marginalised sections earn too little and are less benefited from ecotourism. There is a necessity of inclusive measures to bring the socially backward communities to the mainstream through sustainable development of environment and ecotourism. Therefore, there should be a fine synchronization of sustainable ecotourism and inclusive development. Wise and judicious utilization of the precious natural resources can make ecotourism the sustainable inclusive development option and ensure equitable socio-economic development of the state. The key to this is community participation at every stage of the planning process. The focus of the present study is to understand the various dimensions and significance of ecotourism as an inclusive development option of the excluded communities in the state.

1.6 Research Objectives

The objective of this study is to examine the community participation in tourism and its impact on inclusive development in Kerala. The specific objectives of the study are:

- 1 To study the nature and significance of ecotourism in the tourism development of Kerala.
- 2 To evaluate the ongoing ecotourism projects in terms of community participation, income and livelihood, quality of services and satisfaction of visitors.
- 3 To study the role of ecotourism in sustainable tourism development and inclusive development of the marginalised communities.
- 4 To develop a SWOT framework so as to make relevant policy measures for the development of ecotourism for the inclusive development of the excluded communities.

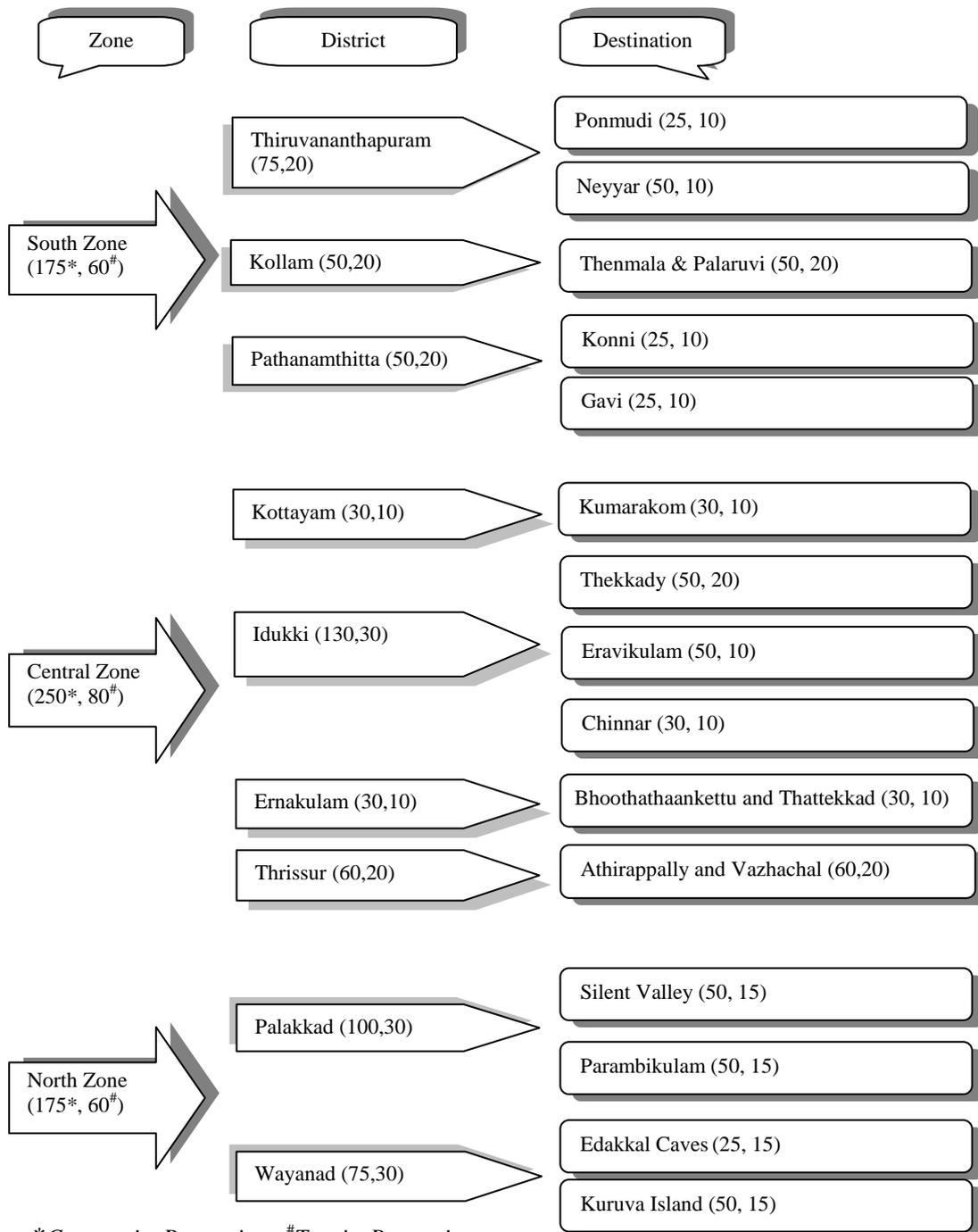
1.7 Hypotheses

1. The income of the community members is same in all zones
2. There is similarity in the Standard of Living across zones
3. Gender and activity are identically related
4. There exist considerable similarities in ecotourism development and livelihood differences across zones

1.8 Data and Methodology

The study is a piece of exploratory-cum-empirical research. The research is intended to cover certain specific locations where there are existing ecotourism projects and those areas where there is a potential for inclusive development through community based ecotourism ventures. Both primary and secondary data are used. Data are collected using three different approaches based on three zones:

Figure 1.8 Sampling Design



*Community Perceptions, #Tourist Perceptions

- (a). from official statistics, books, periodicals, magazines, newspapers etc.
- (b). through interviews with people working in tourism related activities and
- (c). information from the prime stakeholders i.e. the community members in ecotourism destinations and the tourists.

Primary data were collected through multistage stratified random sampling method i.e. the community members in the selected locations who primarily depend on ecotourism for their livelihood were categorized into three zones. An in-depth interview with the important stakeholders is done with a well structured interview schedule. The unit of observation is the individuals working in ecotourism and the tourists. A total of 600 community members and 200 tourists selected for the study (Figure 1.8).

Secondary data have been collected from Department of Tourism, Directorate of Tourism, Directorate of Ecotourism, Kerala Tourism Development Corporation (KTDC), District Tourism Promotion Councils (DTPC), Thenmala Ecotourism Promotion Society (TEPS), Kerala forest Department etc. Interviews with the officials of Forest Department, academicians working in the field of tourism, tourism promoters, NGO's, tourists and members of the local community in the selected locales are also done.

1.9 Data Analysis

The perceptions of both the groups were recorded using separate structured interview schedules and substantiated using statistical tools like Chi-Square, ANOVA, Correspondence Analysis, Factor Analysis, Logistic Regression, etc.

1.10 Concepts

The major concepts are defined as follows.

Community Participation: Participation of the community. Here the participation of the community around the ecotourism destinations in the tourism activities.

Ecotourism: Tourism that is nature based and sustainable and benefiting local communities.

Inclusive Development: Development process with a concern for the development of the excluded sections.

1.11 Limitations of the Study

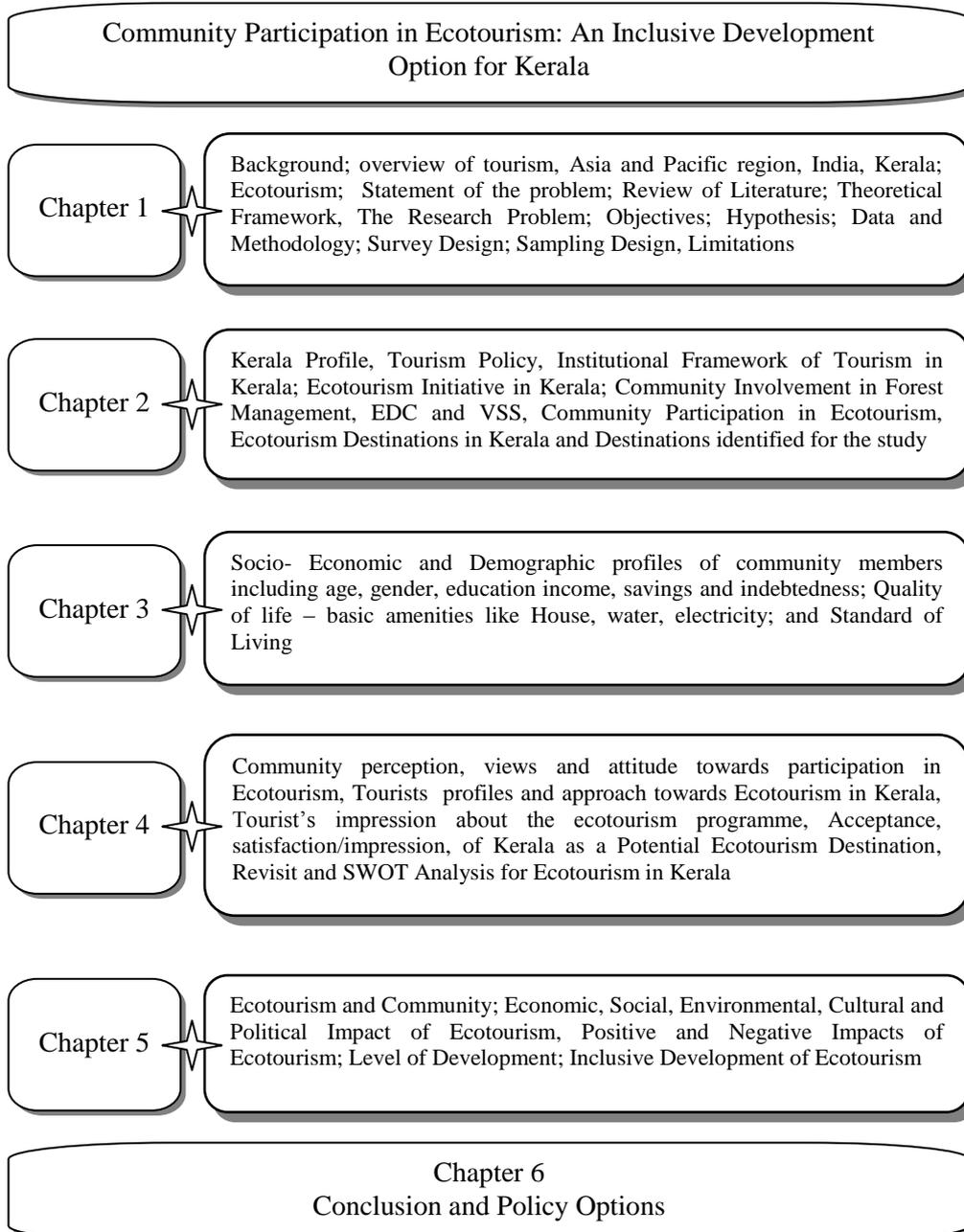
The primary survey is focused on ecotourism destinations of Kerala located in difficult terrains and mostly in the forest areas and hence getting permission to visit these destinations and surveying the community members and the tourists is not an easy task. Non availability of destination-wise data creates problem in assessing the carrying capacity and livelihood implications as the present data source *per se* is district level only. Assessment of inclusive development encompassing their socio-economic aspects among the local communities in the ecotourism destinations is a maiden venture and hence has its own concomitant difficulties. Questions relating to inclusive aspects have been incorporated in the questionnaire, but failed to obtain the requisite data base for such an enquiry.

1.12 Scheme of the Study

The study is divided into 6 chapters as given in Figure 1.9. Chapter 1 begins with the background, overview of tourism sector, literature review,

theoretical framework, the research problem, objectives methodology and limitations of the study.

Figure 1.9 Chapterisation



Chapter 2 provides information on Kerala profile, tourism policy, the institutional framework of tourism in Kerala; ecotourism initiative in Kerala; community involvement in forest management, EDC and VSS, community participation in ecotourism, ecotourism destinations in Kerala and destinations identified for the study. Chapter 3 analyses the socio-economic and demographic profiles of the community members; their quality of life, basic amenities and standard of living. Chapter 4 brings together the perception of the community views, attitude towards participation in ecotourism; and the tourist's profiles and approach towards ecotourism in Kerala, their satisfaction/impression about the ecotourism programme, acceptance of Kerala as a potential ecotourism destination; revisit and the SWOT analysis for ecotourism in Kerala. Chapter 5 discusses the community involvements in ecotourism, evaluates the positive and negative impacts of ecotourism; level of development and inclusive development. Chapter 6 brings about the findings and policy suggestions of the study.

Chapter 2 Development of Ecotourism in Kerala

Kerala's tourism map envisages a clear advantage for ecotourism and hence has very high scope for its development. Though ecotourism is a sub-sector of the tourism industry, it again is bifurcated into niche sub-sectors like wild life sanctuaries, bird sanctuaries and biosphere reserves etc. Each of these has very high specific tourist attractions of specific groups of tourists. Based on the sustainable implication of this tourism sector the government of Kerala has been giving high currency to its linear growth and consistency. Along with this Kerala's high heritage of art, culture, festivals, pilgrim centers have become attraction centres for certain tourist groups for study and leisure. The pertinent aspect for ecotourism development is connected with its livelihood options and income earnings of the poor people living in forest and related areas where ecotourism projects can be well targeted. To generate tourist's attractions and cater the demand of the eco-tourists a wide range of products have been developed with the active involvement of the local community. Chapter 2 is an exposition of the development linked institutional settings associated with the ecotourism destinations in Kerala.

2.1 Basic Profile

According to the Kerala Forest Department (2014), 29.1 percent of the total geographical area of the state covers as forest land and among them 28.40 percent area covers as National Parks and Wildlife Sanctuaries. Table 2.1 shows the general information of Kerala. Apart from being a tourist

destination, Kerala is also the country's most advanced society. Almost 100 percent literate, the state has the highest density of science and technology personnel (Longhinos et.al. 2007), highest life expectancy and lowest infant mortality rates. As a tourist destination, Kerala is famous especially for its ecotourism initiatives. Its unique culture and traditions, linked with its varied demography have made Kerala one of the most popular tourist destinations in the world. Some of the popular attractions in the state include the beaches at Kovalam, Cherai, Varkala, Kapad; hill stations like Munnar, Nelliampathi, Ponmudi, Wayanad; backwaters in Alappuzha, Kumarakam, Punnamada and wildlife's have accounted for the heavy traffic of tourists. Other heritage sites, such as the Padmanabhapuram Palace, Hill Palace, Mattancherry Palace etc, have also gained special importance in Kerala's tourism map.

The tourism industry is critically important in Kerala's economy as it is the largest job creator across the national and regional economies. Since 1986, the Government has made deliberate interventions in the industry, for bringing it in the world tourism map by brand building, marketing and creating infrastructural support. Now the government strongly advocates bringing in more private investment in the industry. This is explicit in the Tourism Policy announced in 2012.

Government intervention in marketing, infrastructure support and promoting private sector transformed the industry from barely 50,000 foreign tourist arrival in 1986, to a status of 9,23,336 foreign tourists and 1,16,95,411 domestic tourist visitors in 2014. In 2014, the industry contributed total revenue of 24885.44 crores from direct and indirect sources with an increase of 12.11 percent from the last year. Tourism plays an important role in driving growth and bringing about economic prosperity in the state.

**Community Participation in Ecotourism:
An Inclusive Development Option for Kerala**

Table 2.1 General Information of Kerala

1	Area of Kerala State	38863 Sq.Km
2	Coastal line	580 Km
3	a. Districts	14
	b. Taluks	63
	c. CD Blocks	152
	d. Villages	1018
	e. Panchayaths	978
	f. Municipalities	53
	g. Corporations	5
	h. Towns	520
4	a. Population of the State	33,40,6061
	b. Density (persons/Sq,Km.)	860
	c. Households	78,53,754
	d. Urban/ Rural Population	1,59,34,926 / 1,74,71, 135
	e. Male/Female population	1,60,27,412 / 1,73,78,649
	f. Sex ratio	1,084
	g. Literacy rate	94 percent
	h. Male/ Female Literacy Rate	96.1/ 92.1 percent
	i. Work Participation Rate (WPR)	34.78 percent
	Scheduled Caste/Tribe Population (2011 Census)	
	j. Scheduled Caste Population	30,39,573
	k. Scheduled Tribe Population	484839
	l. Tribal families (inside Forests)	33699
	m. No. of Tribal Settlements	869
	n. Settlement Area	345.044 Sq.km
5	a. Per Capita Land	0.116 ha
	b. Per Capita Forest Land	0.034 ha
	c. Cultivated area	2.292 mh
	d. Revenue from Forest (in crores)	237.33
6	a. Total Forest Area in the State	11309.48 Sq. Km
	b. Total Plantation area	1525.52 Sq. Km
	c. Total EFL area	140.71 Sq. Km
	e. Division of forest land	410.5 Sq. Km
	f. Area of Encroachment	45.19 Sq. Km
	g. Reserve Forest	9176.30 Sq. Km
	h. Area Under Sanctuaries and National Park	3211.74 sq. km
7	Height of Peaks in Kerala	
	Anamudi	2694 M
	Agastyarkoodam	1868 M.

Source: Kerala Forest Dept., 2014; Dept. of Tourism, Kerala, 2014; GoK, 2014; Census, 2011; Economic Review, 2014.

2.2 Kerala as a Tourist Destination

Kerala, acclaimed as “*God's Own Country*” is well known for its scenic beauty, flora and fauna. As per *National Geographic's Traveler* magazine, Kerala named as “*one of the ten paradises of the world*” and “*50 must see destinations of a lifetime*”; and *Travel and Leisure* names Kerala as “*One of the 100 great trips for the 21st century*”. In 2014, Kerala awarded Ulysses Award for Innovation in Public Policy and Governance for Sustainable Tourism by UNWTO. Its ecotourism initiatives including nature based programmes; wildlife resources beaches, backwaters, and mountain are the major attractions for both domestic and international tourists.

The most popular tourist attractions in the state are:

- ✓ Beaches at Kovalam, Varkala, Fort Kochi, Cherai, Kappad, and Bekal.
- ✓ Hill stations at Munnar, Wayanad, Wagamon, Peermade, Nelliampathi and Ponmudi.
- ✓ Backwaters and lake at Alleppey, Kumarakom, Punnamada, Vembanad and Ashtamudi
- ✓ Heritage sites at Padmanabhapuram Palace, Hill palace, Fort Kochi, Mattancherry Palace, Pallippuram Fort, St. Angelo Fort, Palghat Fort etc.
- ✓ 17 Wildlife Sanctuaries and 5 National Parks.
- ✓ Other attractions like Thrissur pooram fireworks and other native performing arts like kathakali, koodiyattom, mohiniaattam kalaripayattu etc are the most popular among them.

2.3 Tourism Vision 2025

The first tourism policy of the state was announced in the year 1995 emphasizing the importance of ‘Public-Private Partnership’. The “Tourism Vision 2025” announced by the government in the year 2002. The slogan of

the “Tourism Vision 2025” is *“conserve nature and promote tourism”*. The vision document states the objective of Kerala tourism as *“to make Kerala, the God’s own country with focus on integrated development of infrastructure sector conserving and preserving the heritage and environment and enhancing the productivity, income, creating employment opportunities, alleviating poverty thereby making tourism the most important sector for socio-economic development and environment protection of the state”*.

Objectives of the tourism policy (Govt. of Kerala, 2002):

1. To make tourism the important sector for the future development of the state economy.
2. To achieve an annual growth of seven percent in foreign tourists and nine percent in domestic tourist arrivals.
3. To create employment opportunities for 10,000 person/year.
4. To innovate and promote at least one tourist destination/product every year.
5. To develop the tourism products of the state in an international standard thereby making the state an important tourist destination in the country,
6. The role of the government should be to enhance the growth momentum of tourism industry in the state to a higher level through implementation of various programmes.
7. Necessary polices and laws should be implemented for the development of tourism in the state.
8. To provide proper guidance and awareness among the communities who play an active role in the promotion of tourism in the state including Taxi drivers, Police force, bus conductors, porters, employees in customs, emigration department for ensuring the safety and security of tourists etc.

9. To develop basic infrastructure facilities like providing amenities including good roads for easy connectivity to various tourist spots, good drinking water, uninterrupted power supply etc.
10. To give more focus on backwaters, ayurveda and ecotourism.
11. To protect and promote the rich art, culture and heritage of the state.
12. To develop unknown tourist spots, arts, culture, handicrafts and souvenirs to make them popular among the tourists.
13. To identify, protect and preserve special tourism zones.
14. Institutes related to tourism like KITTS, KIHMS, IHMCT located in the state to be developed and transformed in to top class institutions in the country.
15. To give active participation to PRI's and NGO's for providing proper guidance about the culture, tradition, tourists centers' etc in the state to the tourists.

The action plan of 2025 envisages short-term, medium-term, long term programs which have the following objectives.

- To strengthen the tourism sector as a growth vehicle for the state's socio-economic development.
- To elevate tourism as an economic and employment priority of the state.
- To pursue sustainable tourism development with focus on conservation and preservation of heritage and culture.
- To guarantee equality services in all sectors of tourism.
- To create and develop infrastructure through private sector and private-public partnership, with government acting as a facilitator and catalyst.
- To continue to focus on backwaters, ayurveda, performing arts, cuisine and ecotourism.

- To strengthen the institutional mechanism.
- To create adequate quantity and quality of requisite human resources within the State.
- To explore and develop new markets for domestic and international levels.
- To ensure safety and security of tourist.

Preservation of the art, heritage and culture of the state is a part of the policy objectives. Special tourism zones are identified and measures are taken to preserve and conserve them.

2.4 Kerala's Present Tourism Policy

The Kerala Tourism Policy 2012 (Box 2.1) was put forth by the Department of Tourism, Government of Kerala. The policy calls for a development strategy in a view to provide world class experience to the tourists without hampering social, environmental and economic fabric of the destinations.

Box 2.1 Kerala Tourism Policy, 2012

Vision

“Vibrant and significant contributor to the sustainable development of the state of Kerala”.

Mission

World-class, yet local visitor experience
Attracts investment, which will be sensitive to the natural environment
Communities benefit from tourism and value its contribution
Kerala as a visible global brand in tourism
Enhance market share, within and outside India
A quality human resource provider in tourism for the state and the country

Objectives

- To ensure quality visitor experience
- To focus on benefits for the community from tourism
- To create enabling environment for investment
- To market Kerala as a visible global brand in domestic and international markets
- To develop quality human resources in tourism and hospitality

Ensuring the quality experience for the visitors is the first and foremost goal. This is only possible through enhanced customer satisfaction. In this regard there is a need to develop the basic infrastructure at the destinations. Sustainable management of the tourism resources and better facilities at the destinations is also necessary. Assessment of quality of a destination will be done by recording the perception and satisfaction level of the tourist with the aid of feedback surveys. There is also a call for promoting environment friendly practices, local souvenirs, cuisines, adventure activities, introducing hop-on hop-off services, etc. The policy has also identified the need for tourist information centres in all the destinations. Proper sign boards on routes to identify the destination will also be placed. Another objective is to provide facilities to the disabled persons. Upgrading the existing lifeguard service to ‘life saving volunteer’, appointing of tourist warden and contingency response cell will be provided.

The policy encourages the local community involvement in the destinations of Kerala so as to minimize leakages and maximize linkages of the tourism industry and maximize the benefits in social, economic and environmental front. Employment generation, production and supply of tourism related products are the major requirement in the economic angle. The importance of sustainable development in the overall tourism development of the state is well understood in the policy. The social and environmental angle

will ensure to minimize negative impacts and also the enable to local community to live in harmony with nature, culture and traditions.

Facilitating and attracting private investment avenues is yet another goal of the tourism policy. Public-private synergy should also be attained. However, encouragement by the government should be keeping in view the sustainability principles and practices. Marketing Kerala as a global brand by focusing both on domestic and international markets is yet another objective of the tourism policy. This needs to be achieved by framing market specific strategies to optimally use existing and potential markets.

There is an acute shortage of skilled manpower in tourism sector. Awareness programmes regarding the employment potential of tourism and making uniform standards with regard to curriculum and qualifications is also necessary. While there are ample opportunities in informal segment of tourism, necessary steps to mould the present tourism educational scenario into the industry requirements will be done with the help of Kerala Institute of Tourism and Travel Studies (KITTS), State Institute of Hospitality Management (SIHM), Institute of Hotel Management and Catering Technology (IHMCT), Food Craft Institutes (FCI) and a good number of institutes in the private sector.

A State Tourism Advisory Committee (STAC) comprising of the stakeholders in the tourism industry and members of various task forces will be set up by the Department of Tourism. The committee will work as an adviser and a facilitator for framing policy decisions with regard to destination development, tourism product development, tourism marketing strategies and HR and tourism research to promote and enhance tourism destination of the state to international excellence.

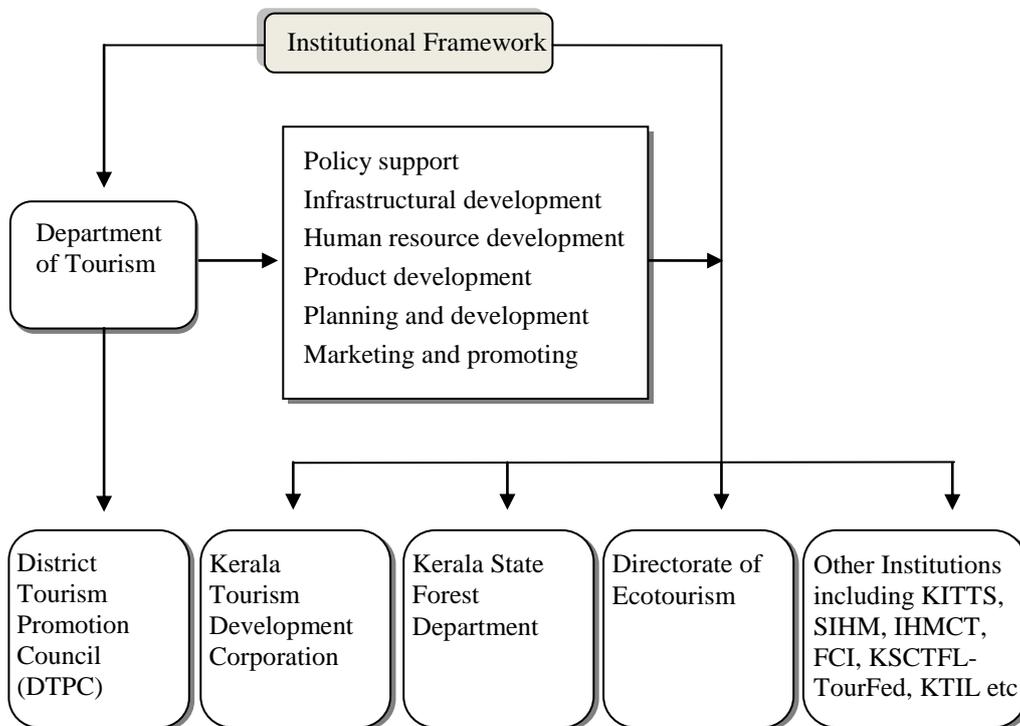
2.5 Institutional Framework of Tourism in Kerala

In Kerala, the Department of Tourism, Government of Kerala has its function to develop tourism activities. The state started its hospitality initiatives during the 1950s. The Department of Tourism came into being in 1960s with the function of providing hospitality for the elite groups in the guest houses, residential bungalows etc. Later, in 1976 with the establishment of an international beach resort at Kovalam, it initiated the development of the sector. Identifying the importance and economic potentials of the tourism, the government of Kerala declared tourism as an industry in 1986. Focusing on ‘the need for community benefits and participation in tourism’ an Ecotourism model was envisioned in the late 90s and the concept of Responsible Tourism was initiated in 2007. Today, the Tourism Department provides policy support, infrastructural development, human resource development, product development, planning and development, marketing and promoting of Kerala tourism etc. It acts as facilitator and catalyst to encourage private sector investment in development of tourism.

The department has offices in all the districts of which six are headed by Deputy Directors and eight by Tourist Information Officers and fifteen Information Offices within the State and four outside the State. All these offices are concentrating very effectively in marketing Kerala as a tourist destination. Besides the Tourism Department, Kerala has several other institutions such as District Tourism Promotion Council (DTPC), Kerala Tourism Development Corporation (KTDC), Kerala State Forest Department, Directorate of Ecotourism etc which promotes tourism sector in Kerala (Figure 2.1).

The District Tourism Promotion Council (DTPC) is set up with the purpose of fully exploiting the tourism potential of the State through sustained efforts by coordinating various Government departments, voluntary agencies and others interested in travel and tourism to provide assistance to travelers. The DTPC has a governing body with District Collector as Chairman and members from among officials, people's representatives and tourism experts nominated by the Government.

Figure 2.1 Institutional Framework of Kerala Tourism



The Kerala Tourism Development Corporation (KTDC) is a government agency that conducts and regulates the tourism activities of the state. The KTDC is headquartered at Thiruvananthapuram and has offices across all the districts of Kerala. The agency also operates hotels, resorts, and

tourist rest houses in different key locations within the state. It promotes and conducts tours all over the state and maintains a high tech reservation system.

The Directorate of Ecotourism is another separate directorate charged with an initiative to promote and develop ecotourism destinations throughout Kerala. This directorate is a supporting body that facilitates ecotourism programmes undertaken by the Forest Department and provides financial assistance to various Forest Divisions for the implementation of Ecotourism programmes through local community participation. The Department operating its functions at Thiruvananthapuram is headed by a Director.

The Kerala Forest and Wildlife Department is another institution that manages and operationalise tourism in the National Parks and wildlife sanctuaries. The Eco-development and Tribal welfare division of Forest department are paying attention in promoting nature based tourism programmes in protected areas that protect and conserve the environment along with community participation and revenue generation.

The other subsidiary institutions like Kerala Institute of Tourism and Travel Studies (KITTS), State Institute of Hospitality Management (SIHM), Institute of Hotel Management and Catering Technology (IHMCT), Food Craft Institutes (FCI) Other Institutions including Kerala State Co-operative Tourism Federation Ltd (Tourfed), Kerala Tourism Infrastructure Ltd (KTIL) also play a prominent role providing quality manpower, infrastructural development, cuisines, tourism products and other hospitality services. There are also some other institutions like NGOs, travel agents, research institutions etc who gear the rapid growth of tourism sector in Kerala.

2.6 Ecotourism Initiatives in Kerala

The majority of the tourism destinations in Kerala are located in and around forest areas. These destinations are bounded with rich biological diversity and warrant strict and uninterrupted care. In Kerala, there are 17 Wild life Sanctuaries and 5 National parks that totally cover the geographical area of 8.26 percent of the State, all these are protected areas (Kerala Forest Dept., 2014).

Table 2.2 List Wildlife Sanctuaries and National Parks in Kerala

Sl. No.	Name	Area (Km2)	Year of Formation
National Parks			
1	Eravikulam National Park	97	1978
2	Silent Valley National Park	237.52	1984
3	Anamudi Shola National Park	7.5	2003
4	Mathikettan National Park	12.817	2003
5	Pambadum Shola National Park	1.318	2003
Wildlife Sanctuaries			
1	Periyar WLS (Tiger Reserve)	925	1950
2	Neyyar WLS	128	1958
3	Peechi - Vazhani Wildlife Sanctuary	125	1958
4	Parambikulam WLS (Tiger Reserve)	643.66	1973
5	Wayanad WLS	344.44	1973
6	Idukki WLS	70	1976
7	Peppara WLS	53	1983
8	Thattekkad Bird Sanctuary	25	1983
9	Shenduruney WLS	171	1984
10	Chinnar WLS	90.44	1984
11	Chimmony WLS	85	1984
12	Aralam WLS	55	1984
13	Mangalavanam Bird Sanctury	0.0274	2004
14	Kurinjimala Sanctuary	32	2006
15	Choolannur Pea Fowl Sanctuary	3.42	2007
16	Malabar Sanctuary	74.215	2009
17	Kottiyoor WLS	30.3798	2011
Total		3211.737	
Community Reserve			
1	Kadalundi Vallikunnu Community Reserve	1.5	2007
Biosphere Reserve			
1	Agasthyamala Biosphere Reserve	1828	2001
2	Nilgiri Biosphere Reserve	1455.4	1986

Source: Kerala forest Department, 2014

Table 2.2 gives the list of wildlife sanctuaries and national park areas in sq km sanctioned by the Department of Forest, Government of Kerala. Having this abundant natural potential advantage, the concept of sustainability with the continuous capacity to safeguard natural environment, the very basis of tourist attraction and benefit to the local people initiatives has been made with a well-informed public and conservation groups who are always watchful of the adverse impacts of ecotourism initiatives.

Kerala has taken a pioneering step to develop and promote nature based tourism activities focusing attention to the concept of ecotourism. A separate ecotourism directorate (The Directorate for Ecotourism) has been constituted during the year 1998 to give policy support for the development of ecotourism. Accordingly a project for a planned ecotourism destination (Thenmala Ecotourism Project) has been formulated in and around the Shenduruney Wildlife Sanctuary with the cooperation of the Forest, Irrigation and Tourism departments. For developing this destination, a separate Society, i.e. the Thenmala Ecotourism Promotion Society (TEPS) has been formed. Thus "Thenmala Ecotourism" has been conceived as a first planned ecotourism destination in India.

The major objectives of the first planned ecotourism project are:

- To develop Thenmala dam and its surroundings as a major tourist destination.
- To promote Ecotourism on the basis of sound principles of ecological sustainability in the surrounding areas of Thenmala.
- To have a well planned tourism destination with emphasis on sustainable tourism development so as to become a model for other destination development programmes.

To make this project a great success, Kerala Forest Research Institute (KFRI) and the Indian Institute of Forest Management (IIFM) were entrusted to provide technical support to conduct Environmental Impact Assessments (EIA). Further, based on the recommendations TEPS amended the activities so as to minimize the negative impacts of the project. The idea behind this project is to constitute basic ecotourism exposure to those who are not very keen eco tourists, and provide a better ecotourism experience in the surrounding forest areas for those who really have a concern for nature, so that it can ensure ecological sustainability of the destination. Several ecotourism activities like bird watching, trekking, mountaineering, staying in natural caves, studying flora and fauna, animal behaviour studies, ecological studies etc have been also designed to support the nature based tourism programmes.

Kerala tourism has attempted a series of eco-initiatives to make the tourism industry truly environment friendly. Kerala Tourism adopted a series of programmes which include various components such as policy initiatives, destination specific programmes, support for community led ecotourism initiatives, consultancy, research programmes, awareness campaigns, human resource management, focused marketing, educational and interpretation packages, monitoring mechanism etc (KSPB, 2006). According to the TCS evaluation report (2002) ecotourism promotion would help to conserve the forest and empower the local people to benefit from emerging economic opportunities. It will open new scope for community involvement and can work as a big employment spinner (NAEB, 2008).

2.6.1 State Ecotourism Policy

Kerala's ecotourism has immense potential for local level employment generation. Ecotourism has tremendous opportunities in sound ecosystem

management, employment and livelihood opportunities for the poor communities on the other (GoK, 2007). Where;

1. The State will identify, develop and support non-invasive ecotourism initiatives with the active involvement of local communities. Members of the VSS/EDCs will be trained in Ecotourism activities.
2. Linkages will be developed with the tourism department so that the department's programmes, policies and messages reach a wider audience.
3. The ecotourism activities will be regulated in such a way as to preserve the pristine original conditions of the ecotourism destinations.

2.7 Community Involvement in Forest Management

Participatory forest management emerged in India, in the early 1990s with a view to safeguarding the Protected Areas (PAs) when the wildlife management system was inactive. An eco-development strategy was developed by the Government of India in the early 1990s with the aim to accommodate the welfare and behaviour of local people and integrating them to manage the Protected Areas. The strategy was initiated first in the 1970s under Joint Forest Management where the responsibility for control over forestlands and their products are shared between forest department and local groups. With the amendment of the National Wildlife Action Plan (1983), The National Forest Policy of 1988, Environmental Action Plan (1993) and Convention on Biological Diversity (1993), the Government of India extended its efforts to enhance community participation and thereby protection. The policies proclaimed about people's involvement in protection and development of forest as people living in and around forest could be motivated to involve themselves in the protection and conservation and at the same time

they can be allowed to enjoy certain benefits regarding collection of firewood, fodder, thatching grass etc. These policies indicate the responsibilities of the people living in and around the forests as well as the benefits to be extended to them.

“The National Forest Policy, 1988 envisages people’s involvement in the development, protection and management of forests. Government of India, Ministry of Environment and Forests, in their letter dated 01-06-1990 had issued guidelines for involving village communities and voluntary agencies in regeneration of degraded forest lands. The guidelines suggested by the Government of India envisage the formulation of a Participatory Forest Management Scheme including the preparation of micro-plans and managing the same as per the approved plan”¹.

The guidelines suggested by the Government of India envisage the formulation of Participatory Forest Management Scheme with the responsibilities of preparing micro-plans for participation and the objective of integrated development of village with the a forestation activity. To make the people more responsive about conservation, Forest Development Agencies (FDA) has been created in the State.

The objectives of the scheme are (GoK, 2002):

- To arrest and reverse the trend of forest degradation due to the unsustainable removal of forest products by dependent communities by making the community responsible for monitoring removals from the forest.

¹ Kerala Forest Dept.

- To provide sustainable and assured employment opportunities to the tribal and other weaker sections of the rural populations.
- To create durable community assets for such populations that contributes to overall village-development within the limits of sustainability of natural resources.
- To involve the forest dependent community in the execution of the programmes and make the functioning fully participatory.
- To create a funnel mechanism through which assistance under various schemes of the Ministry of Environment and Forests, Government of India and from other sources would flow.
- To create an effective mechanism in order to ensure that this medium will use to reach the beneficiaries by other government departments also.
- To liaison with other Government Departments and Agencies to develop and implement eco-friendly village-development programme.

The Forest Development Agencies (FDA) scheme aimed at providing employment to the local forest dependent communities through afforestation and conservation programmes, thereby creating valuable forestry assets for the forest dependent communities and other durable community assets for overall eco-development of the target communities/villages. The programmes then suggested implementing in phased manner in all the Territorial Forest/Wildlife Divisions in the State.

The FDA thus can be stated as a consortium of the Eco Development Committee (EDC) or Vana Samrakshana Samithi (VSS) institutional settings in Kerala. The Chairman for the FDA is the Conservator of Forests of the circle under which the Division falls. The Chief Executive of the FDA is the Divisional Forest Officer/Wildlife Warden of the Division/Sanctuary. The President of the EDC/VSS shall be a person selected from the EDC/VSS

members of dependent local community. The Secretary of the EDC/VSS shall be the Forester/Guard of that area.

Duties and Responsibilities of FDA:

- ✓ Create massive peoples' movement through involvement of EDCs/VSSs for the protection, regeneration and development of degraded forests and land with other government agencies and communities.
- ✓ Identify and prioritize critical issues influencing the forest management and develop plans to address them.
- ✓ Create village development fund by contributions from communities and develop an effective system for maintenance of accounts and utilization.
- ✓ Formation of EDC/VSS wherever they are not in existence following the guidelines and report to executive body.
- ✓ Selection of nominees from the EDC/VSS to be included in executive body, which shall not exceed more than half the number of EDC/VSS, and ensure minimum 50 percent women representation.

2.7.1 Eco-Development Committees (EDCs)

The aim of Eco-development programme in Kerala is to improve the conservation of biodiversity in protected areas of Wildlife Sanctuaries and National Parks and to enhance people's participation in forest management. Eco-development programme was introduced at the level of a single village/hamlet/settlement comprising of approximately 50 families, and the members of which will constitute as Eco-development Committee (EDC). Every member has to register his/her name with Range Officer/Assistant Wildlife Warden. Any two adult members will represent a household and one of them has to be a woman. Every participating household in the specified area

will be member of the EDC. And the EDC is selected based on the following criteria:

- Bio diversity importance of the protected areas of the forest.
- Level of dependency of the village/hamlet/ settlement on the forest resources.
- Degree on impact of the restrictions imposed by the forest.
- Proximity of the village to forest boundary.
- Threats to the wildlife resulting from rural subsistence dependencies
- Resources availability for practicing eco development programme.

The activities of the Eco-Development Committees are enhancing the protection regeneration and productivity of resources inside and outside the protected areas for improving the productivity of agriculture lands, horticulture, sericulture, apiculture, cottage industry, low impact tourism and development of alternative income generation and also to support sustainable alternative to unsustainable use of forest resources.

The specific objectives of Eco-Development Committee are:

- ✓ To reduce negative impacts of the local people on the wildlife and wildlife on the local people.
- ✓ To enhance the acceptability of forest by the local communities.
- ✓ To improve the standard of living of village communities by developing alternative subsistence and income generation opportunities.
- ✓ To involve local people in planning, implementation, monitoring and evaluation of the Eco-development programmes.
- ✓ To improve participation of local people in the management of protected areas and biodiversity conservation.

2.7.1.1 Micro-plan of EDC

Participatory Rural Appraisal (PRA) is used to develop the micro-plan. The plan will be the basis for implementation and will include reciprocal commitments (mutually improved investments, objectives, inputs, mutual obligations, schedule, monitoring indicators etc). Separate micro-plan needs to be prepared for each hamlets/settlements/or user groups in which all households are represented in the decision making body, both by men and women members. The micro-plan will aim at making the EDC free from unsustainable dependencies on wildlife. The micro-plan will also prescribe measure to be taken to make the Eco development committee self sustainable to carry on the programme. The micro-plans will essentially include all site specific details, analysis of resources and socio-economic conditions, dependencies and other relevant matters relating to forest and people. The micro-plan shall be signed by the official authority on behalf of the park management and by the President of the EC on behalf of the EDC as a mark of mutual consent.

2.7.1.2 Duties and Responsibilities of EDC

The members of the EDC individually and collectively have to:

- Participate in micro plan preparation and implementation.
- Ensure the protection of the sanctuary/park against trespass, encroachment, grazing, fire, theft of forest produce, poaching, ganja cultivation etc and participate in the activities concerning park management.
- Carry out Eco development activities in accordance with the approved micro plan.

- Apprehend forest/wildlife offenders and hand them over to the authorities concerned for taking appropriate action.

All the participating members in the programme have to contribute at least 25 percent of the Eco development investment in cash, kind or labour. For individual beneficiary activities, the EDC will contribute over and above 25 percent by evolving suitable modalities such as loan facilities etc. The nature of assistance to the individual beneficiary including the loans and the schedule of repayment will be decided by the EDC.

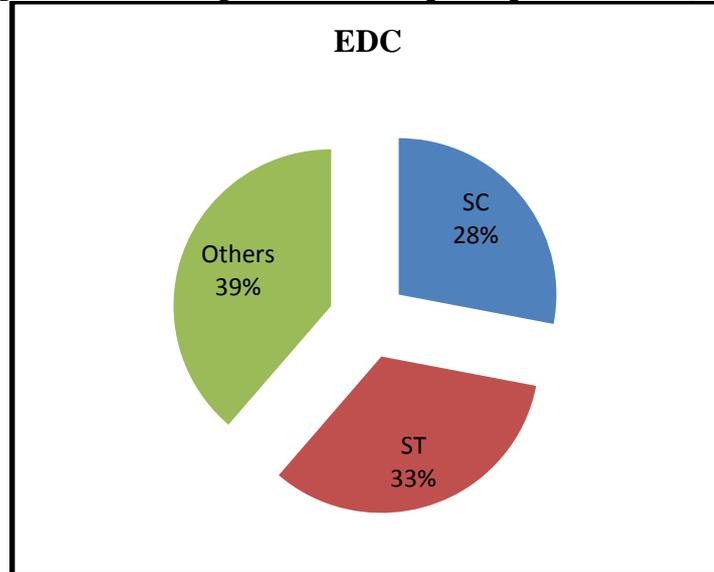
Table 2.3 No. of EDCs and Household Category

Year	No. of EDC	Forest Area Under EDC (ha)	Households			
			SC	ST	Others	Total
2010	185	38196	2831	4474	4852	12157
2011	187	11694	2833	4532	4951	12316
2013-2012	190	10887	3681	4373	5088	13142

Source: Various issues of Kerala Forest Statistics, 2011- 2014; Appendix 2.1; 2.2

As per the Kerala Forest Department, 2014 there 13142 families are functioning in 190 Eco-Development Committees in Kerala (Table 2.3). In the year 2010 there were 185 EDCs with 12157 family memberships. The percentage of household participation is shown in the Figure 2.2 where SC has 28 percent, ST has 33 percent and other communities occupy 39 percent of membership. It is pretty evident from the proportion of social categories engaged in the EDC activities that majority belong to the SCs/STs who are considered as the most marginalized in the state. In most of the cases they are residents in and around the destination who depended on the forest and its resources for their livelihood and income. A participatory approach has ensured that they now have a dual role of protecting the forests and earnings for the households.

Figure 2.2 Percentage of Household participation in EDC, 2013



Source: Compiled from Kerala Forest Statistics, 2014

2.7.2 Vana Samrakshana Samithi (VSS)

A village level institution namely, Vana Samrakshana Samithi (VSS) is formed in the forest areas outside sanctuaries and national parks. Every household living in the selected ward/hamlets/group will have the option of becoming member of the Samithi (Table 2.4 and Figure 2.3). It is mandatory that the VSS gets the approval of the DFO prior to its functioning. A registration number and date of approval will be issued the VSS by the DFO. The admission of a new member to the VSS is on an Executive Committee who will recommend the new memberships to the DFO once in a year. The membership structure of the VSS tries to ensure gender equity in that out of the two adult members permitted to become a member in the VSS one should be a female. A nominal amount of Rs. 5/- per household is remitted by the members with the Range Officer while registering their names which will be credited to the village development fund of the VSS. The SC/ST members are

exempted from the payment of registration fee. While sharing the benefits, one family is considered as a unit.

2.7.2.1 Micro-plan of VSS

The micro-plan will be prepared through a process of Participatory Rural Appraisal (PRA) involving all sections particularly women, SC/ST and user-groups. The plan will include the management of forest and village resources of the VSS. It will contain the details regarding production of fuel, wood, timber, fodder and other forest produce. The plan will prescribe measures to control excessive biotic pressure on forests. It will provide expected annual yields of forest produce, the areas from where it can come and the quantities of forest produce which help in reducing dependency on forest. In short, a micro-plan should essentially cover various aspects related to resource management and development. The micro-plan is subjected to approval from higher forest officials. Approved micro-plan will be implemented through the Executive Committee of the VSS

2.7.2.2 Duties and Responsibilities of VSS

The members of VSS, individually and collectively entitled are responsible for:

- Ensuring protection of the PFM areas from encroachment, grazing, fires, illicit felling, poaching, thefts etc.
- Ensuring execution of activities in accordance with the Micro-plan through the executive committee
- Making other villagers aware of the importance of nature conservation and forest protection.
- Ensuring protection of forest areas not covered under PFM.

- Members of VSS will have the power to apprehend the forest offenders and hand them over to the forest officers.

The VSS will be entitled to 10 percent of the net revenue of the harvested forest produce from the plantation raised and protected by VSS under PFM and 25 percent of the net revenue of the forest produce from other forests within the PFM area as per approved Micro-plan. The amount so received will be credited to the account of the VSS. 50 percent of this amount will be utilised for the development activities, 25 percent will be credited to the Core Fund and the balance 25 percent will either be distributed among the members or utilised as decided by the Executive Committee (GoK, 2006).

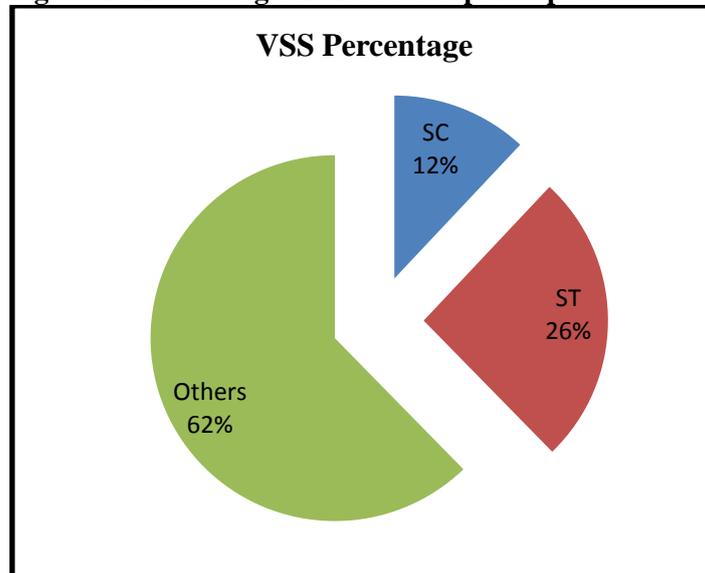
Table 2.4 Household Category of VSSs (2010-2013)

Year	No. of VSS	Forest Area under VSS (ha)	Households			
			SC	ST	Others	Total
2010	389	169208	6877	16878	42555	66310
2011	387	177425	6885	16875	42953	66713
2012	398	177483	7062	15372	36798	59232
2013	400	175133	7062	15225	36798	59085

Source: Various issues of Kerala Forest Statistics, 2011-2014; Appendix 2.3; 2.4

As per the Kerala forest statistics of 2013, there are 400 Vana Samraksha Samithies with 59085 households actively monitoring the protected areas from external forces (Table 2.4.). During the year 2010 there was only 389. However there is a notable fluctuation identified with respect to the household participation. The category wise participation shows that the majority of the VSS are the other marginalized fringe households with 62 percent where as the participation of SC is 12 percent and ST is 26 percent.

Figure 2.3 Percentage of Household participation in VSS



Source: Compiled from Kerala Forest Statistics, 2013

2.7.3 Community Participation in Ecotourism

Ecotourism activities in the protected areas need close monitoring. Tourism in these areas should be ecologically sustainable and the visitor should be educated about the need and benefits of environment conservation and biodiversity. Since the members of VSS and EDC's are the inhabitants of the forest, they have intimate knowledge about the wildlife, and their survival instinct could be best used for participating in ecotourism activities. By participating in ecotourism activities in addition to conservation and protection, the benefit they earn from these monitoring should be accumulated to the local population to ensure sustainability.

Hence, tourism in these protected areas is focused on forest protection cum visitor management with active involvement of VSS/EDC members (Box 2.2). These VSS/EDC members are trained for conducting ecotourism activities and to manage the destination. The income generated from visitor

management will help to meet the livelihood requirements of forest dependent marginalized communities, improve forest protection and satisfy the requirements of serious visitors. The income from the programme will be taken as locally generated money and audited in the Forest Development Agencies by an auditor appointed for the purpose.

Box 2.2 Involvement of local communities in Ecotourism

Need for involving local communities in Ecotourism are:

- To protect the Wildlife
- To involvement of local community because local communities are the inhabitants of forest (To involve people on the sanctuary and to involve encroachers in conservation, instead of exploitation).
- To reduce the negative impact of local people
- To develop the standard of living of the people living near the protected areas.
- To provide firsthand knowledge about our nature.
- To provide an environment for visitors to appreciate wilderness and create conservation awareness.
- To eliminate the adverse impacts caused by visitors.
- To take care of the safety of visitors and prevent activities of antisocial elements.

2.7.3.1 Activities coordinated by VSS/EDC in Ecotourism

VSS/EDC will provide necessary facilities like parking area, wash rooms, information centres, classes on nature education, treks etc. Equipments like binoculars, camera, tents etc can be procured by the VSS/EDC using their funds and provided to the visitors on suitable hire charges. Food and other special assistance can also be arranged by VSS/EDC for the tourists. Use of

forest streams and pools inside forest area for bathing in prescribed and specified places to be regulated with specified charge. This charge is for providing special security, law and order and for keeping the area clean. Bathing will be permitted only in specifically identified spots, which are declared safe. Trekking in forest will be only along pre laid out trek paths. One guide will invariably accompany on treks outside the picnic area. Number of groups will be limited to keep down disturbance. Minimum of one-hour interval is to be kept between each group on a trek path.

There are other local communities like local fringe peoples, members of Kudumbasree etc, other than VSS/EDC for catering the tourist in providing necessary facilities. These communities also provide the tourist with boarding/home stay facilities, handicrafts, food etc as part of visitor management.

More than the facilities/activities, the VSS/EDC should take responsibility to cater the guidelines/rules of the forest department to undertake ecotourism activities in the forest areas. The basic rules (Box 2.3) to be observed are:

- Flora and fauna, mementos etc. shall not be collected/disturbed
- No littering, no plastics, no contamination of water sources
- No smoking
- No liquor
- No kindling of fire inside forests
- No noise pollution
- Agreement on own risk and adherence to rules to be signed by visitors.
- The concerned community members and the Forests officials will together formulate the local code of conduct, schedules and timings of different programmes/facilities, which will be strictly followed.

- No new permanent structures/roads will be constructed in the forest area
- No new paths will be opened for vehicular traffic
- Site-specific micro plans for visitor management will be prepared for each eco-tourism location and approved by the Conservator of Forests. The micro plan for both EDCs and VSS are prepared through participatory process.

Box 2.3 Do's and Don'ts in Ecotourism Destinations

Do's and Don'ts in Ecotourism Destinations as per the Kerala Forest Department (2009) are:-

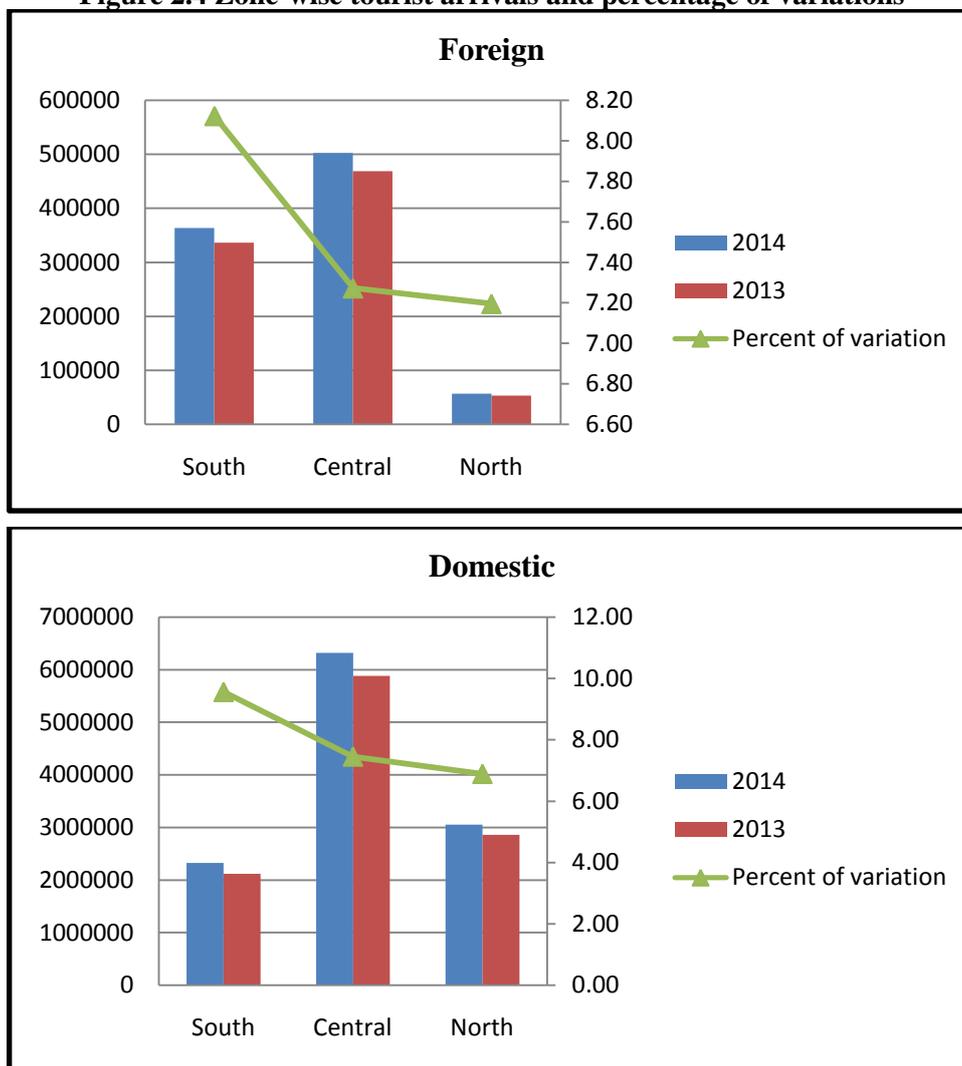
- Do not expect to see animals as a matter of routine. Be patient.
- Silence and discipline pay. Control children
- Small groups are ideal.
- Early mornings and late afternoons are best suited to visiting forests
- Do not travel alone, especially in Elephant Reserves.
- Do not wear colorful clothes and perfumes
- Carry drinking water, tea /coffee, snacks etc.
- Seek the assistance of a forest guard while going into the forest
- Do not disturb or tease animals.
- Trekkers must use jungle boots for safety
- Carry medicines for common ailments
- Avoid smoking
- Radios and tape-recorders are better be avoided
- Do not litter around.
- Respect animals and their habits.
- Do not take away anything from the sanctuary
- Carry a notebook, flashlight, roadmaps, compass.
- Do not swim in unfamiliar waters
- Be careful during boat rides. Don't do anything that can rock the boat .Don't bend to touch the water.
- Travel light and do not carry any valuables except cameras and binoculars.

2.8 Ecotourism Destinations in Kerala

The destinations can be divided into three zones based on the geographical settings and for the easiness of comparison. The south zone

comprises of the districts, Thiruvananthapuram, Kollam, Pathanamthitta and Allapuzha. The central zone consists of the districts like Kottayam, Idukki, Ernakulam and Thrissur. The north zone encompasses the remaining districts of Kerala which include Palakkad, Malappuram, Kozhikode, Wayanad, Kannur and Kasargode.

Figure 2.4 Zone-wise tourist arrivals and percentage of variations



Source: Compiled from Kerala Tourism Statistics Highlights, 2015

It can be drawn that the tourist (both domestic and foreign) desire to arrive at the central zone (Figure 2.4 and Table 2.5). The percentage of variation from the previous year is high in the south zone and low in the north zone. Even though 6 districts combined in the north zone encompasses rich biodiversity, the arrival towards the zone seems to be less demanding by the tourist. This clearly points towards lack of promotion and marketing of these destinations by the authorities. This would have serious implications in the earnings vis-a-vis the living standards of the local communities involved in management of tourism in north zone compared to the more attractive destinations.

Table 2.5 Zone-wise Tourist visits 2012-2013

Zones	Foreign			Domestic		
	2014	2013	Percentage of variation	2014	2013	Percentage of variation
South	363795	336466	8.12	2323000	2120365	9.56
Central	502659	468585	7.27	6318897	5880705	7.45
North	56912	53092	7.20	3053514	2856741	6.89
Total	923366	858143	7.60	11695411	10857811	7.71

Source: Compiled from Kerala Tourism Statistics Highlights, 2015; Appendix 2.5; 2.6

The Tourism Department, Directorate of Ecotourism and the Forest Department of Kerala are providing financial assistance for implementation of ecotourism projects at the identified ecotourism spots in forest areas. There are at presently 64 functional ecotourism points managed by the department. These projects are successfully undergoing in majority of places because of popularity and tourist demand. However, from the account of 2008 (39 destinations) twenty five destinations were also declared as ecotourism destinations (Table 2.6). The Department of Forest, Kerala evaluates each destination frequently. The decisions regarding the inclusion of new

destination or the exclusion of listed destination are based on their evaluation report.

Table 2.6 Ecotourism Destinations in Kerala

Sl. No	Districts	2013	2010-2012	2009	2008
1	Thiruvananthapuram	6	5	5	5
2	Kollam	5	4	4	2
3	Pathanamthitta	2	2	2	3
4	Alappuzha	1	1	0	0
5	Kottayam	1	1	0	1
6	Idukki	8	7	14	8
7	Ernakulam	6	6	3	1
8	Thrissur	4	4	3	2
9	Palakkad	9	9	6	5
10	Malappuram	2	2	4	1
11	Kozhikkode	9	9	4	5
12	Wayanad	8	7	8	4
13	Kannur	2	2	3	2
14	Kasaragode	1	1	0	0
Total		64	60	56	39

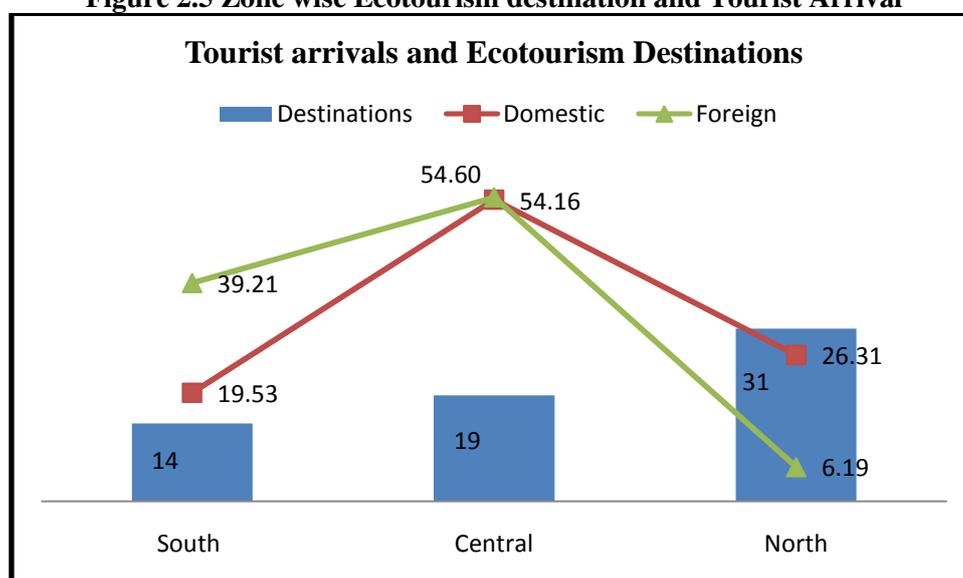
Source: Various issues of Kerala Forest Statistics, 2009-14

The prominent ecotourism destination are Agastyarvanam, Neyyar, Peppara, Ponmudi, Arippa, Kallar, Thenmala, Kulathupuzha, Achancoil–Manalar, Palaruvi, Shendurney, Konni, Gavi, Kochandy, Gandhi Smrithivanam, Purakkad, Kumarakom, Kolahala Medu, Kuttikkanam, Thekkady/Periyar, Rajamala/Eravikulam, Idukki, Thommankuthu, Chinnar, Chellarkovil, Bhoothankettu, Thattekkad, Mangalavanam, Kodanad/Kaprikad, Mulamkuzhy, Paniyeli Porut, Athirapally-Vazhachal, Chimmony, Peechi-Vazhani, Sholayar, Chulannoor, Nelliampathy, Silent Valley, Parambikulam, Malampuzha, Walayar, Dhoni, Ananganmala, Thudikkode-Meenvallam, Nilambur, Nedumkayam, Kakkayam, Peruvannamuzhy, Kolavippalam, Chaliyam, Kadalundi-Vallikunnu, Thusharagiri , Kakkavayal, Kakkad , Janakikkad, Edakkal, Tholpetty, Muthanga, Kuruva Islands, Thirunelli,

Banasurakotta, Soochippara, Mananthavady, Meenmutti, Pythalmala, Aralam, Ranipuram.

An attempt was made to correlate the arrival of tourist in each zone and the zone-wise number of ecotourism destinations, i.e.. It can be drawn from Figure 2.5 that the Central zone, which has only 19 of the 64 ecotourism destinations, is the most preferred (around 54 percent) among the foreign and domestic tourists. The north zone, which has 31 out of 64 ecotourism destinations of the state, seems to be less attractive to the tourists (6.19 percent of foreign and 26.31 percent domestic tourists). Elements like accessibility, difficult terrain, lack of awareness, less marketing about the destination, etc. can be assumed as some of the reasons for less attractiveness of the north zone to foreign visitors.

Figure 2.5 Zone wise Ecotourism destination and Tourist Arrival



Source: Compiled from Kerala Forest Statistics, 2014; Kerala Tourism Statistics Highlights, 2015

The financial assistance to the ecotourism projects are sanctioned based on the emphasis give to the principles of ecotourism i.e. conservation,

ecological sustainability, environmental education and local community participations. As per the Kerala Forest Department (2014), the total budget outlay from the year 2007 (15 lakh) to 2013 is 7,85 lakhs and the total expenditure is 700.81 lakhs. The year-wise break-ups are also shown in the Table 2.7. Because of the prominence and the market demand for nature based tourism it is clear that the allocation is increasing year by year. But none of the period is showing 100 percent utilisation. The period 2009-10 shows lowest utilisation of 53.79 percent.

Table 2.7 Achievements on Plan Schemes for Ecotourism (in Lakhs)

Year	Budget Outlay	Expenditure	Percent	Cumulative	
				Budget Outlay	Expenditure
2007-2008	15	14.13	94.20	15	14.13
2008-2009	25	21.73	86.92	40	35.86
2009-2010	100	53.79	53.79	140	89.65
2010-2011	185	168.87	91.28	325	258.52
2011-2012	160	154.768	96.73	485	413.29
2012-2013	300	287.52	95.84	785	700.81

Source: Various issues of Kerala Forest Statistics, 2009-2014

The visitor information and income generation of ecotourism destinations based on territorial divisions in Kerala is shown in Table 2.8. 3349608 tourists visit the ecotourism destinations in Kerala, the majority of them (2970538) are domestic tourist. While foreigners visiting the destinations are meager at 18948, 360102 of visitors in the destinations are students. The overall income generated is Rs. 64215528. The results corroborate the earlier findings with regard to the number of tourist in the three zones. The two destinations in the central zone viz. Athirappally and Vazhachal lead other destinations in terms of income generation and tourist visits.

**Community Participation in Ecotourism:
An Inclusive Development Option for Kerala**

Table 2.8 Eco-Tourism Centre in the Territorial Divisions in the state

Location of Eco-Tourism Centre	Native Visitors (nos)	Foreigners (nos)	Students (nos)	Total Visitors (nos)	Income Generated
Ponmudi	234601	0	0	234601	5627130
Mankayam	27960	0	0	27960	683770
Kallar	42490	1785	5049	49324	1008370
Thenmala Arankavu Palaruvi	260461	2118	32933	295512	2831630
Achencovil	213681	0	0	213681	3662320
Ranni I Pachakkanam	35538	1	0	35539	1066170
Konni	65534	427	2510	68471	1502355
Thommankuthu	38894	0	6622	45516	532460
Kottayam Chellarcoil	4158	820	509	5487	54870
Athirappally	986477	8164	101606	1096247	17909475
Vazhachal	67463	245	4016	71724	1258586
Paniyeli Poru VSS	91514	0	0	91514	1074275
Kalady Mulamkuzhy VSS	30178	0	0	30178	380205
Siruvani	4408	38	0	4446	572300
Nilambur Canolly's Plot	152734	128	0	152862	2296425
Nilambur Karulai Nedumgayam	24913	2	3270	28185	361611
Palakkad Ananganmala	24430	0	0	24430	250206
Olavakkode Meenvallam Waterfall	5340	0	0	5340	102860
Dhoni Waterfall	4294	0	0	4294	84240
Nemmara Kollengode Minnampara	15007	0	0	15007	1000950
Kozhikode Thusharagiri	68998	814	20854	90666	810530
Kakkvayal	16815	0	5362	22177	194960
Peruvannamuzhi Kakkayam	59866	0	8161	68027	635935
Peruvannamuzhy	25005	0	8442	33447	292260
Janakikkad	10672	20	3975	14667	126975
Pakshipathalam	1118	190	0	1308	184135
Kalpetta Banasura Meenmutty	35906	276	1346	37528	441135
Soochipara	196961	1881	64728	263570	8178390
Chembra	21373	977	2150	24500	1435165
Chedalathu Pakkam-Kuruva	203749	1062	88589	293400	9655855
Total	2970538	18948	360122	3349608	64215548

Source: Various issues of Kerala Forest Statistics, 2014

With regard to the tourist visits based on Wildlife Divisions, the Periyar Tiger Reserve and Eravikulam National Park are poles apart from other destinations with regard to the total income (Rs. 72050716/-) and number of visitors (1640758). This is shown in the Table 2.9. However, as was with the case in the earlier sections the proportion of foreign tourist is comparatively less in all the destinations than the domestic visitors.

Table 2.9 Eco-Tourism Centre in the Wildlife Divisions in the state

SL. No	Location of Eco-Tourism Centre	Native Visitors (nos)	Foreigners (nos)	Students (nos)	Total Visitors (nos)	Income Generated
1	ABP Range , Kottoor	19976	4096	0	24072	240720
2	Neyyar WLS	23636	2933	0	26569	524660
3	Peppara WLS	12505	24	0	12529	295470
4	Shendurney WLS	26218	79	13915	40212	502215
5	Periyar Tiger Reserve	630059	51225	50424	731708	31371095
6	Thattekad Bird Sanctuary	45106	488	5920	51514	529460
7	Malabar Sanctuary	41040	0	960	42000	0
8	Wayanad WLS	110814	6145	34457	151416	3691563
9	Parambikulam Tiger Reserve	31169	502	708	32379	1237015
10	Silent Valley NP	20848	135	4614	25597	1733065
11	Eravikulam NP	356701	10456	92596	459753	30727991
12	Chinnar WLS	13122	3172	2111	18405	562333
13	Pampadum Shola NP	4981	172	0	5153	108440
14	Chimmony WLS	14902	5	209	15116	459915
15	Aralam WLS	2612	2	1721	4335	66774
Total		1353689	79434	207635	1640758	72050716

Source: Various issues of Kerala Forest Statistics, 2014

As identified in the earlier sections, the central zone possesses majority of the total tourist arrivals of Kerala and the north zone has fewer preferences. The same can be identified with respect to the tourist arrivals in the ecotourism destinations of Kerala. The tourist attraction is more towards the central zone ecotourism destinations followed by a lesser attraction to the south zone destinations and least to the north zone destinations. This would mean that the ecotourism destinations are not properly marketed. Hence, an equitable marketing strategy of the ecotourism destination will be a solution for this. This will in turn increase the tourist arrivals in all zones vis-a-vis generate income and livelihood options for the marginalized section prominently depend on the nature based tourism in equitable manner.

2.9 Profile of Sample Destinations

18 ecotourism sites have been identified from nine districts. The selection is based on discussion with forest officials and experts working in

ecotourism related activities and tourist preferences and active participation of community. The destinations are Neyyar, Ponmudi, Thenmala, Palaruvi, Konni, Kumarakom, Thekkady/Periyar, Gavi, Rajamala/Eravikulam, Chinnar, Bhoothathaankettu-Thattekkad, Athirappally, Vazhachal, Silent Valley, Parambikulam, Edakkal Caves and Kuruva Island. For the proposed study, the sample survey is (these ecotourism destinations are) divided from three zones viz. South, Central and North zones based on their geographical locations. Districts like Thiruvananthapuram, Kollam, and Pathanamthitta are consolidated under the South Zone, Kottayam, Idukki, Ernakulam and Thrissur as Central Zone and Palakkad, Wayanad as North Zone. Table 2.10 is zone-wise distribution of sample destinations.

Table 2.10 Zone-wise distribution of destinations

Zones	District	Destinations
South Zone	Thiruvananthapuram District	Ponmudi, Neyyar
	Kollam District	Thenmala, Palaruvi
	Pathanamthitta District:	Konni, Gavi
Central Zone	Kottayam District	Kumarakom
	Idukki District	Thekkady, Eravikulam, Chinnar
	Ernakulam District	Bhoothankettu, Thattekkad
	Thrissur District	Athirappally, Vazhachal
North Zone	Palakkad District	Parambikulam, Silent Valley
	Wayanad District	Kuruva Islands, Edakkal Caves

Most important facilities available in these destinations are:- wildlife viewing, trekking in the wilderness, adventurous trekking, bird watching, camping facilities, boating, waterfalls, visit to tribal settlements, bathing in ghats, watch tower, videography, photography, luxuriant vegetation, elephant rehabilitation centre, visit to the teak plantations, visit to remains of the historical structures, nature trail, river crossing, rock climbing, mountain biking, elephant safari, wilderness camping, river cruise by rafting, viewing

diversity, flora and fauna, medicinal garden, animal rescue centre, forest library, nature education, interpretation centre etc.

2.9.1 South Zone

2.9.1.1 Thiruvananthapuram District

2.9.1.1.1 Neyyar

The Neyyar Wildlife Sanctuary, located in the southernmost tip of Kerala and covering about 12000 hectares of rich vegetation, was set up in 1958. The Sanctuary is spread over 128 sq km of forest area in the Western Ghats. The Steve Irwin Crocodile Rehabilitation and Research Centre were inaugurated at Neyyar Wildlife Sanctuary in May 2007. Crocodile watching, bird watching, elephant watching, boating, safari to the lion park and trekking are some of the main activities available. There is also a medicinal garden with about 178 varieties of plants. The activities are monitored with the participation of 15 Eco Development Committees, like the members are the inhabitants (both fringe and Tribal) of the forest. The Neyyar Ecotourism Eco-Development Committee (NET EDC) is actively conducting the ecotourism activities in the sanctuary.

2.9.1.1.2 Ponmudi

Ponmudi is located 61 km north-east of Thiruvananthapuram City at an altitude of 1100 m. The ecotourism project was launched in the destination in 2007. Golden Valley, Kallar river, Agasthyarkoodam (one of the highest peaks in the Western Ghats) and Meenmutty Falls are famous attractions in the destination. The children's park, rest room, cafeteria, toilets and parking area are the basic facilities. The local forest protection council of Ponmudi Vana

Samraksha Samithi with 160 households is in charge of maintenance of the services.

2.9.1.2 Kollam District

2.9.1.2.1 Thenmala

Thenmala is India's first planned ecotourism destination (1998) which situated in Kollam district 500 m above the sea level. The Thenmala ecotourism shares its resources with the famous Shenduruney Wildlife Sanctuary at the foothills of the Western Ghats. As the name itself says Thenmala (honey hill) the region is famous for the good quality honey collected. Thenmala is spread over acres of evergreen forest. The ecotourism activities in Thenmala are divided into three major zones viz. Culture Zone, Leisure Zone and Adventure Zone. A variety of activities like amphitheatre for local art forms and other cultural performances, shop courts managed by local women self-help groups for selling local forest products, souvenirs, local handicrafts etc. and musical dancing fountain as rhythmic ballet of fountain, sound and light in a natural ambience are the main attractions of the cultural zone. There is also a Tourism Facilitation Center in the Culture Zone to provide information on a wide range of tourism products. At Leisure Zone areas like Pathways, Boardwalk, Sway Bridge, an unsupported bridge made of wooden planks and ropes across the river, Sculpture garden, resting points, deep woods, boating at the Shenduruney wildlife sanctuary adds more variety and elegance to the destination. And the third one is Adventure Zone which includes nature trail, canopy walkway, lotus pond, mountain biking, recreational rock climbing and rappelling, river crossing, hill thrills, valley crossing, spider net, shot range, trust fall, pedal boating etc. Other attractions include Deer Rehabilitation Centre, children's eco-park with treetop huts, One

to three-day guided trekking tours and bird watching trails in the Shenduruney Wildlife Sanctuary etc. The programmes in the destinations are coordinated by the Shenduruney EDC's of about 553 households.

2.9.1.2.2 Palaruvi

Palaruvi is situated 75 km from Kollam town on Kollam-Shencottai Road, from Kollam district. Palaruvi which means stream of milk makes its way down the rocks, from the height of 300 feet. It is covered with dense tropical forests, the scenic beauty of the place enhanced by hills, valleys and cascades. The Palaruvi wood is a beautiful picnic spot. The Palaruvi falls is managed by the local community and is best visited after the summer months. Thenmala Ecotourism Promotion Society has created some basic facilities, such as toilets and information desk, but a lot more had to be done to enrich the experience of the visitors. Besides bathing in the waterfall, trekking is the main activity at Palaruvi which attracts a lot of tourists. Another programme is Kurishumala Trekking about 8 km will be covered during this six-hour trek which involves climbing up to the top of the fall, crossing streams, caves, evergreen forests and reed breaks of the upper reaches of the fall. These programmes are managed by the Palaruvi VSS of 131 households.

2.9.1.3 Pathanamthitta District

2.9.1.3.1 Konni

Konni, 500-1000 m above the sea level is situated in Pathanamthitta district and forms part of forest area of Western Ghat. Konni is famous for its elephant cages locally known as "Aanakoodu", which can accommodate 3 to 4 elephants at a time. This place is one of the oldest elephant training centres in India built in 1941 and is historically known for elephants and elephant stories.

Because of its prominence the Directorate of Ecotourism (Appendix 2.7) sanctioned an amount of Rs. 116.53 Lakhs for the function of the destination. Ecotourism activities such as trekking, rock climbing, elephant safari, wilderness camping, river cruise by rafting, wildlife watching, bird watching etc have ample scope in Konni. These ecotourism products are managed by VSS (Vana Samrakshna Samithi), which constitute 477 households. The VSS like Manneera VSS, Avolikkuzhy VSS, Thavalappara VSS, Elimullaplackal VSS are the active groups at the destinations. Manalar-Kumbhavurutty in Achankovil is a rejuvenating waterfall deep inside the forest, which can be accessed by two days of trekking.

2.9.1.3.2 Gavi

Gavi Ecotourism listed as one of the must see places in India, is a project of the Kerala Forest Development Corporation located about 40 km from Kumily and about 28 km from Vandiperiyar and is at the eastern extreme of the Pathanamthitta District. Gavi is rich with hills and valleys, tropical forests, extensive grasslands, sholas, cascading waterfalls and cardamom plantations. Endangered species including the Nilgiri Tahr and Lion-tailed macaque are often sighted at the outskirts of Gavi. Active involvement of tribals makes Gavi one of its kinds in the country. Gavi offers activities like trekking, wildlife watching, boating, outdoor camping in specially built tents, Treetop houses night safaris and Leisurely walks through spice gardens. A unique feature of Gavi is night-camping in the forests. The main feature of the project is the involvement of the local population as guides, gardeners and cooks under the society of Gavi EDC. This will provide livelihood options for these locals and also create awareness for the preservation of environment.

2.9.2 Central Zone

2.9.2.1 Kottayam District

2.9.2.1.1 Kumarakom

Kumarakom, which is a cluster of little islands on the Vembanad lake is located 16 km away from Kottayam town. Waterscapes, the backwater resort of the Kerala Tourism Development Corporation is located inside the Kumarakom Bird Sanctuary. The bird sanctuary here, which is spread across 14 acres, is a favorite haunt of migratory birds and an ornithologist's paradise and provides fascinating experience to the visitors. Bird watching and backwater cruise are major activities and experiencing the picturesque of the backwater life is monitored by trained local people, traditional fisherman etc. Boating and fishing facilities are also available through KTDC and private.

2.9.2.2 Idukki District

2.9.2.2.1 Thekkady-Periyar

Thekkady in Idukki District is the most prestigious region on the high ranges of the Western Ghats, an assortment of wildlife, hills and spice plantations covered over an area of 777 Sq. km. Periyar tiger reserve, popularly known as Thekkady is one of the well-known tourist destinations in India that declared as tiger reserve in 1978 under the Project Tiger Scheme, one of the 27 tiger reserves in India. It is an environmental hotspot, diverse wildlife and beautiful landscape encompassing a 26 sq km artificial lake. The reserve is a storage area of rare, endemic and endangered flora and fauna and forms the major watershed of two important rivers of Kerala, the Periyar and Pamba. Because of the prominence and demand for the destination, the Directorate of Ecotourism, Kerala funded Periyar Tiger Reserve the budget

outlay 124.18 as indicated in the Appendix 2.7. At the Periyar Tiger Reserve with the active participation of local communities and members of the 'Eco-development committees' programmes like Nature Walk, Tiger Trail, Border Hiking, Bamboo Grove, Bamboo Rafting, Jungle Camp, Jungle Patrol, Night Camping, Bullock Cart Discoveries, Tribal Heritage etc are monitored. The local villagers, ex-pilferers and groups of women living on the fringes of the forest protect and preserve the forest. Mannakudy EDC, Clouds walk EDC and Vanitha EDC, Vasanthasena EDC, Vidiyal EDC, Staff EDC, Periyar Tiger Samrakshana (PETS) EDC, Tribal Trackers EDC, Tribal Heritage EDC, Ex Vayana Bark Collector EDC are the local community groups in Periyar in protection and management. More than 700 households primarily depend on ecotourism as an employment option in the Periyar tiger reserve, Thekkady.

2.9.2.2.2 Eravikulam National Park - Rajamala

Eravikulam National Park was formed in 1978. It is located at Rajamala hills about 16 km away from Munnar. Situated in Devikulam Taluk of Idukki District, the Park originally established to protect the endangered Nilgiri tahr is the mascot of Munnar. The land of the Neelakurinji, the flower that blooms once in twelve years painting the hillsides blue seen here. This is an ideal area for trekking purpose. Several trekking programme like Gouldsbury trail, Lakhom Falls Trail involving a one-day trek from the waterfall to Pakkumarathery, Anamudi Peak and opt for an overnight stay at the Log House attracts the eco tourists. These activities are monitored by local community including fringe communities and tribal communities and the benefit they get is met for day to day expenses. For protection and visitors management the EDCs namely Parakkudy EDC, Parappayarkudy EDC, Lakkomkudy EDC, Nooradykudy EDC, Watchers EDC, Drivers EDC, and

Vendors EDC were employed. About 230 households depend on these activities.

2.9.2.2.3 Chinnar

The Chinnar Wildlife Sanctuary is located in the eastern part of the High Ranges of southern Western Ghats of Kerala and falls under the jurisdiction of Eravikulam National Park Division which has its Headquarters at Munnar. The forest types comprise scrub forest, dry deciduous forest, high sholas and wet grasslands. Chinnar Reserved Forest was declared as a Protected Area in August 1984 and is regarded as one of the important protected areas in the Western Ghats due to its ecological, floral and geomorphological significance. All the Ecotourism activities are organised jointly by the Forest Department and the Eco-development Committees (EDCs) of the local tribal communities. Ecotourism facilities include river trekking, Trekking to the cultural site (dolmens), Nature trail to the watch tower, Trek to Thoovanam falls, Interpretation activities and medicinal Garden, Tree house at Chinnar, Machans at Koottar, Karakkad and Champakkad, Trekking and camping at Vasyappara.

2.9.2.3 Ernakulam District

2.9.2.3.1 Bhoothathankettu

Bhoothathankettu is a dam and tourist site in Kerala situated in the village of Pindimana, about 10 km away from the town of Kothamangalam and 50 km away from the main city of Ernakulam. The name Bhoothathan Kettu, means "monster dam", past generations believed it was built by a Bhootham (monster). The most attractive about this destination is the large blocks of unshaped stones placed on both sides of the Periyar River that forms

a dam, making it look like a natural dam built by super-humans. Ecotourism activities in this area include trekking, bird watching, boating lake fishing and natural caves which are monitored by local communities.

2.9.2.3.2 Thattekkad

Thattekkad bird sanctuary, also known as the Salim Ali Bird Sanctuary is located 13 km north east of Kothamangalam of Ernakulam district on the northern banks of the Periyar River is home to some of the rarest species of birds in India. Thattekkad is Kerala's first officially recognised bird sanctuary established in 1983. Trekking programmes, deer park, bird watching, camping etc are the main ecotourism activities managed by Forest Development Agency of Eco development Communities.

2.9.2.4 Thrissur District

2.9.2.4.1 Athirappally-Vazhchal

Athirappally-Vazhchal is a riparian forests, houses the largest waterfall in Kerala. Athirappally Waterfalls is located 78 kms from Kochi (Cochin), located at the entrance to Sholayar ranges of the Vazhachal Forest Division. Many endangered and endemic species of flora and fauna are found in the forests of Athirapilly-Vazhachal area. The riparian forests of the area have been found to be characterised by the presence of typical riparian species of plants, in addition to evergreen and semi-evergreen species. The activities like bird watching, bathing ghats, trekking through the wilderness are the most attractions here. With the help of Athirappally VSS and Vazhachal tribal VSS nature based trekking and trails are conducted here. About 300 households both from fringe and tribal hamlets are depended on the visitor's management and conservation.

2.9.3 North Zone

2.9.3.1 Palakkad District

2.9.3.1.1 Parambikulam

Parambikulam Wildlife Sanctuary was formed in 1973. It is the most protected ecological piece of Anamalai sub unit of Western Ghats, surrounded on all sides by protected areas and sanctuaries of Kerala and Tamil Nadu, the sanctuary is endowed with a peninsular flora and fauna which are excellently conserved due to total protection and minimal human interferences. It is one of the best sanctuaries in the country for viewing the savage beauty of Gaur and the awesome majesty of elephant. A unique feature of this Sanctuary is the presence of a series of reservoirs interconnected with tunnels, channels, river courses and canals. To keep its unique attraction and preserve the pristine natural advantages of the destination the Department of Ecotourism, Kerala (Appendix 2.7) sanctioned Rs. 64.44 Lakhs as a token for managing the ecotourism activities. Activities like camping out in the forests, staying in watchtowers to view the animals, boating in the reservoirs, row boating at Thunacadavu and Parambikulam lakes, bamboo rafting, bird watching and nature education. These programmes are monitored majority by the tribal hamlet EDC's of Sungam Colony, Kadas Colony, Vth Colony, Poopara Colony, Earthdam colony, Kuriyarkutty Colony and PAP Colony. The households depend on the eco development activities comes around 350 households and majority are tribal households.

2.9.3.1.2 Silent Valley

Silent Valley by the word of scientists as 'the richest expression of life on Earth', situated in the mountain folds of the Nilgiris in Southern India, which is called as an ideal destination for nature lovers, researchers and gutsy trekkers. It was established in the year 1984. Silent Valley is called Sai-randhi-

vanam or Sai-randhiri (synonymous with Draupadi, wife of the Pandavas) and the river is called Kunthipuzha (synonymous with Kunti, mother of the Pandavas). It is situated in the north eastern part of Palakkad district, Kerala, about 23 km from the forest range office, Mukkali and 66km from Mannarkkad. The Silent Valley Watchers EDC, Mukkali Drivers EDC, Kunthipuzha EDC, Anavai EDC, Thadikundu EDC are the local fringe/tribal hamlets that take active participation in promoting and maintaining ecotourism programmes like trekking, camping, etc. in silent Valley. More than 400 households work in eco-development activities where, majority belongs to the tribal communities.

2.9.3.2 Wayanad District

2.9.3.2.1 Kuruva Island

Kuruva Island, also called Kuruvadweep is a popular attraction in Wayanad is situated on the tributaries of the river kabani and is a fabulous picnic spot. It is 17 kms. east of Mananthavady and 40 kms. north west of Sulthan Bathery. This island is isolated but an array of uncommon species of birds, herbs and orchids are the sovereigns of Kuruva Island. Kuruva island represents a tiny unspoiled forest one can tour. The ecotourism activities like nature walk, tree top huts, bathing ghats, peddle boats, bird watching trail are the main attractions of Kuruva Island. The island's preservation and the ecotourism activities are managed by the forest department and the local participation of Pakkomkuruva VSS, who are knowledgeable about the general environment and the ecology of the island. About 137 families are the members of Pakkom-kuruva VSS, where majority of population are tribes.

2.9.3.2.2 Edakkal Cave

Edakkal means "a stone in between" located 1,200 metres above sea level, three kilometres from Ambalavayal which is 25 kms from Kalpetta in

the Wayanad district, the most special beauty of Edakkal cave is the oldest surviving pictographic, i.e. variety of architectural and natural marvel of prehistoric drawings in the rock Wall. The site is identified as a habitat of Neolithic (late Stone Age, c4000 BC to c1700 BC) people on the basis of etching representations on the cave walls kept intact by the archaeological survey of India. The oldest surviving drawing is the important attraction of Edakkal Caves. The rock walls etchings have interesting carvings, which represent human and animal figures and objects of human use and symbols. The destination is managed by District Tourism Promotional Council (DTPC), Kerala with the operational support of local peoples. The local communities get benefited through programmes like trekking, hiking, handicrafts etc. As part of Clean Kerala Mission few Kudumbashree members from local hamlets work here and protect the heritage from waste disposal. Edakkal may be concluded as culture and heritage based ecotourism destination in Kerala.

Analysis of the ecotourism destinations provides a clear testimony about the potential of ecotourism in Kerala and hence the scope for its development. A popular ecotourism destination attracts more tourists. In such a situation, local communities have to be in constant vigil to ensure that the tourism impact on their culture and environment is minimal. These destinations are embedded with local communities and their livelihood. Hence, the sustainability of these sites are of supreme importance not only to the communities linked to these sites but also to the tourism development of the state as well as the economic benefits deriving out of this sector for the overall SDP growth of the economy. Since various ecotourism programmes are designed in different localities, it can lead to a balanced regional development. Employment in visitor management, local horticulture, handicrafts etc will bring local economic development considerably and holds the potential for improving the livelihood for the outliers of the society that depend on eco tourism.

Chapter 3

Socio-Economic Analysis of the Community

The local communities have a major role in decision making and implementation. In this respect analyzing their socio-economic condition of the community is pertinent in designing and deriving strategies and action plans for the development of the ecotourism projects. Any analysis in this regard will help to fine tune the ecotourism project ventures in a way to optimize the benefits of the project both to the environment as well as to the local communities. Chapter 3 gives an insight into the socio-economic and demographic profiles of the communities involved in ecotourism sites based on primary survey. Inter-zone comparison is carried out in order to understand the region specific differences in their socio-economic as well as the demographic characteristics. Communities are part of local ecosystem and decision makers should put in their time in understanding the communities involved. It also tries to situate the demographic and financial position of these communities. An analysis of their general outlook in a socioeconomic fabric is also made in this chapter.

3.1 Socio-economic Profiles

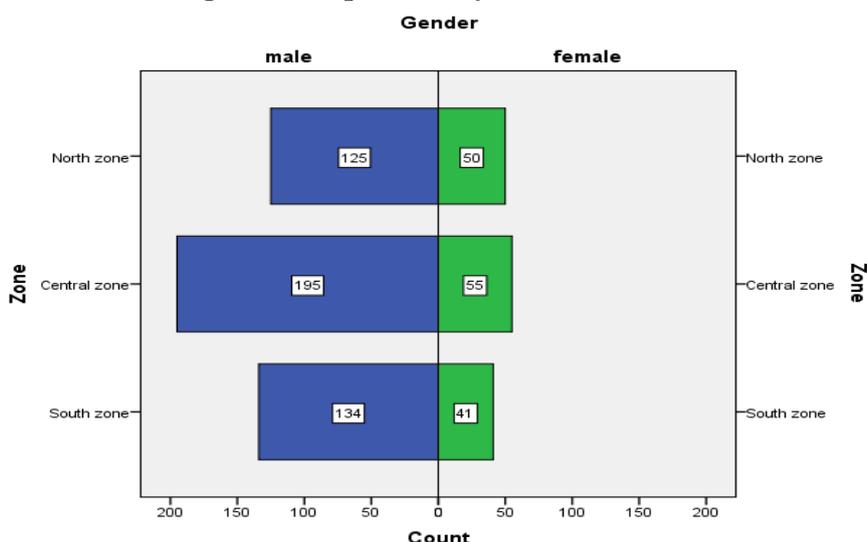
Data pertaining to 600 respondents/community members from three zones – 175 from South zone (Thiruvananthapuram, Kollam, Pathanamthitta), 250 respondents from Central zone (Kottayam, Idukki, Ernakulam and Thrissur) and 175 from North zone (Palakkad, Kozhikode and Wayanad) involved in various fields of CBET in Kerala are analyzed in this chapter. The

allocation to each zone was based on the basis of active community participation in the area, population proportion, etc.

3.1.1 Gender-wise Distribution of Samples

As can be seen from Table 3.1 and Figure 3.1, males outnumber females in all the three zones. About 75.70 percent of the respondents are males and the rest (24.3 percent) are females. In the south zone, 76.6 percent of the respondents are males and in the central zone 78.0 percent are male. North zone has the highest proportion of females in the sample (28.6 percent).

Figure 3.1 Population Pyramid of Gender



Source: Compiled from the Survey data

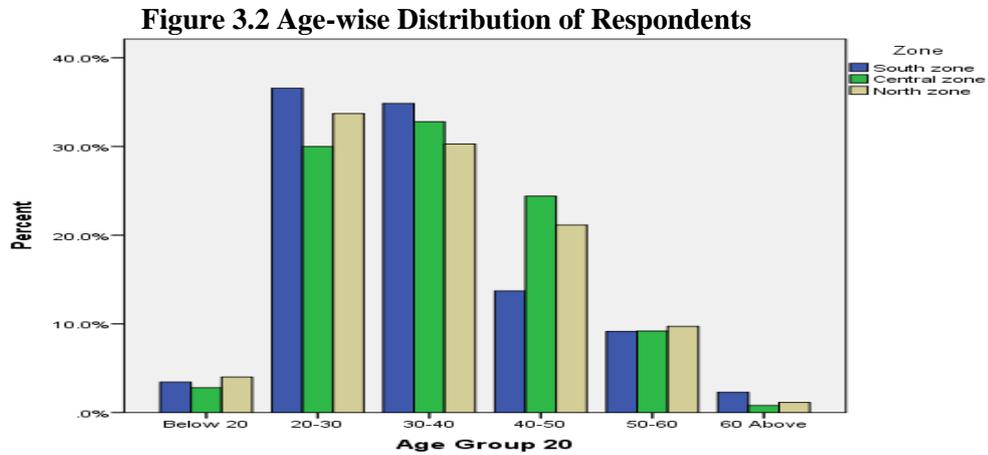
Table 3.1 Gender-wise Distribution of Samples

	Gender		Total
	male	female	
South zone	76.6	23.4	100.0
Central zone	78.0	22.0	100.0
North zone	71.4	28.6	100.0
Total	75.7	24.3	100.0

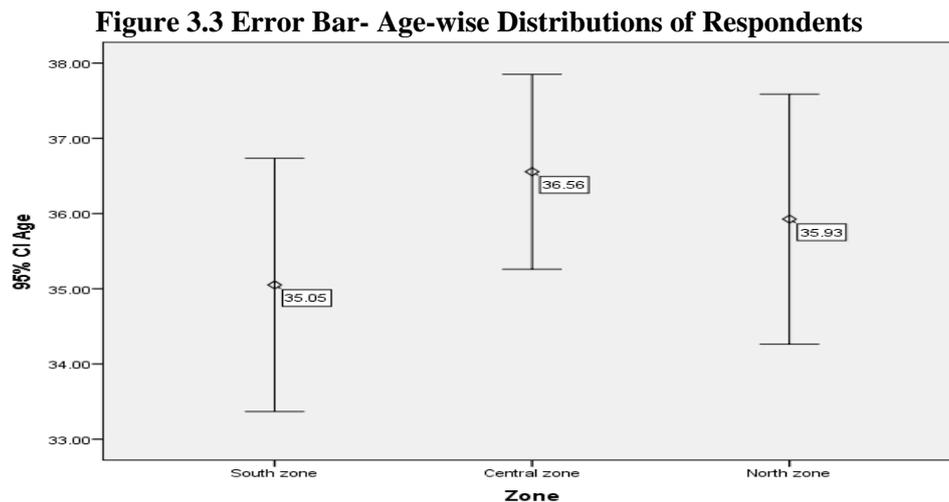
Source: Survey data

3.1.2 Age-wise Distribution of Respondents

Majority of the respondents (about 60 percent) are in the working age group of 20 to 40 years followed by the age group of 40-50 (20 percent), whereas those above 60 years only constitute 1.30 percent of the total sample. Figure 3.2 depicts the age-wise distribution of community members based on three zones. The Error bar charts (Figure 3.3) clearly evinces that the average age of respondents in the three zones is between 35 and 37 years.



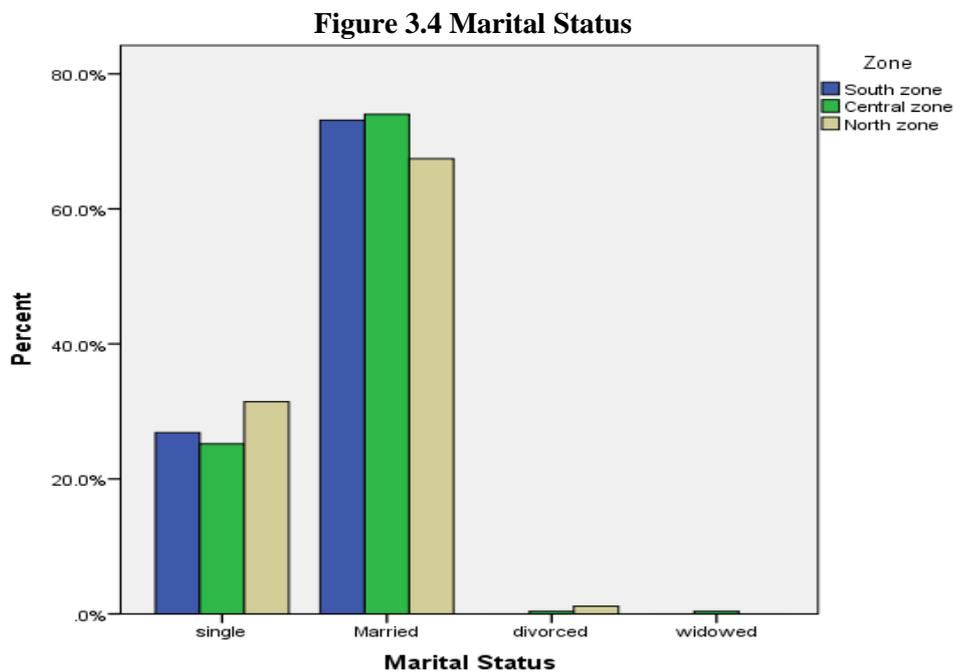
Source: Worked out from Survey data, Appendix 3.1



Source: Worked out from Survey data

3.1.3 Marital Status

Marital status is important in analyzing the dependency situation and socio-cultural status of the individual. Figure 3.4 shows that majority of the respondents are married, few are unmarried. Widow and divorces/separated form only a small section of the total sample. An evaluation of marital status on a zonal basis also draws similar inferences.



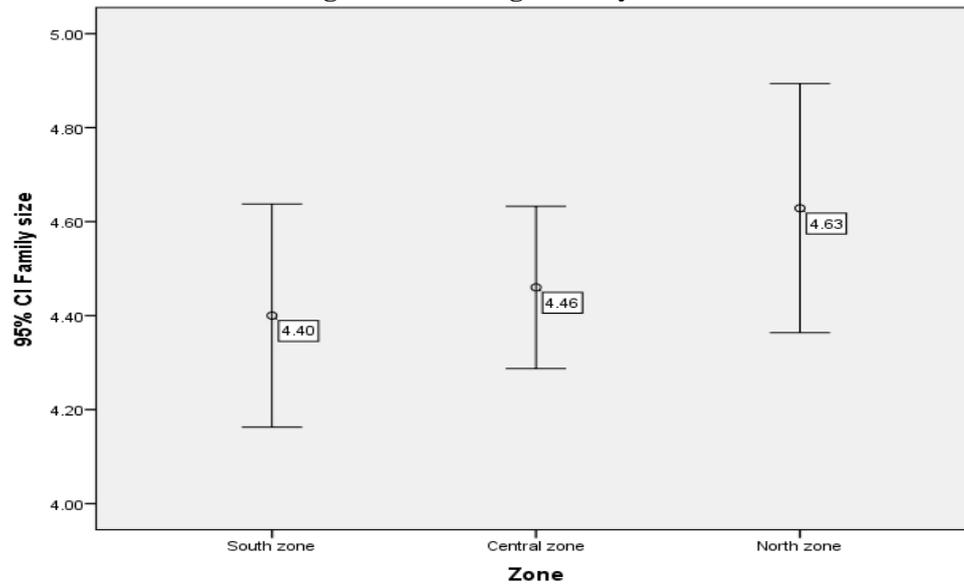
Source: Worked out from Survey data, Appendix 3.2

3.1.4 Family Size

The family size is another factor in socio-economic evaluation. The strength of family is derived by the no of members in that family. Figure 3.5 depicts the average family size in three zones where north zone occupies highest with an average of 4-5 members followed by the central zone and

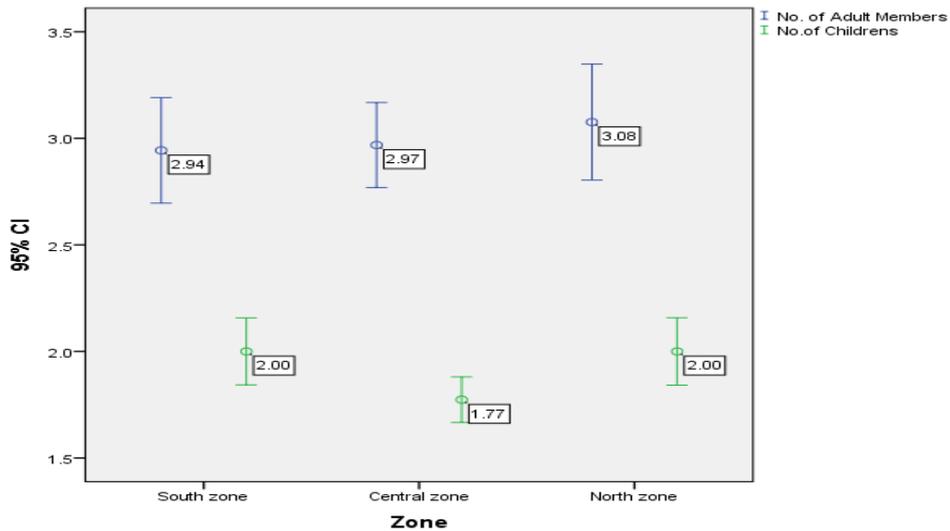
south zone 4 members. Average number of adults per household is 3 and children per household is 2 (Figure 3.6).

Figure 3.5 Average Family Size



Source: Worked out from Survey data

Figure 3.6 Average Family Size Adults and Children's



Source: Worked out from Survey data

3.1.5 Educational Qualification of the Community Members

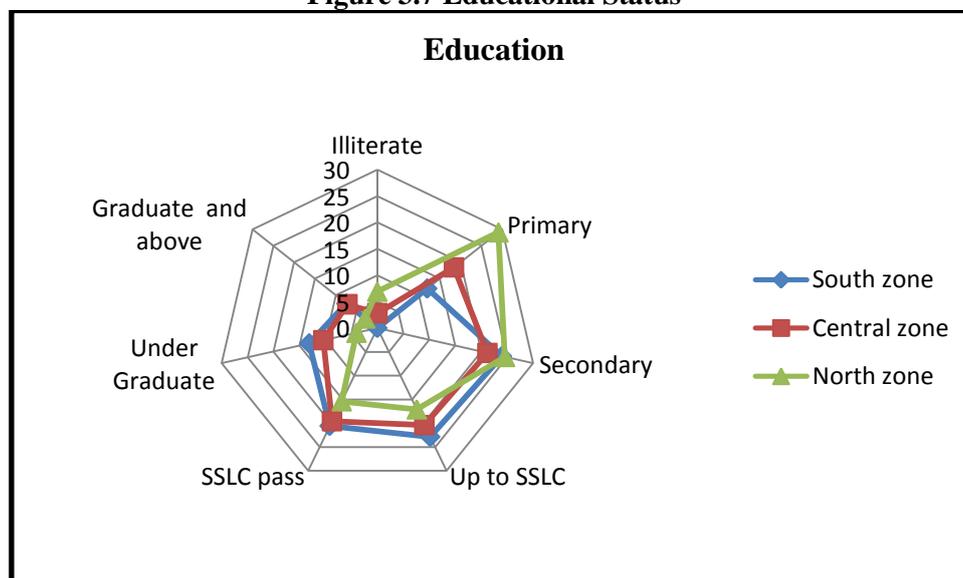
Education is considered as the pivotal element in determining the socio-economic development (UNDP, 2000; Mithra and Singh, 2006) and it acts as a reinforcing factor in alleviating the high incidence of poverty as seen among the scheduled caste and scheduled tribe communities (Thorat, 2009).

Table 3.2 Zone and Formal Education

Zones	Education (in Percent)							Total
	Illiterate	Primary	Secondary	Up to SSLC	SSLC pass	Under Graduate	Graduate and above	
South	0.0	12.0	24.0	22.9	20.6	13.1	7.4	100.0
Central	2.8	18.4	21.2	20.4	19.6	10.4	7.2	100.0
North	6.9	29.1	24.6	17.1	15.4	4.0	2.9	100.0
Total	3.2	19.7	23.0	20.2	18.7	9.3	6.0	100.0

Source: Survey data

Figure 3.7 Educational Status



Source: Worked out from Survey data

The majorities have a formal education of 10th class and below (Table 3.2 and Figure 3.7) i.e. about 60 percent of the sample has only basic school

education like primary, secondary and high school (i.e. up to SSLC but not passed) level. About 18 percent are SSLC pass, 10 percent are undergraduates whereas 6 percent constitutes respondents having qualification of graduation and above. Another pertinent inference from Table 3.2 and Figure 3.7 with regard to educational level is that majority of under graduates and above graduates are from south and central zone. Compared to the other two zones, the north zone has less number of undergraduates and above and has more illiterates and those having an education of primary level.

Table 3.3 Chi-Square test Zone and Formal Education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.519 ^a	12	.000
Likelihood Ratio	47.823	12	.000
Linear-by-Linear Association	31.527	1	.000
N of Valid Cases	600		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.54.

Table 3.3 depicts the Chi-Square value (42.519 with corresponding p value <0.001) results of zone and formal education. It is clear that there is a significant difference in the formal education level between three zones. Major issue with the community members working in the ecotourism destinations is that majority of them have only basic school education. This would imply that the present occupation is the best job they can be in with their limited educational traits and skill sets.

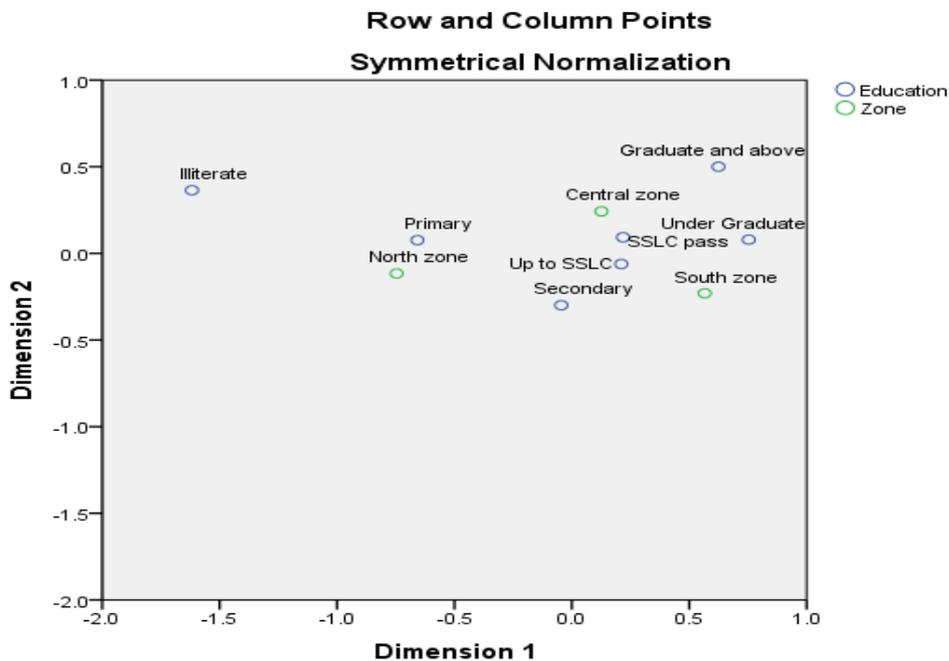
Table 3.4 Correspondence Summary Zone and Education

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation 2
1	.263	.069			.973	.973	.037	-.208
2	.044	.002			.027	1.000	.041	
Total		.071	42.519	.000 ^a	1.000	1.000		

a. 12 degrees of freedom

Two dimensions were derived in the correspondence analysis (Table 3.4). The Chi-Square shows significant difference in the formal education level between three zones with p-value <0.001 . The dimension 1 accounts for 6.9 percent of the total 7.1 percent inertia. Even though, the model explains a minimal dependence of the variance in the original correspondence table. The proportion of inertia for the dimension 1 accounts for 97.3 percent of the total inertia. The correspondence map shows each category score on both dimensions. The zone-wise disparity in the educational attainment can be inferred from the correspondence map in Figure 3.8 as there are lesser number of respondents having an education of graduation and above in the north zone. Majority of the illiterate and primary education groups are positioned in the north zone where as the central and south zone houses majority of the under graduation and above category.

Figure 3.8 Correspondence Map-Zone and Education



Source: Worked out from Survey data

3.1.6 Income, Employment and Saving Pattern

3.1.6.1 Income and Employment

The employment and livelihood options play a pivotal role in determining the socio-economic contour of an individual. The livelihood of the people in the wildlife region is highly dependent on the sustainable biodiversity (Rajasenan, 2014). More than ninety percent of the respondents work in tourism sector throughout the year as watchers, guides, naturalists, watchers, drivers, eco-shop workers, cook, handicraft makers, etc (Table 3.5). As can be seen from Table 3.6, whole income (i.e. 100 percent) of 49.30 percent of respondents is from tourism related activities. 37.30 percent of community members have income between 75-99 percent from tourism whereas the rest (13 percent) have less than 74 percent of their income from tourism. Zone-wise analysis (Figure 3.9.) also shows that there is significant difference between zones and percentage of income with a Chi-Square value 50.828 and p-value <0.001 (Table 3.7).

Table 3.5 Main Occupation

Zone	Main occupation		Total
	Other	Tourism	
South zone	4.6	95.4	100.0
Central zone	4.4	95.6	100.0
North zone	6.9	93.1	100.0
Total	5.2	94.8	100.0

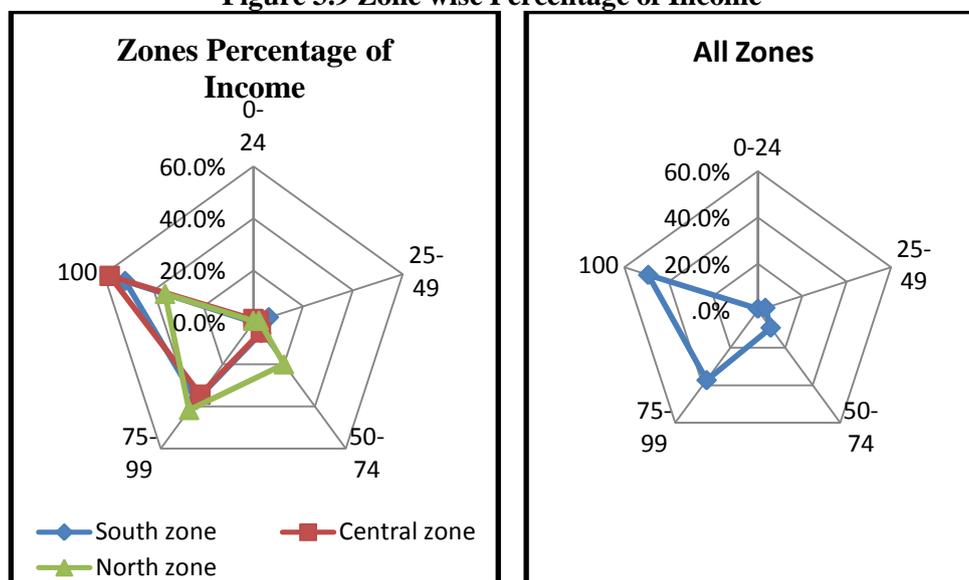
Source: Survey data

Table 3.6 Percentage of Income from Tourism

Zone	Percentage of income from tourism					Total
	0-24	25-49	50-74	75-99	100	
South zone	0.0	6.3	5.1	37.1	51.4	100.0
Central zone	1.2	2.0	4.8	34.4	57.6	100.0
North zone	.6	2.3	20.0	41.7	35.4	100.0
Total	.7	3.3	9.3	37.3	49.3	100.0

Source: Survey data

Figure 3.9 Zone wise Percentage of Income



Source: Worked out from Survey data

Table 3.7 Chi-Square Tests Percentage of Income and Zones

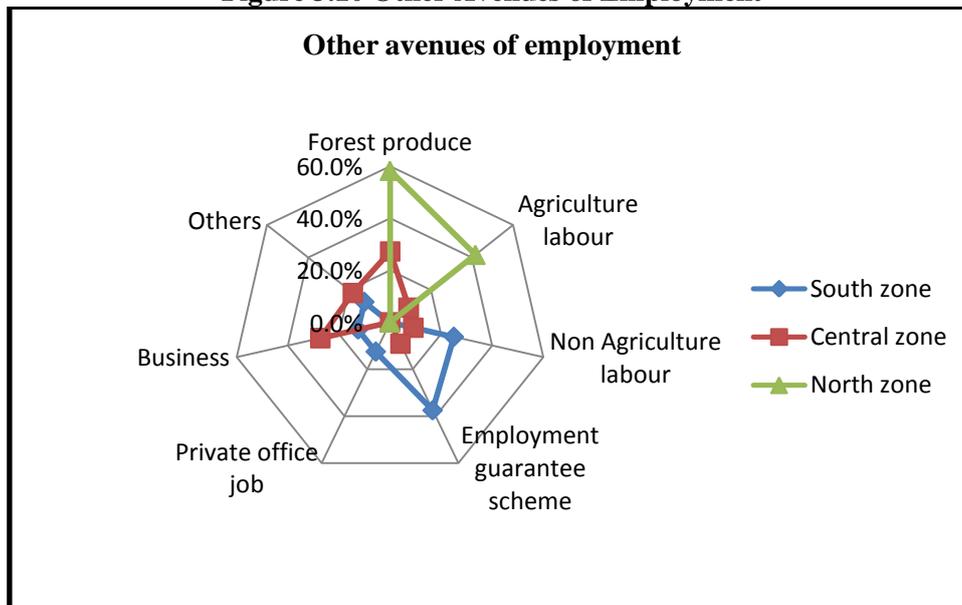
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.828 ^a	8	.000
Likelihood Ratio	48.220	8	.000
Linear-by-Linear Association	7.735	1	.005
N of Valid Cases	600		

a. 3 cells (20.0) have expected count less than 5. The minimum expected count is 1.17.

As majority of them have main occupation related to tourism, the remaining 5.20 percent are involved in activities such as collection of forest produce, agriculture labour, employment guarantee schemes, non agriculture labour, business/petty shops, private sector jobs, etc and other avenues of employment. The results can be inferred from the Figure 3.10. Region specific differences can also be identified where the north zone have the activities like collection of forest produce and agriculture labour as their next best option,

South zone with non agricultural labour and employment guarantee schemes and central zone have a combination of almost all activities.

Figure 3.10 Other Avenues of Employment



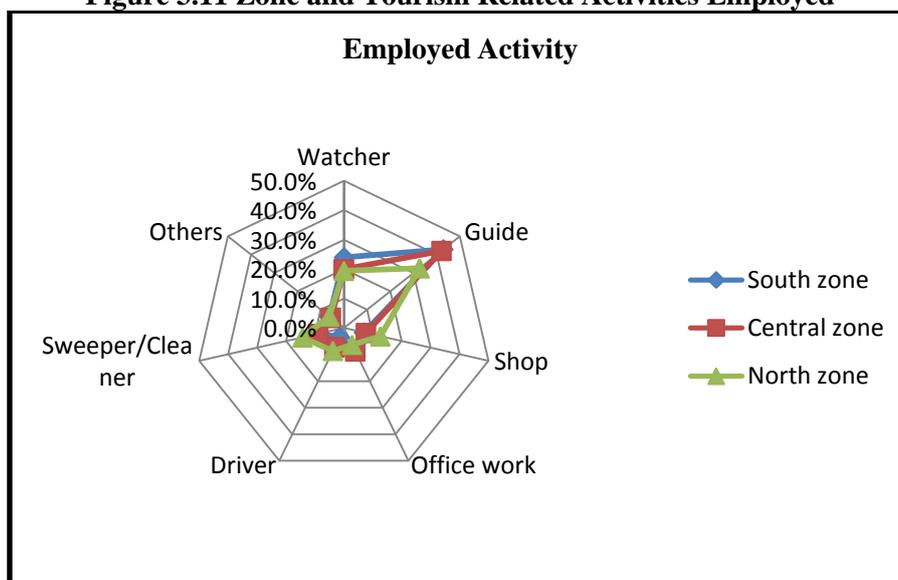
Source: Worked out from Survey data, Appendix 3.3

Most of the community members around the tourist spots are opting tourism related occupation rather than doing petty business, manual labour, etc. If the community members were not provided with this option of working in the ecotourism initiatives, they would have been left with no choice other than depending on forest resources, which, in turn, would have resulted in exploitation of resources and unemployment.

Among those working in tourism related activities, 40 percent work as guides, followed by watchers (21 percent), Sweeper/cleaner 10.3 percent, eco-shops (8.8 percent), office related jobs including jobs as ticket collector, peon, clerical jobs etc have 7.8 percent, drivers and others (6.5 percent and 6 percent, respectively). The detailed results are shown in Figure 3.11. The

analysis also gives insignificant difference between activity and zone (Table 3.8).

Figure 3.11 Zone and Tourism Related Activities Employed



Source: Worked out from Survey data, Appendix 3.4

Table 3. 8 Chi-Square Tests Zone and Employed Activity

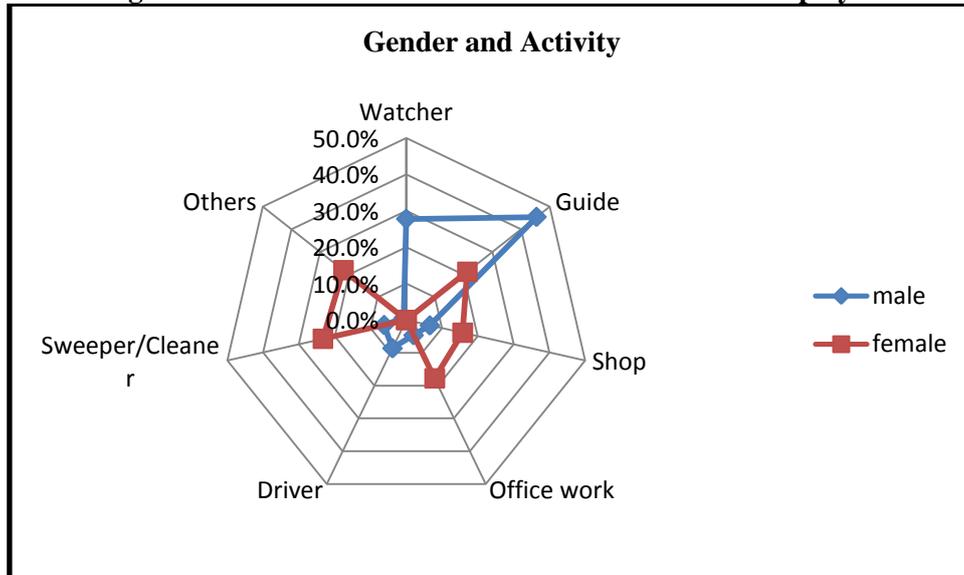
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.646 ^a	12	.163
Likelihood Ratio	16.726	12	.160
Linear-by-Linear Association	5.145	1	.023
N of Valid Cases	600		

a. 0 cells (0.0) have expected count less than 5. The minimum expected count is 10.50.

The employment in ecotourism is male centric which is mainly determined by the activity. Males mainly work as trekking guides, watchers, drivers, etc, whereas females work in less risky activities like sweeper/cleaner, guides at visitor arrivals points, eco-shops, cooking, office jobs etc (Figure 3.12). It is evident from the analysis that there exists a significance difference

between the activities and gender as there is Chi-Square value 217.149 and the corresponding p-value <0.001 (table 3.9).

Figure 3.12 Gender and Tourism Related Activities Employed



Source: Worked out from Survey data, Appendix 3.5

Table 3.9 Chi-Square Tests Gender and Employed Activity

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	217.149 ^a	6	.000
Likelihood Ratio	234.348	6	.000
Linear-by-Linear Association	142.121	1	.000
N of Valid Cases	600		

a. 0 cells (0.0) have expected count less than 5. The minimum expected count is 8.76.

3.1.6.2 Days of Employment

The days of employment per month in any activity are important in evaluating the livelihood and income options of any individuals. The result shows that majority of them work for 22 to 25 days per month followed by 15 to 21 days. However, a zone wise difference in number of days worked per month is identified as majority in the north zone claim that they have worked

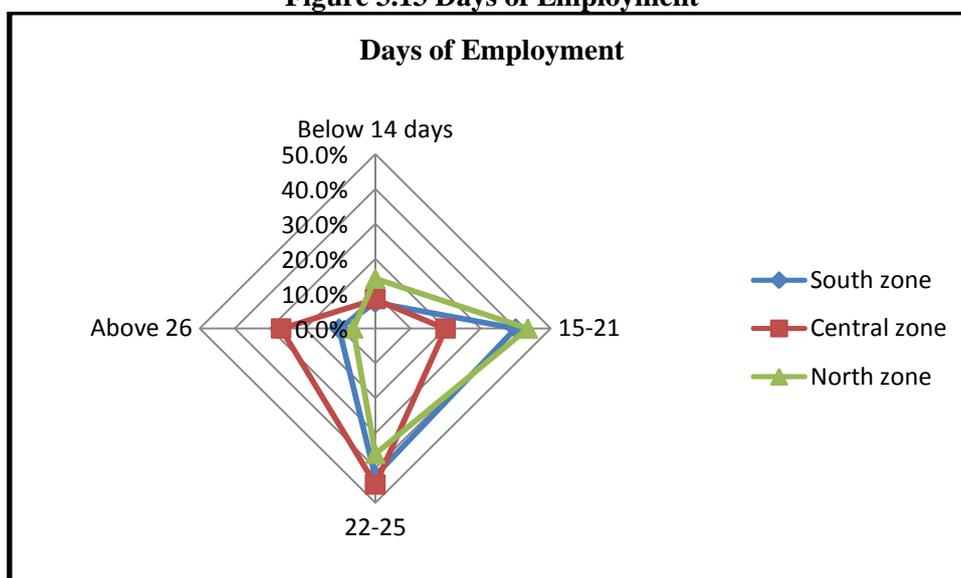
for 15-21 days. The zone wise differences are depicted in the Figure 3.13 and the Table 3.10.

Table 3.10 Chi-Square Tests Days of Employment and Zone

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	60.519 ^a	6	.000
Likelihood Ratio	62.000	6	.000
Linear-by-Linear Association	5.221	1	.022
N of Valid Cases	600		

a. 0 cells (0.0) have expected count less than 5. The minimum expected count is 17.21.

Figure 3.13 Days of Employment

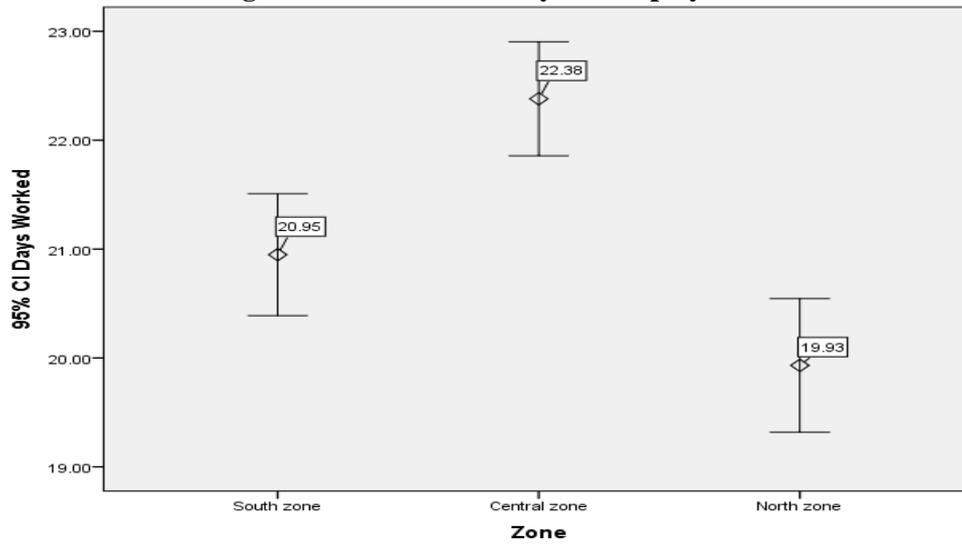


Source: Worked out from Survey data, Appendix 3.6

The error bar plot shows the variability of data with respect to the days of employment (Figure 3.14). The average number of days is high in the central zone with an average of 22 days where as the south zone has an average of 21 days and north zone has 20 days on average. In order to identify the upper and lower quartiles of the days of employment, the box plot analysis is employed (Figure 3.15). While the overall days of employment range from

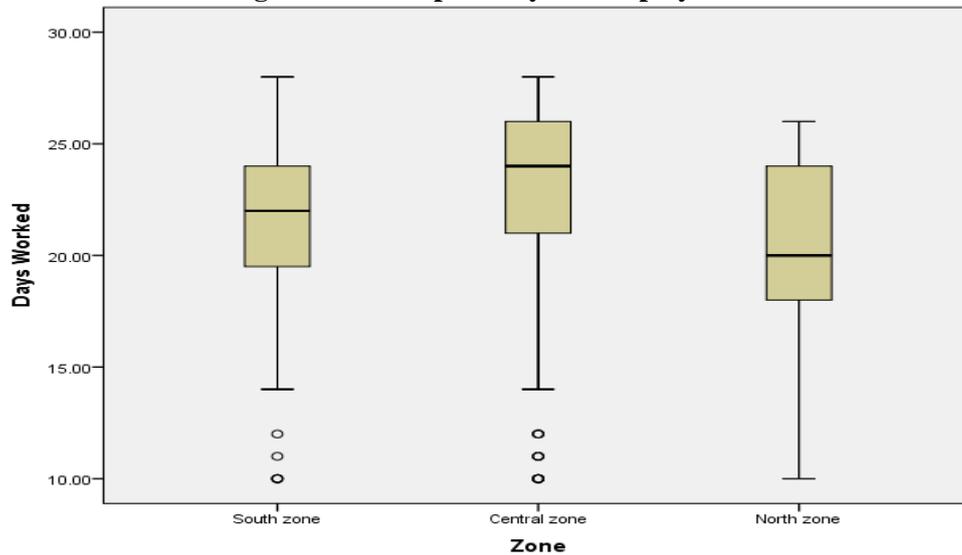
10 days to 28 days, range of north zone is between 10 and 20 days which is very less compared to the other two zones.

Figure 3.14 Error Bar-Days of Employment



Source: Worked out from Survey data

Figure 3.15 Box plot-Days of Employment



Source: Worked out from Survey data

3.1.6.3 Income

Table 3.11 and Figure 3.16 depict zone-wise income of the respondents. The majority of the respondents (40.2 percent) fall under the income group of Rs. 3001-4000. 34.5 percent has income between Rs. 4001-5000 and 14.8 percent has a monthly income between Rs. 2001-3000; and the rest (3.2 percent and 7.3 percent) has an income of Rs. 1001-2000 and above Rs. 5000 per month, respectively. Comparison among the zones show that the majority in the central zone are in income category Rs 4001-5000 followed by Rs 3001-4000 and above Rs 5001 category; the community members in the south zone are mainly in the income category 3001-5000; and respondents in north zone covers the income categories Rs 2001-4000.

Table 3.11 Zone and Income category

Zone	Income category					Total
	Below 2000	2001-3000	3001-4000	4001-5000	Above 5001	
South zone	2.9	12.6	48.0	31.4	5.1	100.0
Central zone	3.2	12.0	29.2	44.8	10.8	100.0
North zone	3.4	21.1	48.0	22.9	4.6	100.0
Total	3.2	14.8	40.2	34.5	7.3	100.0

Source: Survey data

Table 3.12 Chi-Square Tests- Zone and Income

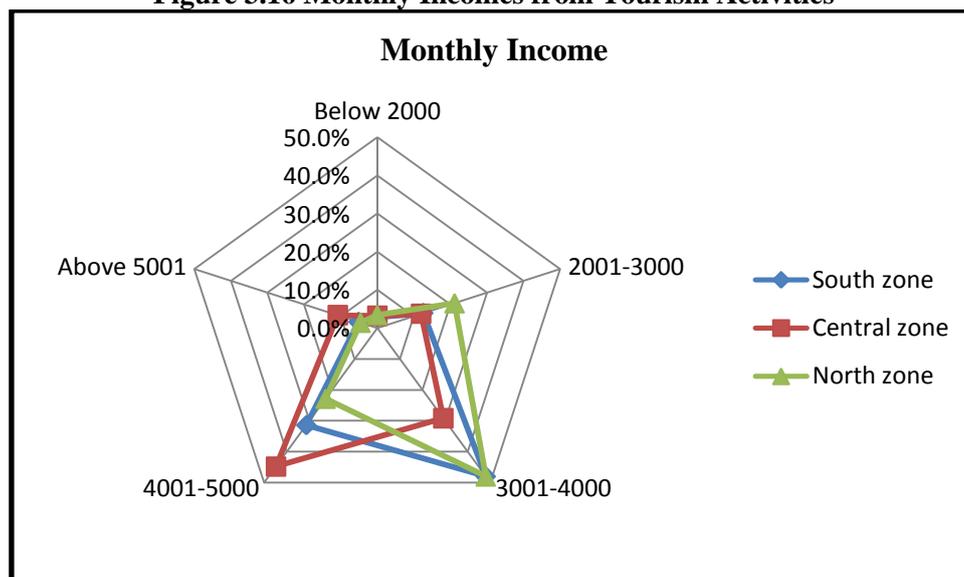
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.682 ^a	8	.000
Likelihood Ratio	41.913	8	.000
Linear-by-Linear Association	3.949	1	.047
N of Valid Cases	600		

a. 0 cells (0.0) have expected count less than 5. The minimum expected count is 5.54.

This can be further identified with the help of Chi-Square test (Table 3.12) that there is significant difference between income and zones. Most of the community members are earning more than what they used to get before working in tourism. Earlier, the community members depended on forest for

their livelihood. But, there was no security of income. Now, rather than working as poachers and destroyers of forest, they are assisting the authorities in conservation.

Figure 3.16 Monthly Incomes from Tourism Activities



Source: Worked out from Survey data

Table 3.13 Education and Income Category

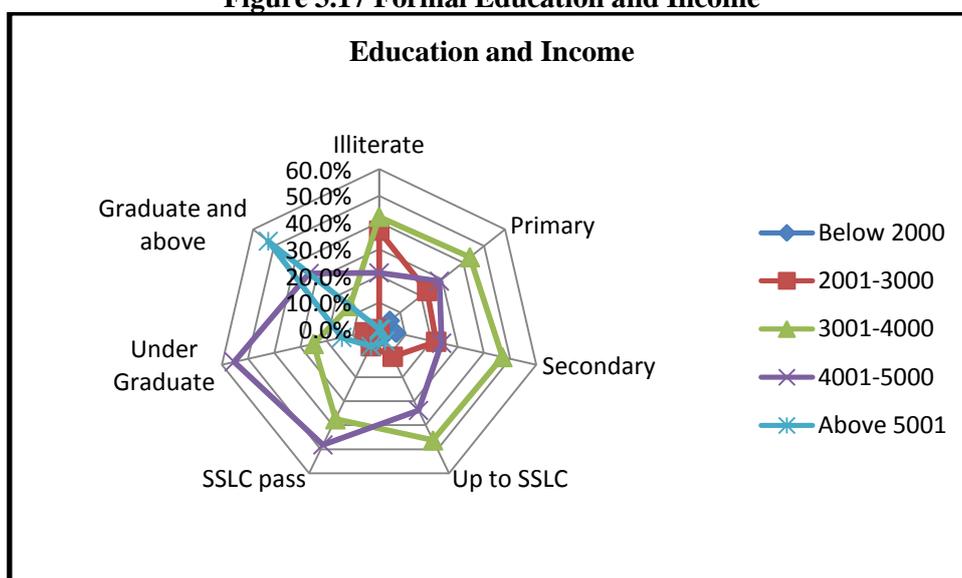
Education	Income category					Total
	Below 2000	2001-3000	3001-4000	4001-5000	Above 5001	
Illiterate	0.0	36.8	42.1	21.1	0.0	100.0
Primary	5.1	22.9	43.2	28.8	0.0	100.0
Secondary	6.5	21.7	47.1	23.9	.7	100.0
Up to SSLC	3.3	11.6	46.3	33.9	5.0	100.0
SSLC pass	0.0	7.1	37.5	48.2	7.1	100.0
Under Graduate	0.0	5.4	25.0	55.4	14.3	100.0
Graduate and above	0.0	0.0	13.9	33.3	52.8	100.0
Total	3.2	14.8	40.2	34.8	7.0	100.0

Source: Survey data

Table 3.13 and Figures 3.17 show the level of education and income earnings from tourism. It can be drawn that the income from ecotourism does not depend primarily on the level of education. This is mainly because of the

limitations in the activities the community members can engage in the ecotourism destinations. However, it also shows significant variation in income category for under graduation and above as majorities have an income over Rs. 4000. Also, there is no presence of members having education level of SSLC pass and above in the income category below 2000.

Figure 3.17 Formal Education and Income



Source: Worked out from Survey data

Table 3.14 Chi-Square Tests Formal Education and Income

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	205.537 ^a	24	.000
Likelihood Ratio	167.067	24	.000
Linear-by-Linear Association	109.471	1	.000
N of Valid Cases	600		

a. 11 cells (31.4) have expected count less than 5. The minimum expected count is .60.

Table 3.14 depicts the Chi-Square result of formal education and income. The analysis shows Chi-Square value with p-value less than 0.001.

Hence, it is clear that there is significant difference in the income and formal education level.

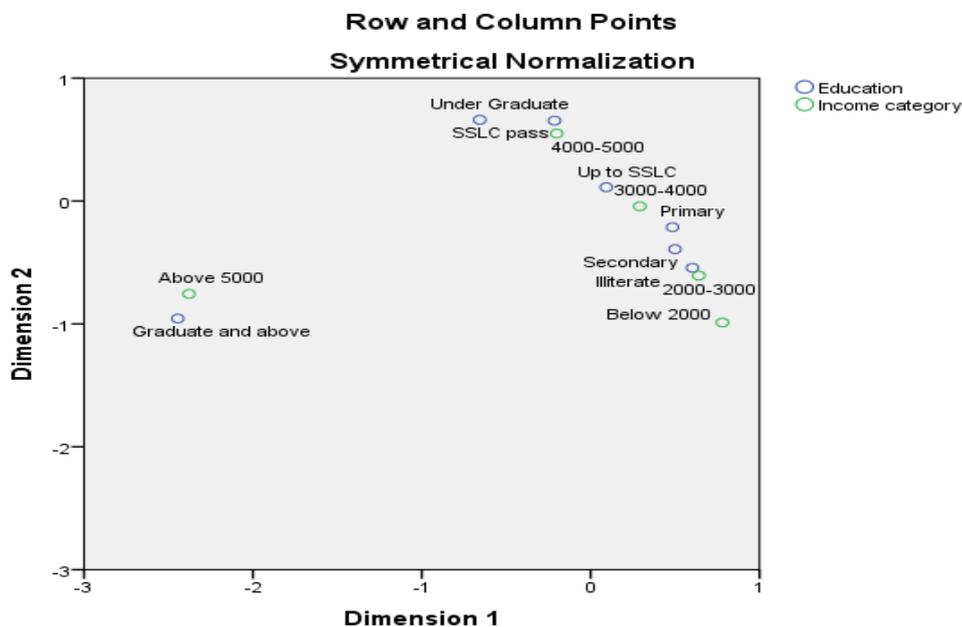
The correspondence summary (Table 3.15) shows that four dimensions were derived. Out of the four dimensions two will be taken into account. It shows a significant difference in the formal education level between income groups with a Chi-Square p-value <0.001.

Table 3.15 Correspondence Summary Formal Education and Income

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation 2
1	.524	.275			.802	.802	.048	.601
2	.232	.054			.157	.959	.041	
3	.103	.011			.031	.990		
4	.059	.003			.010	1.000		
Total		.343	205.537	.000 ^a	1.000	1.000		

a. 24 degrees of freedom

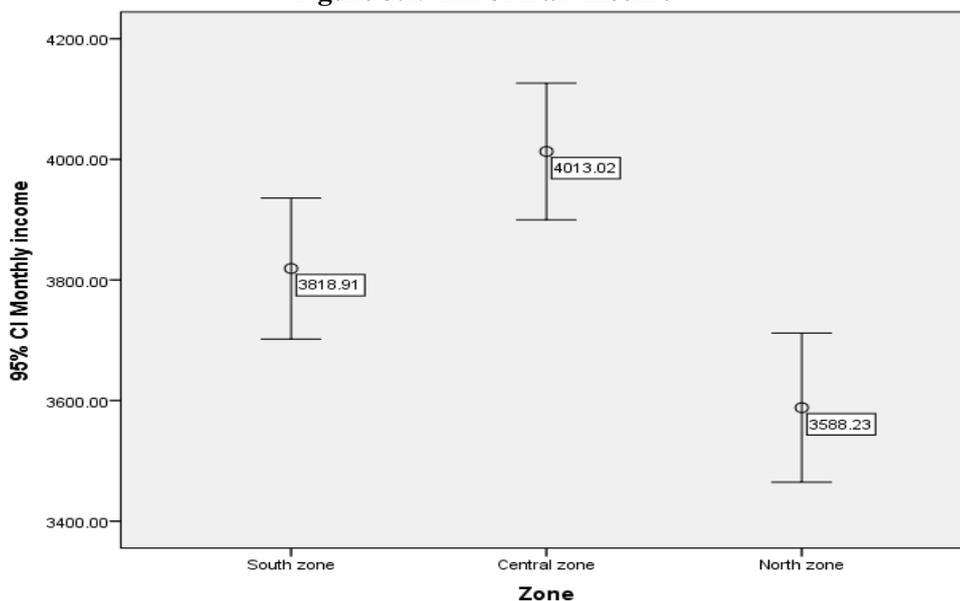
Figure 3.18 Correspondence Biplot- Formal Education and Income



The dimension 1 accounts for 27.5 percent of the total 34.3 percent of the inertia. The model explains 34.3 percent of the variance in the original correspondence table. The proportion of inertia for the dimension 1 accounts for 80.2 percent of the total inertia. The correspondence map shows each category scores on both dimensions. It can be inferred from the Figure 3.18 that the graduation and above lies in the income category region of Rs.5000 and above. The education groups below the secondary schooling lies in the income region Rs.4000 and below.

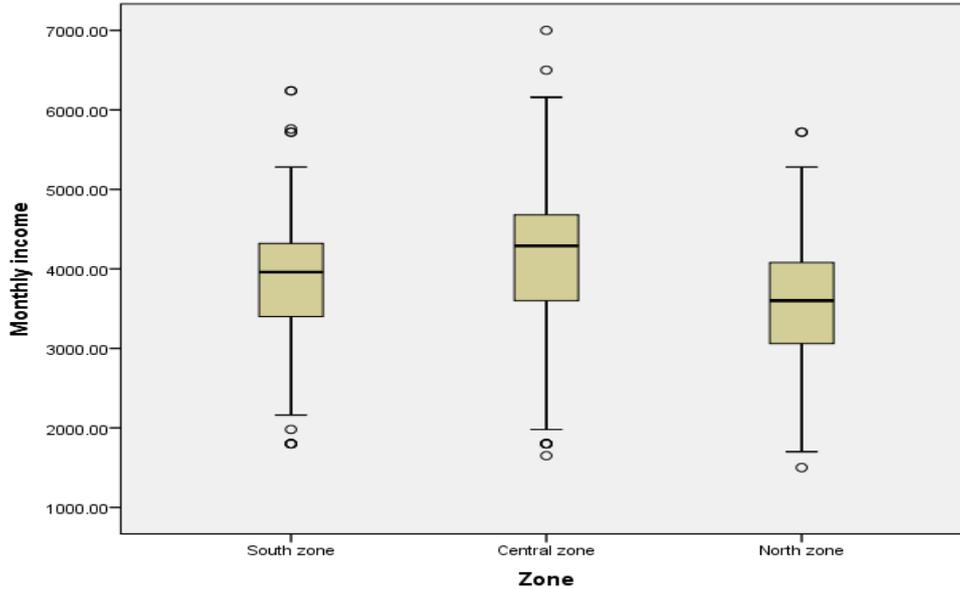
The error bar plot of income shows variability of data with respect to income (Figure 3.19). The income is comparatively high in the central zone with an average of Rs. 4013/- where as in the south zone the average income is Rs. 3819/- and in the north zone the average income is 3588/- which is low. The box plot analysis (Figure 3.20) also shows upper and lower quartiles of monthly income ranging from Rs. 1500- Rs.7000/-.

Figure 3.19 Error Bar-Income



Source: Worked out from Survey data

Figure 3.20 Boxplot-Income



Source: Worked out from Survey data

3.1.6.3.1 Income ANOVA and Post Hoc Analysis

In order to check whether the means of income are equal or not ANOVA is performed. Levene's test is used to test whether the homogeneity assumption of the ANOVA is violated or not. Since the p-value is 0.178 which is greater than 0.05 (Table 3.16), the group variances can be treated as equal. Hence the non-significant result shows that the homogeneity of variance can be accepted. It can be inferred from the Table 3.17 that there is a significant difference between in the average monthly income and zones, where the F-value is 12.86 and the corresponding p-value is given as <0.000.

The null hypothesis in this case is:

H_0 : The average income of the community members is same in all zones

Table 3.16 Test of Homogeneity of Variances-Monthly income

Levene Statistic	df1	df2	Sig.
1.733	2	597	.178

Table 3.17 ANOVA- Monthly Income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18621160.487	2	9310580.243	12.860	.000
Within Groups	432217339.471	597	723982.143		
Total	450838499.958	599			

The results from the one-way ANOVA do not indicate which of the three groups differ from one another; hence a Post Hoc test is used. The Post Hoc test presents the result of the comparison between all the possible pairs. Here Tukey HSD and Duncan Post-Hoc test are employed to determine which group is differing from another (Table 3.18). The groups are arranged in the increasing order by the mean value. The mean value for north zone is 3588.2286, south zone is 3818.9143 and central zone is 4013.0200.

Table 3.18 Post Hoc test-Monthly Income

Tests	Zone	N	Subset for alpha = 0.05		
			1	2	3
Tukey HSD ^{a,b}	North zone	175	3588.2286		
	South zone	175		3818.9143	
	Central zone	250		4013.0200	
	Sig.		1.000	.064	
Duncan ^{a,b}	North zone	175	3588.2286		
	South zone	175		3818.9143	
	Central zone	250			4013.0200
	Sig.		1.000	1.000	1.000

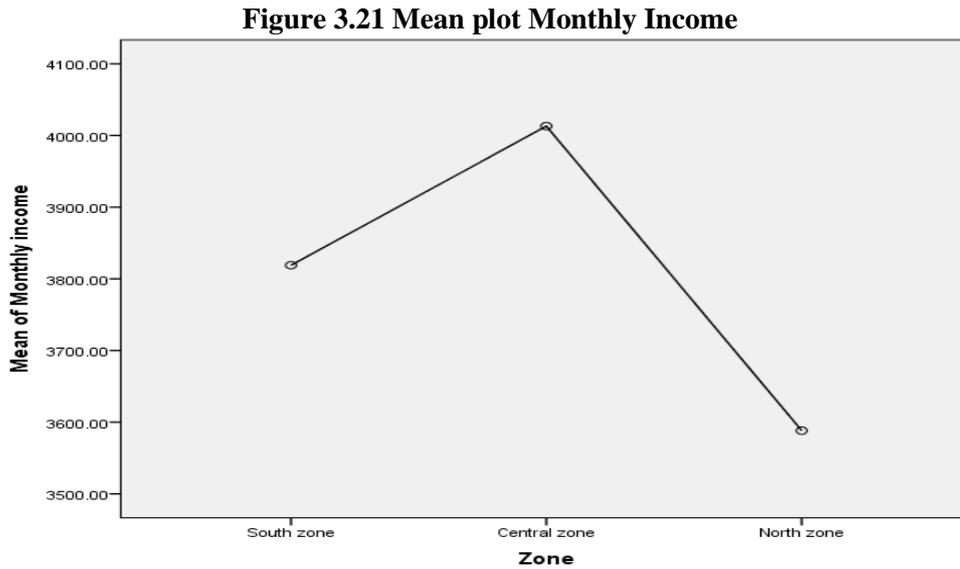
Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 194.444.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

The Tukey test indicates that income in the north zone differ significantly from the income in south and central zones. The south zone and central zone are grouped in one subset because they do not differ from each other to a great extent. The Duncan test however shows that the mean monthly income of the three zones is not a homogeneous subset and hence the

mean incomes of the three zones are different from each other. The same is also depicted in the mean plot (Figure 3.21). Hence it is concluded that the null hypothesis is rejected



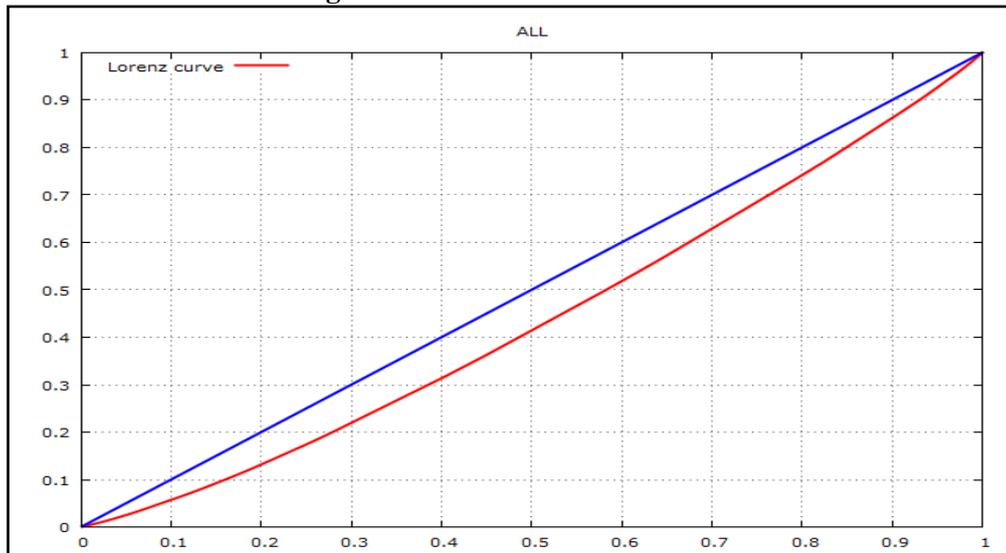
Source: Worked out from Survey data

3.1.6.3.2 Income Inequality

The Lorenz curve and Gini coefficient are used to capture the income inequality. Lorenz curve shows the cumulative proportion of the income distribution and Gini coefficient is often used to measure the inequality among the levels of income. The Gini coefficient ratio varies from 0 to 1. A Gini coefficient value of zero indicates perfect income equality, whereas a value of one shows perfect income inequality i.e. everyone has same income and vice versa. The Lorenz curve (Figure 3.22) shows the cumulative distribution of income of the people working in the ecotourism destination of Kerala. It shows that there exists a minimal inequality among the distribution of income. The Figure 3.23 shows the zone wise distribution of income. It can

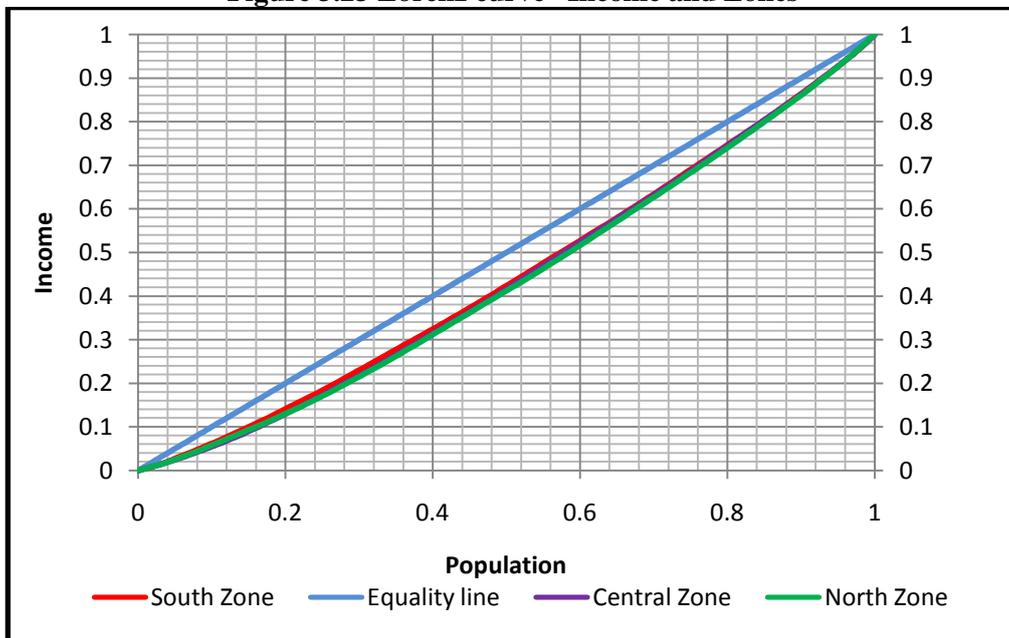
be inferred from the Table 3.19 that there is inequality between zones as inequality is low in the south zone and high in the North zones.

Figure 3.22 Lorenz curve-Income



Source: Worked out from Survey data

Figure 3.23 Lorenz curve –Income and Zones



Source: Worked out from Survey data

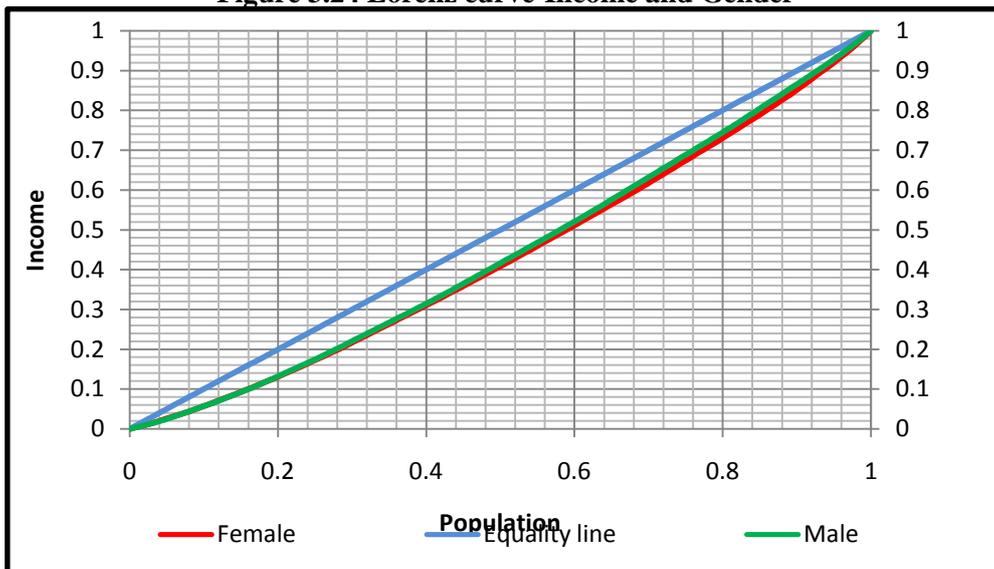
Table 3.19 Gini coefficient-Income and Zone

Zone	Number of observations	Gini coefficient
South Zone	175	0.111556
Central Zone	250	0.1228
North Zone	175	0.12794
All Zones	600	0.124759

Source: Worked out from Survey data

The gender wise Lorenz curve (Figure 3.24.) shows the cumulative distribution of income of males and females working in the ecotourism destination of Kerala. There exist a minimal inequality among the distribution of income and there is gender-wise inequality in income which is evident from Table 3.20.

Figure 3.24 Lorenz curve-Income and Gender



Source: Worked out from Survey data

Table 3.20 Gini coefficient-Income and Gender

Gender	Number of observations	Gini coefficient
Male	454	0.121075
Female	146	0.135115

Source: Worked out from Survey data

3.1.6.4. Banking, Savings and Indebtedness

This section analyses the banking habits of the respondent's viz. maintaining a bank account, savings, indebtedness, etc. Evaluating the financial habits of the community members will give an insight about the financial stability of their household. Table 3.21 shows the total percentage of households having an active bank account, saving habits and indebtedness. It is evident that about 49.7 percent hold an active bank accounts, 61 percent have savings behavior and 73.8 percent have indebtedness. Comparatively, the central zone accounted the upper hand in terms of those holding bank account, savings habit and indebtedness.

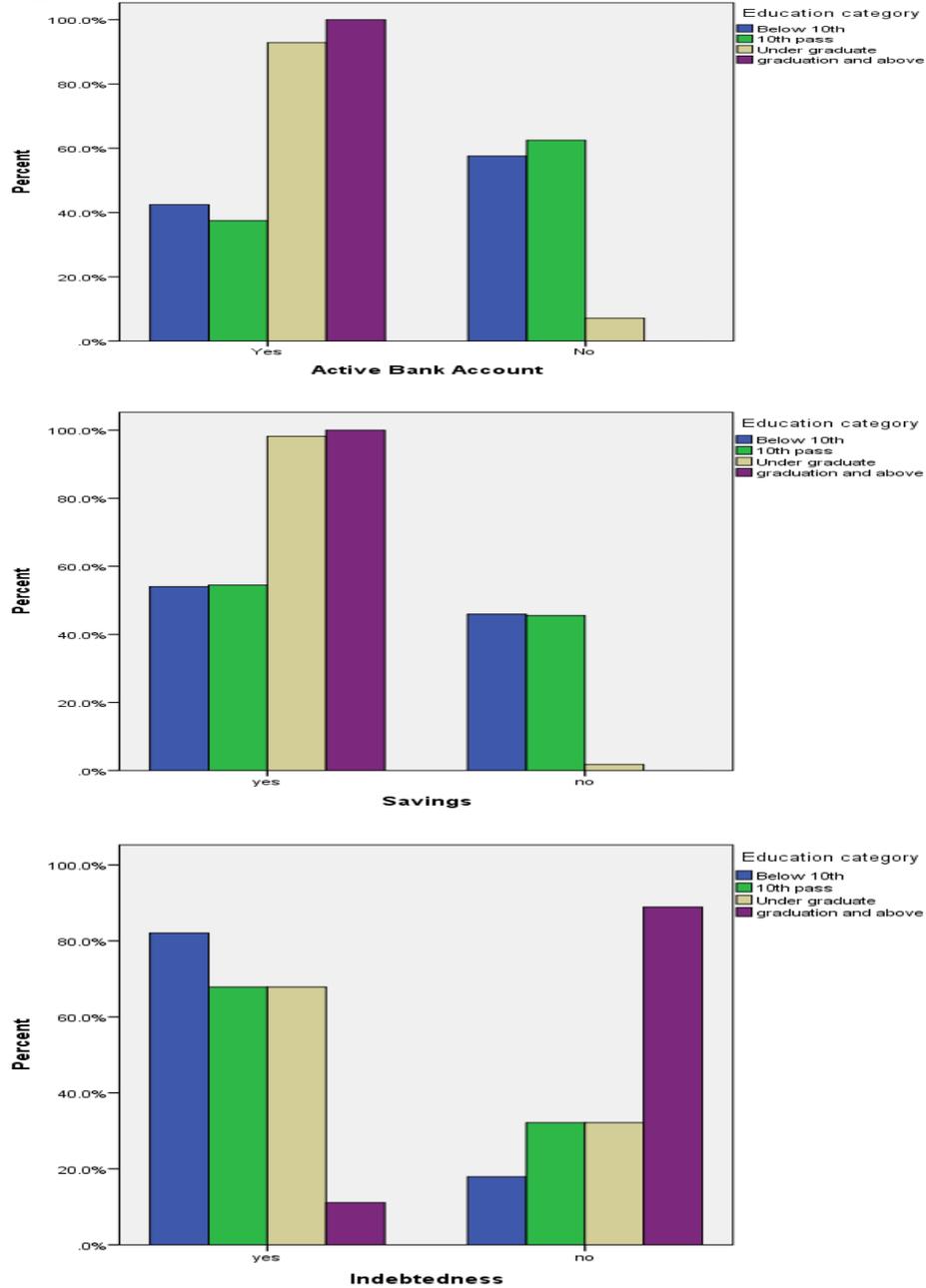
Table 3.21 Bank Account, Savings and Indebtedness

Zone	Active Bank Account		Does your family Save		Indebtedness	
	Yes	No	Yes	No	Yes	No
South zone	41.7	58.3	59.4	40.6	78.9	21.1
Central zone	53.6	46.4	62.4	37.6	76.4	23.6
North zone	52.0	48.0	60.6	39.4	65.1	34.9
Total	49.7	50.3	61.0	39.0	73.8	26.2

Source: Survey data

Education level is an important determinant in the financial habits of the individuals. Generally, the more educated ones tend to make better and wise financial decisions mainly due to the awareness they possess with regard to the formal financial set ups in the society enabling them to exhibit better financial habits. As can be seen in Figure 3.25 (a), the level of education has an influence on tendency of a person to hold a bank account. Out of people having a formal education of 10th and below, 42 percent hold a bank account. If the respondents with higher qualification are taken into consideration, the percentage moves in favour of those who are holding a bank account and vice versa.

Figure 3.25 Formal Education and Bank Account, Savings and Indebtedness

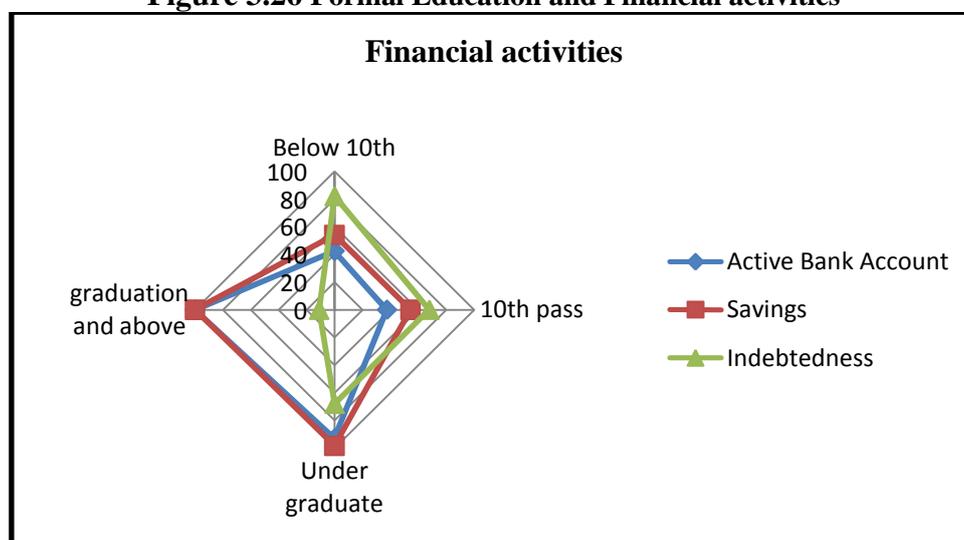


Source: Worked out from Survey data

Note: For easiness of analysis the Educational category below 10 is grouped as one

A comparison between education and savings [Figure 3.25 (b)] gives similar results. In the case of education level 10th and below the saving is only less than 54 percent. The people having education qualification of graduation and above are having 100 percent savings. It is clear from the Figure 3.26 and Table 3.22 that the higher the level of education higher will be the level of savings and vice versa.

Figure 3.26 Formal Education and Financial activities



Source: Worked out from Survey data

Table 3.22 Education Category and Financial Activity

Education	Active Bank Account		Does your family Save		Indebtedness		Total
	Yes	No	yes	no	yes	no	
Below 10th	42.4	57.6	54	46	82.1	17.9	100.0
10th pass	37.5	62.5	54.5	45.5	67.9	32.1	100.0
Under graduate	92.9	7.1	98.2	1.8	67.9	32.1	100.0
graduation and above	100	0	100	0	11.1	88.9	100.0
Total	49.7	50.3	61	39	73.8	26.2	100.0

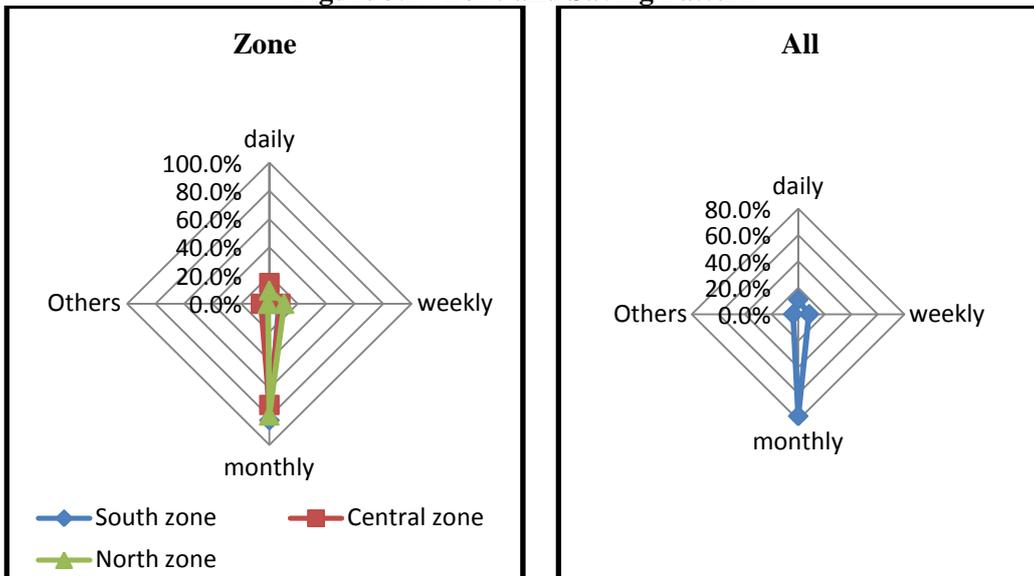
Source: Survey data

A positive correlation can be identified between the educational qualification and percentage of individuals holding a bank account and

savings. But the situation is inverse in the case of indebtedness and formal educations [Figure 3.25 (c)] as those with the higher educational level have a lesser tendency to borrow and vice versa.

Regarding the frequency of savings, 77 percent saved on a monthly basis. This indicates that the majority of the community members are regular in setting apart their earnings. Around 8 percent of the respondents had weekly savings, 10.9 percent saved daily and the rest had other pattern of savings (Figure 3.27).

Figure 3.27 Zone and Saving Pattern

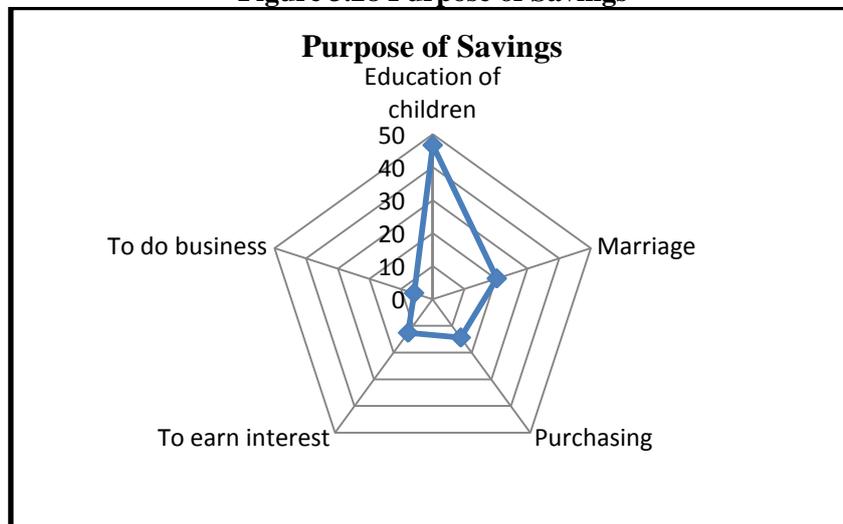


Source: Worked out from Survey data, Appendix 3.7

Figure 3.28 depicts the purpose for which the respondents save, i.e. whether they save for future consumption, education, marriage, earn interest or doing business. These purposes can be generally categorized into revenue generating and non-revenue generating. Saving to earn interest or to do business/self employment can be termed as a revenue generating affair and as consumption, marriage, for other purpose, etc. do not earn any direct or

immediate financial returns, they can be categorized as non-revenue generating purpose. It can be drawn that 46.70 percent of the respondents save for the purpose of education of children followed by marriage (20.30 percent), and consumption/purchasing (14.4 percent). Only 19.50 percent save to earn interest or to do business (12.60 percent and 5.90 percent). Here, it is heartening that majority of the community members set apart their earnings for educating their next generations. This is in anticipation that their children will get better income and livelihood options once they get educated which would improve the household standards. Even though the ecotourism is the major source of income for their household, the disinterest of the community members in allowing their children to take up ecotourism employment or engage in agrarian or forest related activities is evident. Field inference clearly captures this perception of the community members.

Figure 3.28 Purpose of Savings

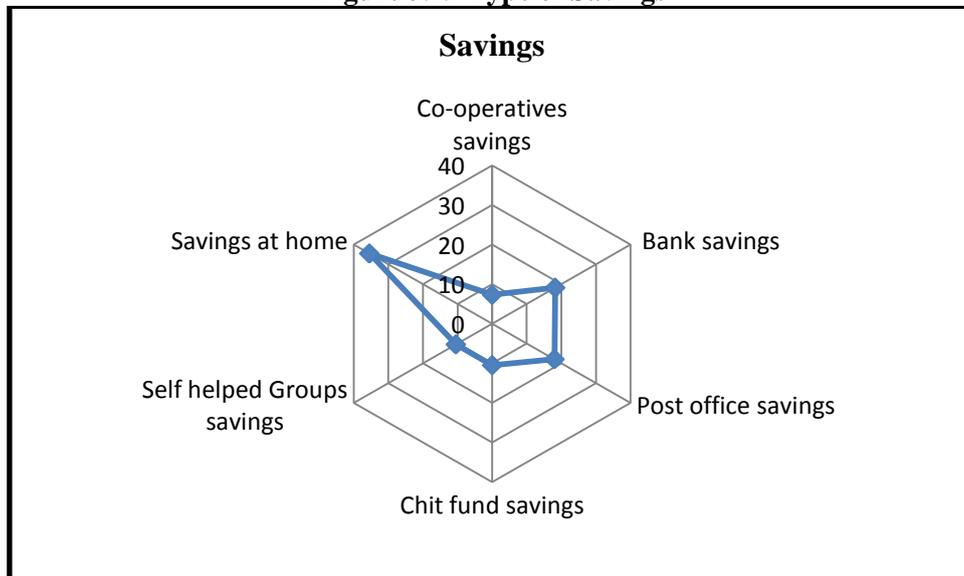


Source: Worked out from Survey data, Appendix 3.8 (a)

The community members were asked about the saving type i.e. whether they save in bank, post office, chit funds, SHGs, home savings etc. The results

are depicted in Figure 3.29. 18.20 percent of the respondents have bank savings and 18 percent have post office savings. Above 35 percent of the respondents have savings at home. 10.50 percent of the respondents have savings in chit funds and self help groups. The rest have savings with cooperatives (7.30 percent). While the fact that there are regular savings among the community members, 35 percent save at home. This does not earn them any interest and hence the funds are generally dead and idle money.

Figure 3.29 Type of Savings

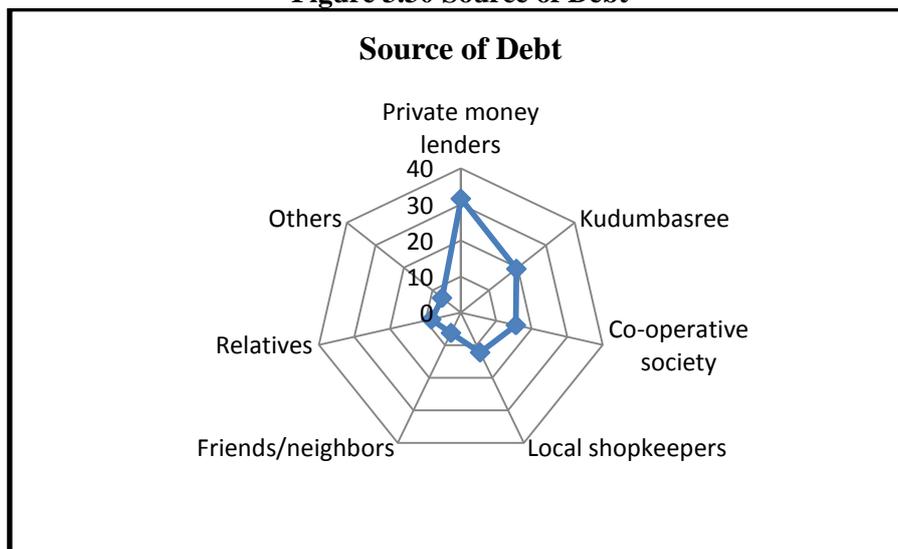


Source: Worked out from Survey data, Appendix 3.8 (b)

Regarding the source of the debt (Figure 3.30), 31.60 percent borrowed from the private money lenders, 19.50 percent borrowed from Kundumbasree, 15.50 depended on the cooperative societies for their borrowing needs and 12.20 had indebtedness with the local shop keepers. The rest i.e. 8.30 percent, 6.20 percent and 6.60 percent depended on relatives, friends and other sources, respectively for their borrowings. Over dependence on the private money lenders is a major cause of concern for the community members as these unorganized financial intermediaries generally charge huge rate of interest

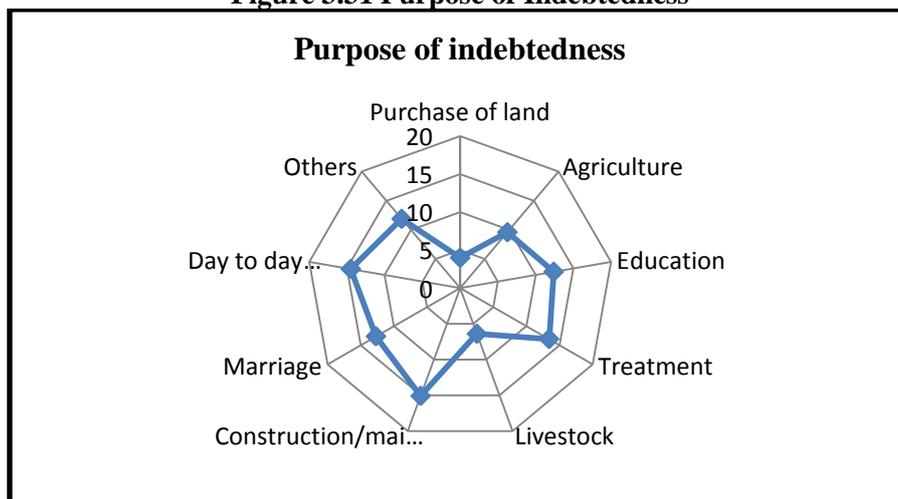
from the borrower. The main reason for this is the lack of collateral to approach formal institutions like the banks that are reasonable in penalizing the borrowers. They neither have the possession of land nor the assets to take advance from scheduled banks.

Figure 3.30 Source of Debt



Source: Worked out from Survey data, Appendix 3.8 (c)

Figure 3.31 Purpose of Indebtedness



Source: Worked out from Survey data, Appendix 3.8 (d)

Figure 3.31 situates the purpose for which the community members have taken indebtedness. It can be inferred from that the percentages are very much balanced with majority selecting day to day expenses, construction of house, marriage, education, treatment, etc.

3.1.6.5 Quality of Life

The factors determining the quality of living of the community members are mainly place of living, type of house, area of house, source of drinking water, sanitation facility, source of light, fuel for cooking, information source etc. This section analyses the performance of three zones with respect to these attributes.

3.1.6.5.1 Place of Living

Analysis about the place of living brings to light that 37 percent of respondents live in their own house followed by 25.7 percent in govt funded/provided house and 21 percent in their parent's house and 3.5 percent in rented house. About 12 percent of the respondents have other kinds of accommodation facilities such as staff quarters, etc.

Table 3.23 Place of Living

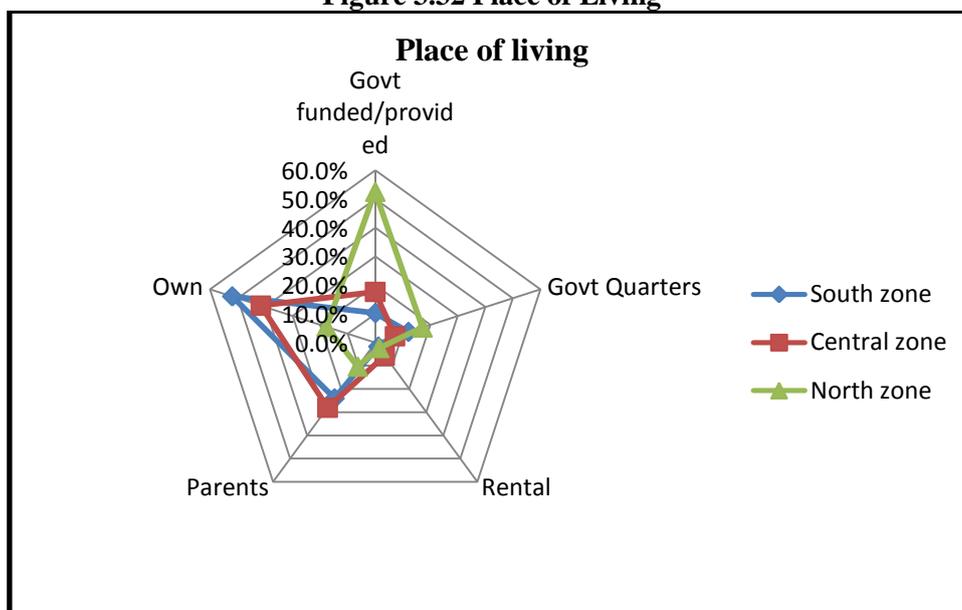
Zone	Place of living					Total
	Govt funded/provided	Govt Quarters	Rental	Parents	Own	
South zone	10.3	12.0	1.7	24.0	52.0	100.0
Central zone	17.6	7.2	5.6	28.0	41.6	100.0
North zone	52.6	17.1	2.3	10.3	17.7	100.0
Total	25.7	11.5	3.5	21.7	37.7	100.0

Source: Survey data

The same is depicted in Table 3.23 and Figure 3.32. This implies that more than 55 percent of the respondents are self-sufficient with regard to accommodation/housing facilities. Zone-wise analysis also gives similar outcomes. But in the case of north zone majority i.e. 52 percent primarily

depend on the government funded house. This means that government programmes for providing house construction has been effective in this region.

Figure 3.32 Place of Living



Source: Worked out from Survey data

3.1.6.5.2 Type of House

The house type is categorized into pucca, semi-pucca and Kucha levels. Majority of them have replied that they live in houses which are built of kutchra and semi-pucca materials.

Table 3.24 Zone and House Type

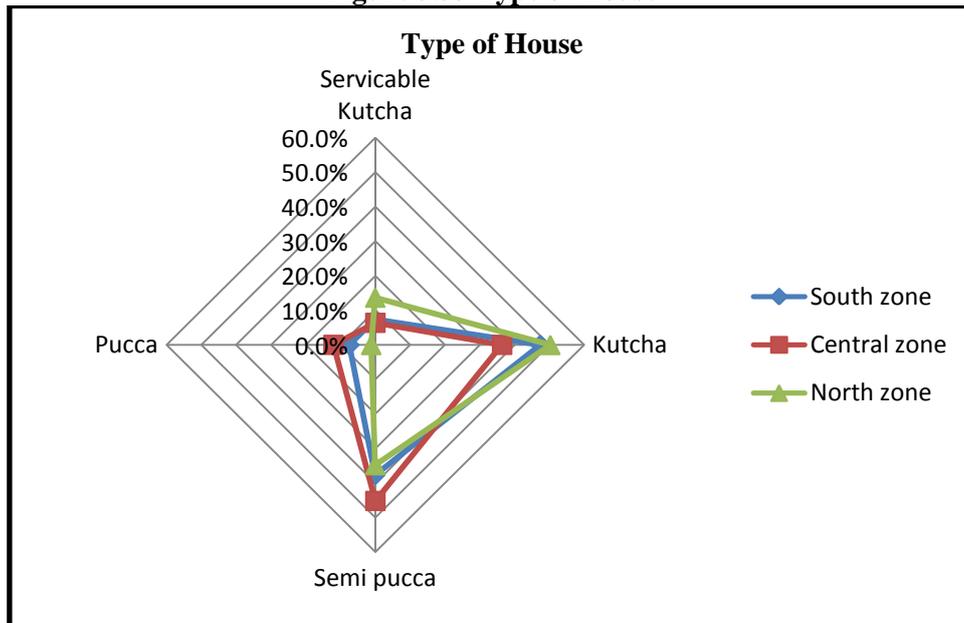
	House Type				Total
	Serviceable Kutchra	Kutchra	Semi pucca	Pucca	
South zone	7.4	47.4	37.7	7.4	100.0
Central zone	6.4	36.4	45.2	12.0	100.0
North zone	13.7	50.3	34.9	1.1	100.0
Total	8.8	43.7	40.0	7.5	100.0

Source: Survey data

There are zone wise differences with respect to the quality of housing. Compared to the other two zones, north zone have reported more Kutchra and

serviceable kutcha houses. But in the case of central zone the majority houses are in the semi-pucca and pucca conditions. This is shown in the Figure 3.33 and Table 3.24.

Figure 3.33 Type of House

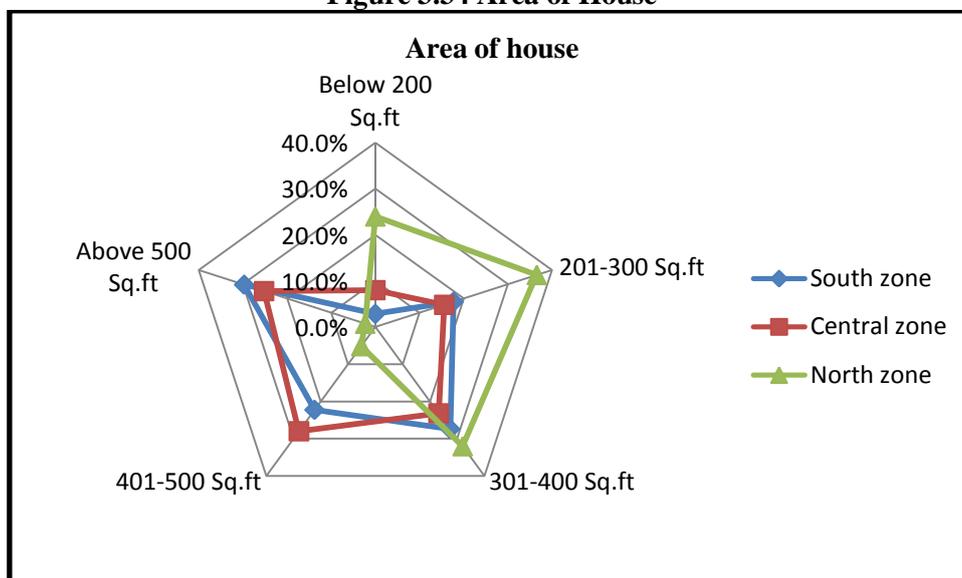


Source: Survey data

3.1.6.5.3 Area of House

Sufficient living space in a house would mean a comfortable living. The area of house is sufficient if it can accommodate all the household members without any difficulty. About 68 percent live in an area between 201-500 sq. ft (Table 3.25). Majority in the north zone lives in less than 301-400 sq. ft space, where on the other hand the south and central zone have somewhat equal proportion in all the categories (Figure 3.34). Area of house is comparatively lower in the north zone because majority of them lives in government provided houses made of kutcha materials.

Figure 3.34 Area of House



Source: Survey data

Table 3.25 Zone and Area of House

Zone	Area of House					Total
	Below 200 Sq.ft	201-300 Sq.ft	301-400 Sq.ft	401-500 Sq.ft	Above 500 Sq.ft	
South zone	2.9	17.7	27.4	22.3	29.7	100.0
Central zone	8.0	15.6	23.2	28.0	25.2	100.0
North zone	24.0	36.6	32.0	5.1	2.3	100.0
Total	11.2	22.3	27.0	19.7	19.8	100.0

Source: Survey data

3.1.6.5.4 Source of Drinking Water

Source of drinking water is one of the major determinants of the quality of life of the households. From the data (Table 3.26), it can be identified that that the majority i.e. above 50 percent depend on public and open source of water (public tap, public well and canal/river/pond). Only 26.7 percent have their own well, 15.5 percent share water from others and 7 percent their own house connection.

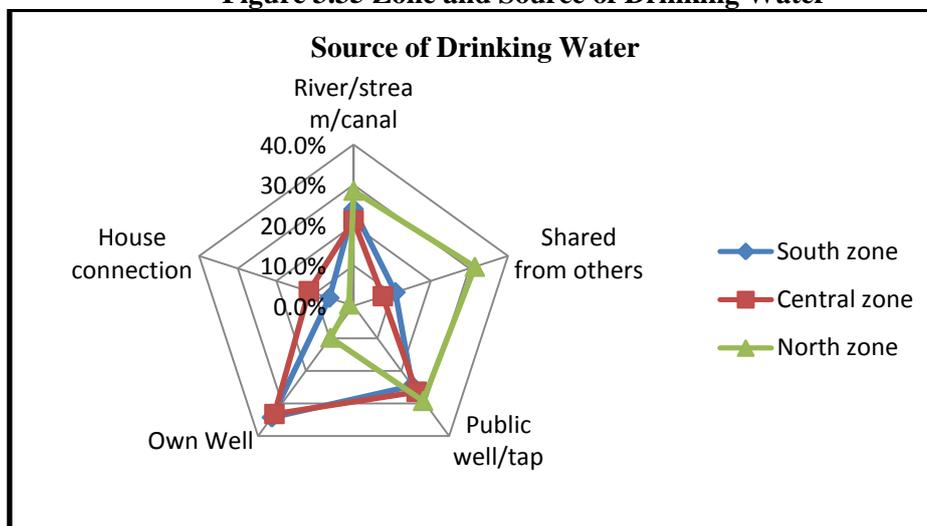
Table 3.26 Source of Drinking Water

Zone	Source of Drinking water					Total
	River/stream /canal	Shared from others	Public well/tap	Own Well	House connection	
South zone	24.0	10.9	24.6	34.3	6.3	100.0
Central zone	21.2	7.6	26.4	33.2	11.6	100.0
North zone	28.6	31.4	29.1	9.7	1.1	100.0
Total	24.2	15.5	26.7	26.7	7.0	100.0

Source: Survey data

As depicted in the Figure 3.35 except the north zone the source of drinking water is same in the other two zones. The majority (31 percent) of the community members in the north zone depend on others, 29.1 percent on public well/tap, 28.6 percent depend on river, stream and canal. However, the respondents in the central and north zone, mainly depend on own well followed by public source etc.

Figure 3.35 Zone and Source of Drinking Water



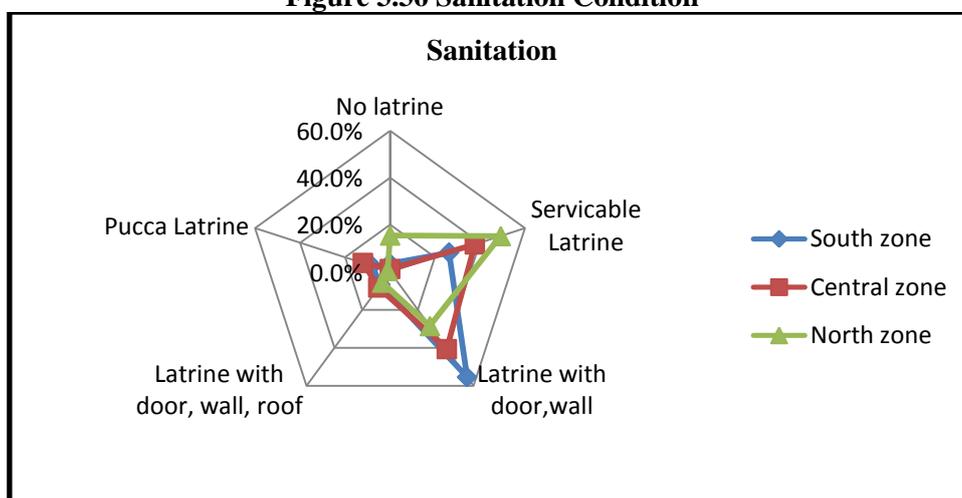
Source: Worked out from Survey data

3.1.6.5.5 Sanitation Facility

Sanitation facility is another aspect in determining the quality of life. Majority have claimed that they do not have pucca latrine facilities. About 42

percent have latrine facility with door wall but no roof, 37.7 percent have serviceable latrines (Table 3.27). South zone outnumbers central zone having latrine facility with only door and wall (Figure 3.36). There is bare minimum with respect to the no latrines availability with respect to south and central zones. However, north zone shows a dismal picture of households with regard to the latrine facilities.

Figure 3.36 Sanitation Condition



Source: Survey data

Table 3.27 Zone and Sanitary Condition

Zone	Sanitary Condition					Total
	No latrine	Serviceable Latrine	Latrine with door, wall	Latrine with door, wall, roof	Pucca Latrine	
South zone	3.4	26.3	55.4	6.9	8.0	100.0
Central zone	1.2	37.6	40.8	8.4	12.0	100.0
North zone	15.4	49.1	28.6	5.7	1.1	100.0
Total	6.0	37.7	41.5	7.2	7.7	100.0

Source: Survey data

3.1.6.5.6 Source of Light

For Majority of the respondents (67.8 percent), electricity is the main source of light in their homes, which is followed by solar energy (15.7

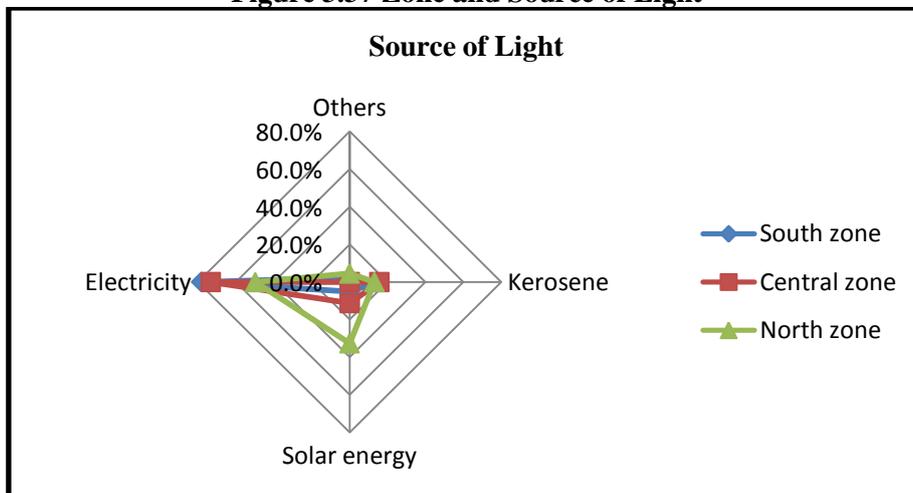
percent) and kerosene (14.5 percent) (Table 3.28). Zone-wise analysis also gives similar results with most of the respondents having electricity connection. But in the case central and north zones, the usage of solar energy is reported due to the difficulty in getting electric connections as they live in difficult terrains. However, in the houses with electricity connection, there are frequent power disruptions especially during the rainy seasons.

Table 3.28 Source of Light

Zone	Source of Light				Total
	Others	Kerosene	Solar energy	Electricity	
South zone	2.3	14.3	5.1	78.3	100.0
Central zone	0.0	15.6	11.2	73.2	100.0
North zone	4.6	13.1	32.6	49.7	100.0
Total	2.0	14.5	15.7	67.8	100.0

Source: Survey data

Figure 3.37 Zone and Source of Light



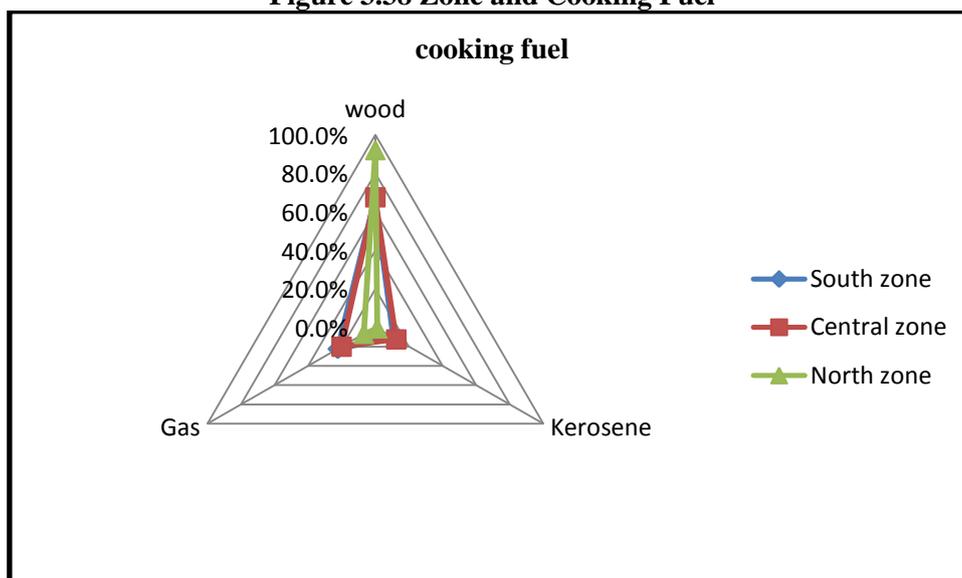
Source: Worked out from Survey data

The Figure 3.37 shows zone wise source of lighting. The south and central shows a similar pattern whereas in the north zone those using solar energy as main source of light in their household are 32 percent.

3.1.6.5.7 Fuel for Cooking

Majority of the respondents (74 percent) depended on wood for cooking food (Table 3.29). Depending on their financial condition, they go for gas connection. The respondents have stated that even though they have gas connection their main source of cooking food is wood. This is because of the high and fluctuated price of the gas connection. The inter-zone differences is marked in this case where 92 percent of the respondents from the north zone prefer wood. About 20 percent each from south and central zone have gas connection. This is shown in the Figure 3.38.

Figure 3.38 Zone and Cooking Fuel



Source: Worked out from Survey data

Table 3.29 Main Cooking Fuel

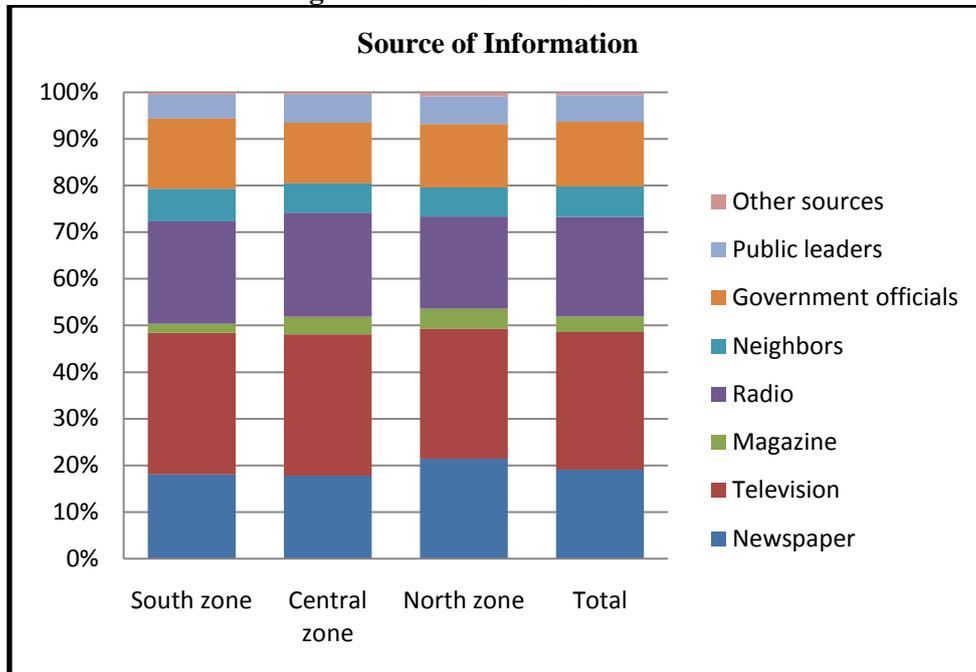
Zone	Main Cooking fuel			Total
	wood	Kerosene	Gas	
South zone	66.9	10.9	22.3	100.0
Central zone	67.6	12.4	20.0	100.0
North zone	92.0	1.1	6.9	100.0
Total	74.5	8.7	16.8	100.0

Source: Survey data

3.1.6.5.8 Main Source of Information

Figure 3.39 shows that across zones, majority of the respondents (30 percent) depended on TV, 21 percent respondents considered radio as the source of information, followed by newspaper (19 percent), government officials (13 percent), neighbors (6 percent), public leaders (5 percent) and magazines (3 percent). The zone wise inferences also show similar results.

Figure 3.39 Source of Information



Source: Worked out from Survey data, Appendix 3.9

3.1.7 Standard of Living

To evaluate the living standards of the community members, a Standard of Living Index (SLI) framework is adopted. SLI is an index constructed to understand the general living conditions of people taking into account different indicators of lifestyle and living standards (Rajasenan and Abraham, 2012; Rajasenan, Abraham and Rajeev, 2013). This include socio-

economic conditions like ownership of house, type of house, area of house, drinking water, sanitation facility, source of light, fuel for cooking etc. Each indicator was given scores in the band of one to three, where 1 is given for minimum value i.e. low SLI, 2 for medium value or medium SLI and 3 for maximum value or high SLI.

Majority of the respondents have medium SLI values (42.3 percent); the remaining 47.7 percent have low SLI and 10 percent have high SLI. It can be inferred from the zone-wise analysis (Table 3.30) as well as through the Chi-Square results (Table 3.31) that there is a significant difference in the proportion of low, medium and high SLI values between the three zones.

Table 3.30 Standard of Living and Zone

	SLI			Total
	Low SLI	Medium SLI	High SLI	
South zone	33.1	52.0	14.9	100.0
Central zone	35.6	52.4	12.0	100.0
North zone	79.4	18.3	2.3	100.0
Total	47.7	42.3	10.0	100.0

Source: Survey data

Table 3.31 Chi-Square Tests SLI and Zone

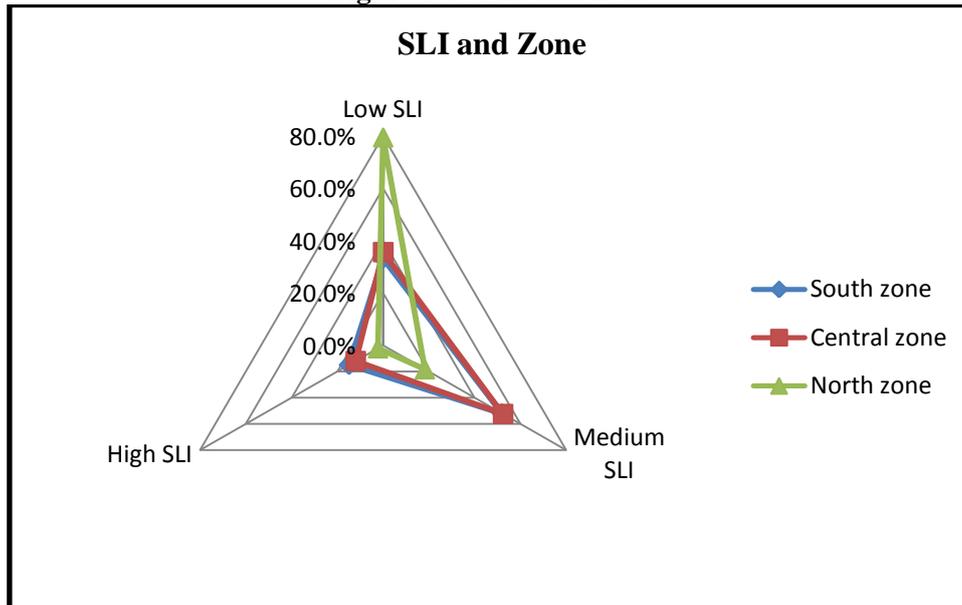
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	101.714 ^a	4	.000
Likelihood Ratio	107.161	4	.000
Linear-by-Linear Association	69.599	1	.000
N of Valid Cases	600		

a. 0 cells (0.0) have expected count less than 5. The minimum expected count is 17.50.

While comparing the SLI and zones (Figure 3.40) it is clearly evinced that South zone and central zone have 52 percent in Medium SLI, and the

North Zone contains 79 percent in the Low SLI. It can be derived that the south and central zone occupies the medium SLI region where as north zone lies in the low SLI region (Figure 3.41).

Figure 3.40 SLI and Zone



Source: worked out from the Survey data

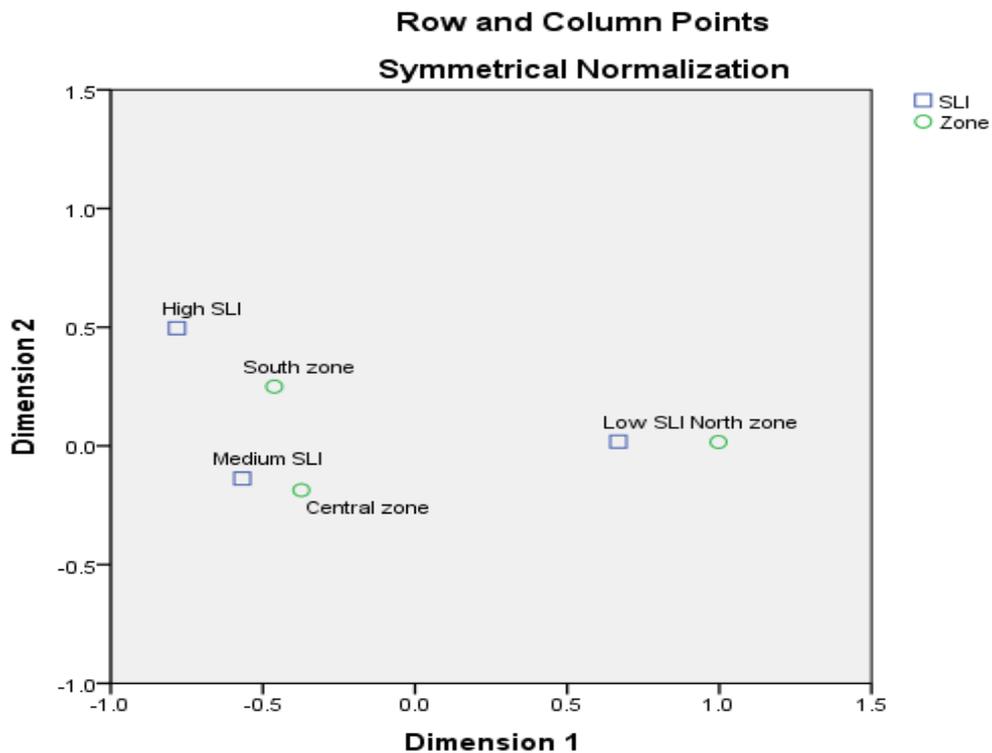
The correspondence summary (Table 3.32) shows that two dimensions were derived. It shows a significant difference in the SLI between zones with a Chi-Square p-value <0.001. The model explains 17 percent of the variance in the original correspondence table. The dimension 1 accounts for 16.8 percent of the total 17 percent of the inertia. The proportion of inertia for the dimension 1 accounts for 99.4 percent of the total inertia. The correspondence map shows (Figure 3.40) that the low SLI lies in the north zone where as the medium SLI is near to the Central zone and south zone and south zone have shorter distance from the High SLI.

Table 3.32 Correspondence Summary SLI and Zone

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation
1	.410	.168			.994	.994	.035	.023
2	.033	.001			.006	1.000	.047	
Total		.170	101.714	.000 ^a	1.000	1.000		

a. 4 degrees of freedom

Figure 3.41 Correspondence Map- SLI and Zone



Source: Worked out from Survey data

To test the null hypothesis H_0 : the SLI score is same across zones; Kruskal-Wallis Test is used. Since the p-value is <0.001 the null hypothesis the SLI score is same across zones (Table 3.33) is rejected.

**Table 3.33 Kruskal Wallis Test SLI and Zone
Hypothesis Test Summary**

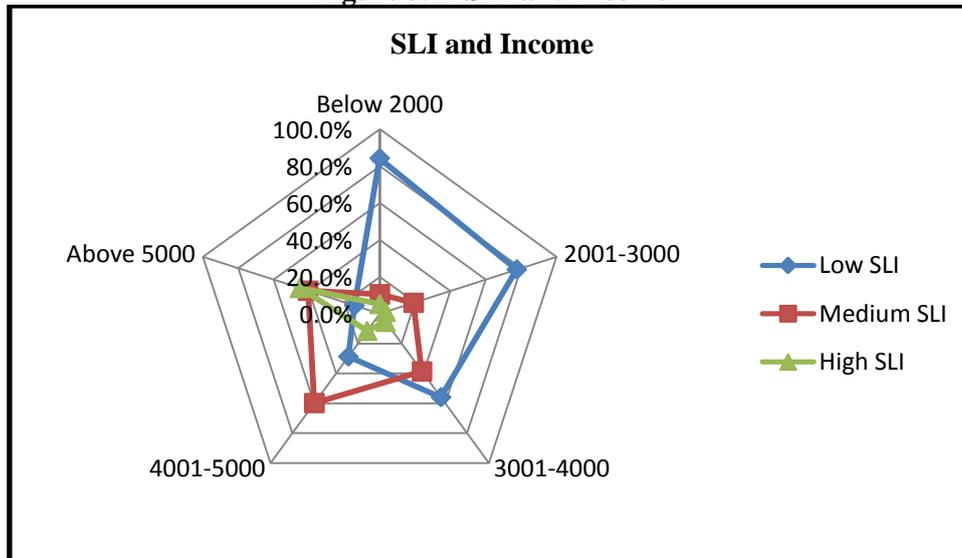
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of SLI is the same across categories of Zone.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

3.1.7.1 Income and SLI

In the income groups below Rs. 4000, majority of the community members are from low SLI. Majority in the income groups above Rs. 4000 have medium SLI. It can be inferred that the majority in the high SLI are from the income category Rs.5000 above. The same is portrayed in Figure 3.42 and Table 3.34. The Chi-Square shows that (Table 3.35) there is significant difference between the Standard of Living parameters and income level of the community members.

Figure 3.42 SLI and Income



Source: Worked out from Survey data

Table 3.34 SLI and Income

Income group	SLI			Total
	Low SLI	Medium SLI	High SLI	
Below 2000	84.2	10.5	5.3	100.0
2001-3000	77.5	19.1	3.4	100.0
3001-4000	56.0	38.6	5.4	100.0
4001-5000	28.7	59.8	11.5	100.0
Above 5000	14.3	40.5	45.2	100.0
Total	47.7	42.3	10.0	100.0

Source: Survey data

Table 3.35 Chi-Square Tests SLI and Income

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	144.934 ^a	8	.000
Likelihood Ratio	128.768	8	.000
Linear-by-Linear Association	102.108	1	.000
N of Valid Cases	600		

a. 2 cells (13.3) have expected count less than 5. The minimum expected count is 1.90.

Table 3.36 Correspondence Summary SLI and Income

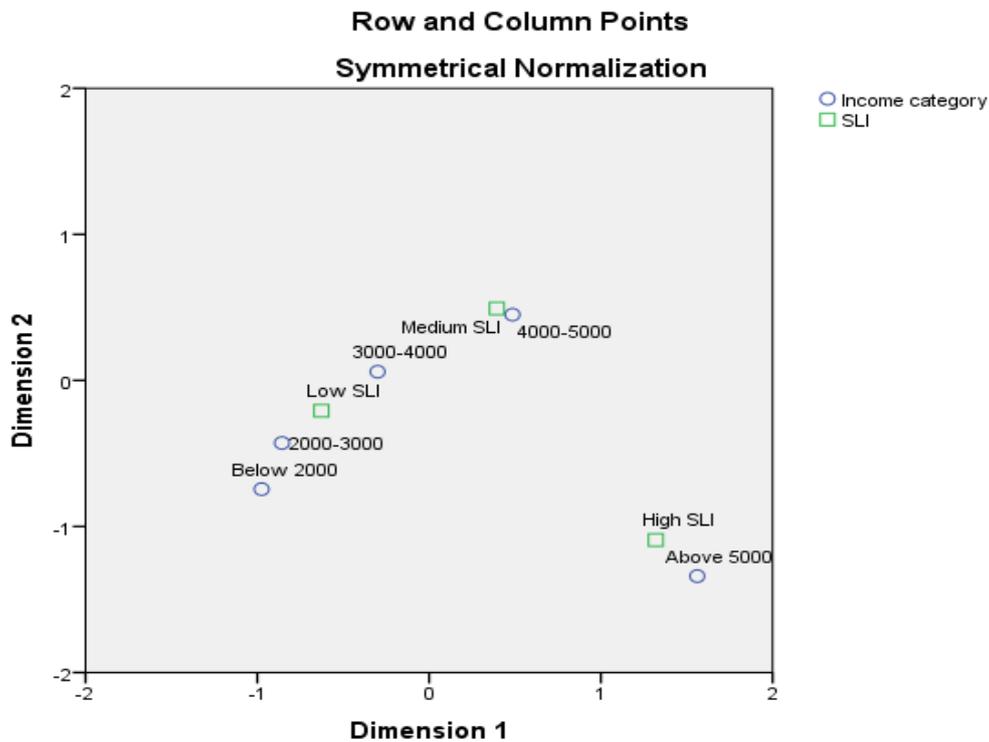
Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation
1	.427	.183			.757	.757	.037	.407
2	.242	.059			.243	1.000	.051	
Total		.242	144.934	.000 ^a	1.000	1.000		

a. 8 degrees of freedom

The correspondence summary (Table 3.36) shows that two dimensions were derived. It shows a significant difference in the SLI between zones with a Chi-Square p-value <0.001. The model explains 24.2 percent of the variance in the original correspondence table. The dimension 1 accounts for 18.3

percent of the total 24.2 percent of the inertia. The proportion of inertia for the dimension 1 accounts for 75.7 percent of the total inertia and dimension 2 accounts 24.3 percent. The correspondence map shows (Figure 3.43) that the income category above Rs.5001 lies in the high SLI where as the low SLI constitutes the income categories below 3000 and medium SLI have income categories between 3001-5000.

Figure 3.43 Correspondence Map- SLI and Income



Source: Worked out from Survey data

The null hypothesis H_0 : The SLI score is same across different levels of income is tested using Kruskal-Wallis Test. The null hypothesis is rejected since the p-value < 0.001 (Table 3.37).

**Table 3.37 Kruskal Wallis Test SLI and Zone
Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of SLI is the same across categories of Income category.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

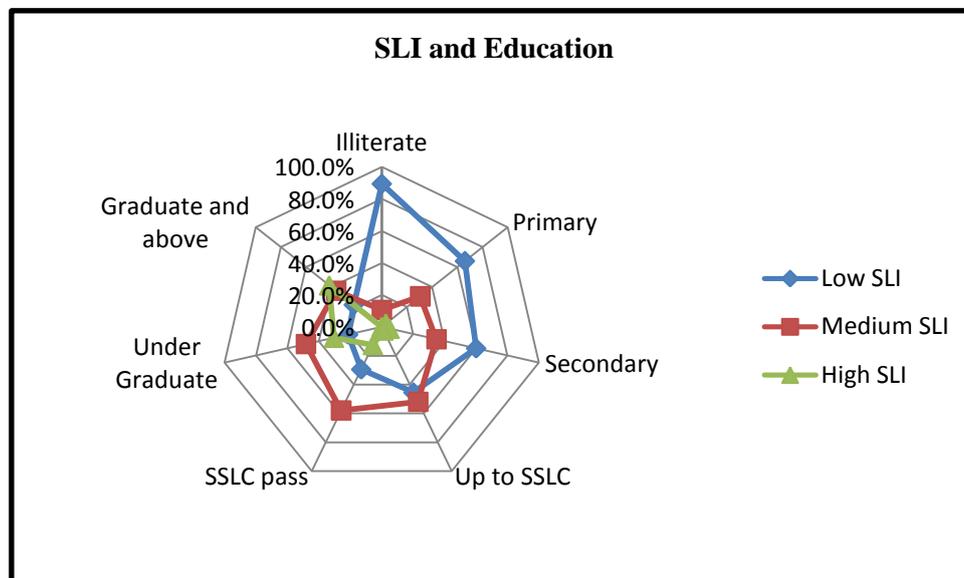
Asymptotic significances are displayed. The significance level is .05.

This indicates that the income of an individual plays a pivotal role in determining their household living standards. Here, it is heartening to note that more than 90 percent of the respondents derive their earnings from ecotourism and related activities. This points out towards the prominence of ecotourism employment in bettering the income and livelihood situation of the locals, majority of who belong to the marginalized sections of the society. The earnings coupled with various development programmes targeting these localities has enabled some of the households to attain enviable position in terms of household amenities and assets. This has had a positive impact on their household standard of living.

3.1.7.2 Educational Qualification and SLI

It can be drawn from the analysis that there is variation in the SLI value based on the educational qualification attained by the individual. The results are shown in Figure 3.44. It can be seen from the Table 3.38 that majority of the respondents having low SLI are having the educational qualification with secondary schooling and below. In the medium SLI category the majority have educational qualification from high school and above. In high SLI group, majority are graduates, followed by under graduates and SSLC pass.

Figure 3.44 SLI and Education



Source: Worked out from Survey data

Table 3.38 SLI and Education

Education	SLI			Total
	Low SLI	Medium SLI	High SLI	
Illiterate	89.5	10.5	0.0	100.0
Primary	66.1	30.5	3.4	100.0
Secondary	60.1	34.8	5.1	100.0
Up to SSLC	45.5	52.1	2.5	100.0
SSLC pass	29.5	58.0	12.5	100.0
Under Graduate	21.4	48.2	30.4	100.0
Graduate and above	22.2	36.1	41.7	100.0
Total	47.7	42.3	10.0	100.0

Source: Survey data

Thus, the respondents having higher educational qualifications showed greater tendency to be in the high SLI category and vice versa as educational qualification declined. The Chi-square test (Table 3.39) also shows that there is significant difference in the SLI value of the respondents based on the educational qualification attained by them. A positive relation between education and the income level of the respondents was identified in the

previous sections with better educated ones earning more than their less educated counterparts.

Table 3.39 Chi-Square Tests SLI and Education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	138.347 ^a	12	.000
Likelihood Ratio	124.899	12	.000
Linear-by-Linear Association	100.498	1	.000
N of Valid Cases	600		

a. 2 cells (9.5) have expected count less than 5. The minimum expected count is 1.90.

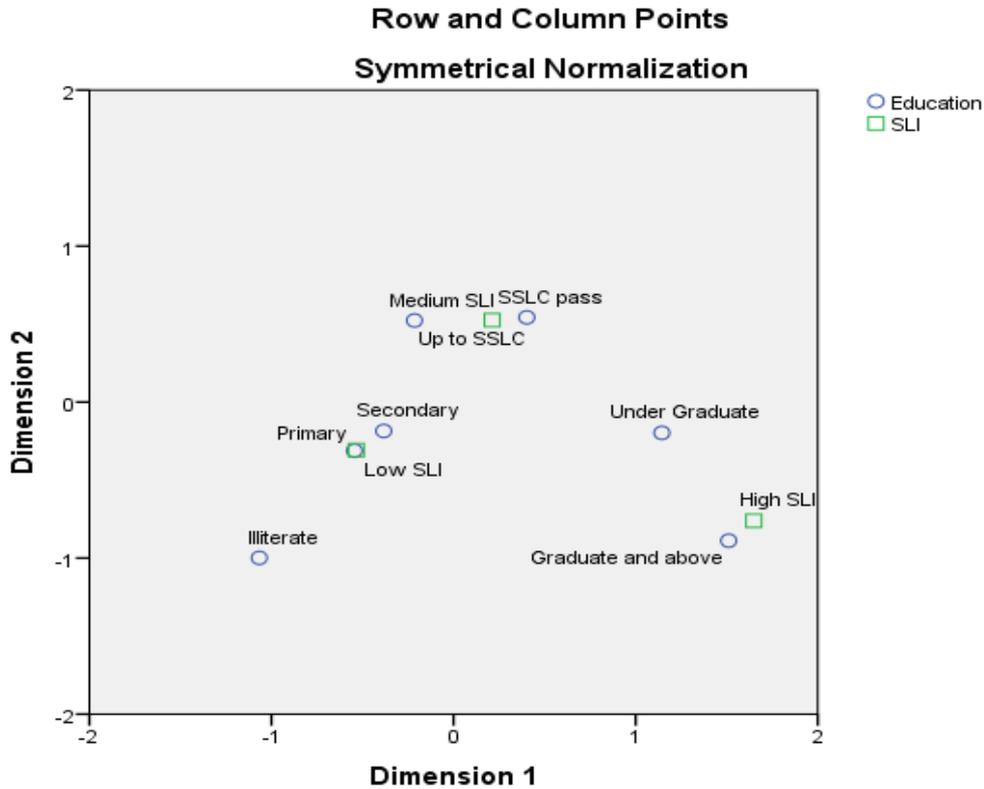
The correspondence summary (Table 3.40) shows that two dimensions were derived. It shows a significant difference in the SLI between zones with a Chi-Square p-value <0.001. The model explains 23.1 percent of the variance in the original correspondence table. The dimension 1 accounts for 18.2 percent of the total 23.1 percent of the inertia. The proportion of inertia for the dimension 1 accounts for 79 percent of the total inertia and dimension 2 accounts 21 percent. The correspondence map shows (Figure 3.45) that the graduate and above category and undergraduates categories lies near to the high SLI where as the low SLI constitutes the educational category below secondary schooling. Medium SLI occupies with the high school (i.e. up to SSLC but not passed) and the SSLC pass groups.

Table 3.40 Correspondence Summary SLI and Education

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation
1	.427	.182			.790	.790	.041	.318
2	.220	.048			.210	1.000	.040	
Total		.231	138.347	.000 ^a	1.000	1.000		

a. 12 degrees of freedom

Figure 3.45 Correspondence Map- SLI and Education



Source: Worked out from Survey data

To test the null hypothesis H_0 : the SLI score is same across different levels of education Kruskal-Wallis Test is used. Since the p-value is <0.001 (Table 3.41) the null hypothesis is rejected.

**Table 3.41 Kruskal Wallis Test SLI and Education
Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of SLI is the same across categories of Education category.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Education plays a key role in determining the income of the local communities as they need frequently to interact with the national and international tourists. Only through better interactive skills, they can communicate effectively with the tourists, which will have a positive impact on their income. The income, in turn assists them to attain better living standards. So, better educational traits have enabled the local community members to earn more, which they could replicate in the form of good living standards.

The analysis regarding the socio-economic and demographic profiles of the community members provide clear cut information about their present living situation. Community participation in ecotourism by and large ensures the income and livelihood security to the local communities to a great extent. This helps them to excel into the mainstream. This kind of community involvement is, in a sense, a form of inclusive development which will in turn help for the development of sustainable ecotourism along with their livelihood.

Chapter 4

Perception of the Stakeholder's in Ecotourism Development

Chapter 3 brings to focus the socio-economic and demographic analysis of the community members. This Chapter is an attempt to illuminate empirically the perception of the prime stakeholder's in ecotourism i.e. local communities and the visitors in the sites. Understanding the perception and opinion of the local community members would help to situate whether the people who matter the most in these initiatives are satisfied with the employment and livelihood options available to them and the benefits vis a vis problems identified with respect to the ecotourism destinations. The perception of tourist creates demand for that particular destination. Hence, it is more important in understanding the perception and satisfaction levels of the tourist to enable the authorities to develop better strategies which can achieve the dual objectives of conservation of the tourist destination and local peoples socio-economic development.

Chapter 4 is organized into two sections. The section I deals with the local community members about ecotourism, their problems and benefits in ecotourism. The section II provides the basic profile of the tourist, their travel attributes, overall impression, satisfaction and acceptance of the destinations.

Section I

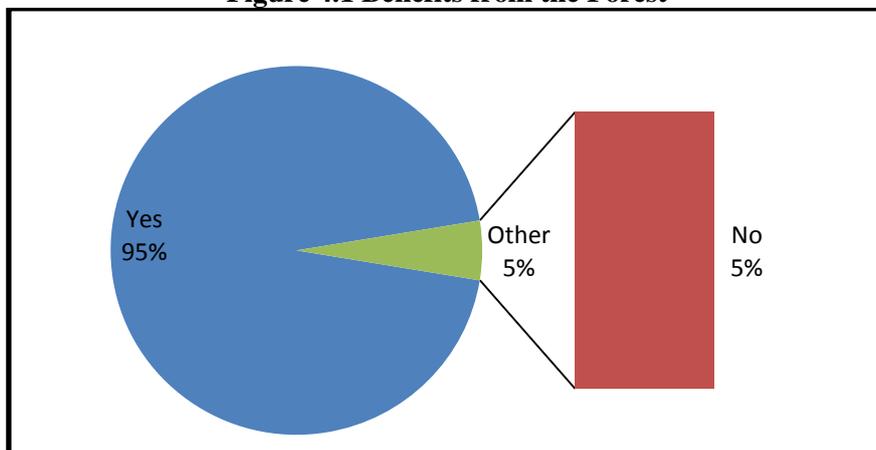
4.1. Community Perception about Ecotourism

This section deals with the perception of the major stakeholders or participants in ecotourism viz. the local community members. Altogether, 600 community members have been surveyed using structured interview schedule and their perceptions about various aspects of ecotourism were recorded. The questions were designed in such a way to analyse the overall attitude of the community members about the participation in ecotourism programmes in their area.

4.1.1 Community and Nature Dependence

The response of the members with respect to the forest and its resources show positive inference as the community members have benefitted immensely from the forest. The results are shown in Figure 4.1.

Figure 4.1 Benefits from the Forest



Source: Survey data

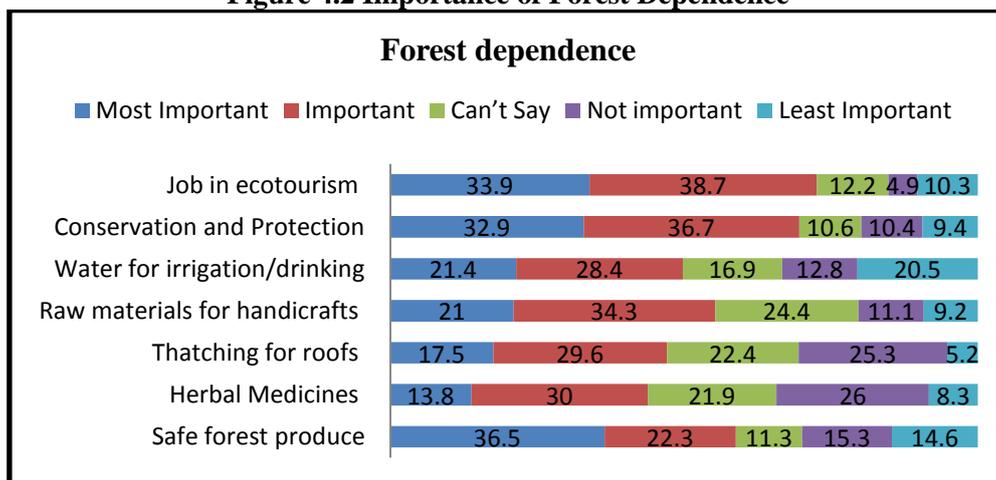
Since the ecotourism destinations are located amidst the wildlife settings, majority of them depend on forest for their livelihood. They prominently depend on natural food, edible plants for self consumption, firewood's,

bamboo etc. Others particularly depend on income and livelihood option like collection of non-timber forest produce, tourism, etc. It is well symbolized that these communities who have intimate relation and knowledge about the forest and wildlife have potential to be in the ecotourism activities.

4.1.1.1 Importance of Forest Dependence

Although the importance of forest is pertinent in all aspects, the safe forest produces like fruits, honey, edible plants, bamboo, firewood etc is given most importance with 36.5 percent and important by 22.3 percent. The tourism related jobs were given second most important option by 33.9 percent and 38.7 percent importance by the respondents, followed by conservation and protection 32.9 percent and 36.7 percent importance. The results are shown in Figure 4.2. It can be clearly evinced from the data that most of the community members have drawn benefits from the forest through collecting forest produces and activities or jobs related to tourism like guide, watchers, etc., which, in no way harm the ecology.

Figure 4.2 Importance of Forest Dependence

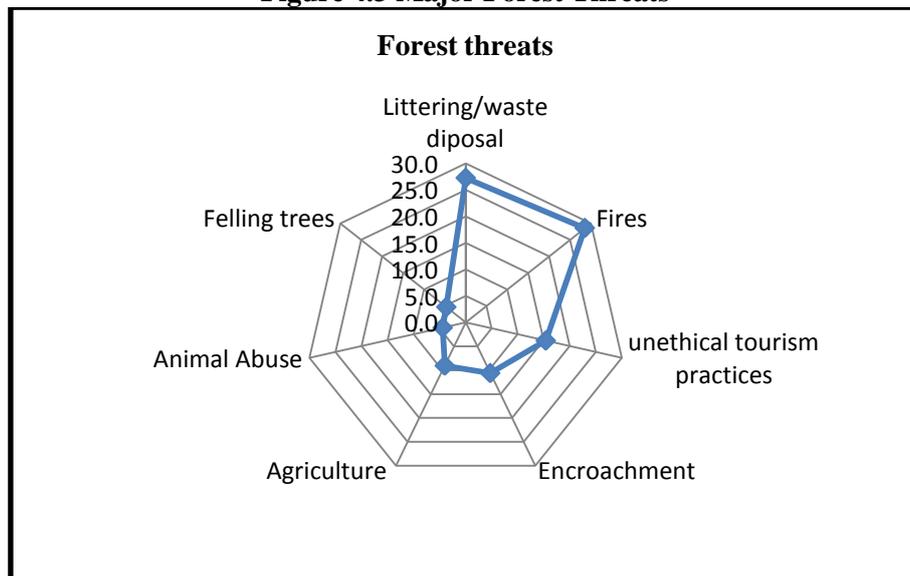


Source: Worked out from the survey data, Appendix 4.1

4.1.2 Major Threat to Forest and Wildlife

Even though wildlife conservation ensures preserving nature for future generations, some loopholes persist in nature protection and management. These are the risk factors/threats that defy the protectors during forest management. Based on the perception of the community members, the major threat to the forest and wild life are littering/waste disposal, fire, unsustainable/unethical tourism practices, encroachment/trespassing into forest land, agriculture in restricted lands, exploitation of wildlife/animals and felling trees. The top three threats identified are (Figure 4.3) fire (28.6 percent), littering/waste disposal (27.3 percent) and unethical tourism practices (15.4 percent).

Figure 4.3 Major Forest Threats



Source: Worked out from the survey data

Regardless of the fact that ecotourism involving local communities has been pivotal in ensuring environment protection and conservation to a certain extent, it is undeniable that some of these above mentioned threats still linger

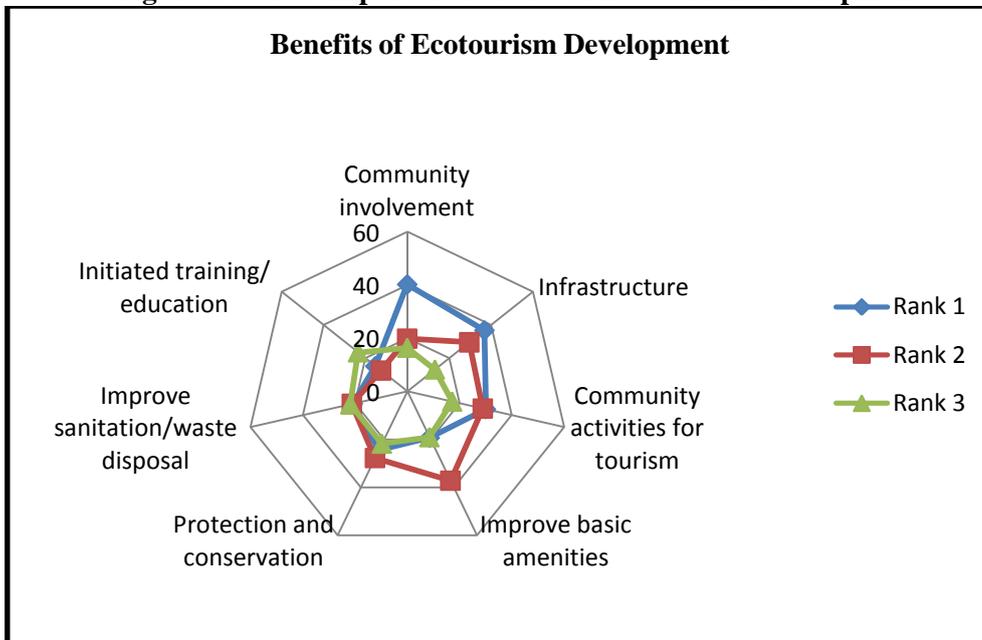
around endangering the flora and fauna of the destinations. Apart from the conservation measures already adopted, the authorities concerned should take necessary and adequate steps to ensure more active participation of the local communities in protection and conservation so as to minimize these threats.

4.1.3 Impact of Community Participating in Ecotourism

4.1.3.1 Benefits of Ecotourism Development

Ranking the community members perception accordingly to the benefits of ecotourism development showed that their major benefits were community involvement, infrastructural facilities, community activities for tourism, improved basic amenities, protection and conservation of the nature, improvement in sanitation/waste disposal facilities, initiated training/education for locals.

Figure 4.4 Most Important Benefits of Ecotourism Development



Source: Worked out from the survey data, Appendix 4.2

Out of these elements, the results (Figure 4.4.) show that community participation, infrastructural facilities like transportation, communications etc and community activities were given the first rank and the second rank highlights the features like improvement of basic amenities including amenities (living pattern, education, welfare, health, etc.), protection and conservation of nature and ecosystem, and improve sanitation/waste disposal facilities was given as preferences.

4.1.3.1.1 Benefits of Ecotourism Based on Factor Analysis

In order to understand the main factors that unveil the benefits of employment under Ecotourism activities, 14 statements (where 1 = strongly agree and 5 = strongly disagree) were valued using the factor analysis. The Cronbach's alpha coefficient indicates high reliability of 0.764 in Table 4.1 since it exceeded the minimum standard of 0.70. The sample adequacy for factor analysis was tested using Kaiser-Meyer-Olkin measure. It measures the strength of the relationship among variables. This measure varies between 0 and 1, and values closer to 1 are better. The test gives a value of 0.773, which is greater than the generally accepted minimum of 0.60, indicating sample adequacy. It also shows that the Bartlett's test is significant (sig. at 0.000), which analyses the hypothesis that the variables subjected to factor analysis are uncorrelated, is rejected with cent percent accuracy. The Chi-Square value indicates that the variables are indeed correlated. This is shown in the Table 4.2.

Table 4.1 Reliability Statistics-Benefits

Cronbach's Alpha	N of Items
.764	14

Table 4.2 KMO and Bartlett's Test-Benefits

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.773
Approx. Chi-Square	2817.121
Bartlett's Test of Sphericity	
df	91
Sig.	.000

The communalities illustrate the proportion of each variable's variance that can be explained by the factors where the variables with high values are well represented and variables with low values are not well represented. It can be seen from the Table 4.3 that about all variables are well represented by the four factors retained by the analysis.

Table 4.3 Communalities-Benefits

	Initial	Extraction
Now I have authority in natural resource management	1.000	.837
it have enhanced me to protect the nature from external exploitation	1.000	.746
Ecotourism provides development of nature and locales	1.000	.583
Market for local products, forest produce	1.000	.493
It increases community development	1.000	.660
Employment in ecotourism have increased my societal value	1.000	.418
My standard of living have improved	1.000	.666
My present employment is more secure and predictable than before	1.000	.682
It provides financial stability of the household	1.000	.584
Ecotourism provides a secured employment and livelihood option	1.000	.697
it have initiated training and empowerment of the locals	1.000	.604
Tourist visiting improved knowledge and communication skills.	1.000	.780
It provides a platform for promoting local art, culture and tradition	1.000	.771
There is development because of tourist visiting	1.000	.140

Extraction Method: Principal Component Analysis.

Table 4.4 shows the total variances explained by the factor analysis. The analysis brought out four factors that accounted for 61.87 percent of the total variance above the Eigen value 1. The remaining factors are insignificant. The Scree plot in Figure 4.5 clearly indicates that out of the four retained factors, most of the variation is explained by a single factor. From the 61.87 variance the first factor explains about 29.4 percent and the second factor explains about 13.93 percent third factor explains 11.01 and fourth factor explains 7.52 of the total variance.

Table 4.4 Total Variance Explained-Benefits

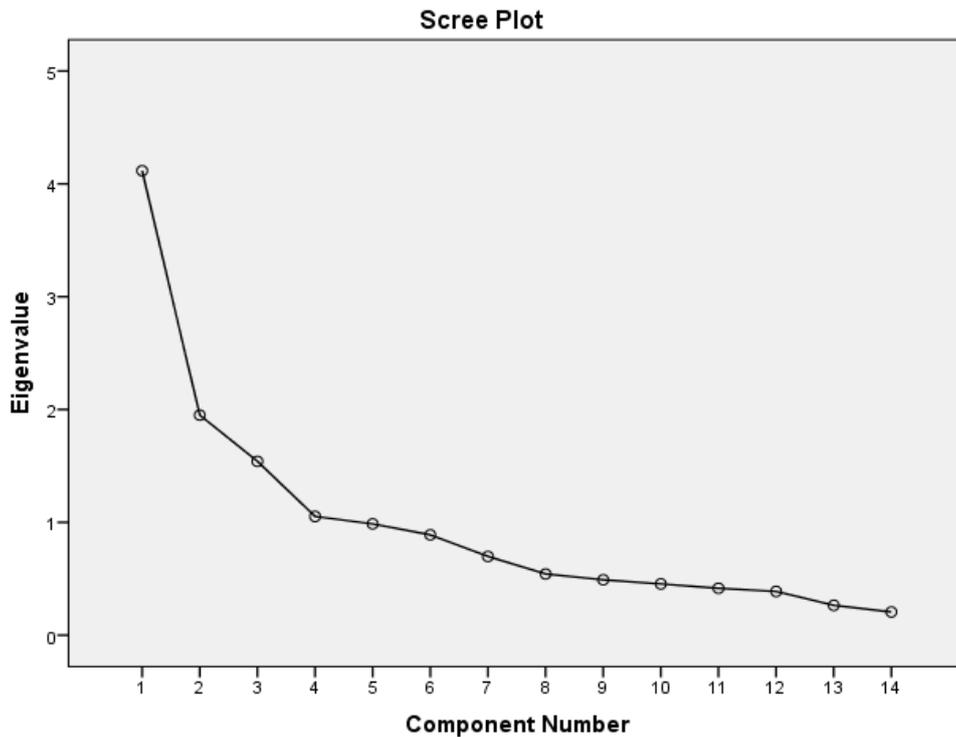
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.117	29.405	29.405	4.117	29.405	29.405
2	1.951	13.933	43.338	1.951	13.933	43.338
3	1.541	11.008	54.346	1.541	11.008	54.346
4	1.053	7.521	61.867	1.053	7.521	61.867
5	.987	7.047	68.914			
6	.889	6.353	75.267			
7	.698	4.987	80.253			
8	.543	3.879	84.132			
9	.491	3.510	87.642			
10	.455	3.248	90.890			
11	.416	2.975	93.865			
12	.388	2.770	96.635			
13	.265	1.893	98.528			
14	.206	1.472	100.000			

Extraction Method: Principal Component Analysis.

In the Component matrix (Table 4.5), the variables are selected based on the factor loadings of 0.450 and above. It can be derived from the factor analysis that the first factor is the “income and livelihood option” of the community members. The majority of the variables have high loadings, which are ‘secured employment and livelihood option’, ‘present employment is more secure and predictable than before’, ‘financial stability of the household’,

‘standard of living have improved’, ‘market for local products, forest produce’, ‘societal value’, ‘community development and empowerment’.

Figure 4.5 Scree Plot-Benefits



The second factor is the environmental factors i.e. the variables ‘authority in natural resource management’, ‘protection of nature from external exploitation, and ‘development of nature and locales. The third one is the advancement factor which indicated that tourist visiting improved their knowledge and communication skills and it also provides a platform for promoting local art, culture and tradition. The last one is overall community development. Even though this factor does not hold high loadings we can summarize that the variables ‘it increases community development’, ‘training and empowerment of the locals’, ‘development of nature and locales’

Table 4.5 Component Matrix^a-Benefits

	Component			
	1	2	3	4
Ecotourism provides a secured employment and livelihood option	.825	-.081	-.089	.036
My present employment is more secure and predictable than before	.792	-.082	-.135	.173
It provides financial stability of the household	.755	.080	-.046	.073
My standard of living have improved	.735	-.173	.074	-.300
Market for local products, forest produce	.689	.043	-.121	.038
Employment in ecotourism have increased my societal value	.633	.095	.061	.071
it increases community development	.580	-.315	-.061	-.469
it have initiated training and empowerment of the locals	.541	-.219	-.154	.490
Now I have authority in natural resource management	.263	.837	.181	-.187
it have enhanced me to protect the nature from external exploitation	.236	.782	.162	-.231
Ecotourism provides development of nature and locales	.109	.589	-.020	.473
Tourist visiting improved knowledge and communication skills.	.162	-.130	.855	.081
It provides a platform for promoting local art, culture and tradition	.115	-.253	.817	.161
There is development because of tourist visiting	-.132	.060	-.062	.340

Extraction Method: Principal Component Analysis.

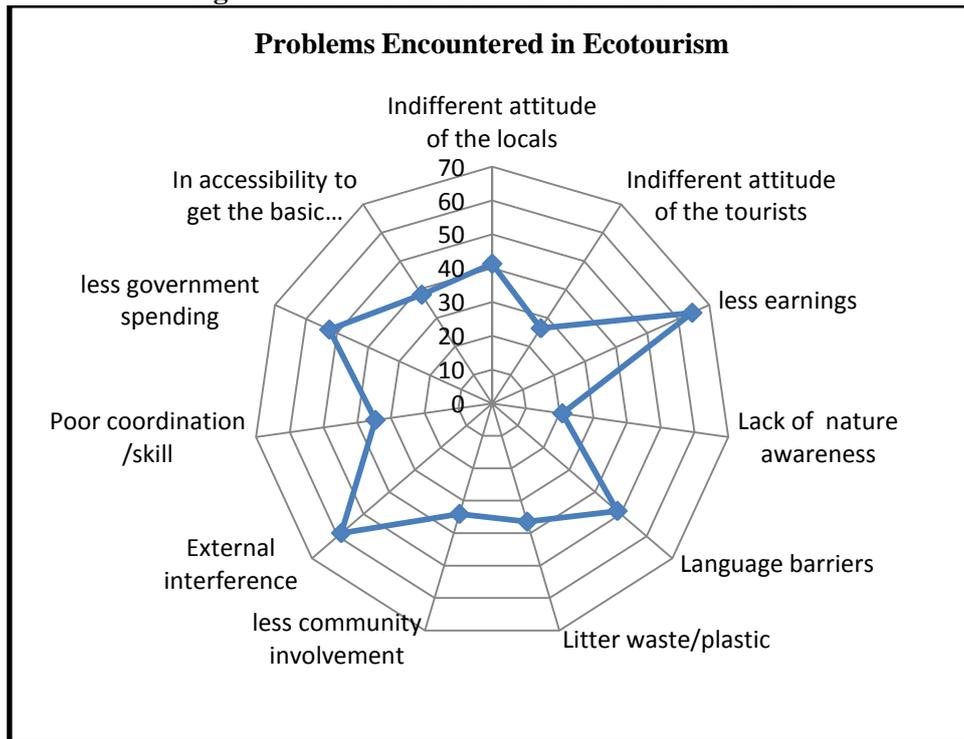
a. 4 components extracted.

4.1.3.2 Problems of Community in Ecotourism Programme

Majority opined that less earning (64.5 percent) is the foremost problem they face as most of the activities related to tourism like guides, selling forest produce, hospitality services, etc. are seasonal in nature. The second problem they face is the interference of external stakeholders (58.6 percent) which is exceeding the carrying capacity and other environmental damages including the littering, encroaching, smuggling etc. Due to its profitable nature, ecotourism activities attract outsiders. This creates conflicts

between the outsiders and insiders (41 percent). Another issue is the inadequacy in government spending (52.5 percent) on tourism development in the area. Most of the local communities engaged in the ecotourism activities belong to the indigenous communities, who find it difficult to comprehend and communicate with the mainstream (48.6 percent). Ecotourism destinations host domestic and foreign tourists from outside Kerala who have diverse culture, languages, lifestyle, etc. Majority of the respondents have stated that they face the issue of language barrier while communicating with tourists and officials. The problems encountered by the local communities are depicted in the Figure 4.6.

Figure 4.6 Problems Encountered in Ecotourism



Source: Worked out from the survey data, Appendix 4.3

4.1.3.2.1 Problems in Ecotourism Based on Factor Analysis

The problem faced by the community members is further analysed using factor analysis. The 13 statements (where 1 = strongly agree and 5 = strongly disagree) were used. In Table 4.6 the Cronbach's alpha coefficient is .766 which indicates a high reliability since the minimum standard is 0.70. The sample adequacy for factor analysis was tested using Kaiser-Meyer-Olkin measure the strength of the relationship among variables. The test gives a value of 0.785, which is greater than the generally accepted minimum of 0.60, indicating sample adequacy (Table 4.7). It also shows that the Bartlett's test is significant (sig. at 0.000), which analyses the hypothesis that the variables subjected to factor analysis are uncorrelated, is rejected with cent percent accuracy. The Chi-Square value indicates that the variables are indeed correlated.

Table 4.6 Reliability Statistics-Problems

Cronbach's Alpha	N of Items
.766	13

Table 4.7 KMO and Bartlett's Test-Problems

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.785	
Approx. Chi-Square	1930.603	
Bartlett's Test of Sphericity	df	78
	Sig.	.000

The communalities is illustrated in the Table 4.8, which indicates the proportion of each variable's variance that can be explained by the factors where the variables with high values are well represented and variables with low values are not well represented.

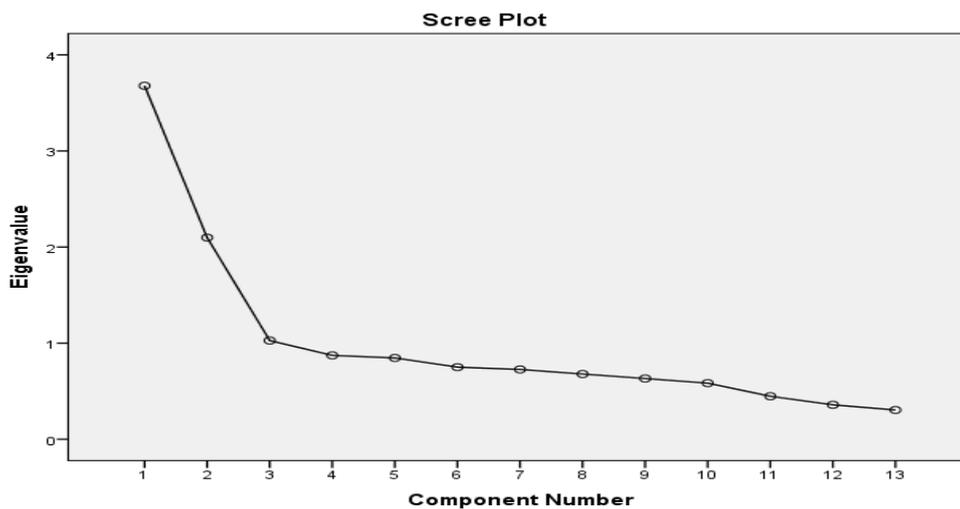
Table 4.8 Communalities-Problems

	Initial	Extraction
There is more litter/waste due to this tourism	1.000	.454
Tourism has negatively impacted the ecology	1.000	.462
It has resulted in overcrowding in wildlife settings	1.000	.467
There is violation of rules and regulations	1.000	.370
The carrying capacity is not maintained	1.000	.708
There is no special training and skill development	1.000	.631
There is no required government fund allocation	1.000	.673
Lack of coordination between the locales and officials	1.000	.754
Lack of sustainable income generation activities	1.000	.589
There is trespassing in the forest areas	1.000	.511
Indifferent attitude of the tourist	1.000	.296
There is exploitation of wildlife resources	1.000	.430
Income from ecotourism is very low	1.000	.459

Extraction Method: Principal Component Analysis.

The total variance explained by the factor analysis is depicted in the Table 4.9. The analysis brought out three factors that accounted for 52.33 percent of the total variance above the Eigen value 1. The Scree plot in Figure 4.7 clearly indicates that out of the three retained factors, most of the variation is explained by a single factor.

Figure 4.7 Scree Plot-Problems



From the 61.87 variance the first factor explains about 28.29 percent and the second factor explains about 16.14 percent third factor explains 7.9 percent of the total variance. The remaining factors are insignificant. In the rotated solution, the percentage of variance is almost equally distributed among the first two factors with the first factor explains 19.7 percent of the total variance and second factor with 18.3 percent of the total variance. The third factor explains 14 percent of the total variance.

Table 4.9 Total Variance Explained-Problems

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.678	28.294	28.294	3.678	28.294	28.294	2.561	19.699	19.699
2	2.098	16.140	44.434	2.098	16.140	44.434	2.380	18.305	38.004
3	1.027	7.899	52.333	1.027	7.899	52.333	1.863	14.329	52.333
4	.872	6.709	59.042						
5	.846	6.504	65.546						
6	.750	5.771	71.317						
7	.726	5.585	76.902						
8	.678	5.215	82.117						
9	.632	4.860	86.978						
10	.584	4.492	91.470						
11	.447	3.438	94.908						
12	.358	2.755	97.662						
13	.304	2.338	100.000						

Extraction Method: Principal Component Analysis.

The rotated component matrix of the factor analysis is shown in the Table 4.10. The factors are explained based on the factor loadings of 0.450 and above. It can be derived from the factor analysis that the first factor is the “Human factor”. As it can be seen that the variables ‘there is more litter/waste due to this tourism’, ‘tourism has negatively impacted the ecology’, ‘it has resulted in overcrowding in wildlife settings’, ‘there is trespassing in the forest areas’, ‘there is violation of rules and regulations’, ‘there is exploitation of

wildlife resources’, ‘indifferent attitude of the tourist’ clearly states that the external i.e. the human interference which makes the majority of the problems associated in the ecotourism programme.

Table 4.10 Rotated Component Matrix^a

	Component		
	1	2	3
There is more litter/waste due to this tourism	.667	.018	.090
Tourism has negatively impacted the ecology	.662	-.131	.079
It has resulted in overcrowding in wildlife settings	.652	-.200	.046
There is trespassing in the forest areas	.567	.258	.351
There is violation of rules and regulations	.531	.281	.096
There is exploitation of wildlife resources	.497	.122	.410
Indifferent attitude of the tourist	.470	.227	.156
Carrying capacity is not maintained	-.010	.830	.136
Lack of coordination between the locales and officials	.237	.824	-.139
There is no required government fund allocation	-.033	.629	.525
There is no special training and skill development	-.122	.583	.526
Lack of sustainable income generation activities	.228	-.004	.733
Income from ecotourism is very low	.240	.080	.628

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

The next factor is the “Policy factor”. The variables like ‘carrying capacity is not maintained’, ‘lack of coordination between the locales and officials’, ‘there is no required government fund allocation’, ‘there is no special training and skill development’ shows the inefficiency of the policy factor in terms of management, coordinating, funding etc. here the community advocates for the stringent policy options for the smooth functioning of these ecotourism destinations. The third and the last factor is the “Income and development factor”. Since the ecotourism involve the arrival of foreign and domestic tourist, skill set and communication is very essential in order to share the knowledge about nature and wildlife. Based on the field inference, even though it provides a secure employment, the income that community used to get will not suffice the basic needs of the households. Hence proper allocation

of fund is also essential to satisfy the needs of the community members and necessities of the tourists.

Table 4.11 Component Transformation Matrix-Problems

Component	1	2	3
1	.619	.551	.560
2	.695	-.716	-.065
3	.365	.429	-.826

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The Component Transformation Matrix is displayed in Table 4.11, which shows the correlations among the components prior to and after rotation

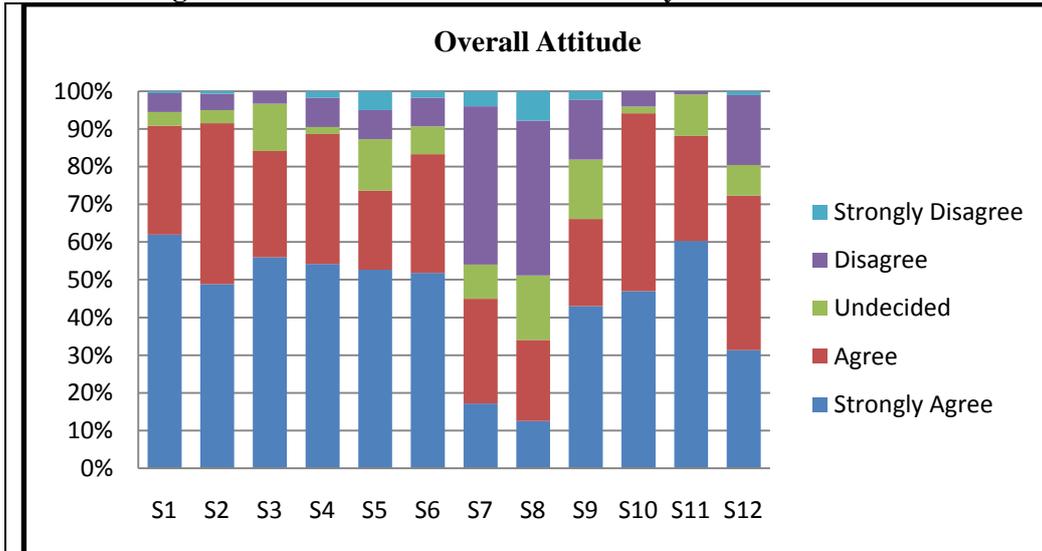
4.1.4.3 Perception of Community Members about Ecotourism Programme

The community members perception is evaluated with respect to 12 factors related to the ecotourism projects in the area. The questions were designed in such a way that the analysis will help us to understand the overall attitude of the community members about the ecotourism. Their opinion was categorized into five point scale viz. strongly agree, agree, undecided, disagree and strongly disagree.

Majority (about 60 percent strongly agree) opined that ecotourism protects the natural resources and the activity should be purely protection oriented rather than money minded followed by the statement ‘income and quality of life has improved’, ‘ecotourism creates new market for our local products’ and ‘more litter/waste in this region due to tourist arrival’ to their area. Another important opinion from the community members is that government should invest more funds in ecotourism projects; more community members should take part in ecotourism and since it is a branch of tourism and people get attracted to the label “Eco” there is overcrowding in these area. The

respondents also suggest for the stringent laws, because of the principle ‘the nature should be used for the future generation’. Hence it should not be exploited, minimize the impact, etc. This is shown in the Figure 4.8.

Figure 4.8 Overall Attitude of Community about Ecotourism



Statements

- S1-Ecotourism development increase protection of natural areas
- S2-Community should get into full time ecotourism
- S3-Ecotourism should be promoted
- S4-Income and quality of life has improved
- S5-Ecotourism creates new market for our local products
- S6-More litter/waste in this region due to tourists
- S7-Ecotourism has negatively impacted the environment
- S8-It has negatively impacted our local culture/values
- S9-Ecotourism is resulting in overcrowding
- S10-More govt. funds to develop and promote tourism
- S11-Protecting environment and natural habitat is more important
- S12-Stricter laws are needed

Source: Worked out from the survey data, Appendix 4.4

4.2 Case Studies

To corroborate the community perception one case study from each region is taken up to illuminate the dynamics of income livelihood and development achieved due to ecotourism activities in a community-specific angle.

Box 4.1 Case Study I– South Zone-Neyyar Wild Life Sanctuary

Neyyar Wild Life Sanctuary

Mr. PK, 42, is SSLC failed belonging to the ST community used to work as an agricultural labourer. Uncertain and low work days culminated in the form of low and unstable earnings. Climatic variation adversely affected his earnings. He has incurred high cost for travel to find work during lean periods. Ecotourism development brought in new and stable employment option to him and now he does not wander for a job. He is presently working as a guide-cum-naturalist at the Neyyar Wildlife Sanctuary. “I am satisfied with this job as I have stable income” he adds. Earlier, during financial emergency, he used to borrow either from private money lenders or from his employer. Now he resorts more to the formal ways such as borrowings from the EDC, where he has to repay lesser amount. Also, his present employment is more secure and predictable than before. He is also employed on a turn basis to control forest fire and also to closely monitor the forests to identify any kind of activity such as poaching, felling of trees, etc., which are potential threats to the biodiversity of the area. He, like others, works in tandem with the forest officials in controlling any kind of illegal activities in the forest area. The local community members recruited in the EDCs is involved in conducting ecotourism activities, controlling forest fire, overall protection of the area, providing hospitality services to the visitors and collecting and selling forest produce to the tourist. Without this present employment option, it would have been very difficult for them to identify a secured job for the financial stability of the household.

Box 4.2 Case Study II – Central Zone - Periyar Tiger Reserve

Periyar Tiger Reserve

Mr. SR, 49, 8th passed belonging to the Scheduled Tribe category is an EDC member at the Periyar Tiger Reserve. He works as a forest watcher protecting and preserving the area. He was earlier involved with a gang

engaged in poaching and illegal logging in and around the forest area. He added that the community members earlier earned their livelihood by collecting and selling minor forest produce like honey, firewood, etc. However, restricting their user rights considerably affected their income and livelihood options, which prompted them to turn towards exploiting forest resources. Even though they got good returns, the fact that these activities are illegal and dangerous always haunted him and his gang. “We were always scared of being caught”. “We always had the ill-feeling of destroying the habitat in which we grew up” he added. This prompted the group to stop poaching activities and to join the group of protectors. This rehabilitation has done wonders to him and his household providing them with a stable and respectful employment option. He is one of the committed persons to protect and preserve the forest and its resources. The cultural interactions with visitors belonging to different states and nationality have also helped a lot in improving his knowledge and communication skills. There has been a considerable decline and poaching and illegal logging with the formulation of EDCs. The case of SR is a classic one of turning from “poacher to protector”.

Box 4.3 Case Study III-North Zone-Parambikulam Tiger Reserve

North Zone-Parambikulam Tiger Reserve

Mr. VJ (ST) aged 43 is a Guide at the Parambikulam Tiger Reserve at Palakkad. He recollects the earlier situation before being an EDC member. Even though the reserve area was a part of Palakkad District, Kerala, the main town accessible to the local communities for an employment option was Pollachi in Tamil Nadu. There was also no stable income and livelihood option available to them due to this geographical isolation. The destination also lacked basic amenities and infrastructure. Safe drinking water was a distant dream for the inhabitants; nor had an easy access to

healthcare and education. Mr. VJ, like other members in the community used to collect forest herbs and honey and sold them to Pollachi, for which he received a nominal amount. He also used to work as a casual labour in Pollachi and nearby places. However, the whole situation changed after being a member of the EDC, which provided him with a secured employment and livelihood option. It also gives him the satisfaction of protecting the nature. “We are the protectors of this land and will never allow anyone to exploit it” he said with confidence and determination. The EDC members make sure that the visitors adhere strictly to the norms and rules. Along with the forest officials, they also keep a close vigil on the elements causing forest fire, engaged in illegal logging, poaching and other illegal activities in the forest area.

This is the case with most of the EDC members and their households in Parambikulam. Serves in the areas like food, hospitality; trekking, accommodation, etc. are managed by the EDC members, most of whom are Scheduled Tribes. The destination has its own water purifying facility, which provides safe drinking water to the visitors as well as to the locals. Their overall lifestyles as well as the living standards have considerably improved due to the ecotourism initiatives. The forest produce like honey and handicrafts as well as other items made from the forest produce are now sold to the tourists at the destination itself for which they get good returns. They also spread awareness about forest conservation and protection to the visitors. Another benefit according to Mr. VJ is the availability of loans and financial assistance at a nominal rate for various household purposes like education, development of basic amenities, etc. which were impossible to obtain before being a member of the EDC.

Section II

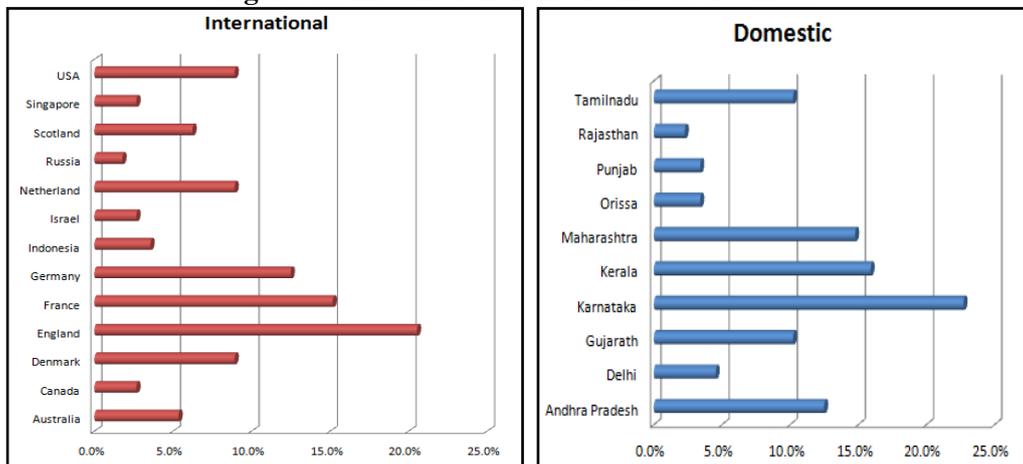
4.3. Tourists Profiles and Approaches towards Ecotourism in Kerala

As per the World Bank (2013) the main comparative advantage of tourism is that the visitor expenditure has a catalytic across the economy in terms of production and employment creation. The livelihood of the dependent community and sustainability of the ecotourism destinations are linked with the activities of the ecotourism and the expenditure of the tourist (Rajasenana and Abraham, 2012). For this reason it is pertinent to capture the prominent attributes of the tourist visiting the ecotourism destinations of Kerala. The socio-demographic and travel behaviour patterns provides a matrix of information enlightening positive attitudes relating to spending pattern (Rajasenana and Ajitkumar, 2004; Zhang and Marcussen, 2007) and revisit intentions of the tourists (Rajasenana, Manaloor and Abraham 2012). Several factors have been identified based on the inference from field survey.

4.3.1 Tourist Profiles and Perception

The profiles provide information on the tourist's demographic characteristics like age, sex, educational qualification and annual income. A sample size of 200 is selected at random for the study from three zones with 88 domestic (44 percent) and 112 international (56 percent) tourists. Figure 4.9 shows that the maximum numbers of domestic tourists arrive in Kerala from other states are Karnataka (22.7 percent), Maharashtra (14.8), Andhra Pradesh (12.5 percent), Tamilnadu (10.2 percent) and Gujarath (10.2 percent) and the rest contribute smaller share. The majority of the international tourists visiting Kerala are from England (20.5 percent), France (15.2 percent) and Germany (12.5 percent) followed by lesser percentages from the remaining.

Figure 4.9 International and Domestic Tourists



Source: Worked out from Survey data, Appendix 4.5

4.3.1.1 Age

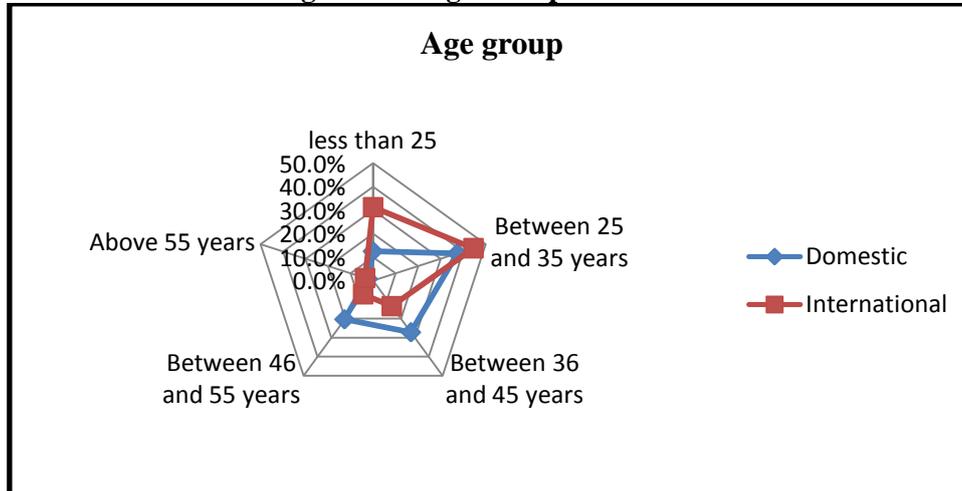
Age is one of the important factors that reveal which groups are much interested in the ecotourism activities like wildlife viewing, trekking, boating, camping etc. Age category of domestic and foreign tourists in Figure 4.10 clearly shows that majority of them falls below the age group of less than 35 years (about 65 percent) where as only 16 percent of tourist are aged above 46 years. But there is a significant difference between the ages of foreign and the domestic tourists (table 4.12) is seen with a p-value below 0.001 in the Chi-Square tests. The age group below 25 years consist of more international tourist (31.3 percent) compared to the proportion of domestic tourists (12.5 percent).

Table 4.12 Chi-Square Tests-Age Group of Tourists

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.001 ^a	4	.000
Likelihood Ratio	20.505	4	.000
Linear-by-Linear Association	13.467	1	.000
N of Valid Cases	200		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.64.

Figure 4.10 Age Group of Tourists



Source: Worked out from Survey data, Appendix 4.6

4.3.1.2 Gender Ratio

Male-female ratio shows that the males constitute 56 percent of the sample and females with 44 percent (Figure 4.11). It is evident that the gender ratio shows a dissimilar result for domestic and international tourists (Table 4.13). In the domestic context, it is seen that 71.6 percent are males and 28.4 percent are females, whereas in international context, the corresponding percentages are 43.8 percent and 56.3 percent respectively. This illustrates that female participation is high in the International sector compared to the domestic sector.

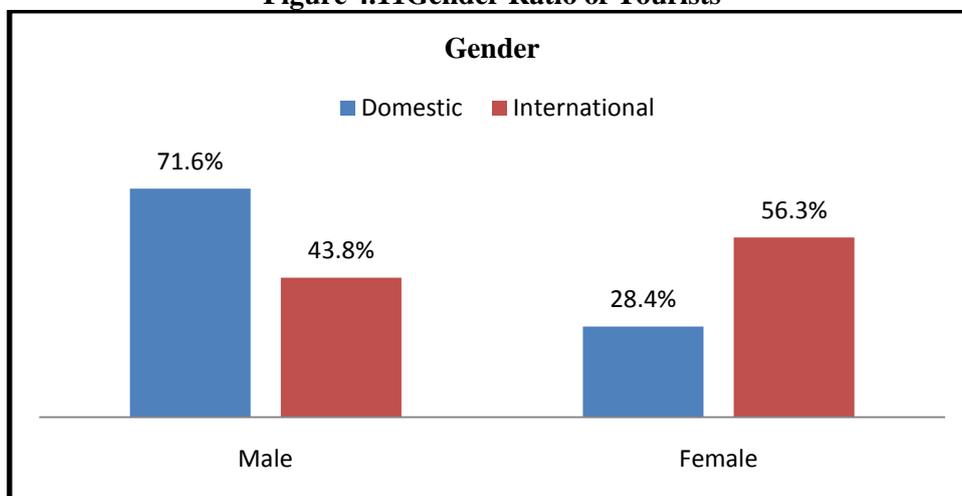
Table 4.13 Chi-Square Tests-Gender Ratio of Tourists

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	15.502 ^a	1	.000		
Continuity Correction ^b	14.393	1	.000		
Likelihood Ratio	15.829	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	15.425	1	.000		
N of Valid Cases	200				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.72.

b. Computed only for a 2x2 table

Figure 4.11 Gender Ratio of Tourists



Source: Worked out from Survey data, Appendix 4.7

4.3.1.3 Educational Qualification

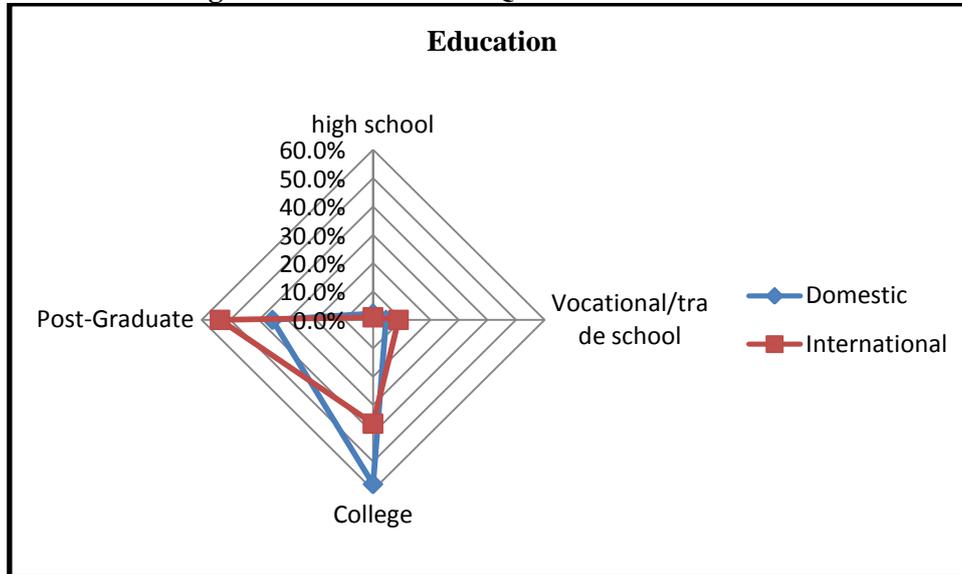
Education is a pertinent factor that equips a person to travel responsibly. Figure 4.12 clearly depicts the fact that the majority of domestic tourists i.e. 58 percent are graduates and 35 percent post graduates. In the case of international tourists, 53.6 percent are postgraduates and 36.6 percent are graduates. This makes clear that the majority of international tourists are post graduates whereas majority of domestic tourists are graduates. The overall result implies that majority of tourist are educationally qualified. The Chi-Square tests also shows that there is significant difference (at p value <0.05) between the education of domestic and International tourists (Table 4.14).

Table 4.14 Chi-Square Tests- Educational Qualification of Tourist

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.505 ^a	3	.015
Likelihood Ratio	10.603	3	.014
Linear-by-Linear Association	2.987	1	.084
N of Valid Cases	200		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.32.

Figure 4.12 Educational Qualification of Tourists



Source: Worked out from Survey data, Appendix 4.8

4.3.1.4 Employment Status

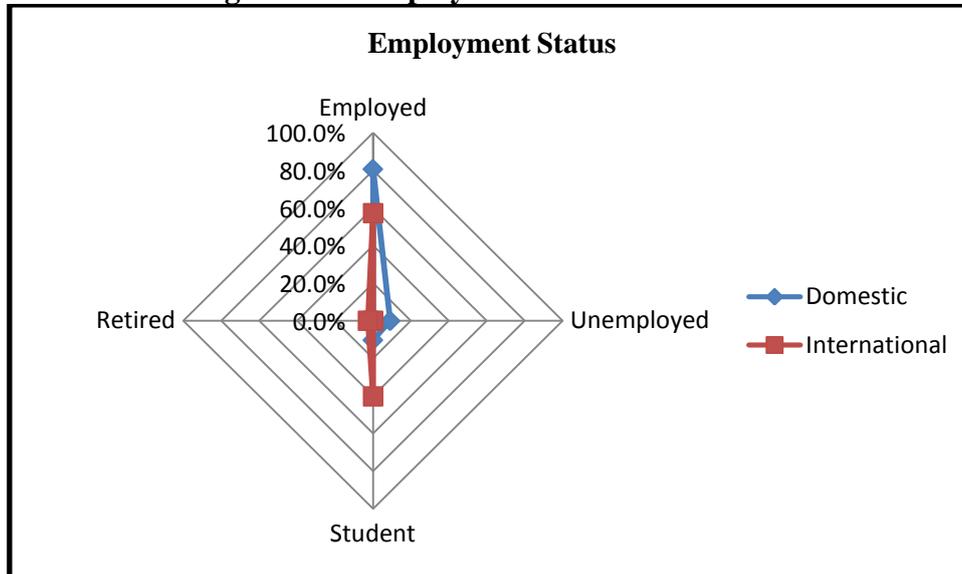
Employment-wise categorization illustrates that 67.5 percent (i.e. 80.7 percent domestic and 57.1 percent international tourists) of the visitors are employed (Figure 4.13). There is significant difference between the employment status of domestic and International tourists (Table 4.15). There is disparity in the percentage of student visitors among domestic (10.2 percent) and international (40.2 percent) tourists. Thus, it may be inferred that the employed and the student categories are keen to visit in the nature based tourism destinations in Kerala.

Table 4.15 Chi-Square Tests Employment Status of Tourists

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.958 ^a	3	.000
Likelihood Ratio	38.925	3	.000
N of Valid Cases	200		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.32.

Figure 4.13 Employment Status of Tourists



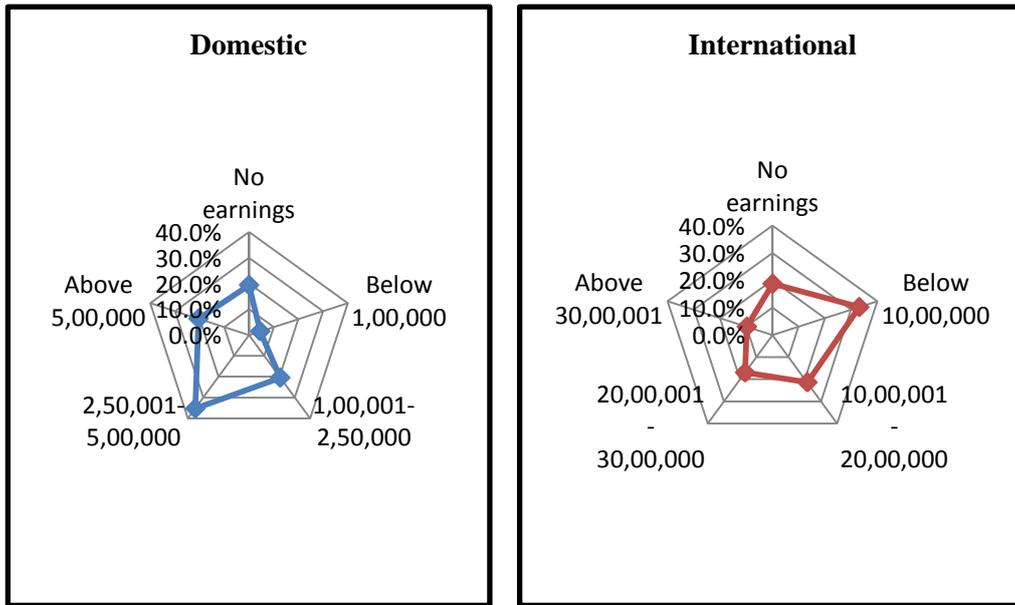
Source: Worked out from Survey data, Appendix 4.9

4.3.1.5 Annual Income

Income is one of the most important demographic characteristics of tourists as it directly influences their expenditure on the ecotourism destinations. The annual income levels are categorized differently for domestic and international tourists as there is substantial difference in their earning pattern. This categorization is based on the income variation between countries and the foreign currencies of international tourists are reported in Indian currency. In Figure 4.14, the majority of the domestic tourists (About 55 percent) are in the income category of Rs. 1 lakhs to Rs. 5 lakhs, whereas majority (54 percent) of international tourists accounted under the income category below Rs. 20 lakhs. The Error bar plot (Figure 4.15) of annual income of tourists shows that there exist significant differences with respect to their income. The no earnings category includes students, unemployed, retired, housewives etc. It demonstrates that there is considerable participation

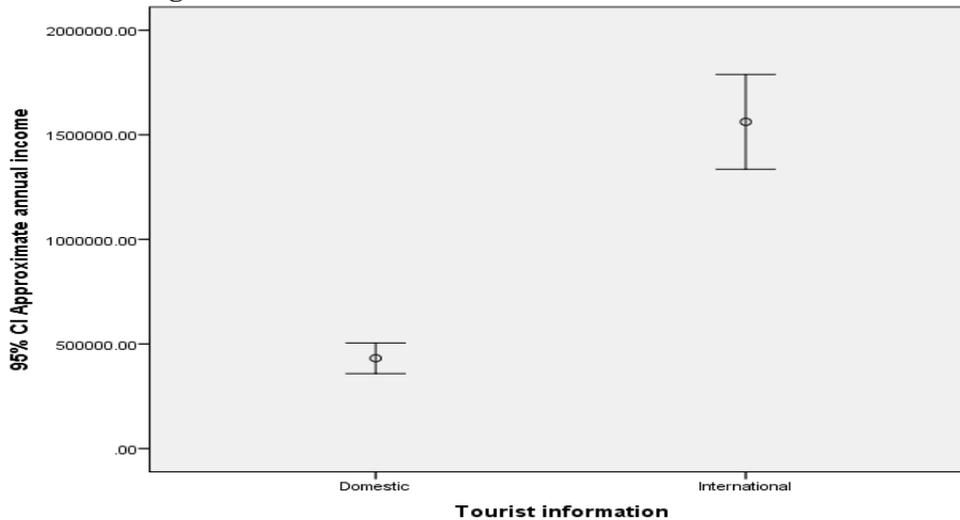
in ecotourism activities across most of the income categories, both in the domestic and international tourist segments.

Figure 4.14 Annual Incomes of Tourists



Source: Worked out from Survey data, Appendix 4.10

Figure 4.15 Error bar Plot Annual Income of Tourists

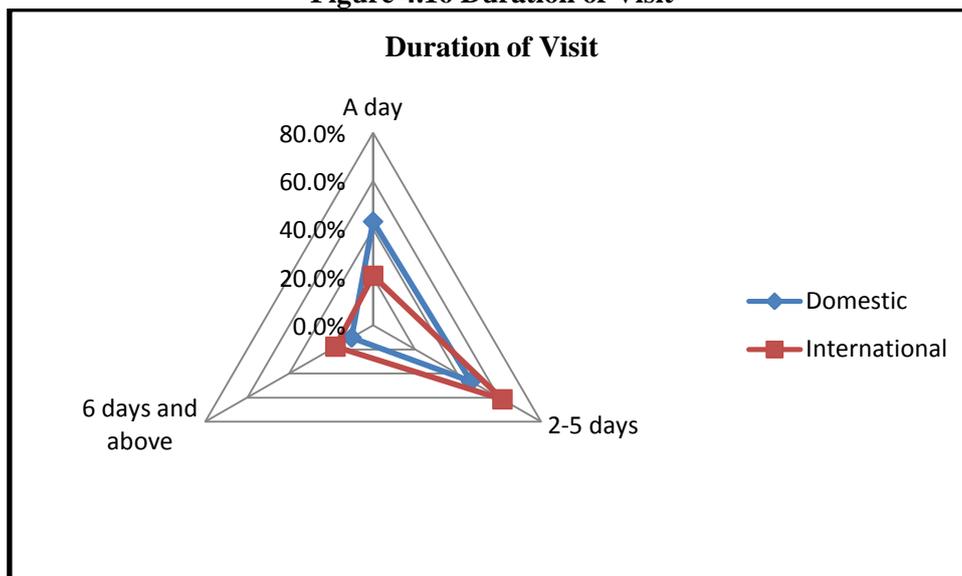


Source: Worked out from Survey data

4.3.1.6 Duration of Visit

The acceptance of any particular destination depends on how long a tourist prefers to stay in that particular destination. It can be inferred from Figure 4.16 that majority of the respondents prefer to spend 2 to 5 days in any destination. In the domestic context, about 46.6 percent stay for 2 to 5 days, 43.2 percent prefer to spend ‘a day’ in any destination and about 10.2 percent of domestic tourists prefer to stay ‘above 6 days’. Majority of international tourists prefer to stay ‘above 6 days’ (61.6 percent) followed by ‘a day’ (20.5 percent) and ‘2 to 5 days’ (17.9 percent)

Figure 4.16 Duration of Visit



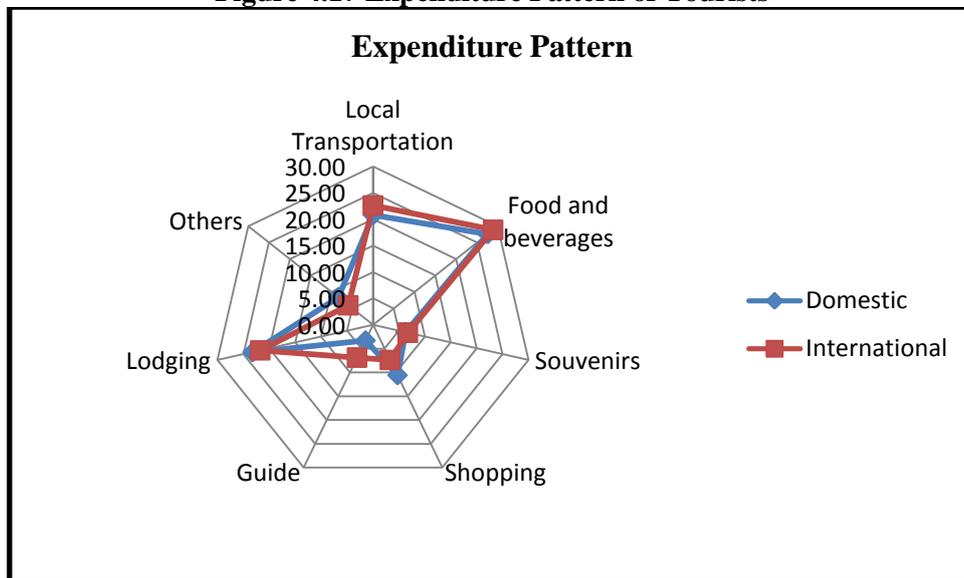
Source: Worked out from Survey data, Appendix 4.11

4.3.1.7 Expenditure

The tourists with different income levels have different structures of consumption basket. The money spends by a tourist will not be used up immediately. It will circulate in the economy. The concept of “the one man’s expenditure is another’s income” states that the consumption will again

become income for some other communities. This means that if tourists spend in any destination, this will generate local income and enhance overall strength of the economy. The tourist expenditure segment are categorized into transportation, food and beverages, souvenir shopping, general shopping, money spend on guide fees, lodging and expenses including entry ticket fees to ecotourism destinations and other miscellaneous expenses.

Figure 4.17 Expenditure Pattern of Tourists



Source: Worked out from Survey data

Figure 4.17 and Table 4.16 show that the major portion of the tourist expenditure is for food and beverages (28.18 percent) followed by lodging (22.47 percent) and transportation (21.68). Domestic tourists spend about 27.52 percent and international tourists spend about 28.84 percent for food and beverages. Lodging and transportation expenses of domestic tourists come about 23 percent and 22 percent whereas the international tourists have to spend about 23 percent to local transportation and 22 percent for lodging. Hence it may be concluded that the tourists have to spend much more on food and refreshment, lodging and transport segments.

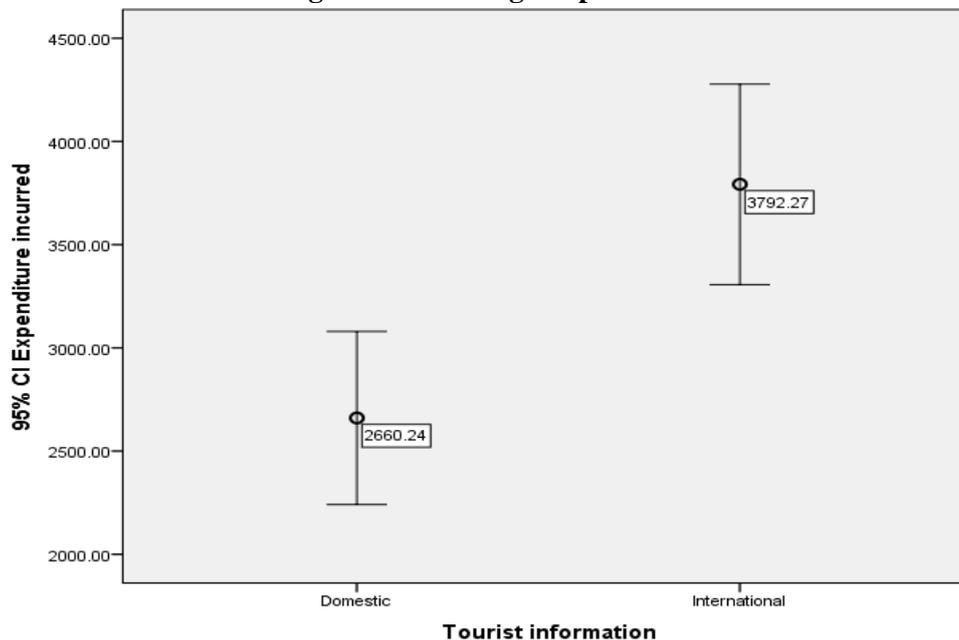
Table 4.16 Expenditure Basket of Tourists

	Local Transport ation	Food and beverages	Souvenirs	Shopping	Guide	Lodging	Others	Total
Domestic	20.78	27.52	6.23	10.57	3.27	23.25	8.38	100
<i>In Rupees</i>	552.71	732.03	165.83	281.18	87.04	618.43	223.01	2660.24
International	22.59	28.84	6.68	7.37	6.88	21.70	5.94	100
<i>In Rupees</i>	856.55	1093.84	253.49	279.38	260.96	822.96	225.09	3792.27
Total	21.68	28.18	6.46	8.97	5.08	22.47	7.16	100

Source: Worked out from Survey data

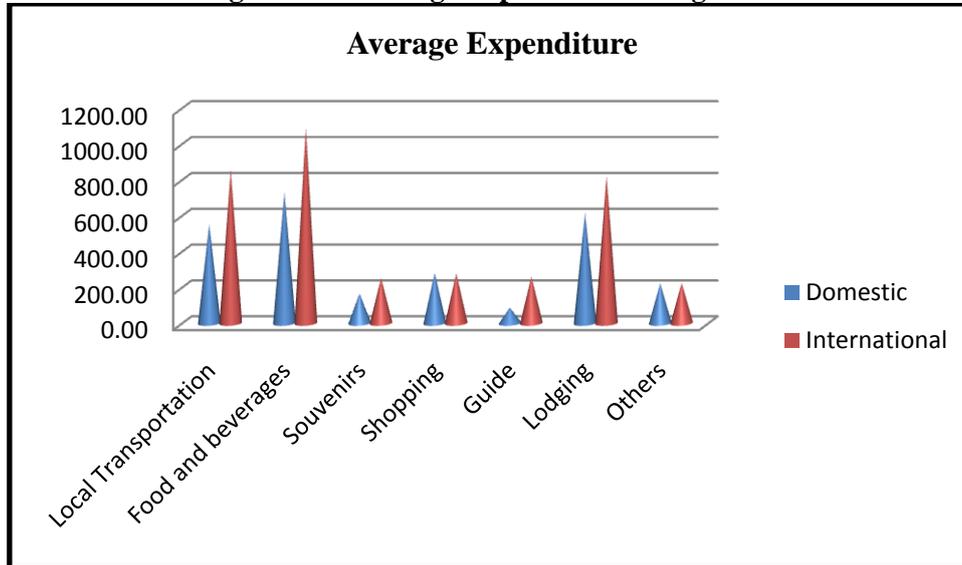
Figure 4.18 makes clear that the average expenditure of domestic tourists is about Rs. 2660 and international tourists Rs.3792. The segments wise average expenses were also identified in the Table 4.16 and Figure 4.19. It can be seen that international tourist have to spend much more than that of domestic tourists.

Figure 4.18 Average Expenditure



Source: Worked out from Survey data

Figure 4.19 Average Expenditure of Segments



Source: Worked out from Survey data

In order to test the null hypothesis H_0 : the distribution of expenditure incurred is same across the tourist category; Mann-Whitney U test is employed. The test result rejects the null hypothesis since the significance level is less than 0.05 (Table 4.17).

Table 4.17 Mann-Whitney U test-Expenditure incurred

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Expenditure incurred is the same across categories of Tourist .	Independent-Samples Mann-Whitney U Test	.002	Reject the null hypothesis.

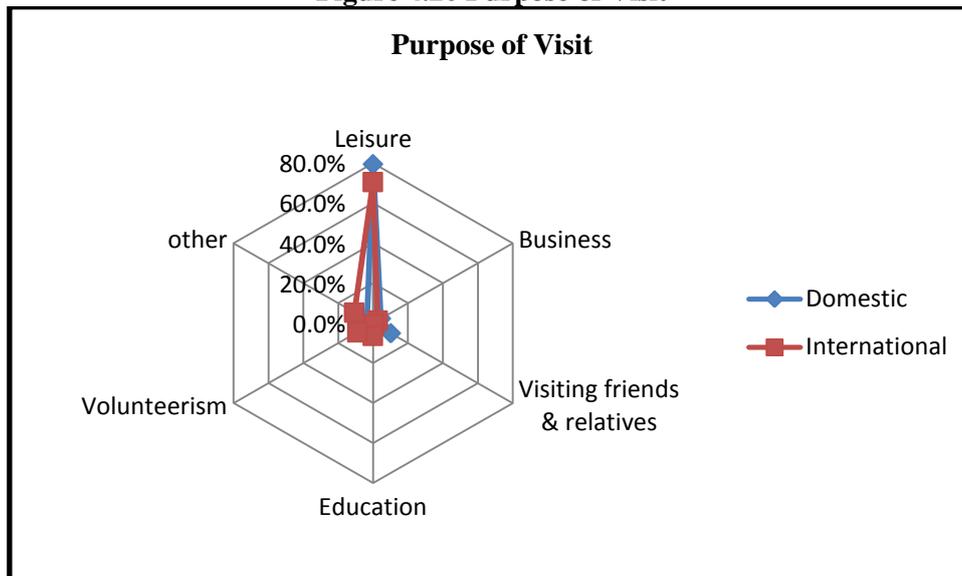
Asymptotic significances are displayed. The significance level is .05.

4.3.1.8 Purpose of Visiting

The purposes of visit to Kerala is enlisted as leisure, business related activities, visiting friends/relatives, educational purposes, volunteerism *inter alia*

enjoying unseen destinations, exercise adventure tourism etc. The main purpose for which the tourist visits is for leisure (74.5 percent). 79.5 percent of the domestic and 70.5 percent of the international tourists have given this preference (Figure 4.20).

Figure 4.20 Purpose of Visit



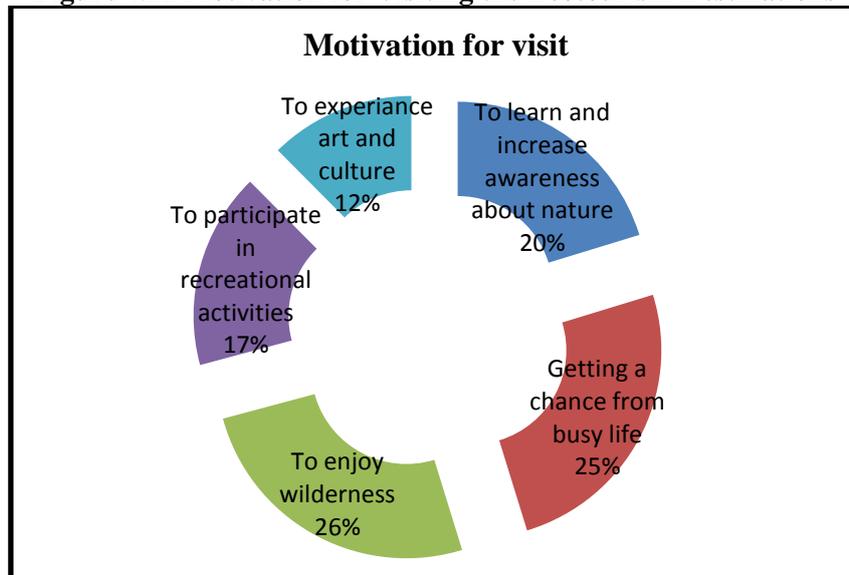
Source: Worked out from Survey data, Appendix 4.12

4.3.1.9 Motivations

Motivation is another prominent factor that decides the behavior of tourists. It determines the choice of travel and holiday, in a certain destination, at a certain period in time (Mahika, 2011). Pearce et al. (1998) suggest that motivation for visiting ecotourism destinations works in the form of global sets of connections of biological and cultural forces which give value and direction to travel choices, behavior and experience. Motivation sets peoples goals, travel choices and behavior, which in turn influences peoples expectation and determine the perception of experiences (Pasca, 2011). Mansfeld (1992) argues that there is a strong link between travel motivations

and destination choice. Motivation is therefore considered to be a factor in satisfaction formation (Gnoth, 1997).

Figure 4.21 Motivation for Visiting the Ecotourism Destinations



Source: Worked out from Survey data, calculated from Appendix 4.13

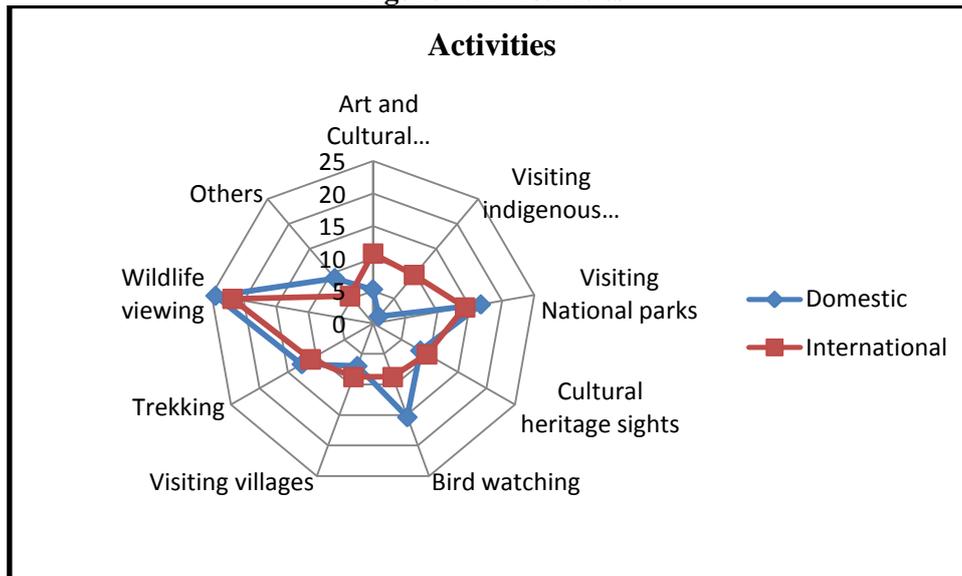
Majority of tourists (Figure 4.21) have strongly claimed that their motivation is to enjoy wilderness (26 percent) followed by break from busy life (25 percent), to learn and increase aware of nature (20 percent), to participate in recreational activities (17 percent) and to experience art and culture (12 percent). This implies that more priority is given to rest and relax in pleasant settings.

4.3.1.10 Activities

Majority of the tourists (24 percent of domestic and 22 of international tourist) stated that their inspiration to visit Kerala is to take part in the activities like wildlife viewing, visiting national parks and participate in other recreational activities etc (Figure 4.22). A few from the international tourist have showed interest in art and culture and visiting indigenous population.

Hence the main activities of the ecotourism destination are, to experience the environment, to rest and relax in pleasant settings, to experience the art and culture, to pursue special interests/skills etc.

Figure 4.22 Activities

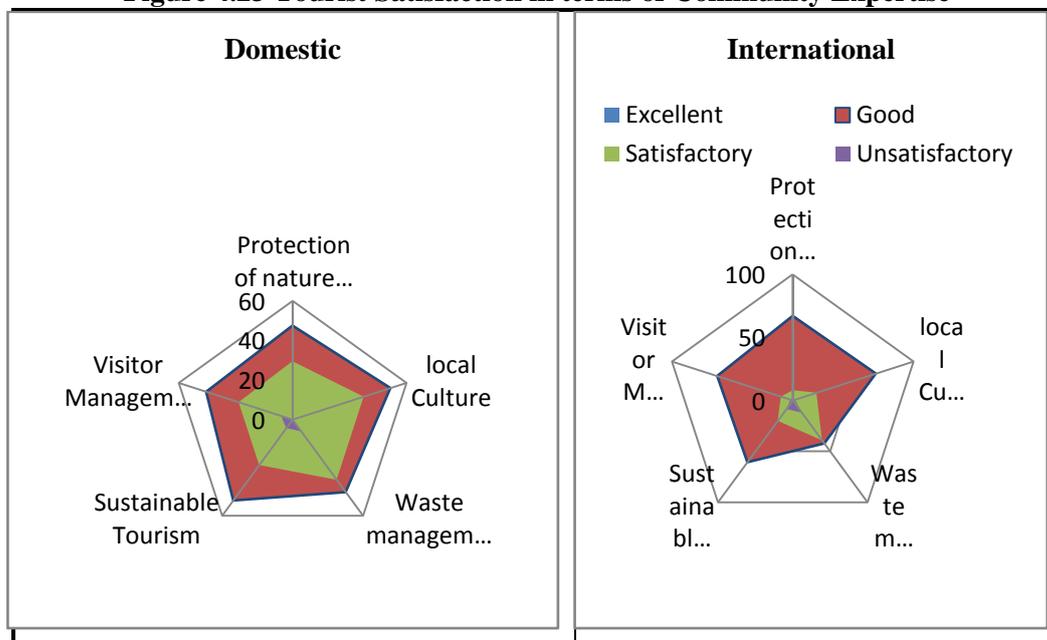


Source: Worked out from Survey data, Appendix 4.14

4.3.1.11 Tourist Satisfaction

Satisfaction is the main attribute in accepting any destination. Satisfaction of the tourists about a destination acts as a key element in the promotion and marketing of that destination (Kasim and Ngowsiri 2011). A tourist is said to be satisfied when his purpose, motivation and expectations meet with the service they received and impression they derives from any destination. Figure 4.23 gives the multi-level satisfaction of both domestic and international tourist about the service availed from the local communities. It shows the fact that the visitors have a good opinion about the communities' knowledge on natural environment and wildlife, visitor management, information on local culture, waste management, and sustainable tourism.

Figure 4.23 Tourist Satisfaction in terms of Community Expertise



Source: Worked out from the survey data, Appendix 4.15

4.3.1.11.1 Tourist’s Satisfaction about the Ecotourism Programme

In order to reveal the overall impression of the tourist about the destination and the satisfaction they received from the facilities/services available at the destinations, a set of 14 variables were identified based on literature scan and field experience. To identify the significant factors that emphasize the tourist impression and satisfaction connecting the ecotourism destinations in Kerala, an empirical summarization method using factor analysis based on principal component extraction method was attempted. The Cronbach’s alpha coefficient (0.849) in Table 4.18 indicates high reliability since it has exceeded the minimum standard of 0.70. The sample adequacy for factor analysis was tested using Kaiser-Meyer-Olkin measure. It measures the strength of the relationship among variables. This measure varies between 0 and 1, and values closer to 1 are better. The test (Table 4.19) gives a value of

0.733, which is greater than the generally accepted minimum of 0.60, indicating sample adequacy. It also shows that the Bartlett's test is significant (sig. at 0.000), which analyses the hypothesis that the variables subjected to factor analysis are uncorrelated, is rejected with cent percent accuracy. The Chi-Square value indicates that the variables are indeed correlated.

Table 4.18 Reliability Statistics-Satisfaction

Cronbach's Alpha	N of Items
.850	14

Table 4.19 KMO and Bartlett's Test-Tourist Satisfaction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.749
Approx. Chi-Square	1177.783
Bartlett's Test of Sphericity df	91
Sig.	.000

Table 4.20 Communalities- Tourist Satisfaction

	Initial	Extraction
Food	1.000	.790
Accommodation	1.000	.651
Sanitation facilities	1.000	.634
Staffs skills and activities	1.000	.410
Diversity of wildlife	1.000	.722
Interpretation of local/tribal culture	1.000	.627
Variety of ecotourism activities	1.000	.700
Availability of local handicrafts	1.000	.647
Facilities to children	1.000	.693
Shopping opportunities	1.000	.795
Leisure activities	1.000	.665
Convenience, access and telecommunication	1.000	.641
Other amenities	1.000	.845
Helpful police services	1.000	.623

Extraction Method: Principal Component Analysis.

The communalities illustrate the proportion of each variable's variance that can be explained by the factors where the variables with high values are well

represented and variables with low values are not well represented. It can be seen from the Table 4.20 that all variables are well represented by the five factors retained by the analysis.

Table 4.21 Total Variance Explained- Tourist Satisfaction

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.886	34.897	34.897	4.886	34.897	34.897
2	2.120	15.141	50.038	2.120	15.141	50.038
3	1.318	9.413	59.452	1.318	9.413	59.452
4	1.118	7.989	67.441	1.118	7.989	67.441
5	.891	6.366	73.807			
6	.735	5.252	79.059			
7	.664	4.741	83.800			
8	.553	3.953	87.753			
9	.404	2.889	90.642			
10	.393	2.808	93.451			
11	.288	2.054	95.504			
12	.258	1.839	97.344			
13	.212	1.516	98.860			
14	.160	1.140	100.000			

Extraction Method: Principal Component Analysis.

Table 4.21 shows the total variances explained by the factor analysis. The analysis brought out four factors that accounted for 67.44 percent of the total variance above the Eigen value 1. The remaining factors are insignificant. The Scree plot in Figure 4.24 clearly indicates that out of the four retained factors, most of the variation is explained by a single factor. From the 67.44 percent variance, the first factor explains about 34.9 percent and the second factor explains about 15.14 percent of variance which constitute 50.04 percent. The third and fourth factors have almost equal contribution in explaining the variation.

Figure 4.24 Scree Plot-Tourist Satisfaction

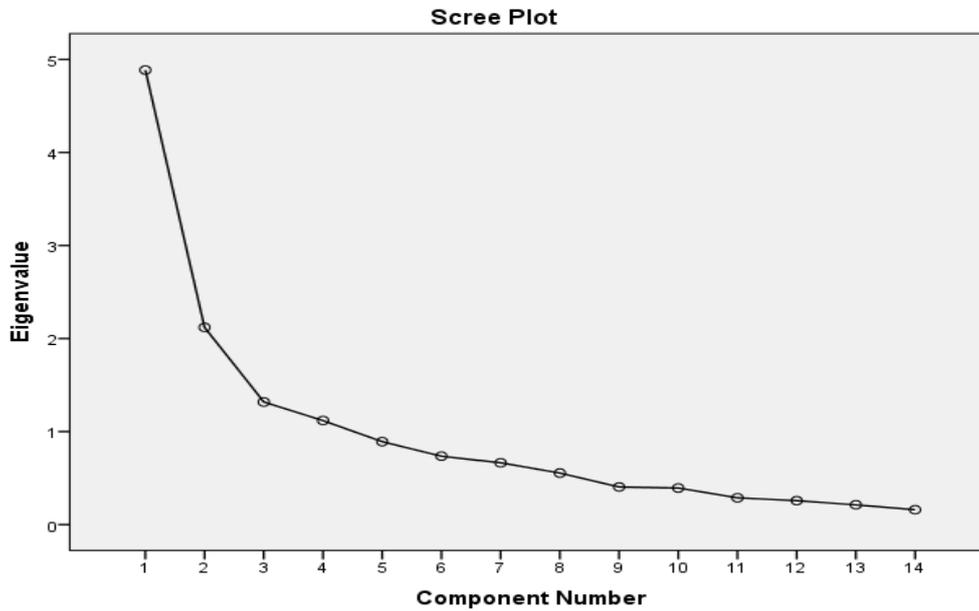


Table 4.22 Component Matrix^a- Tourist Satisfaction

	Component			
	1	2	3	4
Leisure activities	.800	-.014	.143	.063
Diversity of wildlife	.715	.452	.042	.071
Facilities to children	.715	.016	.319	-.283
Shopping opportunities	.714	-.238	-.262	-.400
Availability of local handicrafts	.689	-.235	-.333	-.082
Convenience, access and telecommunication	.673	-.122	-.212	-.358
Helpful police services	.662	-.412	.120	.021
Interpretation of local/tribal culture	.646	-.307	-.120	.318
Food	.359	.787	-.185	-.084
Accommodation	.345	.668	-.290	-.045
Sanitation facilities	.411	.513	-.129	.431
Variety of ecotourism activities	.400	.249	.691	.000
Staffs skills and activities	.256	-.111	.571	-.078
Other amenities	.538	.349	-.034	.658

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

In the Component matrix (Table 4.22), the variables are selected based on the factor loadings of 0.5 and above. The variables leisure activities, diversity of wildlife, facilities to children, shopping opportunities, availability of local handicrafts, convenience, access and telecommunication, safety factor (helpful police services) and interpretation of local/tribal culture are the biggest contributors to the first factor with a factor loadings above 0.6. Hence it can be surmised that “easy access to basic facilities” at the destination is the major factors that shape the perception of tourists’ about their satisfaction. Since, the tourists visiting these destinations individually, with friends and families; and there variety of facilities for them, the ecotourism destinations of Kerala can hold the potential to be marketed as ‘family hideouts’.

The second factor consisted of the variables food, accommodation and the availability of sanitation facilities. Therefore it can be derived that the second underlying factor is the availability of “basic necessities” at the destination. The third factor holds the variables variety of ecotourism activities and staff skill which can be called as “community based ecotourism”. The skill and the activities of the communities in the destinations are highly rated the tourists since they are the care takers of the ecotourism activities. The last factor is the “other amenities” at the ecotourism destinations. Since some of the activities performed under the ecotourism require protective gears and equipments. The tourists have claimed that they are satisfied with these amenities of the ecotourism destinations.

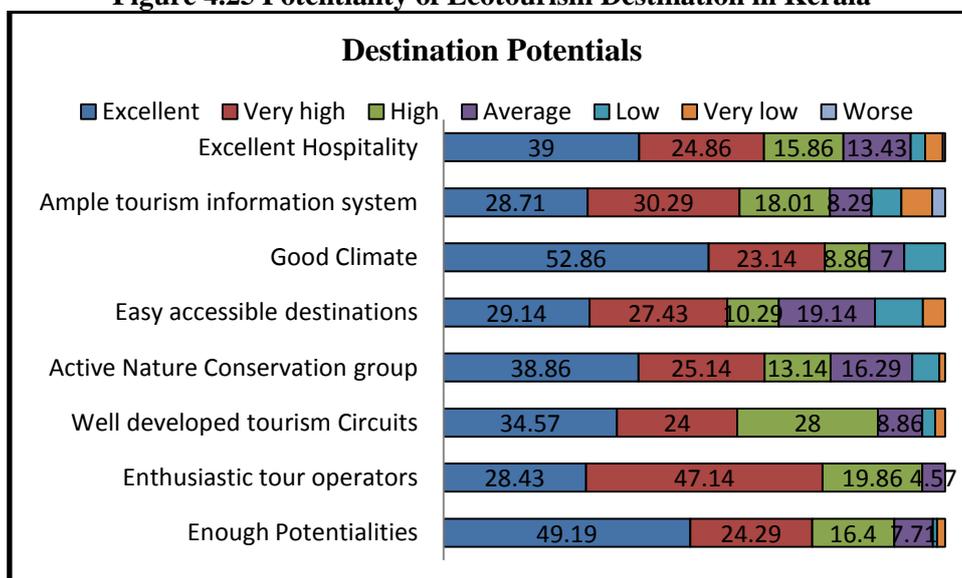
The satisfaction of tourists about the overall services and benefits from the ecotourism destinations in Kerala shows that most of the factors have been highly rated by the tourists and overall they are satisfied by the amenities

provided at the destination. This reveals that Kerala has positioned its ecotourism destinations based on visitor satisfaction.

4.3.1.12 Acceptance of Kerala as a Potential Ecotourism Destination

Accepting Kerala’s ecotourism destination are depending upon the attributes like potential of the destination, enthusiasm of tour operators towards the ecotourism destination, tourism circuit, active conservation groups, accessibility, climate, tourism information system and hospitality. These attributes were put in a 7 point scale ranging from excellent to worse. Based on the perception of the tourists, it can be inferred that all parameters got excellent and very high scores (Figure 4.25). Thus the tourists have acclaimed that the ecotourism destinations in Kerala have potential and highly enthusiastic tour operators, well developed tourism circuits, active nature conservation groups, easy accessibility, good climate, ample information systems and excellent hospitality.

Figure 4.25 Potentiality of Ecotourism Destination in Kerala



Source: Survey data

4.3.1.13 Tourist Perception on Revisit Intention

The Post-trip attributes like satisfaction, acceptance and intentions to return show that the destinations have significant potential that can help communities in terms of income and employment generation (Rajasenan, Manaloor and Abraham, 2013). After evaluating the perception of the tourists regarding their satisfaction and acceptance of ecotourism destinations in Kerala, the revisit intention is further analysed using a logistic regression. The pertinent variables that influence the revisit decision attributes are food and accommodation, safety and security, duration of stay, cleanliness of places, climate, expenditure of tourists, convenience and access, and shopping opportunities are taken into consideration. The model estimates regression coefficients that can be measured as the rate of change in the “log odds” as X changes. The calculated exp (B) is the expected effect of the independent variable on the “odds ratio”, which is the probability of the event divided by the probability of the non-event and they are in log-odds units and the prediction equation is:

$$\log(p/1-p) = b_0 + b_1*x_1 + b_2*x_2 + b_3*x_3 + b_4*x_4 + b_5*x_5 + b_6*x_6 + b_7*x_7 + b_8*x_8$$

Where, p is the probability of being in honors composition.

The Hosmer and Lemeshow is a test for the overall fit of the model. Because the p-value (0.243) is higher than the significance level (5 percent), we conclude than the model fits the observed dataset (Table 4.23).

Table 4.23 Hosmer and Lemeshow Test-Revisit

Step	Chi-square	df	Sig.
1	7.927	6	.243

Table 4.24 Model Summary-Revisit

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	105.884 ^a	.133	.271

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

The -2 Log Likelihood Statistics (105.884) measures how poorly the model predicts the decision (Table 4.24). The smaller the statistics better the model. The Cox and Snell R Square and Nagelkerke R Square are pseudo R-squares. Cox and Snell R Square cannot reach a maximum value of 1 where as Nagelkerke R Square can reach a maximum of 1.

Table 4.25 Classification Table^{a,b}-Revisit

Observed			Predicted		
			Revisit		Percentage Correct
			no	yes	
Step 0 ^{a,b}	Revisit	No	0	21	.0
		Yes	0	179	100.0
	Overall Percentage				89.5
Step 1 ^b	Revisit	no	6	15	28.6
		yes	1	178	99.4
	Overall Percentage				92.0

a. Constant is included in the model.

b. The cut value is .500

The classification Table 4.25 shows the overall percent of cases that are correctly predicted by the model. It is clearly depicted in the Table 4.25 that the percentage has increased from (89.5 percent) the constant model to (92 percent) the full model.

Assuming that the desired significance level is at 0.1 (ie10 percent) the attributes like food and accommodation, safety and security, duration of stay and climate positively influences the decision making, whereas cleanliness of places have a negative influence on the decision making (Table 4.26).

Table 4.26 Tourist preference about Revisit Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
FoodAccommodation	1.780	.844	4.455	1	.035	5.932
SafetySecurity	1.593	.697	5.224	1	.022	4.921
DurationStay	1.248	.732	2.909	1	.088	3.485
Cleanliness	-1.166	.578	4.066	1	.044	.311
Step 1 ^a Climate	2.181	1.143	3.641	1	.056	8.856
Expenditure	-1.179	1.089	1.171	1	.279	.308
AccessConvien	-1.656	1.318	1.578	1	.209	.191
Shopping	-.592	.665	.793	1	.373	.553
Constant	1.177	1.718	.469	1	.493	3.245

a. Variable(s) entered on step 1: FoodAccommodation, SafetySecurity, DurationStay, Cleanliness, Climate, Expenditure, AccessConvien, Shopping.

The fitted logistic regression equation is

$$\log(p/1-p) = 1.177 + 1.780*\text{Food and Accommodation} + 1.593*\text{Safety and Security} + 1.248*\text{Duration of Stay} - 1.166*\text{Cleanliness of place} + 2.181*\text{Climate} - 1.179*\text{Expenditure} - 1.656*\text{Convenience and Access} - 0.592*\text{Shopping}$$

The overall analysis makes it clear that majority are very much interested to re-visit ecotourism destinations in the state. Since any visit to natural areas is subject to strict rules and regulations, adhering to carrying capacity guidelines and stringent waste management practices, some of the tourists may fail to accept these legal frameworks and hence will not prefer to visit again to these destinations.

4.4 SWOT Analysis for Ecotourism in Kerala

SWOT analysis is a foundation for the development of a tourist destination's marketing plan (Briggs, 2001). Based on the field inference and the qualitative information's gathered from the Focused Group Discussions a SWOT framework is developed. The SWOT framework observes the positive and negative factors that have implications in the promotion and development of ecotourism destinations in Kerala. Positive factors comprises of strengths and opportunities whereas weaknesses and threats indicates negative or harmful effects. Any factor that is advantageous to competition represents strength and on the opposing side, disadvantageous factors are weakness. An opportunity is the desirable gathering of environmental factors and a threat is the unfavorable development of the environment, which negatively affects the destination (Stapleton and Thomas, 1998). Once a SWOT analysis is conducted, the outcome has to be integrated into the marketing plan. Strengths and opportunities needs to be exploited in the most efficient way and weaknesses and threats needs to be minimized to the highest possible degree.

Ecotourism in Kerala is one of the fastest-growing tourism segments that need special attention. Success of ecotourism destinations in Kerala are influenced by infrastructural, services, safety, necessities, cost and natural factors that reflect its overall demand. In order to situate the current scenario of ecotourism in Kerala, it is important to evaluate the strengths, weaknesses, opportunities and threats. The SWOT framework observes the positive and negative factors that have implications in the promotion and development of ecotourism destinations. The strength, weakness, opportunities and threats which have been identified based on the Survey conducted among the community members and tourists is shown Table 4.27.

Table 4.27 SWOT Analysis for Ecotourism destinations in Kerala

<p>STRENGTHS</p> <ul style="list-style-type: none"> • Rich biodiversity and scenic beauty • Wide expanse of forest areas and nature and recreational parks: • Variety in flora and fauna in the ecotourism destinations • Destinations are suited for various adventure activities. • Resources and facilities for education, interpretation and awareness • Existence of the tourism facilitators • Existence of the infrastructure on natural resource • Authentic and rich cultural structure in forested area • Labour capacity which has well knowledge needed for ecotourism activities can be employed in ecotourism at local level • Hospitality nature of local population • Participatory Activity of ecotourism • Kerala contains many unexplored regions 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • Insufficient experience on natural resource for tourism facilitators • Low cooperation's among tourism agencies and forest resource managers • Criteria and planning problems in ecotourism planning concerning its social, cultural and ecological aspects • Low interest to improve decision models on ecotourism planning • Insufficient experience and interest of the forest villagers to jobs out of the timber production • Inadequacy of transport facilities • Funds constraining the development of regions. • Inadequacy of information channels. • Overcrowding of popular tourist centers. • Lack of proper connectivity between eco tourist points • Inadequacy of marketing. • Lack of adequate infrastructural support.
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • Growth of ecotourism industry • Tourism by forest conservation. • Rising consciousness for environmental protection and value for ecosystem conservation and on carrying capacity issues. • New job and income possibilities generated because of ecotourism • To improve the awareness on nature conservation in local and cultural level • New financial sources for protection, preservation and conservation of natural areas 	<p>THREATS</p> <ul style="list-style-type: none"> • Increase in the volume of tourists causing environment damage like littering of waste etc • Depletion of natural resources in an irreversible manner. • Transformation of the ecotourism from nature friendship activities to a commercial product purely for profit making. • Danger to the already fragile ecosystem. • Rise in human activity i.e. littering of waste, encroachment and noise pollution. • Stiff competition from other Indian states • Increase in the flow of tourist influencing local culture fabric.

Chapter 4 has captured well the perception of local communities and tourists about ecotourism development and its interrelationships. The community members have benefitted immensely from ecotourism activities. The tourists have shown positive attitude towards revisiting the ecotourism destinations or will suggest these destinations to their friends or relatives. This shows the importance and potentiality of the ecotourism destinations of Kerala. This will positively influence the community level by providing sufficient income and livelihood options in ecotourism and allied activities. Hence, it offers infrastructure coupled with proper marketing strategy to the policy makers in developing Kerala a precious ecotourism destination. The SWOT analysis developed for ecotourism in Kerala also gives promising results with greater potential and sustainable development.

Chapter 5 Ecotourism and Inclusive Development

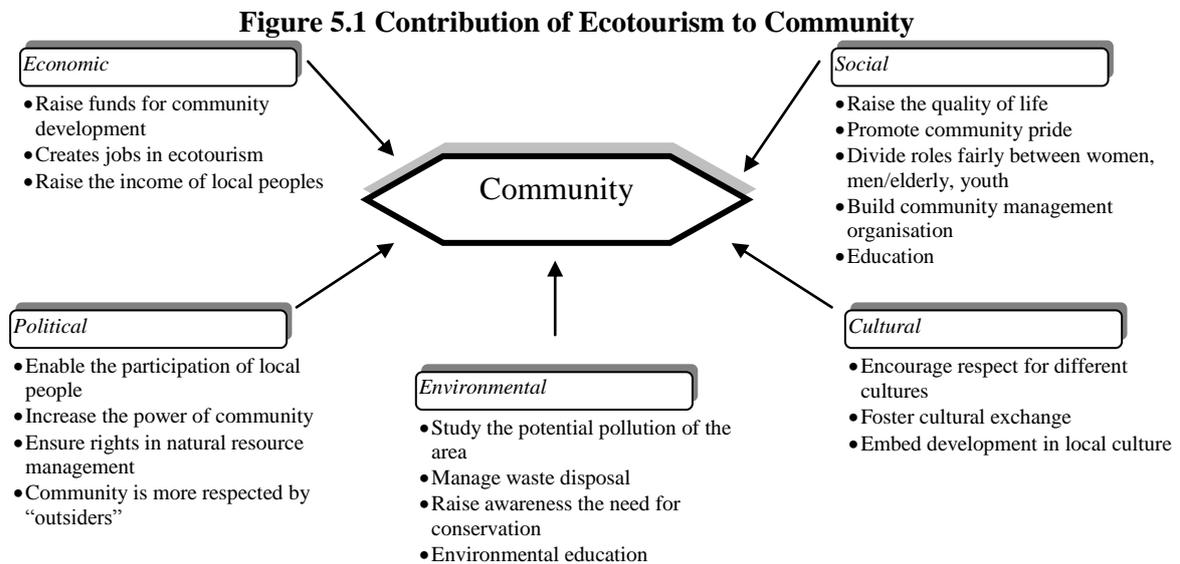
Chapter 4 based on the perception of the key stakeholders (the community members and the tourists) brought out a clear picture about the importance, benefits and potentiality of the ecotourism destinations in Kerala. This has helped to establish the link between community and ecotourism as a process of inclusive development. With a view to addressing this aspect various facets of ecotourism like social, economical, environmental, political and cultural have been taken into account.

Community based Ecotourism has always advocated involving the local communities in the development initiatives as they are the most affected group in various stages of the conservation process. As in traditional tourism activities there are considerable leakages, a community based ecotourism can help to minimize these types of leakages. Most of the ecotourism sites are in and around the forest area and are occupied mainly by local tribal communities. These community members depend on forest for their livelihood needs. Mere involvement of local communities as guides, watchers and other employees at the tourist sites are not enough. The authorities concerned will have to ensure that the returns from the ecotourism activities are streamlined to the local community of that tourist spot. This can be done by analyzing the impact of the local communities employed in this sector due to the emergence of that ecotourism destination.

Kerala has always been termed as an example for a unique model of development with high social development indicators coupled with economic stagnation both in primary and secondary sectors. With its distinctive tourist spots and its biodiversity, Kerala has a comparative advantage in tourism and hence the state has included ecotourism in its development plans. As ecotourism has been identified as a priority sector for socio-economic development for the forest dependent communities by the government, it is all the more important to derive a methodology to analyze the impacts of ecotourism viz. social, economic, environmental, political and cultural with all its positives and negatives.

5.1 Ecotourism and Community

The contribution of community based ecotourism to the local community can be analysed in a multi-faceted framework (Figure 5.1). The ecotourism impacts the local community in economic, social, cultural, political and environmental angle.



Source: compiled from Strasdas (2005); Suansri (2004)

Ecotourism benefits the local economy by creating new avenues of employment and thereby providing them with a sustainable and stable income. The returns generated from the ecotourism activities can be used for the development of the local communities in the areas of infrastructure, education, health, financial empowerment, etc. The income and fund generation from the ecotourism activities also help in the overall financial empowerment of the local communities.

Building social and community management organizations, improving the quality of life, dividing the opportunities equally between gender, age groups, etc., improvement in education and creating a feeling of pride among the community members are some of the social benefits acquired from the ecotourism activities. Community level social organizations are the linchpin for the overall success of the ecotourism activities in a destination. They also bring feeling of togetherness and pride among the members and they start working as a group. Social integration can be termed as one of the major benefits of ecotourism. Ecotourism activity would require good quality infrastructure in an around the destination. As majority of the local communities inhabit the nearby places of the destination, they also draw benefits from the development activities. Income generated from working in these activities will aid them to improve their overall living standards. Another benefit is the inclusiveness of employment. The roles are clearly defined for each and every member be it woman, man, elderly or child. Everyone gets their due share in participating the activities or occupation best suited for them.

Development of ecotourism benefits the local community politically as well. The social integration and togetherness of the communities culminates in

the form of political benefits. These include more local participation in political activities, increasing the political power of the community, gaining more respect among the others and ensuring rights in the resource management. The local communities have first right in using and managing the natural resource in their locality. However, they are often denied these rights as outsiders creep in seeing the revenue potential of this sector. Being a group which is politically involved, they can effectively negotiate towards earning their much deserved rights.

Cultural interaction is one of the major benefits of community-based ecotourism as the local communities (especially guides) get an opportunity to interact with people of varied culture. The traditions and culture of the local communities are also made known to the outsiders. Apart from imparting the knowledge of local culture and traditions among the visitors, the community members also learn about the culture of the visitors, ways of interacting with them, etc. This would encourage respect of various cultures both among the visitors as well as the locals.

But the most pertinent benefit of ecotourism is the environmental benefit. This form of ecotourism is the best way to protect the local ecology and habitat. The overall awareness about environment protection is spread among the people. Environment education is also possible due to the community-based ecotourism both the local communities as well as the tourists can get insight into the need and benefits of protecting the ecological balance. The authorities can also keep a track of potential pollution in the area. More visitors would mean more waste, which would, in turn, require proper waste management facilities. Involving local communities would ensure proper management of waste in these destinations.

5.1.1 Economic Impact of Ecotourism

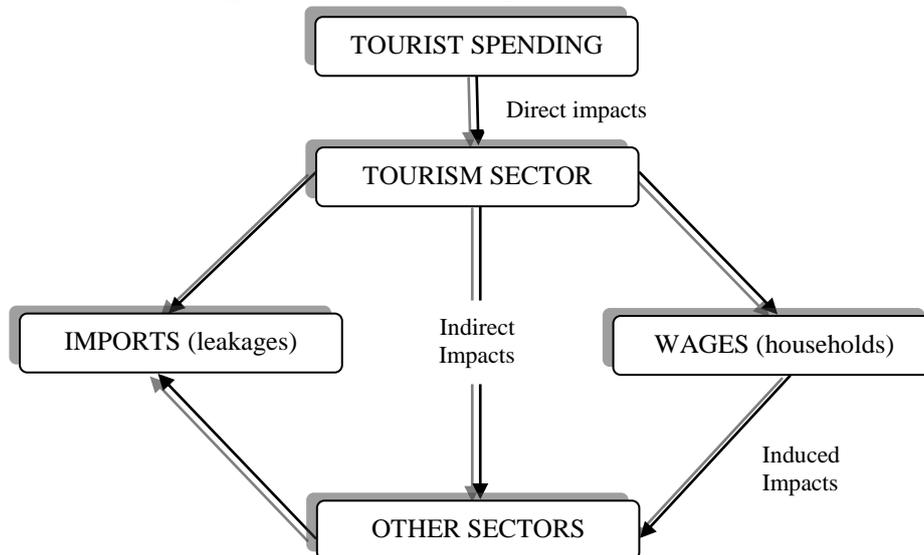
Ecotourism can result in economic benefits as well as losses and this may lead to a reduction in funds available for conservation of natural resources (Tisdell, 1995). By analyzing the impact of ecotourism in the overall economic development of the State, it is clear that this sector has generated employment and income since announcing a comprehensive Tourism Policy in 1995.

Ecotourism projects generating economic benefits need to be answered with respect to two questions; who are benefiting from this in economic terms and to what extent these benefits are shared with local communities (Tisdell, 2003). The term economic impact generally means a change in income, employment, consumption or other economic parameters of a particular economy due to the development of ecotourism. These economic impacts have dual effects on economic development and nature conservation. Impact analysis of ecotourism is not different from that of any other industries. These economic impacts or economic values can be classified into three. They are direct, indirect and induced impacts/effects. Impact analysis measures the direct and indirect impacts of tourist spending on the local economy (Archer, 1973; Archer, 1977; and Fletcher, 1994).

Expenditure on various local tourism related sectors like hospitality, sightseeing, etc. by the visiting tourists can be termed as direct impacts. Indirect impacts are the result of direct impact when the above mentioned tourism sectors buy goods and services from other industries. Induced impacts are generated when the community members employed in the tourism sector spend the income/wages earned for consumption purpose in other sectors as given in Figure 5.2.

The sum total of these linkage effects can also be called as the ‘Tourism multiplier’ effect. Tourism multiplier explains the number of times the money spent by the tourists circulates in the particular economy. This effect goes on until it leaks in the form of imports, due to the non-availability of goods and services in the domestic market. The leakages will be more in the case of developing economies like India. In fact, study by UNEP has shown that tourism leakages have been reported to be as high as 40 percent in India. By considering the dynamism involved in the Kerala economy, the figure can hover around 40-42 percent. This shows that if the tourism sector depends on external sectors or sectors outside the region of interest to buy goods and services, then the indirect impact vanishes and the money leaks away from the region. (UNCTAD, 2007) has categorized leakages into three types; the external leakages (originating outside tourist destinations), the internal leakages (due to imports paid and accounted domestically) and the invisible leakages (opportunity costs that have cumulative effects).

Figure 5.2 Economic Impact of Ecotourism



Source: Lindberg, 1996

5.1.2 Social Impact of Ecotourism

The growth in the tourism industry brings major social, economic and environmental impacts to the tourist destinations. It sometimes negatively impacts the tourist destinations by the increased number of visitors. The increased number of visitors necessitates the expansion of hotels, transport facilities, shops, restaurants and other services which results in physical change of the destination. Ecotourism maintains or enhances the local community's equilibrium. Community cohesion is improved as individuals and families work together to build a successful ecotourism venture. Some funds raised are used for community development purposes, e.g. to build schools or improve roads (Scheyvens, 1999). The growth of tourism especially in some select locations has really resulted in the long term prospects of tourism industry (Cater and Goodall, 1992)

Over-crowding and over-development in the fragile ecosystem is the most challenging issue in most of the ecotourism destinations. There is lack of proper awareness among hosts, tourists and tour operators about the damage caused to the environment because of littering of waste and overcrowding which needs to be addressed (Tyler, 1989). The flow of tourists with huge financial resource not only harms the existing ecosystem but also destroy traditional cultures which can be considered as a negative effect of tourism (Pearce, 1989). Although the environmental impact of tourism is not visible in most destinations, travel creates pollution in the atmosphere adversely affects the environment of the area traversed.

Extensive studies have been done by economists worldwide regarding tourism development giving rise to the generation of employment revenue and foreign exchange earnings. But least importance has been given with respect

to the damage caused by tourism to the ecosystem or the social cost associated with the development of tourism or the importance of tourism for the conservation and preservation of fragile ecosystems (Sinclair and Stabler, 1997).

5.1.3 Environmental Impact of Ecotourism

Positive impact of ecotourism to the environment has been recognised (Buckley, 2008) and its dual role in socio-cultural and economic empowerment of the local communities as well as conservation of the protected areas have also been hailed by the ecotourism supporters. Despite the above statements by the supporters of ecotourism, it has to be always kept in mind that there will also be negative impacts due to ecotourism development in the area. Negative impacts are most often connected with the ecological carrying capacity of the destination, which is linked to the number of tourists visiting the destination. Littering, pollution, etc. are some of the negative impacts of ecotourism, which adversely effects the environment of the destination. The need for environment protection arises because of the overexploitation of natural resources by the local communities resulting in environment degradation. This warrants for the protection of nature.

5.1.4 Cultural Impact of Ecotourism

The cultural benefits of ecotourism are mainly due to the cultural integration and exchanges between the local communities and the visitors. The visitors get insight about the local culture and traditions. This is particularly important due to the fact that most of the destinations are occupied by indigenous people having distinct culture, which are unknown to the outside world. The community members also get awareness about the practices of the

outside world. However, a clear line should be drawn between the two. Sometimes there might be situations of cultural conflicts where the practices of the visitors may hurt religious and cultural sentiments of the local communities. There are also situations where mainly younger generations of the community members get attracted towards foreign culture and blindly follow the same ignoring the traditional values upheld by the elders. This results in disinterest about ecotourism among the hardliner and elder community members who are against any sort of cultural intervention hampering the socio-cultural fabric of the community.

5.1.5 Political Impact of Ecotourism

Most of the ecotourism activities directly impact the local communities. This makes them the major stakeholders in the ecotourism development. Their concerns and issues need to be heard by the policy makers, which are ensured by political empowerment through which they can make their opinion as a group. Akama (1996) calls for such a decentralisation of power from the national to the community level. This should be done by involving organisations representing the interests and needs of local communities. Community based ecotourism initiatives bring in a feeling of togetherness among the community members. They get more aware of their political rights. They can also take up the matters connected with ecotourism development as well as their status to the policymakers. The community members also get their due representation in the decision making bodies related to ecotourism development in the area. However, a flip side is that sometimes interest groups with specific personal agenda may creep into the community group making it autocratic (Scheyvens, 1999).

5.2 Factor Analysis-Impact of Ecotourism

In order to identify the significant factors determining the impact of ecotourism programmes in the community, a factor analysis with 12 selected statements in a 5 point scale from strongly agree to strongly disagree is considered. The reliability of scale is tested before the factor analysis (Table 5.1). The Cronbach's alpha coefficient indicates high reliability of .811 in Table 5.1 since it exceeded the minimum standard of 0.70. Hence it is safe to continue with the factor analysis. The sample adequacy was tested using Kaiser-Meyer-Olkin to measures the strength of the relationship among variables and the result, 0.868 is greater than the generally accepted 0.60 for a satisfactory factor analysis to proceed (Table 5.2). It also shows that the Bartlett's test is significant with Chi-Square value.

Table 5.1 Reliability Statistics- Impact of Ecotourism

Cronbach's Alpha	N of Items
.811	12

Table 5.2 KMO and Bartlett's Test- Impact of Ecotourism

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.868	
Approx. Chi-Square	3054.000	
Bartlett's Test of Sphericity	Df	66
	Sig.	.000

Table 5.3 shows communalities i.e. the proportion of each variable's variance that can be explained by the factors and the corresponding extracted lodgings of the 12 statements. It can be seen from the Table 5.3 that about all variables are well represented by the factors retained by the analysis.

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Table 5.3 Communalities- Impact of Ecotourism

	Initial	Extraction
Creates jobs in ecotourism	1.000	.739
Study the potential threat of the area	1.000	.625
Raise funds for community development	1.000	.570
Environmental education	1.000	.649
Raise the income of local peoples	1.000	.634
Raise the quality and standard of living	1.000	.642
Raise awareness the need for conservation	1.000	.777
Manage waste disposal	1.000	.749
Embed development in local culture	1.000	.601
Enable the participation of local people	1.000	.642
Build community management organisation	1.000	.465
Ensure rights in natural resource management	1.000	.394

Extraction Method: Principal Component Analysis.

The analysis brought out three factors that accounted for 62.4 percent of the total variance from the 12 factors (Table 5.4). The Scree plot in Figure 5.3 clearly indicates that out of the four retained factors, most of the variation is explained by a single factor. The first factor explains about 40.76 percent and the second factor explains about 11.85 percent and the third factor explains 9.76 percent of the total variance.

Table 5.4 Total Variance Explained- Impact of Ecotourism

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.892	40.763	40.763	4.892	40.763	40.763
2	1.423	11.859	52.622	1.423	11.859	52.622
3	1.171	9.757	62.379	1.171	9.757	62.379
4	.873	7.272	69.651			
5	.827	6.892	76.543			
6	.668	5.566	82.109			
7	.521	4.340	86.449			
8	.469	3.910	90.358			
9	.378	3.147	93.505			
10	.346	2.883	96.388			
11	.233	1.939	98.327			
12	.201	1.673	100.000			

Extraction Method: Principal Component Analysis.

Figure 5.3 Scree Plot-Impact of Ecotourism

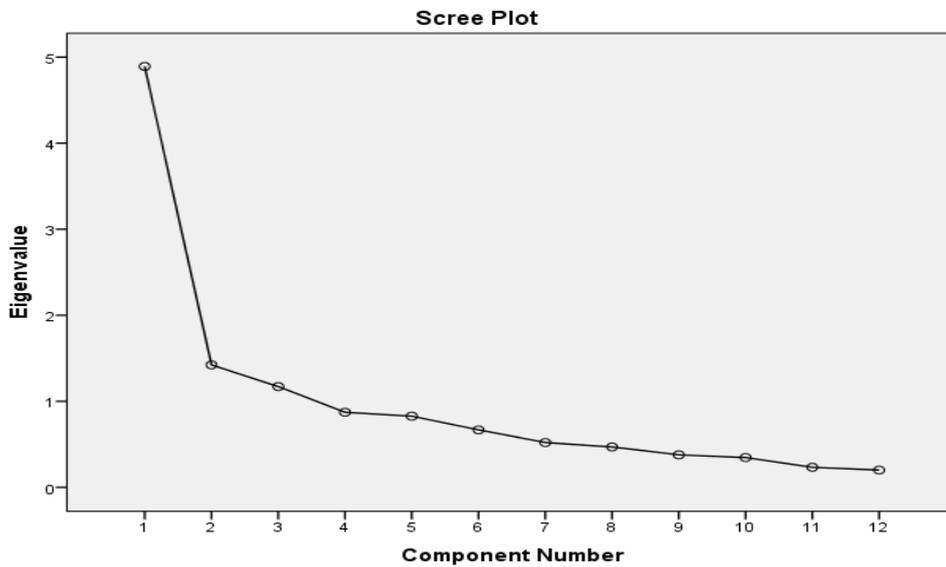


Table 5.5 Component Matrix^a- Impact of Ecotourism

	Component		
	1	2	3
Raise awareness the need for conservation	.861	.091	-.167
Creates jobs in ecotourism	.857	.002	.061
Manage waste disposal	.836	-.050	.221
Raise the income of local peoples	.763	-.221	.057
Study the potential threat of the area	.734	.172	.237
Environmental education	.706	-.291	-.256
Raise funds for community development	.664	-.226	-.278
Raise the quality and standard of living	.630	-.058	.492
Enable the participation of local people	.108	.788	-.092
Ensure rights in natural resource management	.218	.541	.233
Build community management organisation	.343	.529	-.260
Embed development in local culture	-.289	-.037	.718

Extraction Method: Principal Component Analysis.
a. 3 components extracted.

The factors have been identified above 0.5 loadings; it is presented in the Table 5.5. The first factor occupies about 8 variables i.e. ‘raise awareness the need for conservation’, ‘creates jobs in ecotourism’, ‘manage waste disposal’, ‘raise the income of local peoples’, ‘study the potential threat of the

area’, ‘environmental education’, ‘raise funds for community development’, ‘raise the quality and standard of living’. Hence the first factor is “Environment and Economic”. The worries and concerns of the community members about the impact of ecotourism on the environment are well understood through this analysis. However, they have understood the importance of protection of environment and natural habitat by joining the ecotourism activities. It can be drawn from these statements that environment protection is the most important factor concerning the community members. On the same time, the role of ecotourism in improving the income and livelihood options of the local communities is well explained in the first factor.

The second factor houses the variables like ‘enable the participation of local people’, ‘ensure rights in natural resource management’, ‘build community management organization’ which in turn has resemblance to the factor “Socio-Political”. Social development and the resultant socio-economic empowerment of the locals is one of the major impacts of ecotourism. Other than the environment and economic side of the ecotourism programme, it also enables the empowerment and development of the society in a large extent. The last factor is other than the ‘Cultural’ aspect. The ecotourism provides interaction with the tourists fueling cultural exchange, development and respect of the both local and foreign culture which in turn minimizes the disturbance of the environment and increases that social well being of the local communities. This factor elucidates yet another pertinent impact of ecotourism viz. cultural interactions and exchange. The tourists can understand the traditional and indigenous culture and history by interacting with the community members. By interacting with tourists, the locals can gain

knowledge about the urban culture from various parts of the country and globe.

Box 5.1 Positive and Negative Impacts of Ecotourism

<i>Impact</i>	Positive	Negative
<i>Socio-cultural</i>	<ul style="list-style-type: none">✓ Acceptance of local culture by foreign culture✓ Benefits the local and initiate a culture of employment✓ Creates knowledge addition✓ Preservation of the original inhabitant communities.	<ul style="list-style-type: none">✓ High probability of a culture clash.✓ External influences hinder ethnic way of living.✓ Exposure of local culture and heritage to the unknown.✓ Exploitation of local culture.
<i>Economic</i>	<ul style="list-style-type: none">✓ Potential to be major income earner.✓ Accumulate local community income✓ Initiate infrastructural development.✓ The funds generated through eco-tourism can be used for preservation of the natural resource.	<ul style="list-style-type: none">✓ Ill managed eco-tourism plan.✓ Eco labelling creates high interest in business. This will bring less income to the local community.✓ Community may sometimes pay for outside goods in order to satisfy the tourists.✓ Cost on Environment will be high
<i>Environmental</i>	<ul style="list-style-type: none">✓ Ecotourism ensures preservation of biodiversity.✓ Practice Sustainable development✓ Reduce environmental impacts✓ Eliminates man-made elements	<ul style="list-style-type: none">✓ Ill management will bring opportunism for economic gain.✓ Environmental degradation follows.✓ The popularity of destination may directly lead proportional to its rate of destruction.✓ Tendency of natural resource depletion.

5.3 Inclusive Development

Including the marginalised groups in the development process, particularly when the process of development is skewed in favour of the rich and influential, which allows the marginalised and poor to take part in and benefit from, regardless of their gender, ethnicity, age, sexual orientation, disability or poverty (UNDP, 2010). There are many ways and means for

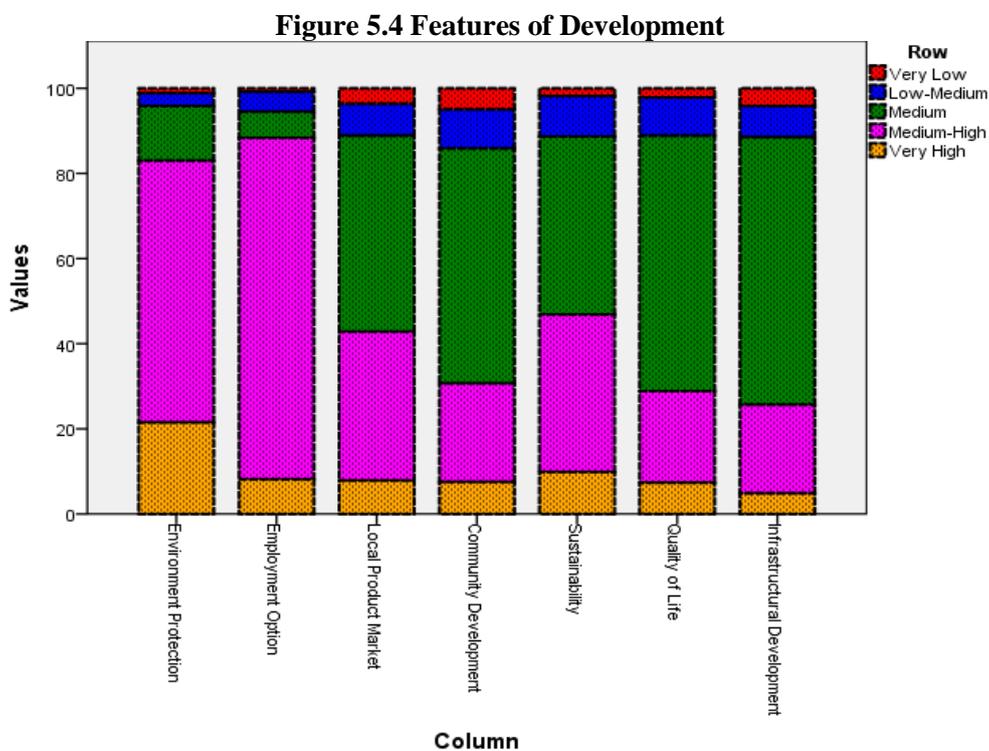
bringing about inclusive development. Ecotourism development process requires the necessity of high levels of participation of the local community who know the wherewithal's of the ecosystem. Therefore the participation of the community in ecotourism can ensure their inclusion in the development process along with the development of ecotourism.

As in other sectors inclusive development in ecotourism is also equally important. This is because the community involved in the process are forest based poor communities especially scheduled caste and scheduled tribes who have no other means of livelihood. The recent policy of nature based tourism helped Kerala to develop many ecotourism sites of different nature. Most of these are forest based and hence including them in this process would help the community and to a greater extent and also even to the government. The local people know the ins and outs of the forest based system like ecology, biodiversity and hence they sustain the environment much better than anybody else as it is their livelihood. This helped the local community members to form and participate in Eco-Development Committees (EDC's) and Vana Samrakshana Samathi's (VSSs), as part of their inclusive development process. This in way helped them to get more and more involvement in this process and their dedicated work as part of their livelihood helps them to demand to the government for the extension of these committees in various ecotourism sites. The government is also well aware that without including the locals in the ecotourism process, the ecotourism activities in Kerala will not blossom to the desired level.

5.3.1 Levels of Development based on Ecotourism programmes

In order to gather the perception of the community members about the inclusive development process, the parameters like 'environment protection',

‘employment option’, ‘local product market’, ‘community development’, ‘sustainability’, ‘quality of life’ and ‘infrastructural development’ were used. The respondents were asked to mark their score in a 10 point scale where 1 being extreme low and 10 as extreme high. This was again cut-shortened into a 5 point scale where 1 as very low and 5 as very high. The results are portrayed in the Figure 5.4.



Source: Survey Data, Appendix 5.1

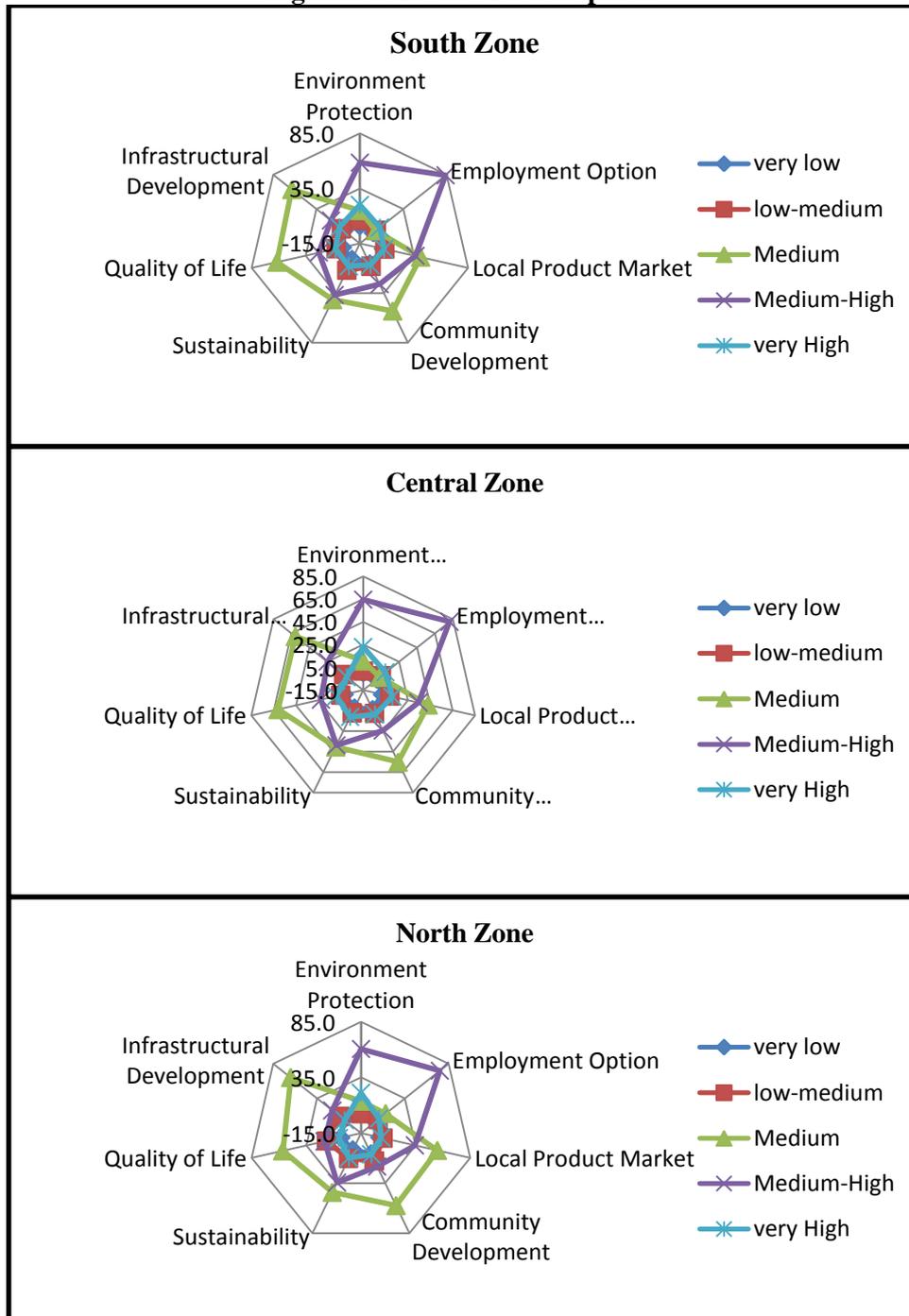
It can be inferred that the majority of the community members scored the development process as medium, medium-high level of development. Ecotourism as an environment protection option, 61.5 percent have shown their preference as medium-high level and very high level (21.5 percent). 80 percent of them have indicated medium-high level to ecotourism as an employment generation option. 46 percent of medium and 35 percent of

medium-high level have pointed towards ecotourism as a market for their local products (including spices, honey, handicrafts etc). Majority (55 percent) opined medium level community development from ecotourism followed by 23 percent medium-high level of community development. Ecotourism as a matter of sustainable development, majority have claimed medium (41.8 percent) and medium-high (37 percent). Ecotourism will act as a tool for better education, good health, proper sanitation and improved standard of living vis-à-vis quality of life. In this respect the community members have opinion that ecotourism programme will provide in a medium (60 percent) and medium-high (21.5 percent) level of development in the context of quality of life. In the context of infrastructural development, majority (62 percent) claimed that ecotourism brought about a medium level of development and 20.8 percent of medium-high level of development.

It is a well known fact that the ecotourism project in a locality brings development in the form of employment, infrastructure, basic amenities, etc. Ecotourism has been advocated as a strategy achieving the dual role of environment protection and a sustainable livelihood option to the local communities. An ideal community based ecotourism endeavor should maintain a balance between all the development parameters so as to ensure inclusive development of the destination.

A zone-wise evaluation of these parameters is also recorded in the Figure 5.5. Majority of the community members across zones opine that there has been medium to medium-high level of development in the destination due to ecotourism project. However, north zone shows a distinct pattern with respect to the responses.

Figure 5.5 Levels of Development



Source: Survey Data, Appendix 5.2

In order to divulge the aggregate level of development, the scores of the aforementioned parameters were used. The aggregates of these were categorized into five i.e. very low, low-medium, medium, medium-high and very high. The zone-wise comparison is shown in the Table 5.6 and Figure 5.6.

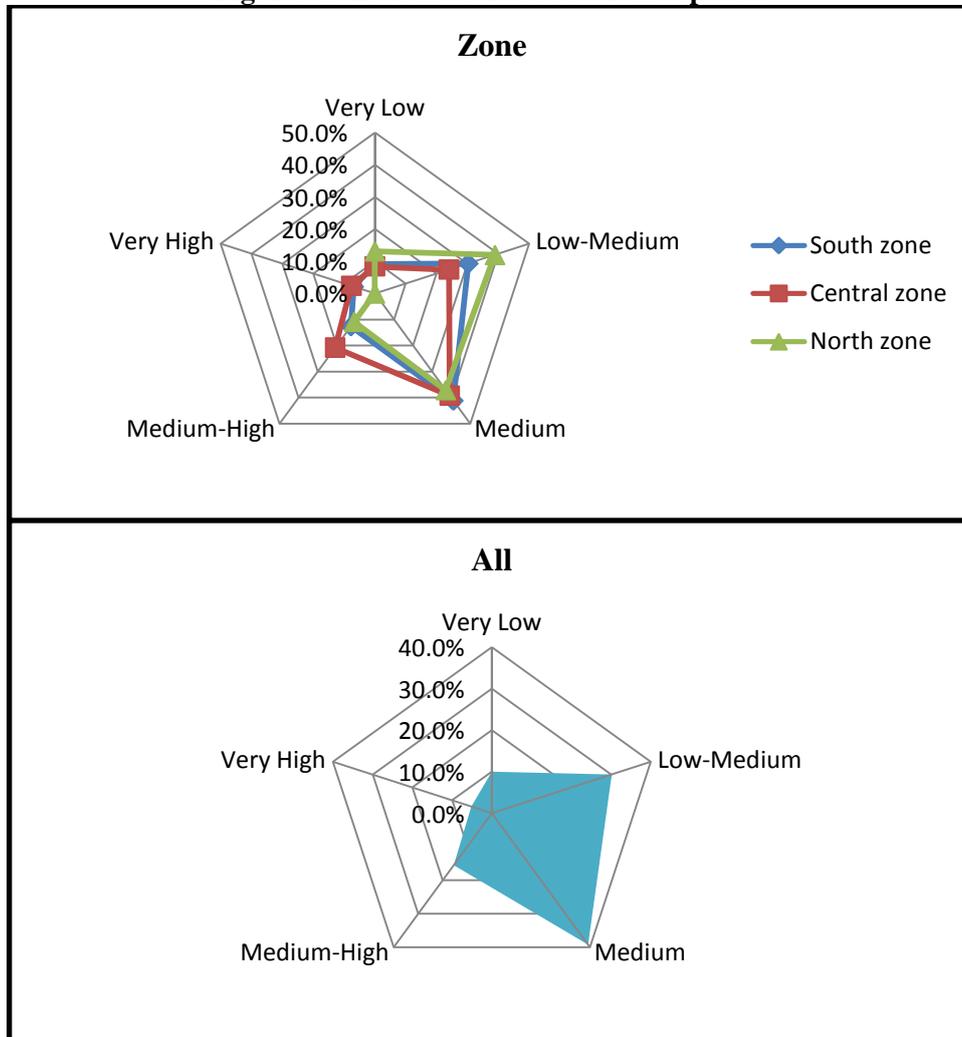
Table 5.6 Zone and Levels of Development

Zone	Levels of Development					Total
	Very Low	Low-Medium	Medium	Medium-High	Very High	
South zone	9.1	30.3	41.1	12.6	6.9	100.0
Central zone	8.4	24.0	39.2	20.8	7.6	100.0
North zone	13.1	38.9	37.1	10.9	0.0	100.0
Total	10.0	30.2	39.2	15.5	5.2	100.0

Source: Compiled from Survey data

It is clear that the aggregates of the parameters result show that majority establishes the medium with 39.2 percent followed by the low-medium with 30.2 percent and medium-high with 15.5 percent. The zone wise comparison also shows a clear inter-zone difference in the level of development. The central zone occupied the highest in medium-high level with 20.8 percent and south zone in medium (41 percent) and low-medium (30 percent). However, the north zone validates any perception in terms of very high level of development and occupies the highest position in the very low category with 13 percent. This in turn shows that there is a statistically significant difference between the zones and the levels of development with $p\text{-value} < 0.01$ and Chi-Square value 31.19 (Table 5.7).

Figure 5.6 Zone-wise Levels of Development



Source: Compiled Survey data

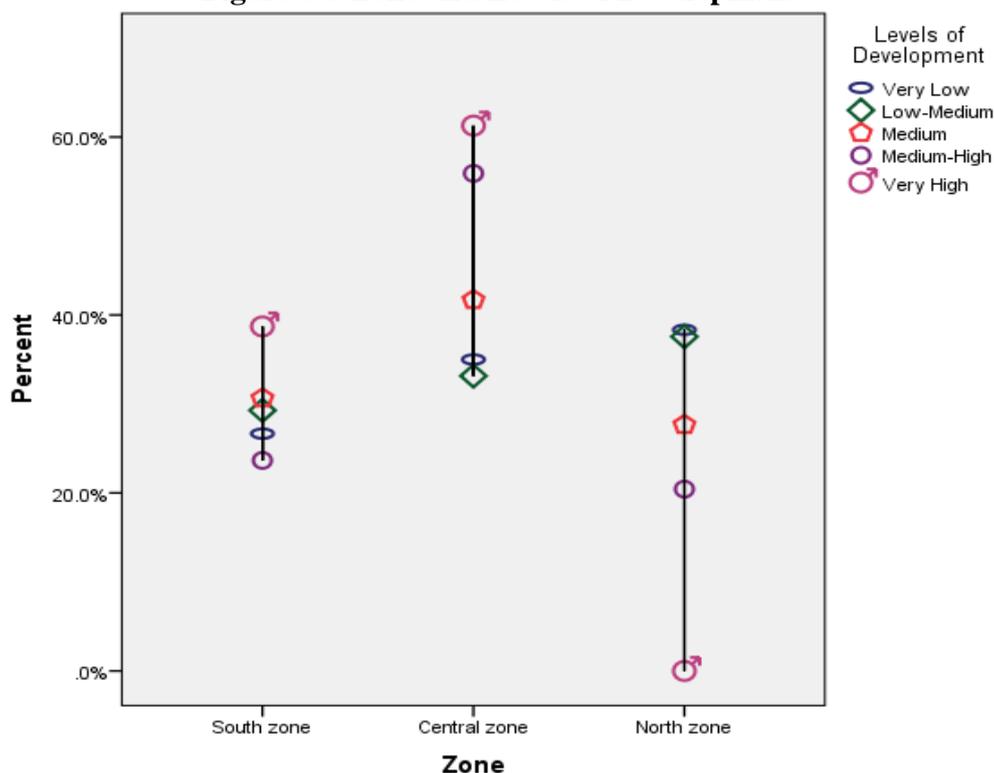
Table 5.7 Chi-Square Tests-Levels of Development

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.196 ^a	8	.000
Likelihood Ratio	39.447	8	.000
Linear-by-Linear Association	8.908	1	.003
N of Valid Cases	600		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.04.

As discussed above, it is clear that there is a significant difference between the levels of development and the zones. The same is further depicted in the figure 5.7. The figure shows the percentage share of the three zones in the different levels of the development. The central zone out performs in all the levels [i.e. the very high (61.3 percent), medium-high (55.9 percent), medium (41.7 percent) and low-medium (33.1 percent)] except very low level. The second position is occupied by the south zone. However, the north zone has no share in the very high level and secures a major (38.3 percent) in the very low level.

Figure 5.7 Zone and Levels of Development



Source: compiled from Survey data, Appendix 5.3

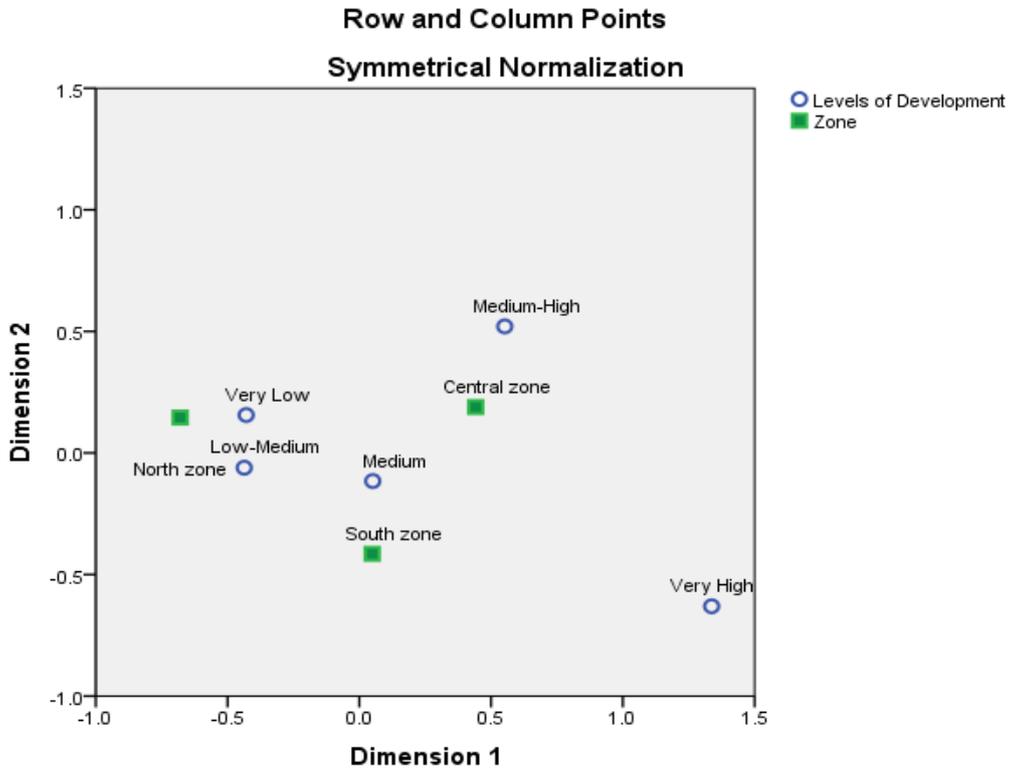
In order to highlight this, a zone-wise correspondence analysis is performed. The results are given in Table 5.8 and Figure 5.8. It is shown that there is a significant difference in the levels of development between three zones with p-value <0.01. The correspondence analysis brought out two dimensions. The model explains only 5.2 percent of the variance in the original correspondence results with minimal dependence of the variance. The proportion of inertia for the dimension 1 accounts for 90.2 percent and dimension 2 with 9.8 percent of the total inertia. The correspondence map shows each category score on both dimensions. The zone-wise disparity in the level of development can be inferred from the correspondence map in Figure 5.8. It can be seen that medium region is occupied by the south zone, the central zone has fitted between medium and medium-high region whereas the north zone occupies highest in very low and low-medium level. All the three zones are far from the very high level indicating a room for further improvement. However the north zone is too far from the very high level of development.

Table 5.8 Summary-Levels of Development

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation 2
1	.217	.047			.902	.902	.033	-.119
2	.071	.005			.098	1.000	.041	
Total		.052	31.196	.000 ^a	1.000	1.000		

a. 8 degrees of freedom

Figure 5.8 Correspondence Map – Levels of Development



Source: compiled from Survey data

5.3.2 Inclusive Development Option, an Empirical Substantiation

To identify the applicable variables that disclose the ‘inclusive development option’ based on primary data with respect to environment sustainability, create livelihood option, improve quality of life, gender employment, higher income option, externalities, political interference, community interference, infrastructural development and market for local handicrafts/spices etc a logistic regression is used. The model estimates regression coefficients that can be measured as the rate of change in the “log odds” as X changes. The calculated exp (B) is the expected effect of the independent variable on the “odds ratio”, which is the probability of the event

divided by the probability of the non-event and they are in log-odds units and the prediction equation is:

$$\log (p/1-p) = b_0 + b_1*x_1 + b_2*x_2 + b_3*x_3 + b_4*x_4+ b_5*x_5+ b_6*x_6+ b_7*x_7 + b_8*x_8 + b_9*x_9 + b_{10}*x_{10}$$

Where, p is the probability of being in honors composition.

The Wald Chi-square test in the Table 5.9 examines the null hypothesis that the constant is equals to 0. This hypothesis is rejected since the p-value <0.001. The Hosmer and Lemeshow is a test for the overall fit of the model. Because the p-value (0.158) is higher than the significance level (5 percent), we conclude than the model fits the observed dataset (Table 5.10). The Table 5.11 shows the Omnibus Tests of Model Coefficients which contains the overall test of the model. The model is statistically significant based on the p-value <0.001.

Table 5.9 Variables in the Equation- Inclusive Development option

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	.995	.092	116.992	1	.000	2.704

Table 5.10 Hosmer and Lemeshow Test- Inclusive Development option

Step	Chi-square	df	Sig.
1	11.851	8	.158

Table 5.11 Omnibus Tests of Model Coefficients- Inclusive Development option

	Chi-square	df	Sig.
Step	90.590	10	.000
Step 1 Block	90.590	10	.000
Model	90.590	10	.000

Table 5.12 Model Summary- Inclusive Development option

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	609.320 ^a	.140	.204

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The -2 Log Likelihood Statistic (609.320) measures how the model predicts the decision (Table 5.12). The Cox & Snell R Square and Nagelkerke R Square are pseudo R-squares. Cox & Snell R Square cannot reach a maximum value of 1 where as Nagelkerke R Square can reach a maximum of 1.

Table 5.13 Classification Table^{a,b}- Inclusive Development option

Observed			Predicted		
			Does Ecotourism ensure Inclusive development		Percentage Correct
			No	Yes	
Step 0 ^{a,b}	Does Ecotourism ensure Inclusive development	No	0	162	0.0
		Yes	0	438	100.0
Overall Percentage			73.0		
Step 1 ^b	Does Ecotourism ensure Inclusive development	No	50	112	30.9
		yes	28	410	93.6
Overall Percentage			76.7		

a. Constant is included in the model.

b. The cut value is .500

The classification Table 5.13 shows the overall percent of cases that are correctly predicted by the model. It is clearly depicted that the percentage has increased from (73 percent) the constant model to (76.7 percent) the full model.

Table 5.14 Variables in the Equation- Inclusive Development option

	B	S.E.	Wald	df	Sig.	Exp(B)
Income_Livelihood	1.091	.314	12.040	1	.001	2.977
Environment_Sustain	1.357	.267	25.901	1	.000	3.884
Quality_of_life	.683	.291	5.492	1	.019	1.980
Gender_employabilty	.145	.243	.354	1	.552	1.156
Higher_Income	.376	.273	1.900	1	.168	1.456
Step 1 ^a Infrastructural_Develop	-.961	.302	10.116	1	.001	.383
Externality	-.701	.235	8.898	1	.003	.496
Political_Interference	-.586	.242	5.852	1	.016	.557
Community_Interference	.243	.212	1.312	1	.252	1.275
Local_Product_Market	.472	.230	4.215	1	.040	1.603
Constant	-1.550	.555	7.797	1	.005	.212

a. Variable(s) entered on step 1: Income_Livelihood, Environment_Sustain, Quality_of_life, Gender_employabilty, Higher_Income, Infrastructural_Develop, Externality, Political_Interference, Community_Interference, Local_Product_Market.

The fitted logistic regression equation is

$$\begin{aligned} \log(p/1-p) = & -1.550 + 1.091*\text{Income_Livelihood} + 1.357*\text{Environment_Sustain} \\ & + 0.683*\text{Quality_of_life} + 0.145*\text{Gender_employabilty} \\ & + 0.376*\text{Higher_Income} - 0.961*\text{Infrastructural_Develop} \\ & - 0.701*\text{Externality} - 0.586*\text{Political_Interference} \\ & + 0.243*\text{Community_Interference} + 0.472*\text{Local_Product_Market} \end{aligned}$$

Results show that out of the 10 variables which have been considered as determining factors of inclusive development, 7 are statistically significant assuming that the desired significance level is at 0.05 (i.e. 5 percent). The attributes like environment sustainability, create livelihood option, improve quality of life, and market for local handicrafts/spices etc positively influences the model, whereas infrastructural development, externalities, political interference, have a negative influences on the decision making (Table 5.14).

However, gender employability, higher income and community interference are not significant.

Environment sustainability has the highest score and hence it is the most important factor in determining inclusive development. Another factor is the livelihood option. Better livelihood will bring in higher development and vice versa. Quality of life also positively influences the model as those with higher quality of life perceive more inclusive development. Infrastructural development without considering the ecological aspects will hamper the local ecosystem, thereby reducing the possibility of attaining inclusive development. Other factors having negative influence are externality and political interference. These two are outside the control of the local community members.

Gender ratio in employment in the ecotourism activities is still low and hence it is not significant. Income levels attained are also not impressive. Another drawback is the low community involvement. This is evident from the insignificant results for the variable “community interference”. Presently the local community members are mainly involved in activities related to protection (watchers, guards, etc.) or service/awareness like guides. Their participation in local level decision making is still negligible. It is high time that a policy initiative in the form of more local participation in ecotourism activities as well as in shaping policy decisions related to the destinations is adopted so as to excel the community based ecotourism as an inclusive and sustainable development option for Kerala.

It is clear from the analysis that community based ecotourism has emerged as an important inclusive development option as it results in the socio-economic empowerment of the locals. Despite this, some inter-zone difference is observed; north zone shows comparatively low level of development, whereas the destinations in south and central zones are better off in terms of inclusive development initiatives. The disparity in the level of development achieved by the ecotourism programmes points towards the need for specific development plans at state, zone, district and destination level so as to ensure that the fruits of community linked ecotourism reached to all. Despite the fact that north zone has majority of ecotourism destinations with abundant natural resources, the tourist's visits are comparatively less in these destinations. This adversely affects the income and livelihood options of the local communities. Increase in the tourist arrival rate in these regions makes ecotourism development of more inclusive. In this regard it is also pertinent that no compromise should be made with regard to the carrying capacity of the destination, which in turn, will create destruction of the environment and livelihood issues. The situation also warrants for precise destination-wise policy decisions by the authorities taking into account the social, political, economic, environmental and cultural aspects of ecotourism. This would help in ensuring a sustainable and inclusive development of the community *inter alia* protecting the environment and ecology.

Chapter 6 Conclusions and Policy Options

6.1 Conclusions

The inferences obtained from the study are presented in coherent area-specific levels so as to understand the ecotourism and its sub-sector areas for the researchers and policy makers about the issues, importances and potentialities of the sector.

An analysis of the tourism sector in Kerala has shown tremendous growth both in terms of tourist arrivals and in terms of revenue generation from direct and indirect sources. The foreign tourist visitors in Kerala in 2014 was 9,23,336 which shows 7.60 percent increase from the last year and the domestic tourist visitors were 1,16,95,411 which again shows 7.71 percent increase, is a clear evidence of its potential. In 2014 the industry contributed revenue of 24885.44 crores from direct and indirect sources giving rise to an increase of 12.11 percent from the last year. A dichotomy of tourists and ecotourists shows that tourists in the ecotourism destinations come to 42.6 percent of the total, shows the scope, significance and its potential.

Correlation of zone-wise tourist arrivals based on the ecotourism destinations highlights the fact that with only 19 of the 64 destinations that come in the central zone are the most preferred centres (around 54 percent) for the domestic as well as foreign tourists. The north zone encompassing 6 districts with rich biodiversity shows that the tourists' arrival patterns exhibit

less promising results. Though the north zone has 31 ecotourism destinations of the state receives only 6.19 percent of the foreign visitors.

The ecotourism activities in the state are primarily managed by the Eco-Development Committees (EDCs) and the Vana Samrakshana Samithies (VSS) under the Forest Development Agency of Kerala. Social class-wise categorization of membership shows that 13142 families have membership in 190 EDCs with SC (28 percent), ST (33 percent) and other marginalised communities (39 percent). But this in the VSS shows that 400 VSS have 59085 members actively engaged in ecotourism activities and social category of the VSS makes clear that majority are from the other marginalized fringe households with 62 percent where as the participation of SC is 12 percent and ST is 26 percent.

6.1.1 Socio-economic Profile of the Community

An evaluation of the socio-economic and demographic matrix of the community members involved in ecotourism activities brings out region specific differences. About 75.70 percent of the respondents are males and the rest are females. Majority of the respondents (about 60 percent) are in the age group of 20 to 40 years, followed by the age group of 40-50 (20 percent). The average age of respondents in the three zones is between 35 and 37 years. The majority of the respondents are married, a few are unmarried. Average family size is 4-5 members and differences are identified among zones. Average number of adults per household is 3 and child per household is 2.

Majority have an education of 10th class and below i.e. about 60 percent of the sample have only basic school education like primary, secondary and high school (i.e. up to SSLC but not passed) level. About 18

percent are SSLC passed, 10 percent are undergraduates whereas 6 percent constitute respondents having qualification of graduation and above. Majority of the 'graduates and above' are from south and central zone. Inter-zone differences in educational profile are also identified with lesser number of 'graduates and above' are identified in the north zone compared to the other two zones.

6.1.2 Income and Employment

Investigating into the income and livelihood options of the respondents gives insight about the prominence of ecotourism as an employment and livelihood option for the community members, as more than 90 percent of the respondents have cited tourism sector as their main employment option. The employment in ecotourism is male-centric which is mainly determined by the specific activity. Males mainly work as trekking guides, watchers, drivers, etc, whereas females work in less risky activities like as sweeper/cleaner, guides at visitor arrivals points, eco-shops, cooking, office jobs etc. Average work days per month for the respondents are 20-21 days. A zone-wise variation in the average work days is identified with central zone with the highest average work days per month of 22 days, followed by south zone (21 days) and north zone has lowest with 19-20 days.

Most (49.30 percent) of respondents get 100 percent income from tourism related activities, followed by 37.30 percent of community members have income between 75-99 percent from tourism whereas the rest (13 percent) have less than 74 percent of their income from tourism and there exists difference between zones and percentage of income. Majorities (about 75 percent) of the respondents are in the income category of Rs. 3001-5000

and a few have income more than Rs. 5000. A zone-wise evaluation shows that the majority in the central zone is in the income category of Rs 4001-5000 followed by Rs 3001-4000 and above Rs 5001 category; the community members in the south zone are mainly in the income category 3001-5000; and respondents in north zone cover in the income category of Rs 2001-4000. The earnings largely depend on the educational level as there is a significant variation in income category for under graduation and above. A zone wise variation in income levels is also identified as central zone has comparatively higher average income (Rs. 4013) than the South zone (Rs. 3819) and North zone (Rs. 3588). Inequality of income is also found with respect to zone and the gender. There exists a minimal inequality among the distribution of income between zones. Inequality in income is low in the south zone and high in the North zones. In the case of Gender, there exist minimal inequalities among gender and the distribution of income.

6.1.3 Financial Habits

Financial habit shows that about 49.7 percent hold active bank accounts, 61 percent have savings behaviour and 73.8 percent have indebtedness. Comparatively, the central zone show an upper hand in terms of those holding an active bank account, savings habit and indebtedness. Regarding the frequency of savings, 77 percent saved on a monthly basis. Majority (about 46 percent) of the respondents save for the purpose of education of children followed by marriage (20.30 percent), consumption/purchasing (14.4 percent) and 19.50 percent save to earn interest or to do business (12.60 percent and 5.90 percent). They save at home, bank, post office, chit funds, SHGs, home savings etc. Regarding the source of the

debt, majority (31.6 percent) borrow from private money lenders, followed by Kudumbasree (19.50 percent), cooperative societies (15.50), indebtedness with the local shop keepers (12.20) etc. The purpose of indebtedness can be inferred as day to day expenses, construction of house, marriage, education, treatment, etc. It is disheartening that the dependence on private money lenders among the communities is very high.

Education level of the respondents has been identified as the major factor determining the financial habits of the community members with those having better educational traits exhibit better financial habits (high savings, holding bank account, lesser tendency to borrow, etc.). Hence there exists a positive correlation between the educational qualification and percentage of individuals holding a bank account and savings. But there is an inverse relation between indebtedness and formal education i.e. lower the level of education higher the indebtedness and vice versa.

6.1.4 Quality of Life

Analysis about the ownership of house brings to light that 37 percent of respondents live in their own house followed by 25.7 percent in government funded/provided house and 21 percent in their parent's house and 3.5 percent in rented house. About 12 percent of the respondents have other kinds of accommodation facilities such as staff quarters, etc. But in the case of north zone majority i.e. 52 percent primarily depend on the government funded house indicating the effectiveness of government housing programme.

Majority lives in houses which are made of kutcha and semi-pucca materials. There are zone-wise differences with respect to the quality of housing. Compared to the other two zones, north zone has reported more

kutchra and serviceable kutchra houses. But in the case of central zone the majority of the houses are in the semi-pucca and pucca conditions. About 68 percent live in an area between 201-500 sq. ft. In the case of north zone the area of house is comparatively lower.

Source of drinking water is one of the major determinants of the quality of life of the households. It can be identified that the majority depend on public and open source (about 50 percent) of water (public tap, public well and canal/river/pond), only few have own well (26.7 percent) and house water-connection (7 percent). The majority of the community members in the north zone depend on others sources. However, the respondents in the central and north zone, mainly depend on own well followed by public source etc. Majority do not have pucca latrine facilities. About 42 percent have latrine facility with door wall but no roof, 37.7 percent have serviceable latrines. However, north zone shows a dismal picture of households with regard to the latrine facilities. Main source of lighting is electricity (67.8 percent), which is followed by solar energy (15.7 percent), kerosene (14.5 percent), etc. it is also identified that Kerosene and solar energy are prominent to the community members. In the case of central and north zones, the use of solar energy is reported due to the difficulty in getting electric connections as they live in far-off and difficult terrains. Wood (74 percent) is the main fuel used for cooking in the households followed by kerosene and a very few have gas connection.

The main source of information among the community members is TV, followed by radio, newspaper, government officials, neighbours, public leaders and magazines. The zone wise inferences also show similar results.

6.1.5 Standard of Living

Standard of living measured in SLI frameworks shows that majority of the respondents have medium SLI values (42.3 percent); the remaining 47.7 percent have low SLI and 10 percent have high SLI. A zone-wise difference in living standards of community members has also been identified. Majority in south zone and central zone have about equal percentage (52 percent) in Medium SLI, and the North Zone contains 79 percent in the Low SLI. By and large, the standard of living mainly depended on income, education, etc. of the community members. There is significant difference between the Standard of Living (SLI) and income level of the community members as those with impressive living standards are in the high income category. Also, a variation in the SLI value based on the educational qualification attained by the individual can be identified as majority of the respondents having low SLI are having the low level of educational qualification and vice versa.

6.1.6 Community Views about Ecotourism

The community members have been benefitted immensely from forest and its resources. Since the ecotourism destinations are located amidst the wildlife settings, majority of them depend on forest for their livelihood. They prominently depend on natural food, edible plants for consumption, firewood's, bamboo etc. Livelihood security, followed by tourism related job, conservation and protection of the forest is of prime importance to them. It is well symbolized that these communities who have intimate relation and knowledge about the forest and wildlife have potential to be in the ecotourism activities. Here, it is heartening to mention that most of the community

members have drawn benefits from the forest through activities or jobs related to tourism like guide, watchers, etc.

Based on the perception of the community members, the major threat to the forest and wild life are many and according to them the top three are fire, littering/waste disposal and unethical tourism practices. Regardless of the fact that ecotourism involving local communities has been pivotal in ensuring environment protection and conservation to a certain extent, it is undeniable that the major threats are still lingering around endangering the flora and fauna of the destinations.

Community members in general are satisfied with the benefits they receive from the employment in tourism. Ranking the community members perception about the benefits of ecotourism development showed that community participation and infrastructural facilities obtained first rank and the second rank highlights the features like improvement of basic amenities, protection and conservation of nature and ecosystem, and improve sanitation/waste disposal facilities.

In order to understand the main factors that unveil the benefits of employment under ecotourism activities, 14 statements were valued using the factor analysis. It can be derived that the first factor is the “income and livelihood option” of the community members, the second is the ‘environmental factors’, the third one is the ‘advancement’ and the last one is “overall community development”. It is evident that community members are benefited from ecotourism through income and employment opportunities and the associated development in their lifestyle. By working in this they assure that it benefits the environment and helps to minimize the negatives. They

state that ecotourism benefits the advancement of the locals by the tourist's attraction and related improvements.

Seasonality aspect in ecotourism according to them is a major problem and it accentuates less earning (64.5 percent) from tourism as the activities related to tourism like guides, selling forest produce, hospitality services, etc. are seasonal in nature. The second problem they face is the interference of external stakeholders (58.6 percent) in exceeding carrying capacity and other environmental damages including the littering, encroaching, smuggling etc. Due to its profitable nature, ecotourism activities attract outsiders. This creates conflicts between the outsiders and insiders (41 percent). Another issue is the inadequacy in government spending (52.5 percent) on tourism development in the area. Most of the local communities engaged in the ecotourism activities belong to the indigenous communities, who find it difficult to comprehend and communicate with the mainstream (48.6 percent). Ecotourism destinations host domestic and foreign tourists from outside Kerala who have diverse culture, languages, lifestyle, etc. Majority of the respondents have stated that they face the issue of language barrier while communicating with tourists and officials.

The problem faced by the community members is further analysed using factor analysis with 13 statements. The first factor identified is the "Human factor", the second factor is the "Policy factor", and the last factor is the "Income and development factor". Even though it provides a conservation and employment, the interference of external stakeholders and the associated problems still persist, the income that community used to get will not be sufficient to meet the basic needs of the households.

While evaluating the perception of community members about their overall attitude towards ecotourism, majority (about 60 percent strongly agree) opined that ecotourism protects the natural resources and the activity should be purely protection oriented rather than money minded followed by the statement ‘income and quality of life has improved’, ‘ecotourism creates new market for our local products’.

6.1.7 Tourist Perception

The information on the tourist’s demographic characteristics like age, sex, educational qualification and annual income show that the age category of domestic and foreign tourists falls below the age group of less than 35 years (about 65 percent), whereas only 16 percent of tourists are aged above 46 years. The age group below 25 years consists of more international tourists (31.3 percent) compared to the proportion of domestic tourists (12.5 percent). Male-female ratio shows that the males constitute 56 percent of the sample and females with 44 percent. It is evident that the gender ratio shows a dissimilar result for domestic and international tourists. In the domestic context, it is seen that 71.6 percent are males and 28.4 percent are females, whereas in international context, the corresponding percentages are 43.8 percent and 56.3 percent respectively.

Majority of international tourists are post graduates whereas most of the domestic tourists are graduates. This makes clear that the majority of tourists are educationally qualified. Employment-wise categorization illustrates that 67.5 percent (i.e. 80.7 percent domestic and 57.1 percent international tourists) of the visitors are employed. There is significant difference between the employment status of domestic and international

tourists. There is disparity in the percentage of student visitors among domestic (10.2 percent) and international (40.2 percent) tourists. Thus, it may be inferred that the employed and the student categories are keen to visit the nature based tourism destinations of Kerala. A considerable participation from all income categories is identified both among domestic and international tourists. The majority of the domestic tourists (about 55 percent) are in the income category of Rs. 1 lakhs to Rs. 5 lakhs, whereas majority (54 percent) of international tourists accounted under the income category below Rs. 20 lakhs.

The expenditure baskets of the domestic as well as foreign tourists are dominated by expenses for food and beverages (28.18 percent) followed by transportation (21.68) and accommodation (22.47 percent) with international tourists spending more than their domestic counterparts. But it can be inferred that the expenditure of international tourist are much higher than the domestic tourist. The average expenditure of domestic tourists is about Rs. 2660/- and international tourists Rs.3792/-. Majority of the respondents prefer to spend 2 to 5 days in any destination. In the domestic context, about 46.6 percent stay for 2 to 5 days, and international tourist (61.6 percent) stay for 2 to 5 days.

Generally, the tourists opined that they visited Kerala mainly for the purpose of leisure (74.5 percent). Majority of tourists have strongly claimed that their motivation is to enjoy wilderness (26 percent) followed by break from busy life (25 percent), to learn and increase aware of nature (20 percent), to participate in recreational activities (17 percent) and to experience art and culture (12 percent). A few from the international tourist have showed interest in art and culture and visiting indigenous population. Hence the main activities

of the ecotourism destination are, to experience the environment, to rest and relax in pleasant settings, to experience the art and culture, to pursue special interests/skills etc.

Both domestic and International tourist are satisfied with the service availed from the local communities. They have a good opinion about the communities' knowledge on natural environment and wildlife, visitor management, information on local culture, waste management, and sustainable tourism. Further elaboration on the overall impression of tourists with regard to the destination was done with the help of a factor analysis by identifying 14 variables. The first factor is "easy access to basic facilities", the second factor is "basic necessities", and the third factor is "community based ecotourism" and the last factor is "other amenities". Most of the factors have been highly rated by the tourists and overall they are happy with the amenities provided at the destination. This reveals that Kerala has positioned its ecotourism destinations based on visitor satisfaction. Since, the tourists visit these destinations individually, with friends and families; and based on the facilities available for them the ecotourism destinations of Kerala can hold the potential to be marketed as 'family hideouts'.

The vast potential of ecotourism in Kerala has been well acknowledged by the visitors in the ecotourism destinations as these have potentialities, highly enthusiastic tour operators, well developed tourism circuits, active nature conservation groups, easy accessibility, good climate, ample information systems and excellent hospitality. Using a logistic regression, it is identified that the tourists are willing to revisit or recommend the destination to friends/relatives. The pertinent variables that influence the revisit decision

attributes are food and accommodation, safety and security, duration of stay, cleanliness of places, climate, expenditure of tourists, convenience and access, and shopping opportunities. The attributes like food and accommodation, safety and security, duration of stay and climate positively influences the decision making, whereas cleanliness of places have a negative influence on the decision making. The overall analysis makes it clear that majority are very much interested to re-visit ecotourism destinations in the state.

The SWOT framework on ecotourism observed several positive and negative factors that have implications in the promotion and development of various destinations. In order to sustain the potential of Kerala's ecotourism destinations, several factors like infrastructure, services, safety, and cost reflect the overall demand for the ecotourism sites. Hence, it is necessary to take sufficient policy options that maximizes strength and opportunity and minimizes weakness and threats.

6.1.8 Inclusive Development

The factors determining the impact of ecotourism programmes in the community was evaluated with the aid of a factor analysis with 12 selected statements. The worries and concerns of the community members about the impact of ecotourism on the environment are well understood from this analysis. It can be drawn that environment protection and the role of ecotourism in improving the income and livelihood options of the local communities is the most important factor concerning the community members. Social development is another major impact of ecotourism. It also enables the empowerment and development of the society to a large extent with livelihood and employment options. The ecotourism also provides cultural integration,

development and respect of the both local and foreign culture which in turn minimizes the disturbance of the environment and increases that social well being of the local communities.

To evaluate the perception of the community members about the inclusive development process, the parameters like ‘environment protection’, ‘employment option’, ‘local product market’, ‘community development’, ‘sustainability’, ‘quality of life’ and ‘infrastructural development’ were used in a low to high scale. It can be inferred that the majority of the community members scored the development process as medium and medium-high. Ecotourism as an environment protection option, 83 percent have shown their preference as medium-high level and very high level. 80 percent of them have indicated medium-high level to ecotourism as an “employment generation option”. 46 percent of medium and 35 percent of medium high level have pointed towards ecotourism as a market for their local products (including spices, honey, handicrafts etc). Majority (55 percent) opined medium level community development from ecotourism followed by 23 percent in the medium-high level of community development. Ecotourism as a matter of sustainable development, majority have claimed medium (41.8 percent) and medium-high (37 percent). Ecotourism will act as a tool for better education, good health, proper sanitation and improved standard of living vis-à-vis the “quality of life”. In this respect the community members have opinion that ecotourism programme will provide in a medium (60 percent) and medium-high (21.5 percent) level of development in the context of quality of life. In the context of infrastructural development, majority (62 percent) claimed that ecotourism brought about a medium level of development and 20.8 percent of medium-high level of development. Most of the community members across

zones opine that there has been medium to medium-high level of development in the destination due to ecotourism project. However, north zone shows a distinct pattern with respect to this.

The level of development is calculated based on the aggregate scores of the aforementioned 7 parameters. The result shows that majority show the medium with 39.2 percent followed by the low-medium with 30.2 percent and medium-high with 15.5 percent. The zone-wise comparison also shows clear inter-zone differences in the level of development. The medium region perception is occupied by the south zone, the central zone has fitted between medium and medium-high region, whereas the north zone occupies very high in very low and low-medium level. All the three zones are far from the ‘very high level’ indicating scope for further improvement.

To identify the ‘inclusive development option’ based on primary data a logistic regression is used. The pertinent variables are ‘environment sustainability’, ‘create livelihood option’, ‘improve quality of life’, ‘gender employment’, ‘higher income option’, ‘externalities’, ‘political interference’, ‘community interference’, ‘infrastructural development’ and ‘market for local’ handicrafts/spices etc. Results show that out of the 10 variables which have been considered as determining factors of inclusive development, 7 are statistically significant. The attributes like environment sustainability, create livelihood option, improve quality of life, and market for local handicrafts/spices etc positively influences the model, whereas infrastructural development, externalities, political interference, have a negative influences on the decision making. However, gender employability, higher income and community interference are not significant.

It is clear from the analysis that community based ecotourism has emerged as an important inclusive development option not only for the benefit of the socio-economic empowerment of the locals but also for the benefit of the ecology and sustainability of the region. Despite this, some inter-zone difference is observed; north zone shows comparatively low level of development, whereas the destinations in south and central zones are better off in terms of inclusive development initiatives. Despite the fact that north zone has majority of ecotourism destinations with scenic beauty, the tourist's visits are comparatively less in these destinations. This adversely affects the income and livelihood options of the local communities and hence the increase in the tourist arrival makes ecotourism development more inclusive in this zone as well.

6.2 Policy Options

- The study shows that community participation in ecotourism has benefitted the local communities without hampering the natural biodiversity of the destination. More involvement of local communities in conservation and ecotourism activities is requires with necessary action plan for inclusive and sustainable development.
- Forest fire, littering and unethical tourism practices, etc. are major threats which still are hampering the environment of the destination as well as the image of Kerala in the world tourism map. This calls for a close vigil by authorities as well as the stakeholders to minimize these threats.
- North zone destinations of the state, seems to be less attractive to the foreign visitors. A precise destination-wise policy decisions by the

authorities taking into account the social, economic, environmental and cultural aspects of ecotourism should be carried out so as to enhance the tourist visit to these regions. This would help in ensuring a sustainable and inclusive development of the community irrespective of ecotourism regions.

- Government spending for development of tourism infrastructure and allied facilities are inadequate to meet the necessities of tourists visiting the destinations. Hence, more government spending for the infrastructural development of the destinations is urgently warranted.
- Most of the local communities engaged in the ecotourism activities belong to the indigenous communities, who find it difficult to comprehend and communicate with the mainstream. Proper training in this regard helps to overcome the hurdles.
- Destination-wise evaluation of strengths, weaknesses, opportunities and threats should be done on a periodic basis so as to effectively design and develop programmes to mitigate the weakness and threats and to utilize the strengths and opportunities for inclusive and sustainable ecotourism development.

The inferences from this study calls for an inclusive strategy involving sustainable livelihood option for the local communities. The authorities concerned should also ensure community participation in each and every stage of the planning process. If everything is done properly for this niche tourism sector i.e. ecotourism, it would definitely be possible to place ecotourism of Kerala as an important tourism destination in the global tourism map.

6.3 Scope for Future Research

The present study focuses only a part of the ecotourism sector in Kerala based on community and tourists perception. Though this study is framed in livelihood and inclusive development framework, it gives lot of space for further research and analysis with empirical rigor as used in ecological, carrying capacity and linkage analysis models in ecotourism. This will help to fine tune sustainability in ecotourism *inter alia* livelihood of the community depending on this. Destination-specific seasonality in ecotourism and its ramification in livelihood is another interesting area of research linked to this study.

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Appendices

Appendix 1.1 International Tourist Arrivals from 1995 to 2014

year	FTA in (Million)
1995	527
1996	561
1997	587
1998	603
1999	625
2000	674
2001	675
2002	696
2003	692
2004	764
2005	809
2006	853
2007	910
2008	927
2009	891
2010	949
2011	997
2012	1038
2013	1087
2014	1138

Source: UNWTO, 2011, 2014, 2015;
UNESCAP, 2011

Appendix 1.2 Asia and Pacific Tourist Arrival from 1995 to 2014

year	FTA in (Million)
1995	82
1996	90
1997	89
1998	89
1999	98
2000	110
2001	115
2002	124
2003	112
2004	143
2005	154
2006	166
2007	182
2008	184
2009	181
2010	204.9
2011	217
2012	233.5
2013	249.8
2014	263

Source: UNWTO, 2011, 2014, 2015;
UNESCAP, 2011

**Community Participation in Ecotourism:
An Inclusive Development Option for Kerala**

Appendix 1.3 Foreign Tourist Arrivals in India 1995 to 2014

Year	FTA in (Million)	% Change
1995	2.12	
1996	2.29	8.0
1997	2.37	3.5
1998	2.36	-0.4
1999	2.48	5.1
2000	2.65	6.9
2001	2.54	-4.2
2002	2.38	-6.3
2003	2.73	14.7
2004	3.46	26.7
2005	3.92	13.3
2006	4.45	13.5
2007	5.08	14.2
2008	5.28	3.9
2009	5.17	-2.1
2010	5.78	11.8
2011	6.31	9.2
2012	6.58	4.3
2013	6.97	5.9
2014 [#]	7.46	7.0

[#]Provisional

Source: Ministry of Tourism, 2014,
Govt of India, 2015

Appendix 1.4 Foreign Exchange Earnings from Tourism in India during 1991-2013

Year	US\$ Million	% Change over Previous Year
1991	1861	-
1992	2126	14.2
1993	2124	-0.1
1994	2272	7
1995	2583	13.7
1996	2832	9.6
1997	2889	2
1998	2948	2
1999	3009	2.1
2000	3460	15
2001	3198	-7.6
2002	3103	-3
2003	4463	43.8
2004	6170	38.2
2005	7493	21.4
2006	8634	15.2
2007	10729	24.3
2008	11832	10.3
2009	11136	-3.7
2010	14193	27.5
2011	16564	16.7
2012	17737	7.1
2013	18445	4

Source: Ministry of Tourism, 2014;
Data.gov.in, 2015; Govt. of India, 2015

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Appendix 1.5 Year-wise Tourists Arrivals during 1980-2014

Year	Domestic	% Change	Foreign	% Change
1980	172832	-	21604	-
1981	194520	12.55	24315	12.55
1982	196120	0.82	24515	0.82
1983	201720	2.86	25215	2.86
1984	194336	-3.66	24292	-3.66
1985	338776	74.32	42347	74.32
1986	423756	25.08	50841	20.06
1987	510619	20.50	51816	1.92
1988	582050	13.99	52083	0.52
1989	634248	8.97	62952	20.87
1990	866525	36.62	66139	5.06
1991	948991	9.52	69309	4.79
1992	994140	4.76	90635	30.77
1993	1027236	3.33	95209	5.05
1994	1226722	19.42	104568	9.83
1995	3915656	219.20	142972	36.73
1996	4403002	12.45	176855	23.70
1997	4953401	12.50	182427	3.15
1998	4481714	-9.52	189941	4.12
1999	4888287	9.07	202173	6.44
2000	50,13,221	2.56	2,09,933	3.84
2001	52,39,692	4.52	2,08,830	-0.53
2002	55,68,256	6.3	2,32,564	11.3
2003	58,71,228	5.4	2,94,621	26.7
2004	59,72,182	1.7	3,45,546	17.3
2005	59,46,423	-4.3	3,46,499	0.27
2006	62,71,724	5.47	4,28,534	23.7
2007	66,42,941	5.92	5,15,808	20.37
2008	75,91,250	14.28	5,98,929	16.11
2009	79,13,537	4.25	5,57,258	-6.96
2010	85,95,075	8.61	6,59,265	18.31
2011	93,81,455	9.15	7,32,985	11.18
2012	100,76,854	7.41	7,93,696	8.28
2013	108,57,811	7.75	8,58,143	8.12
2014	116,95,411	7.71	9,23,366	7.6

Source: Kerala Tourism Statistics Highlights, 2014, 2015;
Statistics for Planning, 2009

Appendix 1.6 Month-Wise Tourist arrivals to Kerala

Tourist	JAN	FEB	MAR	APR	MAY	JUN
Domestic	996608	842565	845875	884109	1094086	797847
Foreign	119865	127153	93175	72441	36302	33898
	JUL	AUG	SEPT	OCT	NOV	DEC
Domestic	777948	899473	970136	1174814	1143110	1268840
Foreign	48577	69909	54245	71598	87720	108483

Source: Kerala Tourism Statistics Highlights, 2014

Appendix 1.7 District-wise Tourists Arrivals during 2014

Sl.No	District	Domestic	Percent Share	Foreign	Percent Share
1	Trivandrum	1707199	14.60	289612	31.36
2	Kollam	257097	2.20	12467	1.35
3	Pathanamthitta	112548	0.96	1379	0.15
4	Alappuzha	246156	2.10	60337	6.53
5	Kottayam	413182	3.53	44366	4.80
6	Idukki	635621	5.43	77905	8.44
7	Ernakulam	2724718	23.30	372997	40.40
8	Thrissur	2545376	21.76	7391	0.80
9	Palakkad	475361	4.06	2093	0.23
10	Malappuram	449420	3.84	21613	2.34
11	Kozhikkode	769425	6.58	11313	1.23
12	Wayanad	564274	4.82	11795	1.28
13	Kannur	584343	5.00	7563	0.82
14	Kasargod	210691	1.80	2535	0.27
Total		11695411	100.00	923366	100.00

Source: Kerala Tourism Statistics Highlights, 2015

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Appendix 2.1 No of EDC and EDC Households in Kerala

Sl. No.	Wildlife Division	No.of EDC	Forest Area Under EDC (ha)	Households		
				SC	ST	Others
1	Parambikulam	7	43	11	277	58
2	Aralam	3	1375	0	623	0
3	Silent Valley	7	869	23	184	197
4	Wayanad	15	0	18	716	70
5	Peechi	12	2800	178	171	487
6	Thiruvananthapuram	31	0	972	843	470
7	Shendurney	9	1950	207	0	346
8	Idukki	9	3850	0	276	473
9	Munnar	22	0	432	778	1251
10	Periyar East	35	0	219	505	0
11	Periyar West	40	0	1621	0	1736
Total		190	10887	3681	4373	5088

Source: Kerala Forest Department, 2014

Appendix 2.2 No.of EDC's (2010-2013)

Sl. No.	Wildlife Division	No.of EDC		
		2010	2011	2013-2012
1	Parambikulam	9	9	7
2	Aralam	3	3	3
3	Silent Valley	5	7	7
4	Wayanad	15	15	15
5	Peechi	11	11	12
6	Thiruvananthapuram	31	31	31
7	Shendurney	9	9	9
8	Idukki	9	9	9
9	Munnar	22	22	22
10	Periyar East	35	35	35
11	Periyar West	36	36	40
Total		185	187	190

Source: Various issues of Kerala Forest Statistics, 2014; 2013; 2012; 2011

Appendix 2.3 No. of VSSs (2010-2013)

Sl. No.	Territorial Division	No.of VSS			
		2010	2011	2012	2013
1	Thiruvananthapuram	20	20	20	20
2	Thenmala	11	11	11	11
3	Punalur	15	15	15	15
4	Konni	20	20	20	20
5	Ranni	33	33	33	34
6	Achencoil	6	6	6	6
7	Kottayam	3	13	13	13
8	Kothamangalam	10	10	10	10
9	Munnar	9	9	11	11
10	Marayoor	23	23	23	23
11	Mankulam	8	8	9	9
12	Malayattoor	17	17	17	17
13	Vazhachal	4	4	11	11
14	Chalakydy	10	10	10	10
15	Thrissur	20	20	21	21
16	Palakkad	11	11	11	11
17	Mannarkad	11	11	10	11
18	Nilambur South	14	14	14	14
19	Nilambur North	30	30	30	30
20	Nemmara	17	17	17	17
21	North Wayanad	17	17	17	17
22	South Wayanad	18	18	18	18
23	Kozhikode	16	16	17	17
24	Kannur	34	34	34	34
	Total	389*	387	398	400

*387 plus Silent Valley Buffer Zone -2

Source: Various issues of Kerala Forest Statistics, 2014; 2013; 2012; 2011

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Appendix 2.4 No of VSS and VSS households in Kerala

Sl. No.	Territorial Division	No.of VSS	Forest Area under VSS (ha)	Households		
				SC	ST	Others
1	Thiruvananthapuram	20	5936	394	1045	855
2	Thenmala	11	3200	332	408	1010
3	Punalur	15	4730	335	361	512
4	Konni	20	6905	266	92	1333
5	Ranni	34	5675	541	1053	2406
6	Achencoil	6	2700	181	141	288
7	Kottayam	13	3553	219	313	1465
8	Kothamangalam	10	2511	96	169	813
9	Munnar	11	11340	53	1047	577
10	Marayoor	23	1436	659	907	747
11	Mankulam	9	875	16	431	51
12	Malayattoor	17	26957	208	820	629
13	Vazhachal	11	14230	170	321	573
14	Chalakudy	10	4128	142	167	1598
15	Thrissur	21	3994	708	100	2455
16	Palakkad	11	2037	464	792	2009
17	Mannarkad	11	4976	75	537	512
18	Nilambur South	14	14099	199	328	1020
19	Nilambur North	30	22651	429	1203	4324
20	Nemmara	17	3407	667	302	2288
21	North Wayanad	17	13740	12	1538	839
22	South Wayanad	18	4416	67	1036	2519
23	Kozhikode	17	3901	310	95	2215
24	Kannur	20	5256.06	177	1608	3724
25	Kasargode	14	2480.2	342	411	2036
Total		400	175133	7062	15225	36798

Source: Various issues of Kerala Forest Statistics, 2014

Appendix 2.5 Zone wise Foreign tourist arrivals					
Sl	District	Zones	2014	2013	Percent of variation
1	Trivandrum	South	289612	268444	7.89
2	Kollam		12467	11403	9.33
3	Pathanamthitta		1379	1255	9.88
4	Alappuzha		60337	55364	8.98
<i>South Zone Total</i>			<i>363795</i>	<i>336466</i>	<i>8.12</i>
5	Kottayam	Central	44366	40932	8.39
6	Idukki		77905	68880	13.10
7	Ernakulam		372997	352314	5.87
8	Thrissur		7391	6459	14.43
<i>Central Zone Total</i>			<i>502659</i>	<i>468585</i>	<i>7.27</i>
9	Palakkad	North	2093	1874	11.69
10	Malappuram		21613	20569	5.08
11	Kozhikkode		11313	10489	7.86
12	Wayanad		11795	10844	8.77
13	Kannur		7563	6972	8.48
14	Kasargode		2535	2344	8.15
<i>North Zone Total</i>			<i>56912</i>	<i>53092</i>	<i>7.20</i>
Total			923366	858143	7.60

Source: Kerala Tourist Statistics, 2015

Appendix 2.6 Zone wise Domestic tourist arrivals					
Sl	District	Zones	2014	2013	Percent of variation
1	Trivandrum	South	1707199	1556435	9.69
2	Kollam		257097	235593	9.13
3	Pathanamthitta		112548	103276	8.98
4	Alappuzha		246156	225061	9.37
<i>South Zone Total</i>			<i>2323000</i>	<i>2120365</i>	<i>9.56</i>
5	Kottayam	Central	413182	382197	8.11
6	Idukki		635621	586546	8.37
7	Ernakulam		2724718	2545573	7.04
8	Thrissur		2545376	2366389	7.56
<i>Central Zone Total</i>			<i>6318897</i>	<i>5880705</i>	<i>7.45</i>
9	Palakkad	North	475361	438552	8.39
10	Malappuram		449420	419884	7.03
11	Kozhikkode		769425	728041	5.68
12	Wayanad		564274	519306	8.66
13	Kannur		584343	553899	5.50
14	Kasargode		210691	197059	6.92
<i>North Zone Total</i>			<i>3053514</i>	<i>2856741</i>	<i>6.89</i>
Total			11695411	10857811	7.71

Source: Kerala Tourist Statistics, 2015

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Appendix 2.7 Ecotourism Points under financial assistance from Directorate of Ecotourism

Name of Ecotourism Destination	District	Amount in Lakhs	Expenditure	Name of Ecotourism Destination	District	Amount in Lakhs	Expenditure
Ponmudi	Thiruvananthapuram	4.99	5.68	Nellyampathi	Palakkad	0	0
Kallar		13.45	8.33	Parambikulam		64.44	34
Mankayam		4.99	4.99	Siruvani		17	0
Neyyar-Peppara		46.5	30.98	Anaganmala		20	0
Palaruvi	Kollam	6.49	4.87	Silent Valley	Malappuram	0	0
Schenduruney		13.5	13.5	Nilambur north		85	78.59
Kudukkathupara		7	0	Nilambur South		30	23.35
Konni	Pathanamthitta	116.53	74.91	Peruvannamozhi	Kozhikode	13.7	13.7
Periyar	Idukki	124.18	115.76	Kakkayam		5.92	3.85
Chinnar		5.4	3.16	Thusharagiri		24.88	4.23
Cheeyappara		5	2.43	Janakikkad		15.11	9.95
Marayoor		15	7.07	Aralam	62.86	57.9	
Achruly		2.7	1.07	Paithamala	0	0	
Chellarcovil		3.34	3.09	Muthanga	24.58	15.73	
Anamudi		37	8.55	Pakkom Kuruva	8.52	1.64	
Kulamavu		5	3.74	Chembra Peak			
Rajamala		42.25	44.85	Soochipara			
Thattekkadu		0	0	Meenmutti			
Panellipor	Ernakulam	13.55	7.72	Banasurasagar	Wayanad	25	5.8
Chimony	Thrissur	10	8.59	Thirunelli-Pakshipathalam		5	4.79
Peechi		20	3.19	Grant Total		898.88	606.01
Athirappally-Vazhachal		0	0				

Source: Department of Forest, 2010

Appendix 3.1 Zone and Age Group

zone	Age Group 20						Total
	Below 20	20-30	30-40	40-50	50-60	60 Above	
South	3.4	36.6	34.9	13.7	9.1	2.3	100.0
Central	2.8	30.0	32.8	24.4	9.2	0.8	100.0
North	4.0	33.7	30.3	21.1	9.7	1.1	100.0
Total	3.3	33.0	32.7	20.3	9.3	1.3	100.0

Source: Survey Data

Appendix 3.2 Zone and Marital Status

	Marital Status				Total
	single	Married	divorced	widowed	
South zone	26.9	73.1	0.0	0.0	100.0
Central zone	25.2	74.0	0.4	0.4	100.0
North zone	31.4	67.4	1.1	0.0	100.0
Total	27.5	71.8	0.5	0.2	100.0

Source: Survey Data

Appendix 3.3 Zone and Sub Employment

zone	Sub Employment							Total
	Forest produce	Agriculture labour	Non Agriculture labour	Employment guarantee scheme	Private office job	Business	Others	
South	0.0	0.0	25.0	37.5	12.5	12.5	12.5	100.0
Central	27.3	9.1	9.1	9.1	0.0	27.3	18.2	100.0
North	58.3	41.7	0.0	0.0	0.0	0.0	0.0	100.0
Total	32.3	19.4	9.7	12.9	3.2	12.9	9.7	100.0

Source: Survey Data

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Appendix 3.4 Employed Activities and Zone

	Employed Activity							Total
	Watcher	Guide	Shop	Office work	Driver	Sweeper/ Cleaner	Others	
South zone	24.0	42.9	6.9	8.0	3.4	8.6	6.3	100.0
Central zone	20.0	42.0	7.6	8.8	7.2	8.8	5.6	100.0
North zone	19.4	32.6	12.6	6.3	8.6	14.3	6.3	100.0
Total	21.0	39.5	8.8	7.8	6.5	10.3	6.0	100.0

Source: Survey Data

Appendix 3.5 Gender and employed activity

	Employed Activity							Total
	Watcher	Guide	Shop	Office work	Driver	Sweeper /Cleaner	Others	
male	27.8	45.4	6.6	4.6	8.6	6.2	.9	100.0
female	0.0	21.2	15.8	17.8	0.0	23.3	21.9	100.0
Total	21.0	39.5	8.8	7.8	6.5	10.3	6.0	100.0

Source: Survey Data

Appendix 3.6 Zone and Days of employment

	Days of employment				Total
	Below 14 days	15-21	22-25	Above 26	
South zone	7.4	40.0	42.3	10.3	100.0
Central zone	8.4	20.0	44.8	26.8	100.0
North zone	14.3	43.4	36.0	6.3	100.0
Total	9.8	32.7	41.5	16.0	100.0

Source: Survey Data

Appendix 3.7 Zone and Saving pattern

	Saving pattern				Total
	daily	weekly	monthly	Others	
South zone	6.7	6.7	82.7	3.8	100.0
Central zone	14.7	7.7	71.8	5.8	100.0
North zone	9.4	10.4	79.2	.9	100.0
Total	10.9	8.2	77.0	3.8	100.0

Source: Survey Data

Appendix 3.8 Purpose and reason for savings and indebtedness

Purpose Of savings (a)	Percent	Type of Savings (b)	Percent	Source of Debt (c)	Percent	Purpose of Indebtedness (d)	Percent
Education of children	46.7	Co-operatives savings	7.3	Private money lenders	31.6	Purchase of land	4
Marriage	20.3	Bank savings	18.2	Kudumbasree	19.5	Agriculture	9.6
		Post office savings	18	Co-operative society	15.5	Education	12.4
Purchasing	14.4	Chit fund savings	10.5	Local shopkeepers	12.2	Treatment	13.4
				Friends/ neighbors	6.2	Livestock	6.4
To earn interest	12.6	Self helped Groups savings	10.5			Relatives	8.3
				To do business	5.9		
Total	100	Total	100			Total	100
						Total	100

Source: Survey Data

Appendix 3.9 Source of Information

	Source of Information								Total
	News paper	Tele vision	Maga zine	Radio	Neigh bours	Govt officials	Public leaders	Other sources	
South zone	18.1	30.4	1.9	22	7	15.1	5.1	0.5	100.1
Central zone	17.8	30.3	3.8	22.3	6.3	13	6	0.5	100
North zone	21.4	27.9	4.3	19.8	6.2	13.6	6	0.8	100
Total	19.10	29.53	3.33	21.37	6.50	13.90	5.70	0.60	100.03

Source: Survey Data

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Appendix 4.1 Importance of forest dependence

Importance	In Percent				
	Most Important	Important	Can't Say	Not important	Least Important
Forest produce	36.5	22.3	11.3	15.3	14.6
Herbal Medicines	13.8	30	21.9	26	8.3
Thatching for roofs	17.5	29.6	22.4	25.3	5.2
Raw materials for handicrafts	21	34.3	24.4	11.1	9.2
Water for irrigation/drinking	21.4	28.4	16.9	12.8	20.5
Conservation and Protection	32.9	36.7	10.6	10.4	9.4
Job in ecotourism	33.9	38.7	12.2	4.9	10.3

Source: Survey data

Appendix 4.2 Benefits of ecotourism Development

Type of benefit	Ranks in %				
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Community involvement	40.2	19.8	16.4	14.6	9
Infrastructure	36.8	29.6	13.2	12.2	8.2
Community activities for tourism	30.1	28.9	17.2	13.1	10.7
Improve basic amenities	19.3	37.2	19.1	11.4	13
Protection and conservation	24.5	27.8	21.8	12.8	13.1
Improve sanitation/waste disposal	20.8	21.2	21.8	20.8	15.4
Initiated training/ education	15.2	12.5	23.5	15.3	33.5

Source: Survey data

Appendix 4.3 Problems in Ecotourism

Problems	Yes	No	Total
Indifferent attitude of the locals	41.3	58.7	100
Indifferent attitude of the tourists	26.4	73.6	100
less earnings	64.5	35.5	100
Lack of nature awareness	20.8	79.2	100
Language barriers	48.6	51.4	100
Litter waste/plastic	36.5	63.5	100
less community involvement	34.1	65.9	100
External interference	58.6	41.4	100
Poor coordination /skill	34.6	65.4	100
less government spending	52.5	47.5	100
In accessibility to get the basic amenities	38.2	61.8	100

Source: Survey data

Appendix 4.4 Overall Attitude of the community about Ecotourism

Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
S1-Ecotourism development increase protection of natural areas	62	28.83	3.67	5	0.5
S2-Community should get into full time ecotourism	48.83	42.67	3.47	4.37	0.66
S3-Ecotourism should be promoted	56	28.17	12.5	3.33	0
S4-Income and quality of life has improved	54.17	34.5	1.83	7.83	1.67
S5-Ecotourism creates new market for our local products	52.67	21	13.67	7.66	5
S6-More litter/waste in this region due to tourists	51.83	31.5	7.33	7.67	1.67
S7-Ecotourism has negatively impacted the environment	17.17	27.83	9	42	4
S8-It has negatively impacted our local culture/values	12.5	21.5	17.17	41	7.83
S9-Ecotourism is resulting in overcrowding	43	23.17	15.67	16	2.16
S10-More govt. funds to develop and promote tourism	47	47.17	1.73	4.1	0
S11-Protecting environment and natural habitat is more important	60.33	27.83	11.01	0.83	0
S12-Stricter laws are needed	31.33	41	8.14	18.53	1

Source: Survey data

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Appendix 4.5 Tourist information and Nationality

	Nationality													
	Australia	Canada	Denmark	England	France	Germany	Indonesia	Israel	Netherland	Russia	Scotland	Singapore	USA	Total
International	5.4	2.7	8.9	20.5	15.2	12.5	3.6	2.7	8.9	1.8	6.3	2.7	8.9	100.0
	State/UTs										Total			
	Andhra Pradesh	Delhi	Gujarath	Karnataka	Kerala	Maharashtra	Orissa	Punjab	Rajasthan	Tamilnadu				
Indian	12.5	4.5	10.2	22.7	15.9	14.8	3.4	3.4	2.3	10.2	100.			

Source: Survey data

Appendix 4.6 Tourist information and Age

	Age					Total
	less than 25	Between 25 and 35 years	Between 36 and 45 years	Between 46 and 55 years	Above 55 years	
Domestic	12.5	37.5	27.3	20.5	2.3	100.0
International	31.3	44.6	13.4	7.1	3.6	100.0
Total	23.0	41.5	19.5	13.0	3.0	100.0

Source: Survey data

Appendix 4.7 Gender ratio

	Sex		Total
	Male	Female	
Domestic	71.6	28.4	100.0
International	43.8	56.3	100.0
Total	56.0	44.0	100.0

Source: Survey data

Appendix 4.8 Educational Qualification

	Educational Qualification				Total
	High school	Vocational/ trade school	College	Post-Graduate	
Domestic	2.3	4.5	58.0	35.2	100.0
International	.9	8.9	36.6	53.6	100.0
Total	1.5	7.0	46.0	45.5	100.0

Source: Survey data

Appendix 4.9 Tourist information and Employment Status

	Employment Status				Total
	Employed	Unemployed	Student	Retired	
Domestic	80.7	9.1	10.2	0.0	100.0
International	57.1	0.0	40.2	2.7	100.0
Total	67.5	4.0	27.0	1.5	100.0

Source: Survey data

Appendix 4.10 Annual Income of the Tourists

	Domestic tourist income					Total
	No earnings	Below 1,00,000	1,00,001- 2,50,000	2,50,001- 5,00,000	Above 5,00,000	
Domestic	19.3	4.5	20.5	35.2	20.5	100.0
International	No earnings	Below 10,00,000	10,00,001- 20,00,000	20,00,001- 30,00,000	Above 30,00,001	
Total	18.8	33.0	21.4	17.0	9.8	

Source: Survey data

Appendix 4.11 Tourist information and Duration of Visit

	Duration of Visit			Total
	A day	2-5 days	6 days and above	
Domestic	43.2	46.6	10.2	100.0
International	20.5	61.6	17.9	100.0
Total	30.5	55.0	14.5	100.0

Source: Survey data

**Community Participation in Ecotourism:
An Inclusive Development Option for Kerala**

Appendix 4.12 Tourist information and Purpose for Visiting

	Reason for Visiting						Total
	Leisure	Business	Visiting friends & relatives	Education	Volunteerism	other	
Domestic	79.5	4.5	10.2	0.0	2.3	3.4	100.0
International	70.5	2.7	.9	6.3	8.9	10.7	100.0
Total	74.5	3.5	5.0	3.5	6.0	7.5	100.0

Source: Survey data

Appendix 4.13 Motivation of Visit

Factors	Very important	Important	Not very important	Not important
To learn and increase awareness about nature	46.14	48.72	4	1.14
Getting a chance from busy life	57	34.71	2	6.29
To enjoy wilderness	58.22	33.21	8.57	0
To participate in recreational activities	38.3	46.84	8.57	6.29
To experience art and culture	28.23	44.22	15.12	12.43

Source: Survey data

Appendix 4.14 Activities

Activities	Domestic		International	
	Counts	Percent	counts	Percent
Art and Cultural programmes	15	5.23	43	10.75
Visiting indigenous populations	4	1.39	39	9.75
Visiting national parks	48	16.72	57	14.25
Cultural heritage sights	24	8.36	38	9.5
Bird watching	44	15.33	35	8.75
Visiting villages	20	6.97	35	8.75
Trekking	36	12.54	44	11
Wildlife viewing	70	24.39	87	21.75
Others	26	9.06	22	5.5
Total	287	100	400	100

Source: Survey data

Appendix 4.15 Tourist Satisfaction in terms of Community expertise

International	Excellent	Good	Satisfactory	Unsatisfactory	Total
Protection of nature and environment	25	67	8	0	100
local Culture	9.8	68.8	19.6	1.8	100
Waste management	6.3	42.3	39.3	12.1	100
Sustainable Tourism	10.7	60.7	20.1	8.5	100
Visitor Management	25.9	62.5	9.8	1.8	100
Domestic	Excellent	Good	Satisfactory	Unsatisfactory	Total
Protection of nature and environment	23	47.5	29.5	0	100
local Culture	10.9	51.6	37.5	0	100
Waste management	9.8	45.3	37.6	7.3	100
Sustainable Tourism	15.8	50.5	28.4	5.3	100
Visitor Management	20.1	45.5	28.4	6	100

Source: Survey data

Appendix 4.16 Potentiality of Ecotourism Destinations in Kerala

Attributes	Excellent	Very high	High	Average	Low	Very low	Worse
Enough Potentialities	49.19	24.29	16.4	7.71	0.81	1.6	0
Enthusiastic tour operators	28.43	47.14	19.86	4.57	0	0	0
Well developed tourism Circuits	34.57	24	28	8.86	2.57	2	0
Active Nature Conservation group	38.86	25.14	13.14	16.29	5.43	1.14	0
Easy accessible destinations	29.14	27.43	10.29	19.14	9.6	4.4	0
Good Climate	52.86	23.14	8.86	7	8.14	0	0
Ample tourism information system	28.71	30.29	18.01	8.29	6	6.14	2.56
Excellent Hospitality	39	24.86	15.86	13.43	2.86	3.57	0.42

Source: Survey data

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Appendix 5.1 Features of Development

	Environment Protection	Employment Option	Local Product Market	Community Development	Sustainability	Quality of Life	Infrastructural Development
Very Low	1.2	0.8	3.7	5.0	1.8	2.2	4.2
Low-Medium	3.0	4.7	7.5	9.2	9.5	9.0	7.3
Medium	12.8	6.2	46.0	55.2	41.8	60.0	62.8
Medium-High	61.5	80.2	35.0	23.2	37.0	21.5	20.8
Very High	21.5	8.2	7.8	7.5	9.8	7.3	4.8

Source: Survey data

Appendix 5.2 Levels of Development –Zone

	very low	low-medium	Medium	Medium-High	very High
South Zone					
Environment Protection	1.1	5.7	14.9	58.3	20.0
Employment Option	.6	4.0	3.4	84.0	8.0
Local Product Market	6.9	8.0	41.1	36.6	7.4
Community Development	5.7	8.0	53.1	26.3	6.9
Sustainability	1.1	12.0	41.7	37.1	8.0
Quality of Life	1.1	6.9	61.7	22.9	7.4
Infrastructural Development	3.4	6.3	63.4	18.3	8.6
Central Zone					
Environment Protection	.4	1.6	10.8	64.4	22.8
Employment Option	.4	5.2	3.2	81.2	10.0
Local Product Market	2.4	8.8	43.2	34.4	11.2
Community Development	4.0	7.6	55.2	24.4	8.8
Sustainability	2.4	7.2	40.4	38.8	11.2
Quality of Life	2.0	5.2	61.2	22.8	8.8
Infrastructural Development	4.4	6.8	60.8	24.8	3.2
North Zone					
Environment Protection	2.3	2.3	13.7	60.6	21.1
Employment Option	1.7	4.6	13.1	74.9	5.7
Local Product Market	2.3	5.1	54.9	34.3	3.4
Community Development	5.7	12.6	57.1	18.3	6.3
Sustainability	1.7	10.3	44.0	34.3	9.7
Quality of Life	3.4	16.6	56.6	18.3	5.1
Infrastructural Development	4.6	9.1	65.1	17.7	3.4

Source: Survey data

Appendix 5.3 Zone * Levels of Development Crosstabulation

	Levels of Development					Total
	Very Low	Low-Medium	Medium	Medium-High	Very High	
South zone	26.7	29.3	30.6	23.7	38.7	29.2
Central zone	35.0	33.1	41.7	55.9	61.3	41.7
North zone	38.3	37.6	27.7	20.4	0.0	29.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Survey data

Questionnaires

Area Code

Q.No

QUESTIONNAIRE
COMMUNITY PERCEPTION

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
COCHIN-682 022

1

COMMUNITY PERCEPTION

Name:

Location:

1. Age:
2. Gender..... Male Female
3. Marital status..... Single Married Divorced Widowed
4. Total numbers of members (including yourself) in your household
Adults..... **Children**
5. Formal education.....
 Illiterate Primary Secondary Up to SSLC SSLC pass
 Under Graduate Graduate and above
6. What is your **main** occupation Tourism Others
7. If others Specify.....
Forest produce Agriculture labour Non Agriculture labour Employment guarantee scheme Private office job Business Others
8. Average income.....?
9. Which activities or businesses related to tourism are you involved in?
.....
Watcher Guide Shop Office work Driver Sweeper/Cleaner Others

**Community Participation in Ecotourism:
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10. If yes, what percentage of your total income came from tourism activities in the last year?
.....%

11. Days of employment.....

12. Are you presently living in

Govt funded Govt Rental Parents Own Others (specify).....
/provided Quarters

13. Type of House.....

Servicable Kutcha Kutcha Semi pucca Pucca

14. Area of House.....Sq.ft

15. What is the main source of drinking water in the household?

Own well House connection Public well/taps
 Canal/river/ pond/Stream Shared from Others

16. Sanitation facility.....

No latrine Serviceable Latrine with Latrine with door, Pucca
 Latrine door, wall wall, roof Latrine

17. Source of light in the household?

Electricity Solar Kerosene Other (specify).....

18. Cooking fuel

Wood Kerosene Gas Others (Specify).....

19. Main source of information? (Multiple option)

Newspaper TV Magazine Radio Neighbors
 Government official's Public leaders Other (specify).....

20. Do you hold active bank account?..... Yes No

21. Does your family save?Yes No
22. If yes, how often do you save?
Daily Weekly Monthly other (specify).....
23. Do u have any indebtedness? Yes No
24. For what purpose do you save?
- For purchasing
 - Education of children
 - Marriage
 - To earn interest
 - To do business
25. Where do you save?
- Bank Post-office Chit fund SHG's Cooperative
 - At home Other (specify).....
26. Indebtedness from where/whom?.....
- Bank Private money lenders Kudumbasree Co-operative Society
 - Local Shopkeepers Relatives Friends/Neighbours Others.....
27. Purpose of Indebtedness.....
- Agriculture Education Treatment Live stock
 - Purchase of land Construction/Maintenance of house Marriage
 - Day to day expenditure Others(specify).....
28. What is the approximate distance from the forest border to your place of residence?km.
29. Does the forest benefit you personally in any way at the present?..... Yes No

**Community Participation in Ecotourism:
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30. If yes, Importance of forest dependence "1" being the *most important* benefit.

Importance	Most Important	Important	Can't Say	Not important	Least Important
Raw materials for handicrafts					
Herbal Medicines					
Thatching for roofs					
Forest produce					
Water for irrigation/drinking					
Conservation and Protection					
Job in ecotourism					

31. Does this forest face any future threats?..... Yes No

32. If Yes, which are the major threat to forest and wildlife?..... (Multiple Option)

- Felling trees Fires Littering/waste disposal Animal abuse
 Agriculture Unethical tourism Encroachment others....

33. Do you think that the development of tourism in this area can benefit your household / your community?..... Yes No

34. Rank the Benefits of Ecotourism

Benefits	Rank 1	2	3	4	Rank 5
Community involvement					
Infrastructure					
Community activities for tourism					
Improve basic amenities					
Protection and conservation					
Improve sanitation/waste disposal					
Initiated training/ education					

35.Statements of Benefits of Ecotourism

Statements	S.	A	N.A	D	S.D
It provides financial stability of the household					
My standard of living have improved					
Market for local products, forest produce					
Employment in ecotourism have increased my societal value					
it increases community development					
it have initiated training and empowerment of the locals					
Ecotourism provides a secured employment and livelihood option					
Now I have authority in natural resource management					
it have enhanced me to protect the nature from external exploitation					
Ecotourism provides development of nature and locales					
My present employment is more secure and predictable than before					
Tourist visiting improved knowledge and communication skills.					
It provides a platform for promoting local art, culture and tradition					
There is development because of tourist visiting					

Note: SA-Strongly Agree; A-Agree; N.A-Not applicable; D-Dis Agree; SD-Strongly Disagree

36.Problems faced working in ecotourism

Main Problems	Yes-1; No-2
Indifferent attitude of the locals	
Indifferent attitude of the tourists	
less earnings	
Lack of nature awareness	
Language barriers	
Litter waste/plastic	
less community involvement	
External interference	
Poor coordination /skill	
less government spending	
In accessibility to get the basic amenities	

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37. Statement of Problems in Ecotourism

Statements	SA	A	NA	D	SD
There is more litter/waste due to this tourism					
Tourism has negatively impacted the ecology					
It has resulted in overcrowding in wildlife settings					
There is exploitation of wildlife resources					
Indifferent attitude of the tourist					
Carrying capacity is not maintained					
Lack of coordination between the locales and officials					
There is no required government fund allocation					
There is no special training and skill development					
Lack of sustainable income generation activities					
Income from ecotourism is very low					
There is trespassing in the forest areas					
There is violation of rules and regulations					

38. Overall Attitude of the community about Ecotourism

Statements	SA	A	NA	D	SD
Ecotourism development increase protection of natural areas					
Community should get into full time ecotourism					
Ecotourism should be promoted					
Income and quality of life has improved					
Ecotourism creates new market for our local products					
More litter/waste in this region due to tourists					
Ecotourism has negatively impacted the environment					
It has negatively impacted our local culture/values					
Ecotourism is resulting in overcrowding					
More govt. funds to develop and promote tourism					
Protecting environment and natural habitat is more important					
Stricter laws are needed					

39. Please rate the Impact of Ecotourism Programme

Statements	SA	A	NA	D	SD
Build community management organisation					
Embed development in local culture					
Raise awareness the need for conservation					
Creates jobs in ecotourism					
Manage waste disposal					
Raise the income of local peoples					
Study the potential threat of the area					
Environmental education					
Raise funds for community development					
Raise the quality and standard of living					
Enable the participation of local people					
Ensure rights in natural resource management					

40. Please rate the score of the following indicators in this destination.

Indicators	Extreme low 1	2	3	4	5	6	7	8	9	Extreme High 10
Environment Protection										
Employment Option										
Local Product Market										
Community Development										
Sustainability										
Quality of Life										
Infrastructural Development										
Overall Development										

**Community Participation in Ecotourism:
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41. Does working in Ecotourism ensure the Inclusive development?..... Yes No

42. In which ways does this develop

- It provides Income and Livelihood
- It provides higher income option
- It improve basic amenities (including education, welfare, health.....etc)
- It ensures Environmental Sustainability
- It allows employment of both Men and Women
- Initiate Training/ education for locals
- It provides infrastructural development (roads, communication, hospitals..etc)
- It minimizes negative external factors
- Attract outside interference
- Attract more community Interference
- It provides an avenue for local markets (including honey/handicraft/spices etc)
- Other (specify).....

43. Please rank the **top five** employment opportunities in the area, with '1' being the *best* opportunity.

Activity	Rank
Agriculture	
Non Agricultural	
Logging	
Employment schemes	
Wood carving/Sculpting/handicrafts	
Building/Construction	
Marginal labour	
Fishing	
Private business	
Others (specify).....	

44. Comments

1. Do you like the tourists visiting your community? Yes No
2. How do you perceive the attitude of the tourists towards the local people?
Very friendly Friendly Indifferent
Unfriendly Very unfriendly (hostile)
3. Have you noticed any changes in your community as a result of tourists' visits here?.....
Yes No
4. If Yes, how do you regard those changes?..... Positive Negative
5. What is the general reaction of this community towards tourists visiting this area?.....
Very friendly Friendly Indifferent
Unfriendly Very unfriendly (hostile)

Feedback.....
.....
.....
.....
.....
.....
.....

**Community Participation in Ecotourism:
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Area Code

Q.No

QUESTIONNAIRE
TOURIST PERCEPTION

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
COCHIN-682 022

Tourist Questionnaire

1. Name :.....
2. Nationality.....Place of Origin.....
3. Your approximate age:.....
4. Gender : Male Female
5. Employment?
6. What is the highest level of education that you completed?
 High School Vocational/ Trade School
 College Post-Graduate
7. Employment Status.....
 Employed Unemployed Retired Student
8. Your annual income:
9. Are you traveling?
 Alone As a couple With friends With family
10. How many people are in your travel party?.....
11. Duration of visit.....days
12. How did you make your travel arrangements to this site? (Please choose one)
 Independently (on our own) Travel agent/Tour operator
 Other, please specify.....
13. What was your primary reason for visiting this area? (Please choose one)
 Leisure Business Visiting friends and relatives
 Other _____ Education
 Volunteerism
14. What activities have you been doing or will you be doing while in this area? (please check all that apply)
 Art and Cultural programmes wildlife viewing visiting villages
 Bird watching cultural heritage sights visiting national parks
 Visiting indigenous populations Trekking
 others (Specify).....

**Community Participation in Ecotourism:
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15. Motivation to visit the destination (tick)

Motivational Factors	Very important	Important	Not very important	Not important
To learn and increase awareness about nature				
Getting a chance from busy life				
To enjoy wilderness				
To participate in recreational activities				
To experience art and culture				

16. Your rating of service rendered by the local community member on the following aspects of their expertise (Please Tick).

Factors	Excellent	Good	NA	Satisfactory	Unsatisfactory
Protection of nature and environment					
Information on local Culture					
Waste management					
Sustainable Tourism					
Visitor Management					

17. Kindly give your impression/Satisfaction on each of the following aspects (Please Tick)

Particulars	Excellent	Good	N A	Bad	Very bad
Leisure activities					
Diversity of wildlife					
Facilities to children					
Shopping opportunities					
Availability of local handicrafts					
Convenience, access and telecommunication					
Helpful police services					
Interpretation of local/tribal culture					
Food					
Accommodation					
Sanitation facilities					
Variety of ecotourism activities					
Staffs skills and activities					
Other amenities					

22. Would you recommend that a friend of yours visit this area?

Yes No why or why not? _____

23. Approximately how much money did you spend during the visit to this area?

Transportation Local _____
 Food/Beverages _____
 Souvenirs/shopping _____
 Shopping _____
 Guide _____
 Lodging _____
 Other _____

21. How do you visualize Kerala as an ecotourism destination; (Rate your opinion)

	Very high 1	2	3	4	5	6	Very low 1	
Enough Potentialities (National parks/wild life sanctuaries,(Protected areas)								Very low Potentialities (National parks/wild life sanctuaries,(Protected areas)
Enthusiastic tour operators								Discouraged tour operators
Well developed tourism circuits								Not much developed tourism circuits
Active nature conservation groups								In active nature conservation groups
Easy accessibility								Difficulty to access
Good climate								Bad climate
tourism information system								Poor tourism information system
Excellent Hospitality								Very poor Hospitality

Feedback/Suggestions.....



Livelihood security and Socio-economics of Community Based Ecotourism (CBET) in Kerala

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Most of the ecotourist destinations in Kerala are inhabited by the weaker sections of the society including tribes who still lag in the path of development experienced in other parts of the state. Ecotourism projects in Kerala are based on the concept of sustainability in the tourism sector where there is a balance between the nature and the people living there. Community support is the most important factor for the success of ecotourism projects. The Forest Development Agencies (FDA) is a consortium of the Eco Development Committee (EDC) or Vana Samrakshana Samithi (VSS), an institutional setting in Kerala's forest for their social nesting. Understanding the socio-economics and opinion of the local community members would help to situate whether the people who matters the most in these initiatives are satisfied with the employment and livelihood options available to them. These community members depend on forest for their livelihood as majority are working as guides, watchers and other employees at the tourist sites. The data for the study is obtained from a primary survey consists of 650 respondents living in the ecotourism sites by dividing Kerala in three zones. The study shows that most of the socio-economic indicators of the community in the ecotourist centres show a positive trend once these centres have been active with tourists. This has reflected in monthly income earnings, education attainment of the community, saving habits and related attainments.

Keywords: Ecotourism, Livelihood security, Eco Development Committee, Vana Samrakshana Samithi, Standard of living index JEL Classification: Q01, Q26

Tourism Industry is a major source of income and employment which is expected to grow at a considerable pace, because of its buoyant growth. Within the tourism sector, the growth of ecotourism has been phenomenal during the last decade with the increase in tourist inflow and associated activities. In Kerala, most of the Ecotourist destinations are inhabited by the weaker sections of the society including tribes who still lag in the path of development set-up experienced in other parts of the state. 56 potential ecotourism destinations from 14 districts have been generally accepted by Kerala Tourism Department (Govt. of Kerala, 2006). Ecotourism projects in Kerala are based on the concept of sustainability in the tourism sector where there is a balance between the nature and the people living there. 15 wild life sanctuaries and 5 national parks form a predominant role in the ecotourism initiative of the state. These projects are successfully undergoing because of popularity and tourist demand. The ecotourism development of Kerala and the simultaneous increase in the flow of tourists to these ecotourist destinations would help in providing livelihood opportunities to the local communities and the betterment of their lives.

The Forest Development Agencies (FDA) scheme aimed at providing employment to the local forest dependent communities through afforestation and conservation programmes, thereby creating valuable forestry assets for the forest dependent communities and other durable community assets for overall eco-development of the target communities. The FDA thus can be stated as a consortium of the Eco Development Committee (EDC) or Vana Samrakshana Samithi (VSS) institutional settings in Kerala. Ecotourism activities in these protected areas need close monitoring. Tourism in these protected areas should be eco-

logically sustainable and the visitor should be educated about the environment conservation and biodiversity. Since the members of VSS and EDC's are the inhabitants of the forest, they have intimate knowledge about the wildlife, and their survival instinct could be best used for participating in ecotourism activities. By participating in ecotourism activities in addition to conservation and protection, the benefit they earn from these monitoring should be accumulated to the local population to ensure sustainability (Tisdell, 2003; Ross and Wall, 1999). Hence, tourism in these protected areas should be forest protection cum visitor management with active involvement of VSS/EDC members. These VSS/EDC members are trained for conducting ecotourism activities and to manage the destination. The income generated from visitor management will go a long way to meet the livelihood requirements of forest dependent marginalized communities, improve forest protection and satisfy the requirements of serious visitors.

Understanding the socio-economics and opinion of the local community members would help to situate whether the people who matters the most in these initiatives are satisfied with the employment and livelihood options available to them and level of physical and social infrastructure at the tourist spot. Community Based Ecotourism (CBET) has always advocated involving the local communities in the development initiatives as they are the most affected group during the conservation process. Most of the ecotourism sites are in and around the forest area and are occupied by local/tribal communities. These community members depend on forest for their livelihood as majority are working as guides, watchers and other employees at the tourist sites. Community support is the most important factor for the success of ecotourism projects. Without their support, this whole venture

can turn into a failure. Community support can be ensured only if the overall management scheme can be made attractive to local people to adopt it as a long-term livelihood strategy (Thampi, 2005).

Materials and Methods

As the power of decision making and implementation lies with the local communities, analyzing their perception is essential in designing and deriving strategies and action plans for these projects. Communities are a part of local ecosystem and decision makers should invest their time in understanding the communities involved. Any analysis in this regard will help to fine tune the ecotourism project ventures in a way to optimize the benefits of the project both to the environment as well as to the local communities. This analysis is an attempt to study the perception of the local communities in ecotourism destinations in the state. It also tries to situate the demographic and financial position of these communities inter alia their general outlook on forest conservation and the satisfaction level of the local community. Data of 650 (EDC/VSS) members from three zones, 230 from South zone (Thiruvananthapuram, Kollam, Pathanamthitta and Kottayam), 220 respondents from Central zone (Idukki, Ernakulam and Thrissur) and 200 from North zone (Palakkad and Wayanad) involved in various fields of CBET in Kerala are analyzed for this purpose. The allocation to each zone was on the basis of active

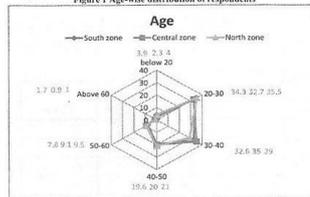
Table 1 Gender-wise distribution of samples

Zone	Gender (%)		N
	Male	Female	
South zone	74.8	25.2	230
Central zone	79.1	20.9	220
North zone	72.5	27.5	200
Total	75.5	24.5	650

EDC's/VSS in the area, population proportion, etc. Socio-economic variables, such as gender, age, education income, employment, saving pattern, banking habits, debt and standard of living index have been analysed by using statistical tools such as Chi-Square, and Correspondence analysis.

Results and Discussion

Figure 1 Age-wise distribution of respondents



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Gender-wise distribution of samples

As can be seen from Table 1, about 75.50 percent of the respondents are males and the rest (24.50 percent) are females. Zone-wise break up of data also shows similar results. In the south zone, 74.80 percent of

Table 2 Formal education of the community members

Zone	Formal Education %				Total
	10th and Below	Under Graduate	Graduate	Post Graduate	
South zone	34.70	25.90	59.10	36.60	35.40
Central zone	32.90	33.10	33.30	46.30	33.80
North zone	32.40	41.00	7.60	17.10	30.80
Total	100	100	100	100	100
% of Total	62.20	21.40	10.20	6.20	

Table 3(a) Chi-Square Tests (south, central and north zones)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.250 ^a	6	.000
Likelihood Ratio	38.732	6	.000
Linear-by-Linear Association	7.922	1	.005
N of Valid Cases	650		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.62.

Table 3(b) Chi-square Tests (south and central zones)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.388 ^a	3	.094
Likelihood Ratio	6.453	3	.092
Linear-by-Linear Association	.064	1	.801
N of Valid Cases	450		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.62.

the respondents are males and in the central zone 79.10 percent are males and north zone has the highest proportion of females in the sample (27.50 percent).

Agewise distribution of respondents

Majority of the respondents (66.5 percent) are in the age group of 20 to 40 years followed by the age group of 40-50 (20.2 percent), whereas only 1.20 percent constitutes the age group of above 60. Analysis within the zones, as can be seen from Figure 1, gives similar results with majority between the age group of 20-40.

Educational Qualification of the Community Members

We can infer from the analysis of the educational qualifications in Table 2 that majority (i.e. 62.20 percent) had a formal education of 10th class and below. Most of the locals had only basic school education. 21.40 percent are undergraduates, whereas 10.20 percent constitutes respondents having qualification of graduation and 6.20 percent have qualification of Post-graduation and above. We can further infer from Table 2 that majority of graduates and post graduates comes from south and central zones (36.60 percent of the post graduates are from the south zone and 46.30 percent are from the central zone and 59.10 percent of the graduates are from south and 33.30 percent from the central zone). There is not much difference in percentages when we

analyze the sample based on education level of 10th and below and under graduation. Even though Graduates and Post-graduates form a meager part of the total sample, more than 80 percent of the respondents having these qualifications are from South and Central zones. It is clear from Table 3(a) that there is difference in the formal education level between three zones. As can be seen from the cross tab analysis, the zone-wise difference is in the proportion of graduates and post-graduates as there are lesser percentage of graduates and post graduates in the north zone compared to other two zones. To confirm this, we have done the Chi-square of the zone and educational qualification by taking only south and central zones which show no significant difference between the same which is shown in Table 3(b).

Income, employment and saving pattern

Income and employment

Nearly ninety nine percent of the respondents work in tourism sector throughout the year as guides, naturalists, watchers, drivers, eco-shop workers, cook, etc. As can be seen from Figure 2 that 56.20 percent of respondents income is solely from tourism related activities. 34.80 percent of community members have income between 75-99 percent from tourism whereas the rest (9.10 percent) have less than 74 percent of their income from tourism. Zone-wise analysis

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Figure 2 Percentage of income from tourism

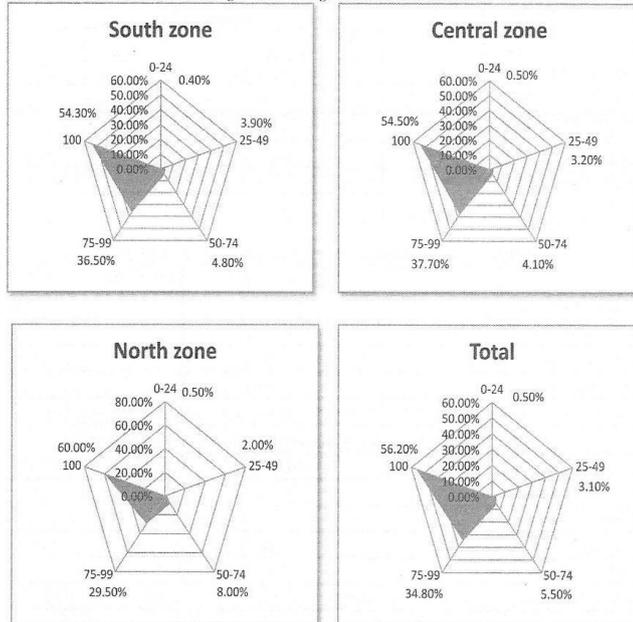


Table 4 Main occupation of the community members

Zone	Main occupation in %		Total
	Tourism	Other	
South zone	95.2	4.8	100
Central zone	96.4	3.6	100
North zone	93.0	7.0	100
Total	94.9	5.1	100

also shows similar results as is evident from Figure 2.

94.9 percent of the respondents have recorded their main occupation as tourism related activity and the remaining 5.10 percent are involved in activities such as agriculture, private sector jobs, coolie, etc. We can infer this from Table 4. Most of the community members around the tourist spots are opting tourism related occupation rather than doing petty business, manual labour, etc. If the community members were not provided with this option of working in the Community based ecotourism (CBET) initiatives, they would have been left with no choice other than depending on forest resources, which, in turn, would have resulted in exploitation of these resources. Regarding the tourism related occupation in which the community members are engaged in, about 40 percent are working as guides, followed by watchers (22 percent), other occupation (13.08 percent) and drivers and business (8.77 percent and 8.15 percent,

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workers. Their dependency on forest for their livelihood did not provide any security in income earnings.

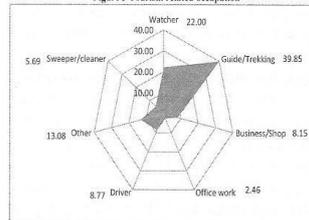
Banking habits

This section analyses the banking habits of the respondents in maintaining a bank account, savings, indebtedness, etc. Table 6 shows the total percentage of households having a bank account. It is evident that while 48.60 percent do not hold a bank account, where as 51.40 percent of households have bank account. Education level is an important determinant in the financial habits of the individuals. People with better education have better financial habits than those having less level of education. As can be seen in section (a) of Table 6, the level of education has an influence on banking behaviour. People with formal education of 10th and below (38.10 percent) hold a bank account. As we move to the respondents with higher qualification, the percentage moves in favour of those who are holding a bank account i.e., 43.60 percent of undergraduates hold a bank account. In the case of graduates, 92.40 percent hold a bank account. All the respondents having qualification of post graduation have banking habits. Saving pattern shows that 62.90 percent of the respondents had these habits and out of this 80.4 percent saved on a monthly basis. (see Figure 4). Education-saving pattern cross tabulation also evinces the same pattern (see section (b) of Table 6).

Figure 5 depicts the purpose for which the respondents save, i.e. whether they save for future consumption, education, marriage, earn interest or doing business. This category is dichotomized into revenue generating and non-revenue generating purposes. Saving to earn interest or to do business/self employment can be termed as a revenue generating affair and as consumption, marriage, for other purpose, etc. do not earn any direct or immediate financial returns and this is termed as non-revenue generating purpose.

The community member's nature of saving, i.e. whether they save in bank, post office, chit funds, SHG's, home savings, etc. (given in Figure 6) show that 18.20 percent of the respondents have bank savings, 18.00 percent have post office savings. 31.10 percent have other kind of savings. 10.50 percent of the respondents have savings in chit funds and self help groups. The rest have

Figure 3 Tourism related occupation



respectively). This is shown in Figure 3 and the zone-wise analysis also give similar results.

It can be inferred from Table 5 that majority of the respondents (55.50 percent) fall under the income group of Rs. 3001-4000. 23.80 percent has income between Rs. 4001-5000 and 13.20 percent has a monthly income between Rs. 2001-3000. And the rest (3.10 percent and 4.30 percent) has an income of Rs. 1001-2000 and above Rs. 5000 per month, respectively. Most of the community members are earning more than what they used to get as EDC/VSS

Table 5 Monthly income from tourism activities – Zone-wise

Zone	Income (in %)					Total
	1001-2000	2001-3000	3001-4000	4001-5000	Above 5000	
South zone	3.5	10.4	53.9	29.1	3.0	100
Central zone	3.2	13.2	56.4	24.1	3.2	100
North zone	2.5	16.5	56.5	17.5	7.0	100
Total	3.1	13.2	55.5	23.8	4.3	100

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Figure 4 Saving pattern

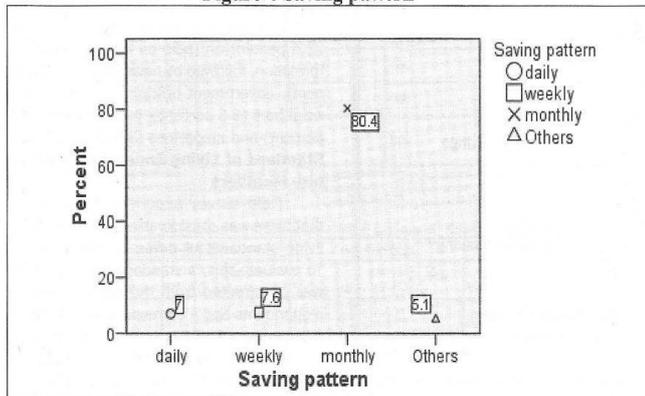
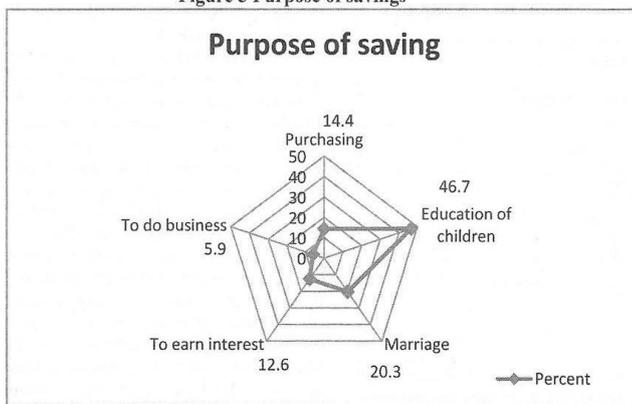


Table 6 Formal Education * holding of bank account * savings * indebtedness - Cross tabulation

Formal Education	(a) Holding of bank account (in percentage)		(b) Does your family save (in percentage)		(c) Indebtedness (in percentage)		Total (a)/(b)/(c) (in percentage)
	yes	no	yes	no	yes	no	
10 th and Below (1)	38.10	61.90	56.40	43.60	83.90	16.10	100.00
Under Graduate (2)	43.60	56.40	54.30	45.70	63.60	36.40	100.00
Graduate (3)	92.40	7.60	98.50	1.5	66.70	33.30	100.00
Post Graduate (4)	100.00	0.00	100.00	0.00	14.60	85.40	100.00
Total (5)	48.60	51.40	62.90	37.10	73.40	26.60	100.00

Figure 5 Purpose of savings



savings with co-operatives (7.30 percent) and home savings (4.40 percent).

In the case of indebtedness (section (c) of Table 6) it may be observed that number of people with debt comes down as the education level increases. Combined analysis shows that 73.40 percent of respondents have indebtedness of some sort. Regarding the source of the debt, 31.60 percent

borrowed from the private money lenders, 19.50 percent from Kundumbasree, 15.50 depended on the co-operative societies for their borrowing needs and 12.20 had indebtedness with the local shop keepers (see Figure 7).

Figure 8 situates the purpose for which the community members have taken indebtedness. Most of them borrow for day to day

expenses, construction of house, marriage, education, treatment, etc.

If we bring together bank account holding tendency, savings and borrowings, we can see that as most of the graduate and post graduate respondents have bank account and saving habits, they have lesser tendency to borrow compared to the rest of the group. Chi-Square analysis between education-holding of bank account, education-savings and education-indebtedness is given in Table 7(a). We can infer from the analysis that there is significant difference between formal educations level of the community member and his/her tendency to save, hold a bank account and to take debt.

Chi-square based on zones of these three banking habits viz. savings, bank account holding tendency and indebtedness [Table 7(b)] shows that there is no significant difference between zone and saving habits, while difference exists between zone and bank account holding tendency and zone and indebtedness.

Quality of life

Factors which represent the quality of living of the community members like ownership of house, source of drinking water, source of power, information source etc. are analysed in this section. of three zones in providing these amenities is depicted in this section.

Place of living

Analysis about the ownership of house brings to light that 80.80 percent of respondents live in their own house, 4.20 percent in rented house, 1.70 percent in their parent's house and 12.60 percent of the respondents have other kinds of accommodation facilities, such as staff quarters, etc (see Table 8). This shows that in the matter of accommodation/ housing facilities, more than 75 percent of the respondents are self-sufficient. Zone-wise analysis also gives similar outcomes.

Source of water

It is one of the major determinants of the quality of life of the households. The zone-wise analysis of source of drinking water of the households is given in Table 9.

From the overall analysis, we can infer that majority i.e. 63 percent depend on public source of water. Easy availability of drinking water is still a problem for community members. Inter zone analysis in Table 13 brings to the fact that majority (73.2 percent) of the community members in the south zone depend on their own well for water. When we take the case of the respondents in the central zone, they depend more on public sources for water [public tap (40.60 percent) and public well (22.9 percent)]. Only 28.90 percent have their own source for water (17.10 percent have

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Figure 6 Type of savings

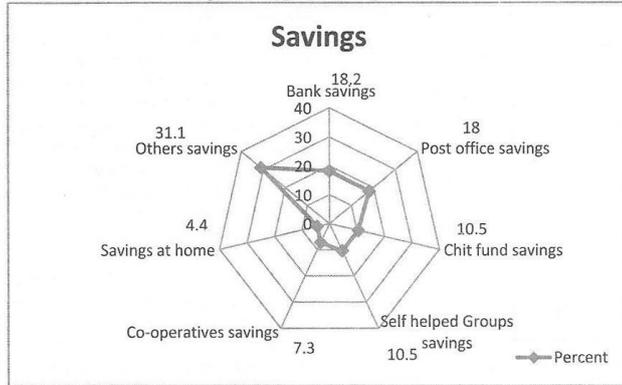


Figure 7 Source of Debt

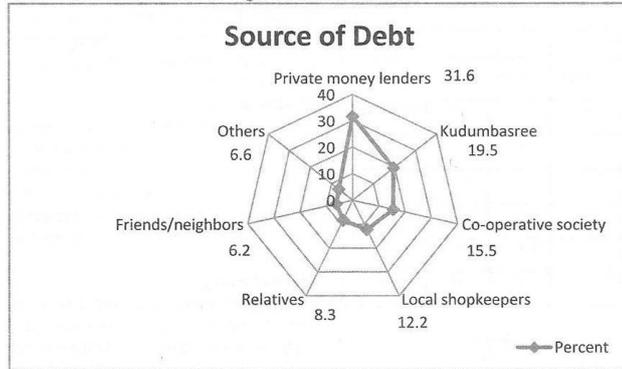
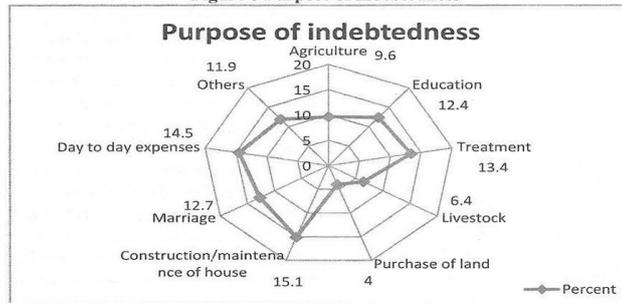


Figure 8 Purpose of indebtedness



own well and 11.80 percent have house connection). In north zone too, more than 60 percent (30.20 percent on public well and 37.20 percent on public tap) depend on public sources for drinking water. Only 30.20 percent of the respondents have own well and 2.40 percent have house connection.

Source of light

Table 10 points out that majority of the

respondents (76.2 percent) have electricity connection in their home, 20.70 percent use kerosene as their source of light, 6.2 percent uses other sources and 3.70 percent uses oil lamps as source of light in their house. Zone-wise analysis also gives similar results showing most of the respondents having electricity connection.

Source of Information

Community members were asked to

mark the sources from which they received news and information. Table 11 shows that across zones 29.6 percent depend on TV, 21.4 percent on radio as the source of information, followed by newspaper (19.0 percent), government officials (13.9 percent), neighbors (6.5 percent), public leaders (5.7 percent) and magazines (3.3 percent).

Standard of Living Index for Community Members

Field survey experience had shown that there was considerable difference in the living standards of different communities. To evaluate this, a standard of living index was constructed from the survey data for respondents and a correspondence analysis was performed. SLI is an index constructed to understand the general living conditions of people taking into account different indicators of lifestyle and living standards. These include socio-economic conditions like ownership of house, drinking water, energy used for lighting, etc. Each indicator was given scores in the band of one to three, where 1 is given for minimum value i.e. low SLI, 2 for medium value or medium SLI and 3 for maximum value or high SLI. The results of cross tab analysis and Chi-square tests with various parameters like zone, income, educational qualifications, etc. have been considered.

The results of the correspondence analysis in Table 12 show that north zone has the highest number of households in the Low SLI category, whereas central zone has the least number of households.

SLI-Income Cross Tab

It is inferred that there is significant difference between the Standard of Living parameters and income level of the community members. Community members having low SLI value (57.33 percent) are in the income group of Rs.3001-4000, 18.22 percent constitutes income levels of 2001-3000 and 14.22 percent in the income group of Rs. 4001-5000. Only 5.33 percent of the community members are in the income category of Rs.5000 and above. In the case of medium SLI category, we can see a similar pattern with slight variations in the percentages of medium SLI in 4001-5000 income categories. In the case of high SLI, respondents having an income above Rs.5000/ (see Figure 10).

From this it is clear that there is difference in SLI value based on income levels of respondents. This is statistically proved with the Chi-Square test values. The result shows that there is significant difference between income levels and Standard of Living of the community members (see Table 16).

SLI-educational qualification crosstab

When the effect of educational quali-

Table 7(a) Chi-square test (Education-bank account, Education-savings & Education-indebtedness)

	Education-Bank account ¹			Education-Savings ²			Education-Indebtedness ³		
	Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	113.513 ^a	3	.000	72.013 ^a	3	.000	104.123 ^a	3	.000
Likelihood Ratio	138.058	3	.000	101.634	3	.000	95.886	3	.000
Linear-by-Linear Association	96.495	1	.000	51.479	1	.000	86.778	1	.000

1. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.93.
 2. 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.20.
 3. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.91.

Table 7(b) Chi-square test (Zone-bank account, Zone-savings & Zone-indebtedness)

	Zone-Bank account ¹			Zone-Savings ²			Zone-Indebtedness ³		
	Value	Df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.975 ^a	2	.050	1.121 ^a	2	.571	8.921 ^a	2	.012
Likelihood Ratio	5.994	2	.050	1.117	2	.572	8.790	2	.012
Linear-by-Linear Association	3.951	1	.047	1.023	1	.312	3.858	1	.050

1. 0 cells (.0%) have expected count less than 5. The minimum expected count is 97.23.
 2. 0 cells (.0%) have expected count less than 5. The minimum expected count is 74.15.
 3. 0 cells (.0%) have expected count less than 5. The minimum expected count is 53.23.

Table 8 Place of living

Zone	Place of living (in %)					Total
	own house	rented house	relatives house	parents house	Other	
South zone	76.5	6.1	.9	1.3	15.2	100.0
Central zone	83.6	3.6	.9	1.8	10.0	100.0
North zone	82.5	2.5	.5	2.0	12.5	100.0
Total	80.8	4.2	.8	1.7	12.6	100.0

Table 9 Source of water

Zone	Source of water (in %)					Total
	Own well	House connection	Public well	Public tap	Canal/river pond	
South zone	73.20	2.40	17.10	0.00	7.30	100.00
Central zone	17.10	11.80	22.90	40.60	7.60	100.00
North zone	30.20	2.40	30.20	37.20	0.00	100.00
Total	28.30	8.70	23.20	33.50	6.30	100.00

Table 10 Source of light

Zone	Source of Light				N
	Electricity	oil Lamp	Kerosene	other	
South zone	75.5	4.4	19.2	6.1	230
Central zone	77.6	3.2	21.5	5	220
North zone	75.4	3.5	21.6	7.5	200
Total N	493	24	134	40	650
%	76.2	3.7	20.7	6.2	100

Table 11 Source of information

Zone	Source of Information								N
	Newspaper	Television	Magazine	Radio	Neighbors	Government officials	Public leaders	Other sources	
South zone	18.1	30.4	1.9	2.2	7	15.1	5.1	0.5	230
Central zone	17.8	30.3	3.8	22.3	6.3	13	6	0.5	220
North zone	21.4	27.9	4.3	19.8	6.2	13.6	6	0.8	200
Total N	228	355	39	257	78	167	68	7	650
%	19	29.6	3.3	21.4	6.5	13.9	5.7	0.6	100

Table 12 Zone-wise Correspondence analysis of SLI

SLI	South zone	Central zone	North zone	Total
Low SLI	32.00	29.30	38.70	100
Medium SLI	32.50	28.60	38.90	100
High SLI	37.10	36.60	26.30	100
Active Margin	230	220	200	650

Table 13 Summary table

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation
								2
1	.131	.017		.999	.999	.040	-.005	
2	.004	.000		.001	1.000	.037		
Total		.017	11.142	.025 ^a	1.000	1.000		

a. 4 degrees of freedom

Table 13 proves that there is a significant difference between zones and the SLI value which is further portrayed in the form of correspondence chart through Figure 9 Majority of households in the high SLI category are in south and central zones whereas the north zone is closer to the medium SLI and low SLI category.

cation on the SLI of the community members was analysed, considerable variation has been identified based on the educational qualification attained by the individual. The results are shown in Tables 15, 16 and Figure 11. It can be seen from the table that majority of respondents having low SLI are having the educational qualification of 10th and below (85.78 percent) and undergraduates (12.89). Graduates and post-graduates form only 1.33 percent (0.44 and 0.89 percent, respectively) of the total respondents having low SLI. But, there is an increase in the share of the other two categories with graduate respondents constituting 15.35 percent and post graduates 8.63 percent of the medium SLI category. In high SLI section, majority (52.86 percent) are post graduates, followed by graduates (24.28) and under graduates (14.29). Higher the educational qualification of the community members the greater will be the tendency to be in the high SLI category and vice versa. Chi-Square test also shows that there is significant difference in the SLI value of the respondents based on the educational qualification attained by them.

Conclusion

Community based ecotourism initiatives on the part of the government has benefitted the community in a big way as 56.20 percent of the community members in the sample solely depend on ecotourism as their only livelihood. Any setback, either seasonal or random, will have deleterious effect on their income and livelihood options inasmuch as they find it difficult to unearth alternative vocations in this alienated and difficult terrain. Moreover, the community is also striving hard to conserve the forest and ecosystem with a view to attracting more and more ecotourists, which in a way expands their livelihood base. This has been well specified by the respondents when asked about their main occupation, of which about 95 percent of the community members answered that their primary occupation is only related to ecotourism. Most of the socio-economic indicators of the community in the ecotourist centres show a positive trend once these centres have been active with tourists. This has reflected in monthly income earnings, education attainment of the community, saving habits and related attainments. Chi-Square analyses pertaining to various socio-economic analyses have also confirmed this.

Zone-wise analysis shows that the community members have benefitted totally from tourism development in the region as they have got both employments as well as secured livelihood options. This has helped to draw attention to reduce overall exploi-

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Table 14 SLI-income Chi-square

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	191.092 ^a	8	.000
Likelihood Ratio	76.136	8	.000
Linear-by-Linear Association	23.307	1	.000
N of Valid Cases	649		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .22.

Table 15 SLI-formal education cross tabulation

	Formal Education (in %)				Total
	10 th and Below	Under Graduation	Graduation	Post Graduation	
low SLI	85.78	12.89	0.44	0.89	100.00
medium SLI	49.88	26.14	15.35	8.63	100.00
high SLI	8.57	14.29	24.28	52.86	100.00

Table 16 Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	104.624 ^a	6	.000
Likelihood Ratio	116.874	6	.000
Linear-by-Linear Association	88.266	1	.000
N of Valid Cases	649		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .44.

Figure 10 SLI-income percentages

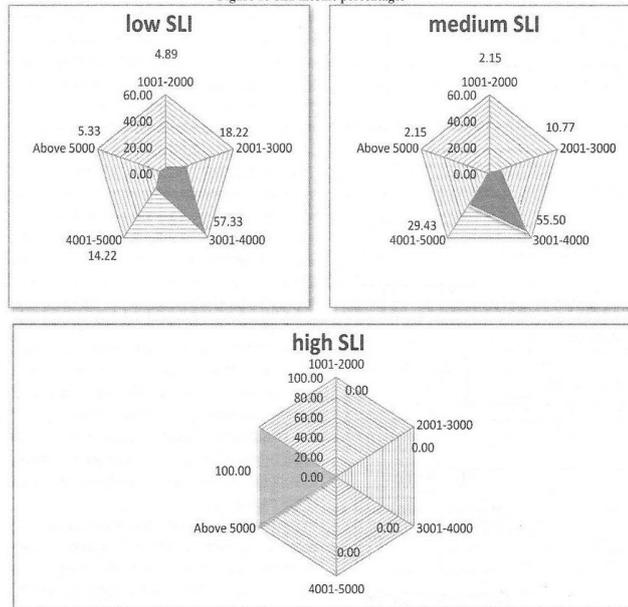


Figure 9 Scatter plot for row and column points SLI-Income

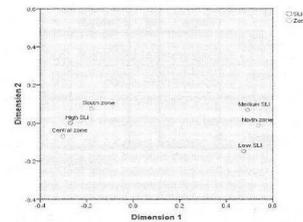
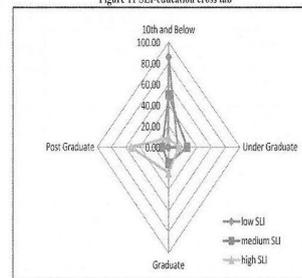


Figure 11 SLI-education cross tab



tation of forest land by these communities which in turn perpetuates sustainable development of ecotourist sites and ecotourism in Kerala. Inter-zone analysis to highlight the differences in the socio-economic aspects brings to the fact that difference between and among zones is marginal. This may be either due to the small geographical area of Kerala and as such the in-bound and out-bound ecotourism happening almost equally with all the ecotourist centres or may be due to different niche ecotourist sites are equally preferable to all the visitors coming over to Kerala for ecotourism activities.

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Socio-Economic Aspects of Sustainable Ecotourism Development: The Case of Kerala

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Abstract

The paper is an attempt to shed light on the socio-economic aspects of the local communities on the development of ecotourism in Kerala. Most of the local communities in the ecotourism destinations are tribes who have been excluded from the mainstream society and are not a part of Kerala's overall development setting. The paper also tries to situate the community perception on the sustainable livelihood of ecotourism sites of Kerala. Data for the study is obtained from a primary survey by dividing the ecotourism destinations in Kerala into three zones, 230 from south zone, 220 from central zone and 200 from north zone with a total sample size of 650 based on the notion of community based ecotourism initiatives of the state. The result of the study confirms that ecotourism has helped to enhance the livelihood of the marginalized community. With well-knit policies it is possible to tag ecotourism of Kerala as an important tourism destination in the global tourism map.

Key Words: Perception, Livelihood, Marginalized community, Community based Ecotourism, Sustainability

1. Introduction

Kerala, the southernmost State of India with 2.8 percent of the population is blessed with human development indicators at par with the developed countries. Literacy rate of almost 100 percent as well as high life expectancy and low infant mortality rates among Indian states make Kerala the most advanced state in terms of social sector development. Tourism has been given industry status by Kerala since 1986. Varied demographic traits and the resultant unique culture and traditions *inter alia* forest and wild life heritage tags make Kerala one of the popular ecotourism hotspots in the world with 56 potential ecotourism destinations (Govt. of Kerala, 2006). Most of the local communities in these destinations belong to tribes who have been excluded from the mainstream and are not a part of Kerala's overall development scenario. The community linked ecotourism activities helps in the inclusion of the local community in the development discourse of the state through the enlargement of ecotourism base in various parts of the state. The growth of ecotourism has been phenomenal during the last decade with an increase in tourist inflow and associated activities. Its emergence as one of the major source of income and livelihood for the local communities transformed them from exploiters of forest to conservators and protectors.

Community based ecotourism has always advocated the involvement of the local communities in the development initiatives as they are the most affected group during the conservation process. Most of the ecotourism sites in Kerala are in and around the forest area and are occupied by local tribal communities. These community members depend mostly on forest for their livelihoods. They also work as local tourist-guides, watchers and other employees at the tourist sites. As the forest resources are fast depleting the socio-economics of these communities to a greater extent depend on the earnings they get from the ecotourism destinations (Smith, 1989; Thampi, 2005; Rajasenan and Paul, 2012). The ecotourism policy of the government unequivocally focuses on the local community to safeguard their survival and sustenance and thereby the sustainability of the ecotourism destinations with the help of socio-economic impact assessment.

2. Materials and methods

The article is the result of an exploratory search into the socio-economic contour of the communities focusing on education, income and livelihood options as well as their perception about the ecotourism development in their area.

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Data for the study is obtained from a primary survey by dividing the ecotourism destinations in Kerala into three zones. Eco Development Committees/Vana Samrakshana Samithi (EDC/VSS) constitutes the data source and the sampling framework was decided on the basis of active EDC/VSS in the area, based on their population proportion. 230 EDC/VSS from south zone (Thiruvananthapuram, Kollam, Pathanamthitta and Kottayam), 220 from central zone (Idukki, Ernakulam and Thrissur) and 200 from north zone (Palakkad and Wayanad), with a total of 650 samples involved in various fields of community based ecotourism in Kerala represent the respondents of the survey. Statistical tools like Chi-Square, Correspondence Analysis, Likert Scale Analysis, etc. have been employed for analytical purpose.

3. Results and Discussion

3.1 Educational Qualification of the Community Members

Education acts as a determining factor for the socio-economic and livelihood of the forest communities connected with the ecotourism activities. Their historical backwardness and dwelling in difficult terrains make it difficult to acquire basic education and thereby to interact with the multi-cultural and multi-linguistic tourists visiting the ecotourism destinations. It can be inferred from the analysis of the educational qualifications in Table 1 that majority (i.e. 62.20 percent) has a formal education of 10th class and below. Most of the locals had only basic school education. 21.40 percent are undergraduates whereas 10.20 percent respondents are graduates and 6.30 percent are with post-graduation and above. Majority of graduates and post graduates come from south and central zones--36.60 percent of the post graduates are from the south zone and 46.30 percent are from the central zone and 59.10 percent of the graduates are from south and 33.30 percent from the central zone. There is not much difference in percentages when we analyze the sample based on education level of the 10th and below and under graduation. Even though graduates and post-graduates form a meager part of the total sample, more than 80 percent of the respondents having these qualifications are from the south and central zone. Table 2 (a) illustrates the Chi-Square analysis of zone and formal education. It is clear from Table 2 (a) that there is significant difference in the formal education level between three zones.

Table 1 (about here)

As can be seen from the cross tab analysis, the zone-wise difference is in the proportion of graduates and post-graduates as there are lesser percentages of graduates and post graduates in the north zone compared to the other two zones. To confirm this, Chi-Square of the zone and educational qualification, by taking only the south and central zones, is performed, which shows no significant difference between these, as is shown in Table 2 (b).

Table 2 (about here)

3.2 Income, employment and saving pattern

3.2.1 Income and employment

Employment and income are also equally important to place the position of the community in the economy and society. Nearly ninety nine percent of the respondents work in tourism sector throughout the year as guides, naturalists, watchers, drivers, eco-shop workers, cooks, craftsmen etc. As can be seen from Table 3, 56.20 percent of respondents are earning full income from tourism related activities and 34.80 percent of community members earn an income between 75-99 percent from tourism and the remaining 9.10 percent earn less than 74 percent from tourism. Zone-wise analysis also shows similar pattern.

Table 3 (about here)

It can be inferred from Figure 1 that majority of the respondents (55.50 percent) come under the income group of Rs. 3001-4000, whereas 23.80 percent has an income range of Rs. 4001-5000, 13.20 percent has a monthly income between Rs. 2001-3000. And the others (3.10 percent and 4.30 percent) have an income of Rs. 1001-2000 and above Rs. 5000 per month, respectively. Most of the community members are earning more after they start working as EDC. This shows that their security in income earning and thereby their livelihood security has increased once they start earning from tourism related activities. Because of this, the communities are now acting as conservators of forest in comparison to their earlier role as poachers and destroyers of forest. Analysis based on three zones also gives similar results.

Figure 1 (about here)

3.2.2 Banking habits

This section analyses the banking habits of the community pertaining to bank account, savings, and indebtedness. Section (a) (5) of Table 4 shows that 51.40 percent of households have bank account. Education level is an important determinant in the financial habits of the individuals as it shows a positive relationship between education and banking habits. Section (a) of Table 4 clearly evinces this fact as, people having a formal education of 10th and below (38.10 percent) hold a bank account and the rest (61.90 percent) do not have a bank account. As we move to the respondents with higher qualification, the percentage also moves in favour of holding a bank account as it is revealed that 92.40 percent of the graduate community holds a bank account. However, all the respondents having qualification of post graduation and above hold a bank account.

The saving habits of the community are satisfactory as 62.90 percent of the respondents have saving habits in varying temporal dimensions; 80.4 percent saved on a monthly basis, 7.6 percent have weekly savings, 7 percent save on a daily basis and the rest (5.1 percent) have other patterns of savings (see Figure 4.5). Education-saving cross tabulation also gives similar relationship as in education and bank account habits. Section (b) of Table 4 shows that people with higher education qualification, - post graduation and above, has 100 percent saving habits and this gets reduced with the downward shift in education level.

Figure 2 (about here)

Table 4 (about here)

Table 5 (a) highlights whether the respondents save for revenue generating and non-revenue generating purposes. Savings to earn interest or to do business/self employment can be termed as revenue generating and savings for consumption, marriage etc., which do not earn any direct or immediate financial returns are categorized into non-revenue generating ones. Table 4.9 shows that 46.70 percent of the respondents save for the purpose of education of children followed by marriage (20.30 percent), and consumption/purchasing (14.4 percent). Only one fifth of their saving (19.50 percent) is utilized for income generating purposes.

Table 5 (about here)

The nature of saving of the community members is given in Table 5 (b), which shows a diversified saving pattern useful for their survival and sustenance. In the case of indebtedness, we can see from section (c) of Table 4 that there exists an inverse relation between indebtedness and formal education; as the education level increases the tendency to borrow decreases. 83.90 percent of the 10th and below category of respondents have indebtedness. But we see a decelerating tendency when we relate indebtedness with higher and higher education levels as evidenced in section (c) of Table 4. But the combined analysis of indebtedness of the community shows an alarming picture with 73.40 percent. When we analyse the source of debt, they are really in debt trap with the money lenders (31.60 percent) as given in Table 5 (c). We can infer from Table 5 (d) that the percentage level of indebtedness is biased in favour of day to day expenses, construction of house, marriage, education and treatment which are purely unproductive in nature.

If we bring together bank account holding tendency, savings and borrowings, we can see that most of the graduate and post graduate respondents have bank account and saving habits, they have lesser tendency to borrow compared to the rest of the group. Chi-Square analysis between education-holding of bank account, education-savings and education-indebtedness is given in Table 6. The results of the Chi-Square show that there is a significant difference between formal education level of the community members and their tendency to save, hold a bank account and to incur debt.

Table 6 (about here)

Table 7 (about here)

Chi-Square analysis based on zones of these three banking habits viz. savings, bank account holding tendency and indebtedness (Table 7) shows that there is no significant difference between zone and saving habits, while a difference exists between zone and bank account holding tendency, and zone and indebtedness.

3.3 Community Perception

3.3.1 Managing tourism in the area

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The community members' perception on how they will manage tourism in their area, if given an opportunity based on ranking in a scale of 1 to 6 is shown in Figure 3. Majority of the respondents (57.60 percent) give first preference to the increase in the number of tourists currently visiting the ecotourism sites.

Figure 3 (about here)

3.3.2 Benefits from the forest

The response of the community members with regard to ranking the benefits from the forest is depicted in Figure 4. Tourism is given first rank by 60.90 percent of the respondents, followed by the procurement of wood products by the others. This shows that the majority of the community members are able to derive benefits from the forest without harming the environment.

Figure 4 (about here)

3.3.3 Future threats to the forest

Table 8 infers that 60.30 percent of the total respondents opine that the ecotourism destination pose threats. Regarding the type of threats from the forest, 67.30 percent feel that the main threat to the forest is in the form of fires, followed by the felling of trees (16 percent). Some of the community members (9 percent) hold the view that tourism activities which are not based on the carrying capacity of the sites will also act as a threat factor. Inter-zone analysis also confirms this as shown in Table 9.

Table 8 (about here)

Table 9 (about here)

3.3.4 Obstacles to tourism development

Obstacles to tourism development in the ecotourism sites are evaluated on the basis of the community members' perception in relation to 10 statements based on the degree of impact. The result is shown in Table 10.

Table 10 (about here)

It can be seen that 68 percent of the total respondents opine that unstable earning from tourism is an obstacle to tourism development. They are not happy about the government funding on development projects (79.50 percent) followed by the problem of language barrier (53.40 percent). Regarding the conflicting aspirations of officials and locals, only 19.10 percent argue this as a reason for lack of tourism development.

The respondents' perception regarding the degree of impact of these obstacles is shown in Figure 5. Community members believe that lack of adequate spending from the government and unstable earnings from tourism could be major obstacles in the development of ecotourism in their area. Except conflicting aspirations, all the other obstacles pose very serious or serious threats to the tourism development.

Figure 5 (about here)

3.3.5 Benefits to the household/community from tourism development

Major benefits from tourism, as cited by the respondents, are the development of transportation/communication facilities, improvement in sanitation/waste disposal facilities, and the inclusion of basic amenities (education, welfare, health, etc., developing more community activities for tourists, initiate training/education for locals, increase community involvement/ownership and other benefits). The respondents' ranking is shown in Table 11 and it shows that the increase in transportation facilities in ecotourism site was given the top rank by majority of respondents.

Table 11 (about here)

4. Conclusions

Ecotourism has helped the economic development and livelihood of the marginalized community of the ecotourism destinations. Most of the socio-economic indicators *inter alia* community perception show an upward trend in income and employment of the local people. One of the positive aspects of this is the reduction in the overall exploitation of forest land by these communities, perpetuating sustainable development of ecotourism sites and ecotourism in Kerala. Inter-zone analysis to highlight the differences in the socio-economic aspects points to the fact that, the difference among zones is marginal. This may be either due to the small geographical area of Kerala or to the different niche ecotourism sites which are equally preferable to all the visitors coming over to Kerala for

ecotourism activities. In order to sustain the potential of Kerala's ecotourism destinations, several factors like infrastructure, services, safety, and cost reflect the overall demand for the ecotourism sites, hence it is necessary to take sufficient policy options that maximizes strength and opportunity and minimizes weakness and threats. With appropriate policy options, it is possible to tag ecotourism spots of Kerala as an important tourism destination in the global tourism map.

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Table 1 Formal education of the community members

Zone	Formal Education (%)				Total
	10th & Below	Under Graduate	Graduate	Post Graduate	
South zone	140 (34.7)	36 (25.9)	39 (59.1)	15 (36.6)	230 (35.4)
Central zone	133 (32.9)	46 (33.1)	22 (33.3)	19 (46.3)	220 (33.8)
North zone	131 (32.4)	57 (41.0)	5 (7.6)	7 (17.1)	200 (30.8)
Total	404 (100.0)	139 (100.0)	66 (100.0)	41 (100.0)	650 (100.0)
(% of Total)	(62.2)	(21.4)	(10.2)	(6.3)	(100.0)

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Table 2 Chi-square result – zone and formal education

	(a) South, central and north zones ¹			(b) South and central zones ²		
	Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.250 ^a	6	0	6.388 ^a	3	0.094
Likelihood Ratio	38.732	6	0	6.453	3	0.092
Linear-by-Linear Association	7.922	1	0.005	0.064	1	0.801
N of Valid Cases	650			450		

1. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.62.
2. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.62.

Table 3 Percentage of income from tourism

Zone	Income from tourism (%)					Total
	0-24	25-49	50-74	75-99	100	
South zone	0.4	3.9	4.8	36.5	54.3	100
Central zone	0.5	3.2	4.1	37.7	54.5	100
North zone	0.5	2.0	8.0	29.5	60.0	100
Total	0.5	3.1	5.5	34.8	56.2	100

Table 4 Formal Education * holding of bank account * savings * indebtedness - Cross tabulation

Formal Education	(a) Holding of bank account (%)		(b) Does your family save (%)		(c) Indebtedness (%)		Total (a)/(b)/(c) (%)
	yes	no	yes	no	Yes	no	
	10 th and Below (1)	38.10	61.90	56.40	43.60	83.90	
Under Graduate (2)	43.60	56.40	54.30	45.70	63.60	36.40	100.00
Graduate (3)	92.40	7.60	98.50	1.5	66.70	33.30	100.00
Post Graduate (4)	100.00	0.00	100.00	0.00	14.60	85.40	100.00
Total (5)	48.60	51.40	62.90	37.10	73.40	26.60	100.00

Table 5 Banking habits

(a) Purpose of savings				(b) Type of savings			
Purpose	Responses		Percent of Cases	Type	Responses		Percent of Cases
	N	Percent			N	Percent	
Purchasing	64	14.4	18.8	Bank savings	104	18.2	27.2
Education of children	207	46.7	60.9	Post office savings	103	18	26.9
Marriage	90	20.3	26.5	Chit fund savings	60	10.5	15.7
To earn interest	56	12.6	16.5	Self helped Groups savings	60	10.5	15.7
To do business	26	5.9	7.6	Co-operatives savings	42	7.3	11
				Savings at home	25	4.4	6.5
				Others savings	178	31.1	46.5
Total	443	100	130.3	Total	572	100	149.3
(c) Source of Debt				(d) Purpose of indebtedness			
Source	Responses		Percent of Cases	Purpose	Responses		Percent of Cases
	N	Percent			N	Percent	
Private money lenders	305	31.6	66.9	Agriculture	120	9.6	26.1
Kudumbasree	188	19.5	41.2	Education	156	12.4	33.9
Co-operative society	150	15.5	32.9	Treatment	168	13.4	36.5
Local shopkeepers	118	12.2	25.9	Livestock	80	6.4	17.4
Relatives	80	8.3	17.5	Purchase of land	50	4	10.9
Friends/neighbors	60	6.2	13.2	Construction/maintenance of house	190	15.1	41.3
Others	64	6.6	14	Marriage	160	12.7	34.8
				Day to day expenses	182	14.5	39.6
				Others	149	11.9	32.4
Total	965	100	211.6	Total	1255	100	272.8

Note: Percentages and totals are based on responses; Percent of cases will add up to more than hundred.

Table 6 Chi-Square test (Education-bank account, Education-saving and Education-indebtedness)

	Education-Bank account ¹			Education-Savings ²			Education-Indebtedness ³		
	Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	113.513 ^a	3	.000	72.013 ^a	3	.000	104.123 ^a	3	.000
Likelihood Ratio	138.058	3	.000	101.634	3	.000	95.886	3	.000
Linear-by-Linear Association	96.495	1	.000	51.479	1	.000	86.778	1	.000

1. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.93.

2. 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.20.

3. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.91.

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Table 7 Chi-square test (Zone-bank account, Zone-savings & Zone-indebtedness)

	Zone-Bank account ¹			Zone-Savings ²			Zone-Indebtedness ³		
	Value	df	Asymp. Sig. (2-sided)	Value	Df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.975 ^a	2	.050	1.121 ^a	2	.571	8.921 ^a	2	.012
Likelihood Ratio	5.994	2	.050	1.117	2	.572	8.790	2	.012
Linear-by-Linear Association	3.951	1	.047	1.023	1	.312	3.858	1	.050

Source: Worked out from Appendix 1, 2 and 3

1. 0 cells (.0%) have expected count less than 5. The minimum expected count is 97.23.

2. 0 cells (.0%) have expected count less than 5. The minimum expected count is 74.15.

3. 0 cells (.0%) have expected count less than 5. The minimum expected count is 53.23.

Table 8 Future threats to the forest

Zone	Does the forest face any future threats (%)		Total
	yes	No	
South zone	138 (60.0)	92 (40.0)	230 (100.0)
Central zone	130 (59.1)	90 (40.9)	220 (100.0)
North zone	124 (62.0)	76 (38.0)	200 (100.0)
Total	392 (60.3)	258 (39.7)	650 (100.0)

Table 9 Main Threat to the forest

Zone	Main threat (in %)					Total
	Felling trees	Fires	over use of tourism	Agriculture	Other	
South zone	16.2	69.9	8.1	1.5	4.4	100.0
Central zone	17.1	67.	9.3	1.6	4.7	100.0
North zone	14.6	64.2	9.8	4.9	6.5	100.0
Total	16.0	67.3	9.0	2.6	5.2	100.0

Table 10 Obstacle to tourism development (in percent)

Obstacle type	South			North			Central			Total		
	Yes	No	total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Conflicting aspirations (goals) of local community and forest officials	21.3	78.7	100	16.8	83.2	100	19	81	100	19.1	80.9	100
Unstable earnings from tourism	73	27	100	61.8	38.2	100	69	31	100	68	32	100
Lack of proper awareness of community on tourism business	46.5	53.5	100	40.5	59.5	100	44.5	55.5	100	43.8	56.2	100
Lack of coordination between tourism authorities and forest authorities	29.1	70.9	100	28.2	71.8	100	32	68	100	29.7	70.3	100
Language barriers	52.6	47.4	100	55.5	44.5	100	52	48	100	53.4	46.6	100
Limited land for tourism use /expansion	37.8	62.2	100	33.2	66.8	100	38.5	61.5	100	36.5	63.5	100
Low participation of community in tourism	41.7	58.3	100	43.2	56.8	100	39	61	100	41.4	58.6	100
Political interference	25.7	74.3	100	18.2	81.8	100	20	80	100	21.4	78.6	100
Poor leadership at the community level	35.7	64.3	100	39.1	60.9	100	36	84	120	36.9	63.1	100
Lack of Government spending on development projects	79.6	20.4	100	79.1	20.9	100	80	20	100	79.5	20.5	100

Table 11 Ranking of benefits due to tourism development

Type of benefit	Ranks in %						
	1	2	3	4	5	6	7
Transportation	42.8	12.6	14.8	12.2	11.2	5.8	0.6
Improve sanitation/waste disposal facilities	10.8	21.1	21.8	25.8	15.4	5.1	0
Improve basic amenities (including education, welfare, health..etc)	18.3	38.2	15.1	11.8	10	5.2	1.4
Develop more community activities for tourists	20.8	14.9	18.2	23.1	13.7	8	1.4
Initiate Training/ education for locals	5.2	9.5	23.5	12.6	33.5	12.2	3.4
Increase community involvement/ownership	1.5	2.8	6.6	12.8	13.1	49.1	14.2
Others	2	0.9	2	2.8	14.6	77.7	0

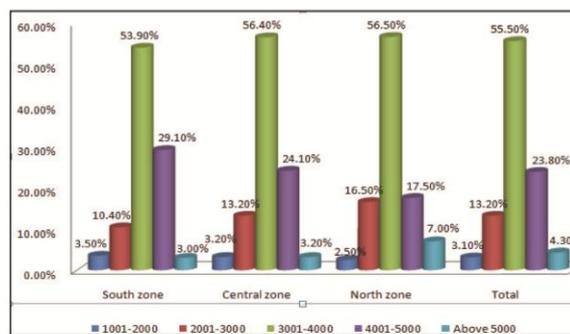


Figure 1 Monthly income from tourism activities

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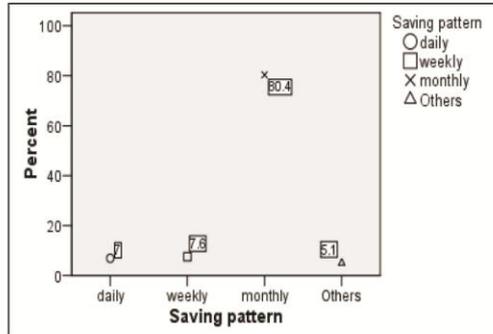


Figure 2 Saving pattern

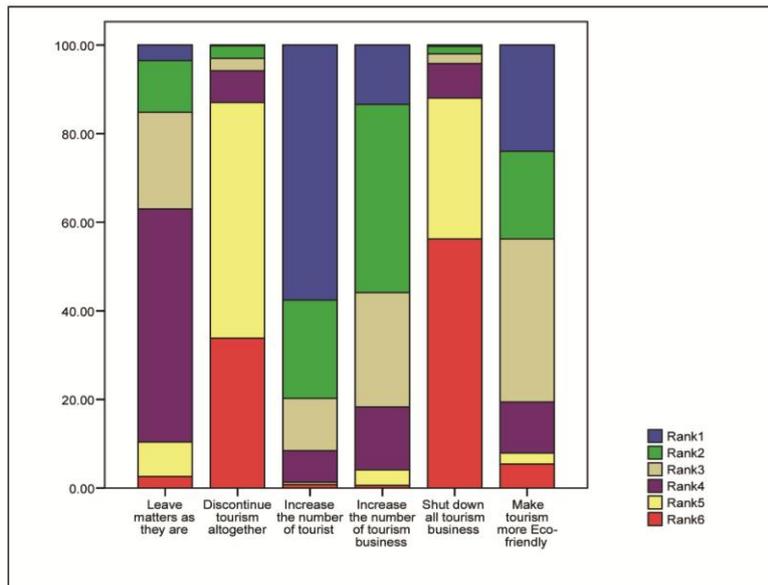


Figure 3 Perception of the community in managing tourism in the area according to their preference

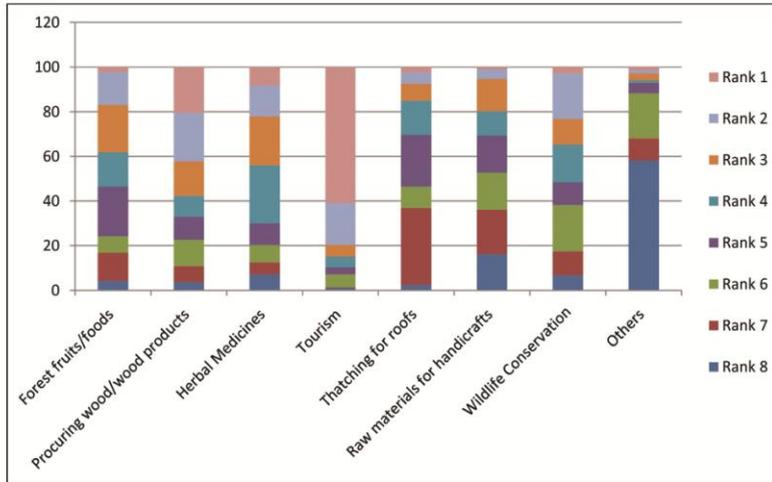


Figure 4 Type of Benefits from forest according to the preference

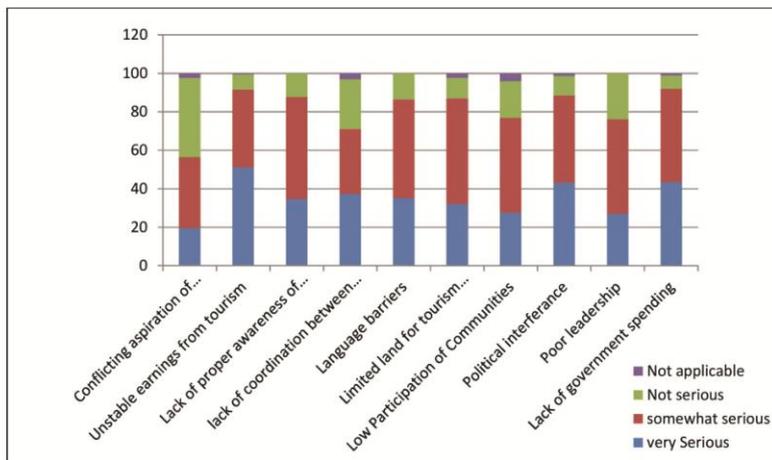


Figure 5 Degree of impact of obstacles

Tourist Profiles and Characteristics *vis-à-vis* Market Segmentation of Ecotourism Destinations in Kerala

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Abstract

Kerala, a classic ecotourism destination in India, provides significant opportunities for livelihood options to the people who depend on the resources from the forest and those who live in difficult terrains. This article analyses the socio-demographic, psychographic and travel behavior patterns and its sub-characteristics in the background of foreign and domestic tourists. The data source for the article has been obtained from a primary survey of 350 randomly chosen tourists, 175 each from domestic and foreign tourists, visiting Kerala's ecotourists destinations during August-December 2010-11. Several socio-demographic, psychographic and life style factors have been identified based on the inference from field survey. There is considerable divergence in most of the factors identified in the case of domestic and international tourists. Post-trip attributes like satisfaction and intentions to return show that the ecotourism destinations in Kerala have significant potential that can help communities in the region.

Keywords: Tourists, Ecotourism, Socio-demographic, Psychographic, Lifestyle, Motivation, Satisfaction, Revisit

1. Introduction

Kerala, with an area of 38,863 sq.km and 3, 18, 41,374 people, is a small state at the southernmost tip of the country. It comes out as the most acclaimed tourist destination in India. The engraved natural beauty embedded with rich flora, fauna and wilderness bestows Kerala the title "Gods own Country". Within the tourism sector, ecotourism sub-sector is of high currency, encompassing 60 forest destinations and 12 nominated sites and this sub-sector is playing a pivotal role in accelerating the pace of tourism in the state. There are 15 Wild life Sanctuaries and 5 National parks in Kerala covering a geographical area of 5.5 percent of the State (Govt. of Kerala 2007). Ecotourism projects in Kerala, based on the concept of sustainability, play a predominant role in the ecotourism initiative of the state. The recent proclamation of the World Heritage tag to the ecotourism sites of Western Ghats is expected to increase the global attention and visitation to these sites (UNESCO 2012). Out of the 39 adorned serial sites of the Ghats, 12 are from Kerala. This makes Kerala a typical destination for both the domestic and international tourist segments.

According to Valentine (1992), ecotourism is the travel to enjoy the world's amazing diversity of natural life and human culture without causing damages. Main driving force of the ecotourism projects in Kerala is conservation, and poverty alleviation of the local community. Revenue generated from tourism in 2010 was to the tune of Rs. 1,73, 480 million; out of which, the ecotourism sub-sector contributes about 60 percent (Dept. of Tourism 2012). The tourism studies have focused to socio-demographic, psychographic, satisfaction and revisit intentions of tourists. The dependency and interdependency of these variables have not been well researched embedding ecotourism destinations with domestic and international segmentations. The intent of this article is to understand the link between socio-demographic, psychographic and travel behaviour patterns and thereby make a dichotomy into domestic and international tourists visiting the ecotourism destinations focusing on the differences of these characteristics and its dependencies. Post-trip attributes like satisfaction with the destinations and revisit

intentions are evaluated on the basis of tourist perception. This pattern of analysis would help to unravel the tourism linked livelihood options of the outlier communities living in the ecotourism sites.

2. Review of Literature

Motivation to travel and the associated behaviour of tourists are not unique (Krippendorff 1987). The desire to travel and travel decisions are influenced by a host of factors such as socio-demographic, psychographic and travel behaviour patterns, which in turn provides a matrix of information enlightening positive attitudes relating to spending pattern and revisit intentions (Rajasenan and Ajitkumar 2004). Psychographic segmentation is analysed in literature as a useful tool to explore the link between satisfactions and revisit intention (Gountas and Gountas 2001; Cole 1997). Satisfaction acts as a key element in destination marketing (Kasim and Ngowsiri 2011). Tran (2011) views that perceived quality factors influence the intention to revisit as well as to recommend the destination to others. Shin (2009) foresees market segmentation as a powerful marketing tool for identifying target groups which in turn, brings visitor identities. Market can also be segmented using socio-demographic, psychographic and motivation to identify the type of services, products and experiences desired by the tourists, *inter alia* income as a determining force for tour options (Zhang and Marcussen 2007).

3. Methodology

The data source for the study has been obtained from a primary survey of 350 randomly chosen tourists (175 each from domestic and foreign) visiting Kerala's ecotourists destinations during August-December 2010-11. Kruskal-Wallis test is used to identify any significant dependency relation between tourist profiles and the motivation to visit. Factor Analysis helps to identify the significant factors giving rise to tourist's satisfaction. Logistic regression is used to identify the pertinent variables endorsing their willingness to revisit the ecotourism destinations.

4. Results and Discussion

4.1 Socio-demographic factors

The study tries to analyse the physiographic, socio-demographic, satisfaction and revisit intentions of domestic and international tourists visiting Kerala and its arrival patterns. The socio-demographic profile provides information on age, sex, nationality, educational qualification and income.

Table 1 part (a) shows an apparent dichotomy between the age of the foreign and the domestic tourists visiting ecotourists destinations. It shows that the proportion of visitors below 25 years is 38.2 percent for the international and 10.5 percent for the domestic. Male-female ratio of visitors surveyed also show dissimilar results for domestic and international tourists [Table 1 part (b)]. The international sector illustrates a female dominance in comparison with the domestic sector. Education classification gives interesting inference as most of the visitors, irrespective of domestic or international are either graduates or postgraduates, who visit the ecotourism destinations for academic and study purposes [Table 1 part (c)]. Employment wise, majority of the visitors are either employed or students [Table 1 part (d)]. There is marked disparity in the percentage of employed and student visitors among domestic (8.7 percent) and international (41.6 percent) tourists. Income [Table 1 part (e)], one of the most important socio-demographic characteristics of tourists, demonstrates considerable participation in ecotourism activities across most of the income categories, irrespective of domestic and international segments.

Table 1 (about here)

4.2 Psychographic characteristics

Psychographic characteristics provide an overall picture of the opinions and interests of visitors and it includes purpose of visit, motivation, awareness, satisfaction and revisit intentions. The purpose of visit [Table 2 part (a)] is correlated to leisure, business related activities, visiting friends/relatives, educational purposes and to enjoy unseen destinations. The core purpose of visit is for leisure, as 76.2 percent (domestic) and 74.2 percent (international) have given preference. Five motivation factors (M_1 to M_5) have been identified based on the inference from the field survey (Figure 1) for domestic as well as international tourists.

Table 2 (about here)

But there is no considerable divergence in motivational factors between the domestic and international tourists.

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Majority of the domestic tourists stated that they visited Kerala mainly to enhance their awareness about nature, followed by getting a break from busy life, whereas the foreign tourists came to enjoy wilderness and participate in recreational activities.

Table 3 (about here)

Kruskal-Wallis test helps to identify any significant dependency relation between the travel characteristics and motivation to visit. The Chi-square value (Kruskal-Wallis H) is shown in Table 3. There is a statistically significant difference between M_1 - M_2 - M_3 with mean ranks of demographic trait *Nationality*; M_1 - M_2 - M_3 - M_4 - M_5 with *Age group*; M_3 - M_4 with *Sex ratio*; M_3 with *Educational qualification*; M_1 with *Employment status*; and M_5 with *daily expenditure*. Hence, it can be hypothesized that there is no major difference between the motivational factors and the socio-demographic characteristics of tourists visiting the ecotourism destinations.

Source of information is pertinent in tourism parlance for targeting sites and its preference pattern for visits. Table 2 part (b) shows that the internet and magazines (27.9 and 15.1 percent respectively) provide an important information source, whereas the next powerful and reliable medium for domestic tourists is friends and word of mouth (25.6 percent). In the international context, the tourists do not have access to newspapers/television advertisements about Kerala. The majority of respondents have claimed that they referred guidebooks (32 percent), gathered experienced friends' suggestions (30.3 percent) and surfed the internet (29.2 percent) to find ecotourism sites.

Figure 1 (about here)

Satisfaction of visitors is one of the main psychographic factors attached to the potential of an ecotourism destination. Figure 1 gives the multi-level satisfaction of visitors, both domestic and international. It evinces the fact that the visitors have good opinion about the guide's information on natural environment and wildlife, information on local culture, and sustainable tourism.

In order to reveal the satisfaction level of the tourists about the facilities available at the destinations, 18 variables were identified based on literature scan and field experience. To identify the significant factors giving satisfaction to tourists, factor analysis based on principal component extraction method was attempted and the result is given in Table 4. The Cronbach's alpha coefficient 0.849 indicates high reliability, as it exceeds the highly acceptable level of 0.8. The sample adequacy was tested using Kaiser-Meyer-Olkin measure and the result, 0.733 is greater than the generally accepted minimum of 0.50 for a satisfactory factor analysis to proceed (Burns and Burns 2008). It also shows that the Bartlett's test is significant with high Chi-Square value. The analysis brought out six factors that accounted for 66.16 percent of the total variance from the 18 factors. Component matrix shows that all the variables except equipment support for various activities, friendliness of people, information and service support at the visitor center and food have factor loadings of 0.5 or above for the first component.

Table 4 (about here)

The variables, convenience and access to local transport, shopping, telecommunication, facilities for children and interpretation of local/tribal culture are the biggest contributors to the first factor. From the first four variables, it can be surmised that easy access and basic facilities at the destination are the major factors that shape the tourists' impression about the destination. Among these, factors like telecommunication, facilities for children and interpretation of local/tribal culture should embrace much importance as more than 50 percent tourists visiting these places with families and hence the ecotourism destinations of Kerala hold the potential to be marketed as 'family hideouts'.

The variable sanitation/cleanliness of the place has the major positive loading in the second factor, emphasizing the need to keep the premises of the destinations clean and eco-friendly. The variables- other amenities and safety/security at the destination encompass the diversity/variety of physical activities and equipment support for various activities available (third and fourth factors), points the importance of increasing leisure activities. Most of the factors pertaining to satisfaction/impression of tourists about the overall services and benefits from the ecotourism destinations show a good score. This reveals that Kerala has positioned its ecotourism destinations based on visitor satisfaction and hence highlight the scope for revisit.

Perception quality depends on the level of expectation and satisfaction. The endorsement of quality depends upon its potential, enthusiasm of tour operators, tourism circuit, conservation groups, accessibility, climate, tourism information system and hospitality. These parameters were put in a 7 point scale ranging from very high to very low, and the perception of tourists about these factors was studied (Figure 2). It illustrates that tourists of ecotourism destinations in Kerala endorse positively as these destinations have enthusiastic tour operators, well

developed tourism circuits, active nature conservation groups, easy accessibility, good climate, ample information systems and excellent hospitality.

Figure 2 (about here)

4.3 Travel Behaviour Patterns

Travel behaviour patterns consist of mode of transportation, travel arrangement, preference to travel alone or with group. Table 2 part (c) portrays that 52.90 percent of the domestic tourists prefer to or travel with family, whereas 70.8 percent of the international tourists like to travel with friends and 19.7 percent with spouse. Table 2 part (d) shows that 51.60 percent of the total domestic respondents prefer to travel with family. Group of 3-6 is the preference pattern of international tourists, whereas 7-14 is the preferred groups for the domestic respondents. Table 2 part (e) explains that a major segment of international and domestic tourists claim that they make the travel arrangements independently, i.e., 62.8 percent and 66.9 percent, respectively while the domestic tourists depend on the travel agents.

There is considerable difference with respect to the mode of travel between the domestic and international ecotourists, the international groups use public transportation facility to reach the destination once they arrived in India, but the domestic tourists would like to ride/drive either in a personal or rented car to the ecotourism destinations. In the international sector, 41.6 percent prefer to travel by tour bus, 29.2 percent by prepaid taxis and 20.8 percent prefer to take rented cars [Table 2 part (f)]. Duration of stay [Table 2 part (g)] is the major determinant to gauge the acceptance of any particular destination. In the domestic context, about 43 percent have an opinion to stay for 2 to 4 days, 36 percent prefer to spend a day in any destination. Majority of international tourists (68.5 percent) have a preference to stay 2 to 4 days.

For the purpose of capturing the activities of the tourist's preference in the ecotourism destinations, 11 characteristics are identified and depicted in Table 2 part (h). The domestic tourists' preference in ecotourism activities is high in wildlife viewing (24.1 percent), bird watching (16.2 percent), and visiting national parks (14.7 percent). Whereas, the international tourists prefer wildlife viewing (14.7 percent), visiting villages (15 percent), and cultural heritage sights (10 percent), national parks (16 percent), indigenous populations (10.3 percent) and art/culture (10.7 percent). From this, it is inferred that international tourists are more enthusiastic in participating ecotourism activities, whereas the domestic tourist's interest is in sightseeing.

The livelihood of the dependent community and sustainability of the ecotourism destinations are linked with the expenditure pattern. It consists of transportation, food and beverages, shopping, guide fees, lodging and entry fees to ecotourism destinations. Table 2 part (i) explains the average expenditure of domestic tourists (Rs. 2802) and international tourists (Rs.3766). The total share of the expenditure on food and beverages comes to 29 percent in the case of the domestic and 30 percent for the international tourists. It is evident from Table 2 part (j) that 84.9 percent of domestic and 96.1 percent of international tourists have shown positive attitude towards revisiting the ecotourism destinations. This shows the importance and potentiality of the ecotourism destinations of Kerala. Hence, requisite infrastructure coupled with proper marketing strategy will make Kerala a precious ecotourism destination.

Since revisit is a pertinent factor as far as tourism is concerned, the responses of tourists of their willingness to revisit the ecotourism destinations in Kerala are further analysed using logistic regression. Revisit decision attributes like expenditure, food and accommodation, safety and security, friendliness of people, cleanliness of places, shopping, access and climate are taken into consideration. The calculated exp (B) is the expected effect of the independent variable on the "odds ratio", which is the probability of the event divided by the probability of the non-event and they are in log-odds units and the prediction equation is

$$\log(p/1-p) = b_0 + b_1*x_1 + b_2*x_2 + b_3*x_3 + b_3*x_3 + b_4*x_4 + b_5*x_5 + b_6*x_6 + b_7*x_7 + b_8*x_8$$

Where, p is the probability of being in honors composition.

The Hosmer and Lemeshow is a test for the overall fit of the model. Because the p-value (0.27) is higher than the significance level (5%), it is concluded that the model fits the observed dataset. Assuming that the desired significance level is at 0.1, the attributes like food and accommodation, safety and security, friendliness of people, and climate are positively influencing the decision making, whereas cleanliness of places have a negative influence on the decision making (Table 5).

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Table 5 (about here)

The fitted logistic regression equation is

$$\log(p/1-p) = .296 - 0.106 * \text{Expenditure} + 0.943 * \text{food and accommodation} + 0.876 * \text{safety and security} + 0.937 * \text{Friendliness of people} - 1.194 * \text{Cleanliness of place} + 0.701 * \text{Shopping} - 0.451 * \text{Conveniences and Access} + 1.238 * \text{Climate}.$$

The overall analysis makes it clear that majority are very much interested to revisit ecotourism destinations. Since any visit to natural area is subject to strict rules and regulations, adhering to carrying capacity guidelines and stringent waste management practices, some of the tourists may fail to accept these legal frameworks and hence will not prefer to visit again to these destinations.

5. Conclusion

Analysis based on ecotourism attributes and its decomposition based on a matrix of variables shows marked divergence between the domestic and international tourists visiting ecotourism destinations of Kerala in most of the factors. Dichotomy between the foreign and the domestic tourists is noticeable with regard to socio-demographic factors like age, employment and gender. The results of the Chi-Square test reveal that there is no considerable discrepancy in the motivational factors identified in the domestic and international tourist segments. The post rip attributes like satisfaction and revisit intentions, irrespective of the domestic and international dichotomy based on Factor Analysis and Logistic Regression show that the ecotourists are very much satisfied and hence interested to revisit the destinations.

The satisfaction of tourists about the overall services and benefits from the ecotourism destinations reveals that Kerala has positioned its ecotourism based on visitor satisfaction. The perception of the ecotourists based on a 7 point scale brings to the fact that the destinations in Kerala have the requisite wherewithal like enough potentialities, high enthusiastic tour operators, well developed tourism circuits, active nature conservation groups, easy accessibility, good climate, ample information systems and excellent hospitality. Positive attitudes regarding revisit on the part of the international tourists in these ecotourism destinations is a clear espousal of the potentiality of the ecotourism destinations of Kerala.

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Table 1 Socio-demographic Profile (%)

Profiles	Chi-Square	Sig.	Domestic		International	
(a)Age	48.245	0.000	<25	10.5	<25	38.2
			25-35	40.7	25-35	41
			36-45	27.3	36-45	10.1
			46-55	17.4	46-55	7.9
			56-65	2.9	56-65	2.2
			>65	1.2	>65	0.6
(b)Sex	26.775	0.000	Male	68	Male	40.4
			Female	32	Female	59.6
(c)Education	33.751	0.000	High school	5.2	high school	0
			Vocational/trade school	4.7	Vocational/trade school	0
			College	59.3	College	44.4
			Post-Graduate	30.8	Post-Graduate	55.6
(d)Employment	53.395	0.000	Employed	81.4	Employed	54.5
			Unemployed	8.7	Unemployed	2.2
			Student	8.7	Student	41.6
			Retired	1.2	Retired	1.7
(e)Income	2.894E2	0.000	0*	16.3	0*	18.5
			<1,00,000	6.4	<10,00,000	31.5
			1,00,001-5,00,000	58.7	10,00,001-20,00,000	21.3
			5,00,001-10,00,000	14.5	20,00,001-30,00,000	20.2
			>10,00,001	4.1	>30,00,001	8.4

*Students, aged citizens, unemployed housewives

Table 2 Psychographic profiles and travel behaviour patterns

		Domestic	International			Domestic	International		
(a) Purpose of visiting	Leisure	76.2	74.2	(f) Mode of travel	Personal/Rented Car	52.3	20.8		
	Business	5.2	1.7		Tour Bus/Vehicle	27.3	41.6		
	Visiting friends & relatives	8.1	1.1		Taxi	20.3	29.2		
	Education	0	4.5		Other	0	8.4		
	Volunteerism	2.3	5.6		1	36	18.5		
	Other	8.1	12.9		2-4	43	68.5		
(b) Awareness	Guide book	4.1	32	(g) Duration	5-10	18.6	9.6		
	Television	8.1	0	10 above	2.3	3.4			
	Newspaper	9.3	0	(h) Activities	Hiking/trekking	9.1	5.2		
	Magazine	15.1	1.1		Wildlife viewing	24.1	14.7		
	Internet	27.9	29.2		Biking	-	0.3		
	Travel Brochure	6.4	5.1		Climbing	6.5	3.2		
	Travel agency/Tour operator	3.5	2.2		Swimming	4.7	6.3		
	Friends/word of mouth	25.6	30.3		Visiting Villages	7.5	15		
(c) Travel	Alone	2.3	1.1		Bird watching	16.2	8.3		
	as a couple	19.8	19.7		Cultural heritage sights	8.6	10		
	with friends	25	70.8	Visiting National Parks	14.7	16			
	with family	52.9	8.4	Visiting indigenous populations	3.5	10.3			
(d) Members	1	2.3	1.1	Art and Cultural Programmes	5.2	10.7			
	2	23.3	21.3	(i) Average per day Expenditure	Transport	612.78	797.78		
	3-6	33.1	37.1		Food/ beverage	819.44	1142.5		
	7-14	37.2	40.4		Souvenir	191.67	266.94		
	15 above	4.1	0		Shopping	287.78	316.11		
(e) Tour arrangements	Independent	62.8	66.9		Guide	116.39	147.78		
	Travel agent/tour operator	33.7	14	Lodging	570.83	890.56			
	Other	3.5	19.1	Others	203.33	204.72			
				Total	2802.22	3766.39			
	a)	b)	c)	d)	e)	f)	g)	h)	i)
Chi-Square	24.669	91.338	95.860	33.222	33.160	46.376	25.504	12.399	15.167
Significance	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.001

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Table 3 Kruskal-Wallis-Test (Motivation to visit)

Travel Characteristics		M ₁ Increase in awareness about Nature	M ₂ Getting Chance from Busy Life	M ₃ Enjoy wilderness /undisturbed areas	M ₄ Participate in recreational activities	M ₅ Provide tourism benefits to locals
Nationality	Chi-Square	5.487	5.199	2.333	1.074	8.233
	Sig.	0.019	0.023	0.127	0.300	0.004
Age-Group	Chi-Square	14.05	34.782	32.13	38.855	17.945
	Sig.	0.015	0.000	0.000	0.000	0.003
Sex-ratio	Chi-Square	2.833	1.867	4.917	8.513	0.829
	Sig.	0.092	0.172	0.027	0.004	0.363
Education	Chi-Square	6.324	1.22	8.341	4.955	4.188
	Sig.	0.097	0.748	0.039	0.175	0.242
Employment	Chi-Square	14.652	4.132	7.27	5.055	6.458
	Sig.	0.002	0.248	0.064	0.168	0.091
Daily-Expenditure	Chi-Square	4.176	0.791	8.604	7.623	10.467
	Sig.	0.383	0.940	0.072	0.106	0.033

Table 4 Component Matrix^a

	Component					
	1	2	3	4	5	6
Convenience and access to local transport	0.734	0.132	-0.234	-0.207	-0.175	0.010
Shopping opportunities	0.693	0.212	-0.111	-0.357	0.117	-0.301
Telecommunications	0.693	-0.060	0.026	-0.250	-0.004	0.472
Facilities to children	0.689	-0.027	0.231	0.060	-0.082	0.169
Interpretation of local/tribal culture programmes	0.644	-0.313	-0.181	-0.116	0.015	-0.127
Diversity/variety of physical activities	0.540	-0.238	-0.040	0.465	-0.275	0.015
Helpful police services	0.513	0.342	0.396	-0.164	-0.203	-0.246
Interpretation of wildlife/plant life	0.500	0.310	-0.466	-0.071	-0.010	0.287
Equipment support for various activities	0.495	0.062	-0.125	0.482	-0.053	-0.115
Friendliness of the people	0.479	0.317	-0.320	0.152	0.092	-0.109
Sanitation/cleanliness of the place	0.365	0.593	-0.064	0.124	0.299	0.377
Food	0.468	-0.569	-0.146	0.169	0.331	-0.130
Other amenities provided	0.523	-0.193	0.537	-0.074	-0.143	0.195
Safety and security	0.384	-0.219	0.519	-0.146	0.330	0.217
Staffs' language skills	0.363	0.202	0.286	0.552	-0.287	-0.010
Information and service support at the visitor centers	0.408	-0.407	-0.273	-0.284	-0.522	-0.068
Lodging	0.451	-0.372	-0.145	0.188	0.469	0.002
Availability of local handicrafts	0.533	0.244	0.261	-0.069	0.239	-0.577

Kaiser-Meyer-Olkin Measure of Sampling Adequacy= 0.733

Bartlett's Test of Sphericity: Chi-Square=2.055E3, Sig=.000

Reliability Statistics-Cronbach's Alpha=.849

Table 5 Accepting the destination for Revisit

Variables in the Equation						
Attributes	B	S.E.	Wald	df	Sig.	Exp(B)
Expenditure	-.106	.411	.066	1	.797	.900
Food and Accommodation	.943	.493	3.665	1	.056	2.568
Safety and Security	.876	.437	4.015	1	.045	2.401
Friendliness of people	.937	.522	3.224	1	.073	2.553
Cleanliness of places	-1.194	.632	3.573	1	.059	.303
Shopping	.701	.476	2.170	1	.141	2.016
Conveniences and access	-.451	.537	.706	1	.401	.637
Climate	1.238	.496	6.228	1	.013	3.447
Constant	.296	.867	.116	1	.733	1.344

Model summary:-2 Log likelihood=185.405, Cox & Snell R²=0.091, Nagelkerke R²=0.195; Hosmer and Lemeshow Test: Sig=0.270, Chi-square=9.936

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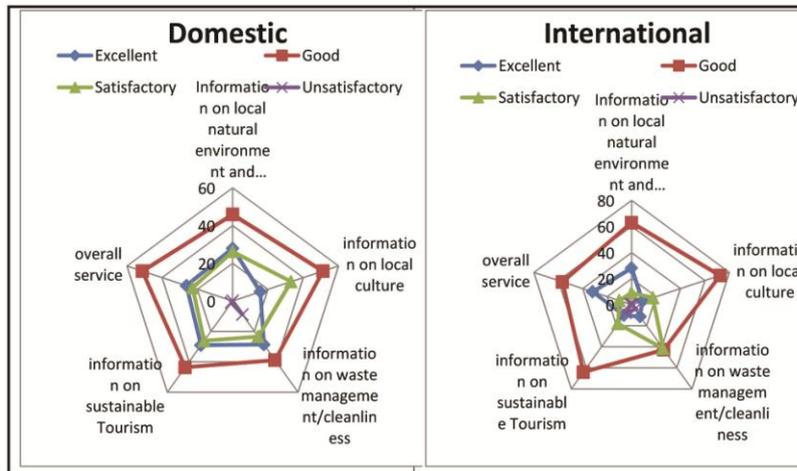


Figure 1 Guide Service and level of Satisfaction

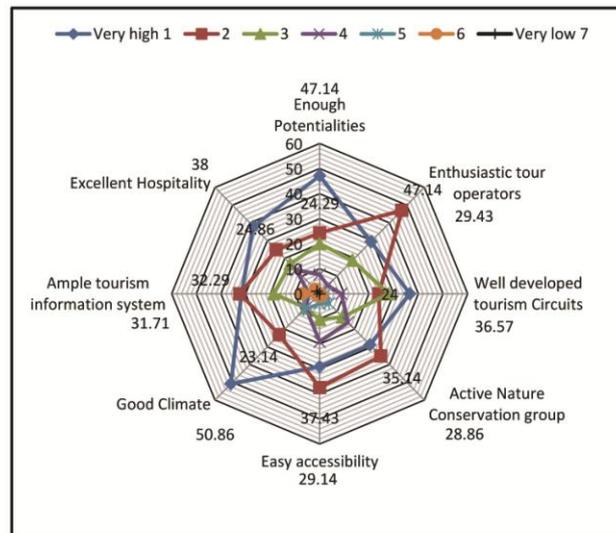


Figure 2 Tourist perception about Kerala as an ecotourism Destination (%)

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