

COMMUNITY INTERVENTION STRATEGIES IN ECOTOURISM: AN INSTITUTIONAL APPROACH

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By

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Under the Guidance of

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Community Intervention Strategies in Ecotourism: An Institutional Approach

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Certificate

This is to certify that thesis entitled “**Community Intervention Strategies in Ecotourism: An Institutional Approach**” is a record of bonafide research work done by Mr. Vinodan A., part-time research scholar, under my supervision and guidance.

The thesis is the outcome of his original work and has not formed the basis for the award of any degree, diploma, associateship, fellowship or any other similar title and is worth submitting for the award of the degree of Doctor of Philosophy under the Faculty of Social Sciences of Cochin University of Science and Technology.

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I hereby declare that this thesis entitled “**Community Intervention Strategies in Ecotourism: An Institutional Approach**” is a record of the bona-fide research work done by me and that it has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or any other title of recognition.

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||| **List of Abbreviations** |||

AAP	Availability of Authentic Products
ABTA	Association of British Travel Agents
ADMADE	Administrative Management Design for Game Management Areas
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of a moment structure
ANOVA	Analysis of Variance
APC	Average Path Coefficient
ARS	Average R-squared
AVE	Average Variance Extracted
AVIF	Variance Inflation Factor
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBC	Community Based Conservation
CBE	Community Based Ecotourism
CBNRM	Community Based Natural Resource Management
CBSEM	Covariance Based Structural Equation Modeling
CBT	Community Based Tourism
CCF	Chief Conservator of Forest
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Commercial Intervention
CIS	Community Intervention Strategies
CMV	Common Method Variance
CONS	Conservation Activities
CPBD	Capacity Building Programme
CPR	Common Property Resource
DACC	Destination Accessibility
DAUT	Authenticity at the Destination
DFID	Department for International Development
DFW	Departments of Forests and Wild life
DHAR	Destination Harmony
DHYG	Destination Hygiene
DIPD	Diversification of Products
DMPR	Democratic Procedure

DOA	Department of Agriculture
DOE	Directorate of Ecotourism
DOT	Department of Tourism
DPW	Department of Public Works
DQ	Destination Quality
DRD	Department of Rural Development
DS	Destination Sustainability
DSC/ST	Department Scheduled Castes and Scheduled Tribes
DSJE	Department of Social Justice and Empowerment
DSS	Destination Safety and Security
DSW	Department of Social Welfare
DTRN	Transparency at the Destination
DWR	Department of Water Resources
DYW	Department of Youth Welfare
ECS	Economic Sustainability
EDC	Eco Development Committee
EDUA	Education and awareness programmes
EFA	Exploratory Factor Analysis
EGIP	Eco guiding and interpretation
EGS	Ecological Sustainability
EI	Ecodevelopment Intervention
FDA	Forest Development Agency
FGD	Focused Group Discussion
FPC	Forest Protection Committee
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFI	Goodness of fit index
GI	Governance Intervention
GOI	Government of India
GOK	Government of Kerala
GP	Grama Panjayat
IAC	Improved Accessibility
IED	India Eco Development
IED	India Eco Development Programme
IFAD	International Fund for Agricultural Development
IHE	Improved Human Environment

IHH	Improved Health and Hygienic
IISD	International Institute for Sustainable Development
INTR	Integration of tourism with other sectors
ISS	Improvements in Safety and Security
ITMY	Intermediary
ITT	Improved Transparency in Transactions
IUCN	International Union for Conservation of Nature and Natural Resources
IYE	International Year of Ecotourism
LAC	Limit of Acceptable Change
LIFE	Living in a Finite Environment
LISREL	Linear structural relations
LSG	Local Self Governance
LV	Latent Variable
MDG	Millennium Development Goal
MFP	Minor Forest Produce
MFW	Ministry of Forests and Wildlife
MoEF	Ministry of Environment and Forests
NFI	Non normal fit index
NGO	Non Governmental Organisation
NP	National Park
NV	New Visitors
OECD	Organisation of Economic Cooperation and Development
PA	Protected Areas
PLS	Partial Least Squares
POS	Political Sustainability
PRMN	Promotional activities
PRTR	Parambikulam Tiger Reserve
PTR	Periyar Tiger Reserve
REST	Responsible Ecological Social Tours Project
RMSEA	Root Mean Square Error of Approximation
RV	Repeated Visitors
SCS	Socio Cultural Sustainability
SDG	Sustainable Development Goal
SEM	Structural Equation Modeling
SHG	Self Help group
SIC	Squared Inter construct Correlation

SPSS	Statistical Package for Social Science
SVNP	Silent Valley National Park
TCS	Tata Consultancy Services
TEDC	Tourism Eco Development Committee
TEP	Thenmala Ecotourism Project
TIES	The International Ecotourism Society
TSA	Tourism Satellite Account
UNCED	United Nations Conference on Environment and Development
UNCSD	United Nations Commission on Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNWTO	United Nations World Tourism Organisation
VICE	Visitor Industry Community Environment
VSS	Vana Samrakshana Samity
WB	World Bank
WSSD	World Summit on Sustainable Development
WTTC	World Travel and Tourism Council
WWF	World Wide Fund for Nature
WWS	Waynad Wildlife Sanctuary

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- 1.1 Background of the Work*
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1.1 Background of the Work

Human development is a continuous process. It is expected to bring both inter-generational and intra-generational equity (Norgaard, 1991). In other words, existence of constant capital i.e. resources no less than the current stock, shall be the basis for all human development initiatives (Garrod & Fyall, 1998). Sustainability discourses aim not only intra and inter-generational equity but also to bring a balance between anthropocentric and eco-centric approaches of resource appropriation. The underlying premise of anthropocentrism states that humans assume priority over those of the non-human environment i.e., ecology or eco-centrism (Richardson, 1997). In the developmental parlance, materialism and economic growth are centered around the anthropocentric view of nature. United Nations Environment Programme (UNEP), International Union for Conservation of Nature and Natural Resources (IUCN) and World Wildlife Fund (WWF) have all stated

that sustainable development is anthropocentric in its aim to improve the quality of human life via the improvement and maintenance of the diversity, quality and quantity of the ecosystem (IUCN, UNEP & WWF, 1991). In other words, conservation of the nature's diversity and quality is ultimately for human wellbeing.

Ecotourism is regarded as a developmental strategy leading to sustainable development and is centered around natural resource diversities, host community and the visitor. Initial reference on ecotourism was as a tool for mitigating the negative impact of mass tourism and to approach the destination in a different way. For that purpose, different resource management strategies were suggested, both demand and supply side. Demand side initiatives included reducing the consumptive behavior or modifying the 'tourist syndrome' (Frankiln, 2003), through actions like travel lighter, encouragement to low emitters and provision to identify foot- print on immediate environment etc. The supply side efforts were concentrated on conservation and management of natural resources, adoption of various visitor management strategies like routing, zonation, charging fees and fines, adoption of polluter pays principles, and various forms of regulatory, both voluntary as well as legal measures, at the destinations (Hammer, 2011).

Criteria for successful ecotourism demand not only environmental planning, but also social planning for the destinations. A prudent way of clubbing the ecosystems and its fabric on social life will help to reduce the over-emphasis on ecological/environmental issues. Though ecotourism emerged as an alternative to mass tourism, it cannot be developed out of every type of conventional tourism as it should take into account integrity of

local cultures and environments. The World Conservation Strategy laid out by the International Union for the Conservation of Nature and Natural Resources (IUCN) in 1980 stated that with the emphasis on eco development, there has been a strong move towards the interdependencies between environmental, economic and social issues in the tourism discourses (Dowling & Fennel, 2003).

The operational success of ecotourism depends upon following factors:

- It should have a mechanism for conservation of biological and cultural diversity as well as livelihood.
- It should have an inclusive and equity approach to share socio-economic benefits.
- It should have provision to provide nature-culture experience.
- It should have respect for physical, natural, and socio cultural resources of the destination.
- It should act as a tool for enhanced conservation, economic development and cultural revival.
- It should have minimal impact on resource under appropriation (Weaver, 2001; Wearing & Neil, 2009).

A detailed investigation on the responsibility for management of ecotourism resources is considered inevitable in the context of sustainability. Many literary and empirical evidence (Lindberg & Hawkins, 1993; Page & Dowling, 2002; Weaver, 2001; Wearing & Neil, 2009) cite that a conscious effort from the policy making side is vital for the foundation of ecotourism

programmes. Shift in fixation of target groups, resource mobilization methodologies, and resource management strategies are needed to be revisited from the present pattern of development. The resistance to change may be a hampering factor in reorienting development methodologies all over the world, where the community is not being strengthened socially and economically. Due to these reasons ecotourism operations are also not free from operational limitations. In addition, there are also specific reasons as follows:

- Most of the ecotourism operations are operationalised at the cost of destination communities (Ballantyne, Packer & Sutherland, 2011) in the Protected Areas (PAs) and ecologically important areas. In other words, local resources meant for community consumption is diverted for tourism operations.
- Destination communities are restricted in accessing local resources within identified ecotourism sites, mostly Protected Areas (PAs).
- Unrestricted exploitation of natural areas may lead to man-animal conflict inside the protected area.
- Economic /social cost related to tourism development in the area particularly the shift in production and consumption pattern.

A widely noticed argument in this direction is that ecotourism is an international phenomenon directed by Western thoughts to disseminate their ideas and aesthetics in designing the tourism projects in the natural areas of the South i.e., non western nations (Allan, 2004). At the same time, there are arguments to streamline such observations. Lindberg and Hawkins (1993)

stated that such visitation shall strengthen and proliferate conservation principles when tourists from the west visit pristine ecosystems in the impoverished rural areas, and also provide means of livelihood for locals.

Though many such arguments are in force, the scenario of developing countries requires a different perspective to understand the ground reality where large number of destinations or local communities are outside the purview of participative resource management due to educational, skill, or capital constraints. Even when stringent policies are available, absence of guidelines with regard to resource utilization, revenue utilization and conservation efforts particularly in the context of shrinking global resources make it all the more difficult.

However, the importance of ecotourism is evident from a recent study conducted by the World Tourism Organization on global spending on ecotourism which was found to be increasing by 20% annually. This is about six times the average rate of growth for the tourism industry (UNWTO, 1998). UNWTO (2001) also forecasted that, 20% of tourists around the world (an estimated 1.6 billion) would be nature tourists by 2020.

Meeting the socio economic, political, and environmental sustainability is the focal point of ecotourism development agenda globally. Empirical evidence shows that the existing top down approach of resource appropriation has failed to meet this basic objective, though planning for ecotourism occurs at national and local level. A bottom up planning that integrates all tourism programmes, with an integrated policy approach is demanded by the policy makers and social scientists for ecotourism to fill up the gap in the overall

sustainable development requirements of the area (Baromey, 2008). Here the local communities are the *epicenter* as well as the synergy of such integrated planning process.

1.1.1 Ecotourism Development Initiatives in India

As one of the eighteen mega diverse countries in the world with two biodiversity hotspots viz., the Himalaya and the Western Ghats, India contributes more than eight percent of the known global biological diversity and has a role to play in the ever-growing segment of nature-based tourism particularly ecotourism. As an established and widely recognized form of tourism, ecotourism which is widely recognized as environmentally, socially, culturally, politically and economically sustainable with its visibility of providing employment and income to the downtrodden/marginalized sections of the society, particularly tribals and people of the lower strata of the society, it is gaining popularity as a major developmental initiative. Though ecotourism has the potential to transform to ‘green economy’ model, the operationalisation is, unfortunately still in its infancy in India.

Global Environment Facility (GEF) of the World Bank which has supported India Eco Development (IED) programme since 1996 was one of the large scale eco-development programmes which incorporated ecotourism as a means of livelihood for tribal/forest dwelling communities in India. Considering the importance of ecotourism, Government of India (GOI) issued guidelines in 1997 for ecotourism and The (Draft) Guidelines for Ecotourism in and around Protected Areas (PAs) was issued by the Ministry of Environment and Forests (MoEF) in 2011, which laid out a

detailed set of framework guidelines on the selection, planning, development, implementation and monitoring of ecotourism in India (MoEF, 2011). It also instructed the state governments in 2012 to formulate ecotourism policies and implement it by keeping the conservation and local development in mind. Large numbers of populations living in and around ecologically fragile areas of the country require more and more opportunities for non-farm activities to meet their livelihood. More importantly, since forest dwelling communities and tribals of India do have only limited means for their livelihood, the national government as the custodian of most these resources, has the bounden duty to ensure that both of these interests are taken care of. Further appropriation of resources for livelihood is therefore regulated to a large extent. It is also observed that conventional livelihood options like collection of Minor Forest Produce (MFP), fuel wood etc., are shrinking and external pressure in the form of mining, and other exploration is also rampant. This indicates that communities living in and around ecologically fragile areas like hill stations, lakes, river estuaries, beaches etc., require other means of livelihood (Das & Malen, 2000). Tourism is considered as one of such major options for economic progress of these regions if managed in such a way that will ensure inter and intra generational equity. Precisely, sustainable management of ecologically fragile resources of the country can bring more visible positive outcome to the communities concerned.

Accordingly, India has built up a network of 733 Protected Areas (PAs) comprising 103 National Parks, 537 Wildlife Sanctuaries, 67 Conservation Reserves and 26 Community Reserves in different biogeographic zones, extending to about 4.9 % of the geographical area of the country (MoEF, 2016).

In Kerala, tourism is a major driver of the state economy. The tourism policy of the state reiterates its commitment to develop ecotourism programmes based on sustainability principles to encash natural heritage of the Western Ghats. The recorded forest area in the state is 11,125,59 sq.km, and within that it has twelve wildlife sanctuaries and five national parks. It has conceptualized ecotourism as a purposeful travel to natural areas to understand the cultural and natural history of the environment, taking care not to alter the integrity of the ecosystem, while producing economic opportunities that make conservation of natural resources beneficial to local people (Department of Forest & Wildlife, Government of Kerala, 2016). According to Department of Ecotourism, Government of Kerala (2015), any tourism programme that is: (a) Nature based, (b) Ecologically sustainable, (c) Having education and interpretation as major component and (d) Providing benefits to local people are considered as ecotourism.

1.1.2 Ecotourism as a Common Property Resource (CPR) Management strategy

In response to the deficient performance of the government agencies in managing common property resources, there has been a paradigm shift in policy approach of devolving its management responsibility, particularly Community Based Natural Resource Management (CBNRM) from the state to the users (Dorre, 2015). Though its popularity has gained momentum across the world, the very basic requirements, such as understanding and implementation of management strategy like capacity building for collective action are seemingly uneven (Jones, 2004).

Community Based Natural Resource Management (CBNRM) is based on the concept of a communal-property regime – where a defined group of

people collectively manage, most often with limited state interference, and use the Common Property Resources (CPR) within defined jurisdiction (Jones & Murphree, 2004). This is referred to as co-management of CPR. There has been greater attention to the management of CPR in the theoretical literature since mid-1980s (Ostrom, 1990; Bromley, 1992). These studies highlighted the importance of effective local intervention as a prudential measure to avoid the "tragedy of commons". In practice, tourism helped to replace traditional subsistence activities under CBNRM through the introduction of eco or nature based tourism, and it is found to be more viable as well as feasible to reduce the consumptive pressure of local community on natural resources by engaging them in various activities related to tourism (Stonza, 2010). This is further reiterated by the observations of Jones (2004). He had cited the case study of four notable CBNRM programmes linked to ecotourism. These were: ADMADE – Administrative Management Design for Game Management Areas project in Zambia, the Natural Resources Management Project in Botswana, the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) project in Zimbabwe, and the Living in a Finite Environment (LIFE) Project in Namibia. The study indicated the efficacy of ecotourism as a livelihood component for poverty reduction and off-farm income generating activity under CBNRM by adopting co-management strategy for forest and related common property management.

Community Based Tourism (CBT) is recognized as a perfect combination of sustainable tourism because the local community participation in the development and practice is supposed to be high and it is expected that the entire community will get benefited from this. Besides, CBT is

regarded as less harmful in the socio cultural and ecological environment as the regulatory mechanism is vested in the community's hands (Breugel, 2013). Moreover, community members are the best judges to decide what best they require.

India had a long tradition of CBNRM strategy particularly to protect sacred groves (Ormsby & Bhagwat, 2010). According to International Fund for Agricultural Development (IFAD), CBNRM helped to increased social capital and livelihood option among marginalized groups especially the tribals in India through natural-resource appropriation and self-help groups (IFAD, 2006). However, the programme requires a revisit based on environmental and political history of a region, as it could not meet the objectives in many respects particularly the conflicts between state authorities and local population with regard to power and benefit sharing including ecotourism (Gosh, 2014).

1.1.3 Community and Ecotourism

Ecotourism is often considered as a strategy to support conservation of natural resources while promoting sustainable local development. Planning, implementing and measuring the sustainability is a tiresome task in almost all economies of the world. A multi level intervention is a *sine qua non* for identification and assessment of various sustainability dimensions. The implementation of various projects to meet this sustainability requires physical, personal and financial resources. After the implementation, it is necessary to monitor whether these sustainability matters are working or not, and to what extent, are to be verified. In practice, as Gupta (1995) has rightly pointed out, institutional focus of ecological economies are relatively

underdeveloped and insufficiently explored and as a result there are no such initiatives to identify what kind of institutional frameworks are appropriate for common property management in this context. As Boo (1993) has stated, ecotourism will not be successful without effective management. Absence of adequate institutional mechanism and administrative commitments will be of little use in the practice of ecotourism (Ross & Wall, 1999).

Fennel (2008) in his studies argued that monitoring and implementing issues are major concerns of ecotourism today. Weaver (2006) also shared the same view and stated that the endemic nature of ecotourism operations limits the formulation of uniform framework for planning, implementing and measuring projects. These remarks indicate that destination specific intervention framework is inevitable for ecotourism product/destination management across destinations, which could ingrain local values and systems of the local community, by the community and for the community.

In spite of substantial literature highlighting the benefits of ecotourism theoretically, the practical aspects of community intervention in ecotourism literature are still in infancy. Moreover, ecotourism failures are also getting momentum in tourism literature. Although large number of guidelines are in practice to promote successful implementation (Lindberg & Hawkins, 1993), standardized methods to identify the activities or progress of ecotourism sites or the assessment of various intervention strategies of local communities in ecotourism are yet to emerge (Ross & Wall, 1999).

It has been identified that there are three major gaps existing in the operational aspects of ecotourism development across the literature, viz.,

- a) Operational mechanism at the destination level including details of intervention framework at state, local, site level and type, form, role and functions etc., of such mechanism.
- b) Linkage between ecotourism activities and destination sustainability.
- c) Relationship between destination activities and destination quality.

It is important to understand the type of destination level frame work of intervention for the successful implementation of ecotourism programmes. Questions are raised whether such intervention and its operational aspects at the destinations really meets the destination sustainability or not. Whether such involvement really helps to increase tourist flow? Are such practices competent enough to balance local resource conservation and local development? (Ross & Wall, 1999), and how far such community engagements contribute towards destination's quality?. These have become some of the most critical issues of Community Based Ecotourism (CBE) research currently.

In India, ecotourism projects are operationalised as part of IED programmes supported by World Bank (WB) to meet both conservation and livelihood objectives through dependent communities since 1996 (World Bank, 1996). All ecotourism programmes seek the dependent community support to meet these eco-development objectives in Protected Areas (PAs). Initially seven PAs were selected for the project implementation. In the Indian context, PA based ecotourism programmes have been operationalised as Community Based Ecotourism (CBE). PAs of India are controlled by the Union Government and administered through provincial state Departments of Forests and Wild life (DFW). Financial assistance is granted to state

governments to administer the PAs. State Governments also finance and extend technical support for the management of PAs within their territories.

Ecotourism programmers of PAs of India, as mentioned earlier, have been operationalised through the Ministry of Environment and Forests (MoEF) at the central level and the Ministry of Forests and Wildlife (MFW) at the state level. At the ground level, community intervention in ecotourism in PAs of India has been done through the Forest Development Agency (FDA), an arm of state Department of Forest and Wildlife (DFW) at the Range level; and through Eco Development Committees (EDC) within PAs and Vana Samrakshana Samities (VSS) or Forest Protection Councils (FPC) in the catchment areas of PAs at the grass-root level. These institutions of community intervention have been playing a vital role in meeting the eco- development objectives as a means of conservation and livelihood through tourism activity. In contrast to their traditional subsistence activities to meet the said objectives, these institutions are engaging community members as producers and suppliers of various products and services to customer centric and market-led tourism activities. This paradigm shift in conventional community based eco-development programmes requires a detailed understanding, as the success of CBE is dependent on the operational efficiency of these grass-root level interventions.

It is in this context that a study on grass-root level operational aspects of ecotourism becomes important. Such a study will help to bring more pragmatic solution to ecotourism failures and enhance the quality of tourism development by meeting the socio economic needs of the society. Methods of assessing grass-root level intervention, operations and its impacts on destinations deserve special attention as the objectives of such intervention focus on destination sustainability. Such a study should measure the degree

to which a site could achieve sustainability due to ecotourism activities carried out under grass-root/local level intervention of communities. A study of local level intervention of communities could help to identify the strengths and weakness of community activities with respect to sustainable development and tourists' satisfaction and thereby remedial measures can be initiated by timely planning, management and decision making. It may also pave the way for exploring alternative ways of meeting destination sustainability, and also help to identify more critical activities/strategies leading to destination's sustainability and quality.

In a nutshell, it was found out from literature, observation and interaction with experts that the variables which are having critical impact on grass-root level intervention of community in ecotourism in the context of Kerala can be related to the various strategies of intervention and their impact on destination in terms of sustainability and quality. The present study attempts to identify those variables as Community Intervention Strategies (CIS), Destination Sustainability (DS), and Destination Quality (DQ). In order to strengthen the operational efficiency of the current intervention practices across ecotourism destinations, the stakeholders' opinion on community intervention strategies and tourists' opinion on destination quality are also identified for the study. Hence these variables have to be measured and analyzed for identifying the existence of mutual relationships. This study therefore attempts to evaluate the linkage among these variables in the CBE settings in Kerala, India.

Since most of the resources of ecotourism in India are owned and operated by the state, the logical understanding of these resources as Common Property Resource (CPR) is more appropriate and the state has adopted

Community Based Natural Resource Management (CBNRM) strategy to manage these resources. The local community intervention in the context of ecotourism, which hitherto has restricted itself mainly to the areas of forestry, fisheries, grazing, and irrigation management (Polski & Ostrom, 1999), has been considered as the focal point of the present study. This study gains its relevance as it tries to integrate the local community with ecotourism.

As the sustainability is always destination/location specific, the management strategies for achieving this also varies. In this direction, local-specific mode of operations is imperative for sustainability. The strategies and capital contributions of the local community are inevitable for resource management for ecotourism sustainability particularly in the context of green economy. The mode of operation and the pattern of interaction within the community, in turn, affect the output of resource management. So such intervention should prove its ability to manage resources and deliver outcomes to the community concerned as they are not, in general, an end in themselves, but a means of improving the management of the resources (Nhantumbo, Norfolk & Pereira, 2003).

As ecotourism is considered as a major tool for co-management of natural resource, it requires better local intervention mechanism. This is because, ecotourism not only meets the conservation needs, but also provides scope for commercial operation rather than subsistence activity to the community for livelihood. In other words, the operation of the community is not only to meet the subsistence, but rather it goes beyond the subsistence level. Unlike other sectors of natural resource management, production and distribution of goods and services not only meets the needs

of the community, but it also meets the requirements of tourists visiting the area and thereby generating revenue.

1.2 Goals and Research Questions

The main goal of any study aimed at improving the prospects for CBE in developing countries should be based on an evaluation of the impact of such grass-root/local level intervention of communities as these people are the torch bearers of sustainability at the destination level. There are two important areas where this research can intervene: firstly, such a study should be able to detect the sustainability problems in ecotourism destinations, and secondly, enable policy makers and stakeholders to take informed decisions and improve the prospects of CBE development in their regions.

In this direction, the present study tried to identify the role of community in ecotourism development and how community intervention strategies are organised. The study also seeks to find out whether these intervention strategies by the destination community have made any positive changes in terms of sustainability as well as quality at the destinations or not?.

1.3 Need and Relevance of the Study

When we examine studies on community based ecotourism in India, we can find that none of the studies have attempted to examine the community's intervention in practice and its causal relationship with destination sustainability and quality. However, there have been a handful of studies done to suggest community involvement for destination sustainability but without identifying involvement strategies or basic parameters of

sustainability. In Kerala too, there is minimal academic intervention in the context of community intervention in ecotourism.

The present study is intended to target the basic objective of determining the relationship between community intervention strategies of ecotourism and resultant destination sustainability and destination quality in the context of Kerala. This may have wider applications across developing countries. This aspect is of particular interest because community centered developmental programmes are gaining popularity by encashing their endowments. As we know the innate skill possessed by the communities are considered as one of the major endowments which can be easily encashed through various employment and income generating activities and thus enabling the communities to receive their due entitlements. Tourism is the only one industry where the communities can project their natural and cultural heritage and related social components along with skill/labour as endowments and ensure their entitlements. In order to elaborate tourism to all walks of life and to ensure regularity in operations, community involvement is imperative. So a preliminary attempt is being made to identify existing community based tourism programmes in the context of ecotourism to see whether such community intervention is really working towards the destination sustainability and destination quality. In this direction, the present study considers community involvement in ecotourism as the *epicenter* of the study and therefore sought its views on required construct and tried to ratify those opinions from the users of tourism i.e. tourists as well as from other stakeholders. The opinions of the officials were not considered for the final study to avoid possible bias. Thus this study tries to present the various intervention strategies of destination communities, hitherto exclusively used

for CBNRM in tourism operations and explore whether such intervention could enhance destination sustainability and make possible improvements in destination quality across the destinations. Further the study signifies the following:

- Concept of ecotourism is gaining popularity as a tool for resource conservation and livelihood generation worldwide. Various forms of community intervention strategies are designed to attain these objectives. This may be the first attempt to study community intervention strategies of ecotourism in the context of India.
- The study will seek to provide further scope for identifying the operations and effectiveness of existing community intervention strategies in terms of sustainability dimensions. This may give a glimpse of fresh ideas for sustainable destination management, its related issues, and resource management strategies and also cover the intricacies of ecotourism promotion and visitor management. Besides, it will show how these intervention strategies bring satisfaction to the visitors.
- As most of the community intervention strategies under study are meant for general conservation and livelihood operations, it is important to study their effectiveness in meeting the destination sustainability as well destination quality.
- Present study also hopes to further elaborate the scope for studies in other aspects of community intervention strategies in varied contexts.

1.4 Organisation of the Thesis

The study is organised in six chapters. Chapter 1 is an introduction to the study. Chapter 2 presents an overview of the study area. Chapter 3 contains a review of literature and implications of the theoretical background for the study. Chapter 4 describes the research methodology used in the study. Chapter 5 presents the data analysis of various relationships in the study. Chapter 6 includes the summary of findings, discussions and conclusions of the study.

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Chapter 2

COMMUNITY AND ECOTOURISM: INDIAN SCENARIO

C o n t e n t s	2.1 <i>Overview of Indian Ecotourism Scenario</i>
	2.2 <i>Community Intervention Framework of Ecotourism in India</i>
	2.3 <i>Tourism in Kerala</i>
	2.4 <i>Status of Ecotourism in Kerala</i>
	2.5 <i>Destination under Study</i>
	2.6 <i>Summary</i>

2.1 Overview of Indian Ecotourism Scenario

Tourism is the one of the major drivers of the Indian economy. About 5.92% of the country's Gross Domestic Product (GDP) comes from tourism and it provides employment to over 9.24% of the country's workforce (Ministry of Tourism, Govt. of India, 2011). India has registered a compounded annual growth rate of 9.1% for the last decade (2001-10) as against 3.6% for the world during the same period. According to World Travel and Tourism Council, Indian tourism economy has been deemed as the second-most rapidly increasing (8.8 %) tourism economy in the world, responsible for creating about 40 million jobs by 2019 (WTTC, 2009). The Planning Commission of India has identified tourism as the second largest sector in the country in providing employment opportunities for low skilled and semi skilled workers, where women constitute 70 % of the workforce

and where nearly 50 % of the tourism manpower are under the age of 25. It is also estimated that 78 jobs are created with one million rupee of investment in tourism sector compared to 45 jobs in the manufacturing sector for similar investment (Planning Commission, Govt. of India, 2013). Forecast of UNWTO (2006) stated that the Travel and Tourism Industry in India will grow by 8% per annum with 14 % growth in foreign exchange earnings, in real terms, between 2008 and 2016.

The share of domestic tourism is considerably large as it constitutes three fourth of tourism economy of India. National tourism policy of India (2002) identified tourism as a major engine of economic growth for employment and poverty eradication in an environmentally sustainable manner. The focus of the 12th Five Year Plan (2012-17) is pro poor; to increase the net benefit of tourism to the poor and thereby tourism should contribute to poverty reduction (Planning Commission, Govt. of India, 2013).

Constitutional initiatives like the 73rd and 74th Amendment, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, (Ministry of Tribal Affairs, Government of India, 2006), call for local community involvement through self governing bodies, which accord rights to local self government institutions i.e. Gram Sabhas, bringing into their jurisdiction matters related to land, water, socio-economic development, infrastructure development, social welfare, social and urban forestry, waste management and maintenance of community assets and recognition of forest community rights. Ecotourism uses the community resources like cultural, social, ecological and human for the development of the region. Since these fall under the purview of the Gram

Sabhas the decision making by such local self government institutions is very important. The local self government institutions or other democratic institutions are inevitable for the overall development of ecotourism, from the approval of the project, to evaluation and monitoring.

India, as already mentioned, is one of the eighteen mega diverse countries in the world with two biodiversity hotspots viz., the Himalayas and the Western Ghats. India occupies only 2.4 percent of the total land area but contributes eight percent of the known global biological diversity. As mentioned, India has a network of 733 Protected Areas (PAs) comprising 103 National Parks, 537 Wildlife Sanctuaries, 67 Conservation Reserves and 26 Community Reserves in different biogeographic zones (MoEF, 2016).

Ecotourism today is recognized to have the potential to transform to a green economy model. Ecotourism is an established and widely recognized form of tourism, which is environmentally, socially, culturally, politically and economically sustainable with a visibility of providing employment and income to the downtrodden/ marginalized sections of the society particularly tribals, and people of the lower strata of the society. The Global Environment Facility (GEF) supported India Eco Development (IED) programme was one of the large scale ecocodevelopment programmes which incorporated ecotourism as a means of livelihood for tribal/forest dwelling communities in India in seven selected forest areas viz., Gir (Gujarat), Pench (Madhya Pradesh), Ranthambhore (Rajasthan), Nagarhole (Karnataka), Buxa (West Bengal), Periyar (Kerala) and Palamau (Jharkhand). The main project objectives were: (a) to improve Protected Area (PA) management, (b) Village eco-development, (c) Education and awareness and project

impact monitoring and research, (d) overall project management, and (e) preparation of future biodiversity projects.

The provincial state governments in the country started to explore the possibilities of ecotourism in their territories through various policy initiatives. States like Kerala, Tamil Nadu, Karnataka, Gujarat, Maharashtra, Madhya Pradesh, Uttarkhand, Himachal Pradesh and Sikkim have framed ecotourism policy and identified areas of operation for ecotourism. For example, in the state of Kerala, 56 places have been identified for development as ecotourism destinations by giving emphasis to conservation, ecological sustainability, environmental education and local community benefits.

As compared to other forms of tourism, community participation, involvement of marginalized groups i.e. tribals/indigenous groups, forest dwelling communities, women etc., for local level resource sharing, are part and parcel of ecotourism management. Most of such interventions were characterized through a locally designated framework, i.e., development of self help groups (SHGs), Non Governmental Organisations (NGOs), Forest Protection Committees (FPC), Eco Development Committees (EDCs) and Vana Samrakshan Samitis (VSS). As mentioned earlier, EDCs and VSS are the two important local level community intervention mechanisms formulated for ecotourism in and around the PAs of India. The income generated in ecotourism destinations are channelized to ensure quality tourism services as well as to improve the living standards of destination communities.

While examining the scenario of community intervention in ecotourism it is imperative to get a glance of the national and state level initiatives including policy framework in India. As mentioned above, initial reference on community intervention in ecotourism in India figured along with India Eco Development (IED) programme as well as the Thenmala Ecotourism Project (TEP) in Kerala, which was the first planned ecotourism project of India.

In order to give an impetus to ecotourism operations in the country, as pointed out earlier, the Government of India (GOI) issued an Ecotourism Policy and Guidelines in 1998. The document identified major stakeholders of ecotourism such as: Government, Destination developers, Service providers, Visitors, Host community, NGOs and Research institutions and prescribed operational guidelines for these key players. The policy guideline emphasized on conservation through local community involvement, minimisation of negative impacts of tourism in socio cultural and environmental perspective and ensuring livelihood security of the community associated along with cost benefit analysis for the infrastructure development of the area. Besides this, the policy also sought to provide incentives for conservation, regulatory framework for destination, standardization of tourism services in certain segments and continuous monitoring criteria for the destinations.

Apart from the national ecotourism guidelines, a number of state governments also introduced policy initiatives and institutional framework to promote community intervention in tourism activities. Table 2.1 gives a glimpse of state level ecotourism policy initiatives and their implications at the state level as well as the destination level with regard to community intervention.

Table 2.1: State-wise Ecotourism Policy Initiatives and Community Intervention

State	Policy initiatives		Implications on Community Intervention
Himachal Pradesh	Ecotourism Policy, 2001	1	Setting up of Local level Committees of destination communities
		2	Involvement of NGOs
	Ecotourism Policy, 2005	1	Local level Committees like EDCs/ VSS are proposed as in the Great Himalayan National Park.
Karnataka	Wilderness Tourism Policy, 2003	1	Setting up of local level committees
		2	Strengthened Jungle Lodges and Resorts for nature based tourism operations with community participation
Kerala	Tourism Conservation, Preservation and Trade Act, 2001	1	Convert entire tourism industry in Kerala into eco-friendly mode through policy initiatives, destination specific programmes and by supporting community led initiatives
		2	Create public awareness and involvement in responsible tourism development.
	Conservation and Preservation of Areas Act, 2005	1	Promote sustainable tourism in the state
		2	Guiding the stakeholders in framing destination specific policies for sustainability
	Participatory Ecotourism Programme of DFW, 2005	1	Promote participatory ecotourism through EDC and VSS
		2	Facilitate ecotourism directorate and DFW collaboration
	Citizen Charter of the Directorate of Ecotourism, 2009	1	Facilitate development of ecotourism resources for Kerala state
		2	Convert Kerala tourism industry into an eco-friendly mode.

Tripura	Ecotourism Policy, 2004	1	Sustainable use of natural and cultural resources
		2	Employment generation and local participation
Madhya Pradesh	Eco and Adventure Policy, 2002	1	Guidelines for operating ecotourism activities in forest areas
		2	Development of committees of destination communities under participatory forest management programme.
	Ecotourism Charter, 2005	1	Aims to develop the best management practices
		2	To educate and regulate all stakeholders
	Ecotourism policy, 2007	1	Conserving the natural resource base of the State through community participation;
		2	Securing economic benefits for the local communities without adversely affecting their cultural ethos
Maharashtra	Ecotourism Policy, 2008	1	Encourage local participation in tourism development
		2	Ensure conservation and management of ecotourism resources
Punjab	Ecotourism policy of Punjab, 2009	1	Conserving the natural resource base of the State through community participation
		2	Securing economic benefits for the local communities without adversely affecting their cultural ethos.
Rajasthan	Ecotourism Policy, 2009	1	Proposal to increase the number of EDCs at the destinations
		2	Establishment of separate division under DFW for ecotourism development.
Sikkim	Sikkim Wildlife Regulation of Trekking Rules, 2005	1	Regulation of trekking activities in the state with the support of local communities
		2	Enhance the community well-being through tourism

	Singalila Ecotourism Promotion Zone 2006	1	Promotion of community based ecotourism operations
		2	Maintaining the multi dimension of sustainability in tourism operations.
	Sikkim Ecotourism Policy, 2011	1	Poverty alleviation
		2	Conservation
Tamil Nadu	Ecotourism Policy, 2010	1	Proposed community development through community institutions i.e. EDCs or VSS at the destination
Uttaranchal		2	Establishment of community development organisation
		3	Strengthen the activities of community institutions

Compiled from various sources: Websites, Reports, and Telephonic interview with concerned departments.

2.2 Community Intervention framework of ecotourism in India

State level policy initiatives highlight the importance of community intervention in ecotourism for sustainable resource management. Conservation of natural resources is ensured through raising awareness of the people by facilitating their visit to pristine natural areas and by involving the local communities in the delivery of ecotourism resources and services. As indicated in Table 2.2, various state governments have taken initiatives through their state level institutions to involve local communities to the core functional areas of ecotourism.

Table 2.2: State Level Ecotourism Institutions for community intervention

State	Institutional Framework	Activities Proposed for Ecotourism Development (General observation)
Andhra Pradesh (Erstwhile)	Directorate of Ecotourism under (AP FDC*)	<ol style="list-style-type: none"> 1. Identification of ecotourism potential and development of ecotourism facilities 2. Maintain Inventory of existing and proposed ecotourism destinations. 3. Make policy decision in consultation with Department of Tourism (DOT) and Department of Forest and Wildlife (DFW) or other concerned departments. 4. Provide all kinds of support: physical, educational, technical, and financial to the community organisations other local level institutions / stakeholders for the destination development 5. Development of infrastructure 6. Creation and strengthening of community organisation's operations. 7. Marketing and promotion of destination and rapport with public relations department 8. Research and development in ecotourism 9. Design standards for quality services 10. Membership and accreditation 11. Classification and certification of ecotourism destination 12. Undertake any other activities which are beneficial to ecotourism 13. Monitoring and evaluation 14. Community Based Organisations at grass-root level with Panchayat, Tourism Development Committees and other representative groups
Himachal Pradesh	Ecotourism Society of HP	
Karnataka	Jungle Lodges and Resorts	
Kerala	Directorate of Ecotourism	
Madhya Pradesh	Ecotourism Development Board	
Maharashtra	Ecotourism Promotion Board	
Punjab	Punjab Heritage Tourism Promotion Board (EDC State Level)	
Uttaranchal	CCF** (Ecotourism)	
Sikkim	Ecotourism Directorate	

* APFDC (state level) ** Chief Conservator of Forest

Modus operandi of community intervention in ecotourism may vary according to sustainability dimensions. Widely accepted method of community intervention model followed in India is presented in Figure 2.1. In certain states provisions were made for registering community institutions as societies under the Societies Registration Act, 1860 at the grass-root level. It is pertinent to note that such societies, registered under the said Act were formed for eco development activity, which has an incentive-based approach to conservation and sustainable use of natural resources of the local area.

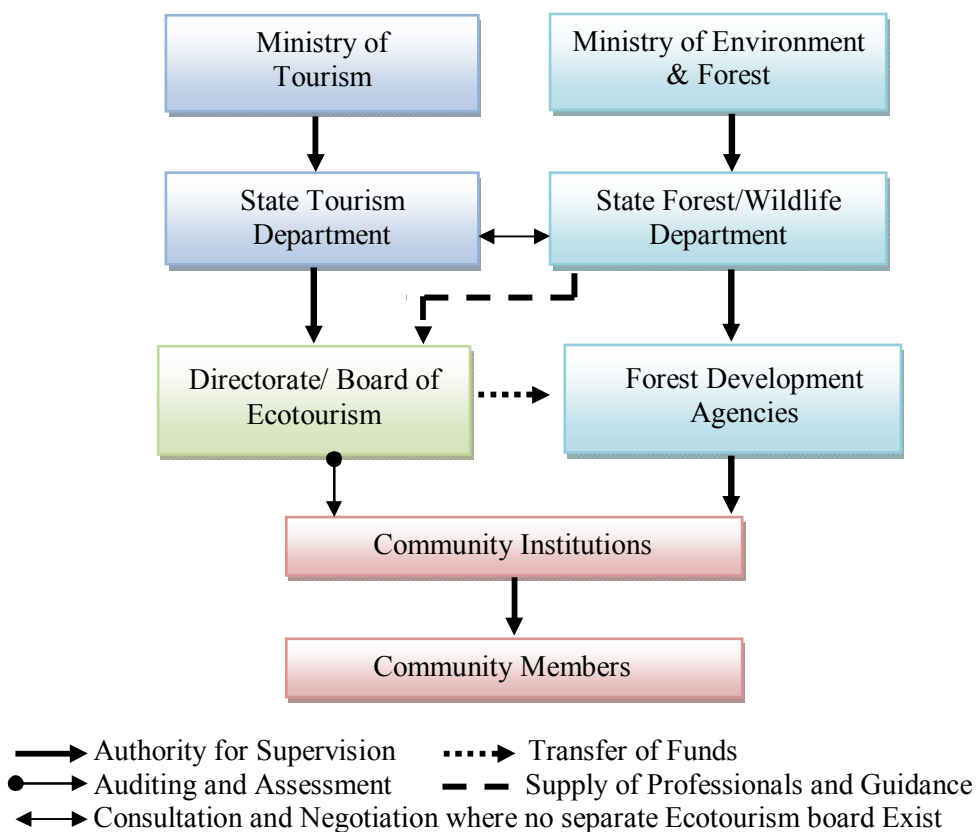


Figure 2.1: Community Intervention Framework of Ecotourism in India

2.2.1 Community Based Institutions

As mentioned earlier, there are two major community based institutions developed for the management of Protected Area (PA) based ecotourism destinations across the country. In the Indian context, the National Forest Policy, 1988 provides the basis for involving local people in forest conservation and development. This policy provides for the institution of Eco-development Committees (EDCs) in areas located within PAs and Vana Samrakshana Samitis (VSS) or Forest Protection Committees (FPC) in other territorial areas of PAs. Eco Development Committees (EDCs) were also institutionalized under IED programme which was a world level scheme initiated by World Bank based on the concept of people centered strategies of nature conservation (Gurukkal, 2003).

According to Gurukkal (2003), the scope of Eco Development (ED) is not only to keep the forest inhabitants off the PAs by providing other means of subsistence, but to practice Common Property Resources (CPR), grass-roots democratization, corporate capacity building, alternative institutional development, removal of tenurial contradictions and exploitative intermediaries, cooperativising, preservation of local knowledge, ensuring of distributive justice in benefit sharing, checking of further cultural disruption and so on.

Though EDCs and VSS were organised as grass-root level community based institutions as part of the PA management strategy, there is a fundamental difference between these two. VSS members may benefit from usufructs (the right to use and derive profit or benefit from property that belongs to another party - in this case the state - as long as the property is

not damaged), including fuel wood, fodder, bamboo, and a share in the timber produced from forests 'assigned' to the community, in return for forest protection and management duties. Such opportunities do not exist for EDC members since usufructs, except regulated grazing, are prohibited at PAs under the Wildlife (Protection) Act, 1972 (Gurukkal, 2003).

These grass-root level institutions are organised as a Government-community partnership initiative which seeks to rationalize the demands of communities by promoting efficient use of resources and alternative livelihoods. Members of these institutions are the inhabitants in and around PAs, formed under the supervision of the Department of Forest and Wildlife (DFW), i.e. Forest Development Agency (FDA). Basically a micro-plan with integrated development objectives was prepared and validated by the Committee using participatory survey techniques. Project activities or needs are therefore defined per locality and receive funding for their implementation (Lucie, 2010). Members from tribal settlement, Scheduled Caste (SC) colonies and other marginal and backward fringe areas were given the maximum priority. Each family is represented by two members (in certain cases, one member) and one of the members must be a female. It was to give a proper representation of the entire communities in livelihood creation activities. For example, in Madhya Pradesh, 30 % to 50 % membership as well as president or vice president post has been reserved for women. The Range Officer (RO) is deemed to be the Assistant Eco-development Officer (AEO) and the forester is the Ex-officio Secretary. However, one of the best forest guards in the area is the Assistant Ex-officio Secretary. It has an Executive Committee comprising of 11 persons elected by members, and 2-4 ex-officio members (non-voting). At least five elected members must be

women, with a woman Chairperson or Vice-Chairperson. The Ex-officio secretary does not have any voting power and the bank account is jointly operated by Chairman, Ex-officio Secretary and one nominated female member of the Executive Committee (Madhya Pradesh Ecotourism Development Board, 2015).

Extensive studies have been conducted to assess the results of eco-development projects in India. Most of such studies have focused their analysis on the relationship between the stakeholders involved in the projects (Baviskar, 2003; Mahanty, 2002), while few have worked on the concrete results in terms of infrastructure and revenue for local people (Gubbi et al., 2008) and operational aspects (Gurukkal, 2003).

In his studies, Gurukkal (2003) identified the reasons for failure of some of these institutions in and around Periyar Tiger Reserve (PTR). They are: (a) Facilitators and EDC failed to set terms of business by assessing risks and market potentials of the product, (b) The facilitators were unable to provide technical support and guide them due to their lack of prior knowledge and time, (c) The project was a hurriedly planned one, (d) The region being located away from the office of the Project implementers, the EDC activities did not receive adequate supervision and guidance from them, (e) The secretaries were not enthusiastic enough to follow up the scheme, and (f) Lack of awareness about the Project goals and sense of belonging of the EDC.

2.2.2 Community Intervention Strategies in Ecotourism

In India, the entire ecotourism programmes in PAs are operationalised through destination communities. These committees are referred as tourism

EDCs/VSS in Kerala (See Figure 2.2). These are the grass-root level ecotourism operational framework based on resource use patterns and social structure (Uniyal & Zacharias 2001). These interventions have been identified as the catalyst in local level governance as well as livelihood mobilization of almost all ecotourism destinations of India. Since tourism and its orientation differs from other livelihood activities, intervention of communities in ecotourism operation needs to be studied separately. In the following section, a brief discussion of the various dimensions of community intervention in ecotourism and how it differs from other livelihood activities is given:

- Destination communities involve in production of both goods and services; service orientation is comparatively high.
- Target groups are tourists, their expectations and orientations are different from general customers.
- Community members are the operators of the destinations and have to play multiple roles as host, service provider, conservator, educator, guide and interpreter etc.
- Liaison with service providers like travel agents, tour operators, hotels, and other stakeholders with different orientation and aspirations.
- Require good networking skill to maintain both demand and supply side of tourism (members have to mobilize tourists and also to organise different activities, render services in association with other stakeholders).

- Custodian of destination quality: by adhering to regulations and direct others to follow.
- Propitiator of culture and custodian of natural heritage of the area.
- Responsible for visitor satisfaction, destination branding, resource use etc.
- Catalyst for destination sustainability (Identified during exploratory study, and conceptualized on the basis of expert opinion).
- Capacity building for employability of local community in hospitality, visitors management, guiding, interpretation, escorting etc.
- Follow Joint Forest Management/other resource sharing norms for revenue generated from tourism.
- Information management at the destination (collection, processing and transfer of indigenous knowledge and other endemic or local knowledge) and support FDA and DFW for the same.
- Marketing and promotion of the destination with the support of stakeholders and Government authorities.
- Act as a catalyst of Education and Environmental Awareness for community and visitors.
- Forward/backward linkages of destination activities for uninterrupted flow of economic transactions for livelihood.
- Involvement in infrastructural development of the destination areas.

- Exploring further tourism prospects of the area.
- Conservation and preservation of natural resources of the locality.
- Ensure social inclusion.
- Gender mainstreaming by mobilization, ensuring participation and sensitization.
- Promote integrated planning and operation of tourism with related sectors.
- Monitoring of destination activities, visitors satisfaction, resource use at the destination (Identified during exploratory study and conceptualized on the basis of expert opinion).

In short, it can be concluded that in ecotourism destinations by involving the local community in various ecotourism and related activities the twin objectives of conservation and livelihood can be met. Destination communities are expected to plan, organise and manage various ecotourism products and services in consultation with FDAs of the respective forest range.

Based on the literature review related to Community Based Natural Resource Management (CBNRM) (Agrawal & Chhatre, 2006; Danielsen et al., 2009), expert opinion and destination level experience of the investigator, the various Community Intervention Strategies (CIS) were broadly classified into three distinct activities for the purpose of the present study. They are as follows:

- 1) Commercial Intervention
- 2) Ecodevelopment Intervention
- 3) Governance Intervention

2.2.2.1 Commercial Intervention

According to Buckley (2009) commercial opportunities in ecotourism go beyond direct employment, which include production and distribution of goods and services. In the context of community intervention in ecotourism in PAs, Commercial Intervention (CI) has rarely been acknowledged, because the purpose of Community Based Resource Management (CBRM) framework is to bridge the conservation and livelihood, mostly through subsistence activities like farming, fishing, collection of minor forest produce etc. These activities are to meet communities' basic or bare minimum needs, by exploiting the available natural resources. Subsistence activities comprise all diverse sets of endemic local system of production and distribution of various goods and services representing economic, ecological and socio-cultural factors. The creators and beneficiaries of these subsistence operation of an area are mainly the members of the community concerned (Robert, 2001).

As a market led programme, tourism has its own facets in transactions. In PAs, tourism is considered as one of the means of addressing livelihood issues; where communities are not direct consumers of the resources, they organise community's resources and natural resources for satisfying the visitors needs. The earning from these transactions are utilized for meeting the conservation and livelihood issues of local communities. In a nut shell, such activities of communities are not a direct subsistence activity like other communities of PAs do, rather they meet the livelihood requirements through sale of destination resources *per se* both cultural as well as natural. The present study, therefore, considers such activities as commercial activities. Most often community activities are

destination specific, so a holistic definition of commercial activities is appropriate. The following section will discuss the major commercial activities of destination communities in the context of PA based ecotourism in India.

Development and Organisation of tourism products: Identification of destination resources, and organising them in a manner which meet tourist needs and sustainability of the destinations is considered as one of the major intervening areas of communities in ecotourism. Most of these resources are intangible as well as endemic to the regions, characterized by the type of destinations like hill stations, river basin, plantation etc. Widely observed such products are trekking, bird watching, nature walk etc. Presentation and/or reintroduction of various cultural properties, are also major components of ecotourism products. Indigenous art forms are organised and presented for visitors on a regular basis, in most of the PAs coming under the present study. Moreover, in order to provide employment throughout the year, community often introduces special products like monsoon tour, spice tour and other specific tour packages or even diversifying existing products to attract tourists.

Production of local tourism products: Community based tourism programmes often show-case their skills by producing various tangible products to the tourists. Most of such products are not available in the open market, because, the raw material or the skill or the process of these products carry certain kind of endemism. Accordingly, these products have been considered as authentic products of the region, to attract visitors. The present study identified community products like souvenirs, food and food products, traditional medicines, art and craft works etc., in the tourism market due to these reasons. In practice. these products were sold directly or through agencies to the tourists.

Enterprise development: In order to avoid middle men in selling the products of the destination communities, various shops and establishments with the support of FDA have been created by the community members in each destination. Such establishments are instrumental by ensuring sale through exhibitions, besides serving as outlets for sale of various endemic products of the region including souvenirs, food items etc. Community operated accommodation facilities like huts and camping sites, are also major attractions of these destinations. Majority of these enterprises are organised as micro enterprises or operated as a ventures owned or operated by the institutions formed as a registered society like EDC or VSS in PAs.

Guiding, Interpretation and Escorting: One of the major wage employment available to most of the destination communities under the study is community assisted guiding, interpretation and escorting. Community members are trained to take-up these jobs and provide authentic information about the destination. Guiding and escorting by the community members are unique as the same by outsiders may undermine the importance of destination specific features. Guiding is mostly arranged for day trips and escorting for trekking, and other adventurous activities. Nature walk and other special interest tours require interpretation services. The group consisting of guides, interpreters, and escorts are the major educators of ecotourism and their institutional form is called as naturalist EDCs in the study area.

Integration of tourism with other sectors: Activities emanating from the integration of tourism with other sectors include agriculture, floriculture, aquaculture etc. For example, visit to farm houses, and spice villages are widely practiced in ecotourism destinations under study. The purpose of such integration include better market access and extension of stay of

visitors at the destinations. The communities are extending their services to such areas to attract visitors and thereby improve their livelihood options.

2.2.2.2 Ecodevelopment Intervention

As the name indicates ecodevelopment is the major objective of community based ecotourism where the destination community directly takes part in eco maintenance and restoration programme. According to United Nations Glossary of Environmental Statistics, eco development can be defined as development at regional and local levels, consistent with the potentials of the area involved, with attention given to the adequate and rational use of natural resources, technological styles and organisational forms that respect the natural ecosystems and local social and cultural patterns (United Nations, 1997). Within the framework of ecotourism operation, the community concerned assumes responsibility for ecodevelopment and also encourages other stakeholders including tourists to involve in it.

Following are the major community initiated ecodevelopment activities found in PA based ecotourism programme:

Conservation of natural resources: Destination communities engage in various conservation activities to protect their endemism as well as to ensure prudent use of their community resources. In order to reduce the ecosystem degradation conservation activities like terracing, aforestation etc., and the application of 3Rs: reuse, reduce and recycle are practiced. The provision for renewable and non renewable sources of resources are identified and initiatives are made to conserve it to reduce the rate of ecosystem destruction or degradation.

Monitoring of resources: As a custodian of destination resources, communities are entrusted with the task of monitoring the destination under ecotourism programmes of PAs of Kerala. They are deployed as watchers, guards etc., to safeguard the resources. Poaching, and other illegal activities are invigilated by members and reported to the DFW. Most often measures suggested by the communities are operationalised to check such menace. Besides, community members are also functioning as surveyors for environmental reporting programmes conducted by the DFW.

Environmental education and awareness programmes: The common understanding is that conservation is possible only through proper awareness among stakeholders. As a custodian of destination resources, awareness among destination communities is *sine qua non*. At the same time awareness among tourists is also considered essential for resources conservation as they are the ultimate consumers of the destination resource. Community members through Tourism EDCs (TEDCs) frequently organise various environmental awareness programmes for destination communities and practice it at their surroundings. These community members are further engaged in educating tourists about the environmental importance of the destination as well conservation of natural resources in general.

Financing for Conservation: Beyond community volunteerism, financial support is important for executing various conservation programmes. The amount generated from various tourism related activities including entrance fees, fees from tourism activities, revenue from other services rendered by the community at the destinations are the major sources of financial support for conservation of natural resources. As per the agreement between the

community and DFW, certain percentages of such earnings are earmarked for conservation.

2.2.2.3 Governance Intervention

According to Department for International Development (DFID), governance is about the use of power and authority and how a country manages its affairs (DFID, 2007). This can be interpreted at many different levels, from the state down to the local community or the household. As categorized by Organisation of Economic Cooperation and Development (OECD, 2012), governance has four dimensions with various indicators. These are: political system (democracy, human rights, rule of law and decentralization), public administration (corruption, public management, public financial management, transparency and fiscal policy), social governance (efficient public service delivery, citizen empowerment, community development) and market governance (creation of favorable business environment). When we examine these variables, we find that most of them are pertinent to CBE as community intervention is aimed to improve and maintain conservation and livelihood objectives of ecotourism by exercising community power and authority. As mentioned earlier, local community members are mobilized within PAs, to make them involved in various tourism and related activities on a regular basis to meet the stated objectives. But there are a large number of other areas where the destination community is involved beyond ecodevelopment and commercial intervention at the destination. These relate to the formulation and implementation of policy decisions, which include representation, resource sharing, skill development, action for social cause etc. These interventions are collectively referred as Governance Intervention for this study. In other words, these activities are administrative in nature and are

organised within the community for the betterment of community intervention. Governance Intervention under CBE encompasses the following:

Representation: Democratic representation of community members by following the stipulated procedure i.e. one man one vote and also ensuring equality of opportunity for marginalized sections like women, tribals, scheduled communities, rehabilitated people and other vulnerable groups are the essence of community participation framework of ecotourism. As mentioned earlier, Tourism Eco Development Committees (TEDCs) have an Executive Committee which comprises of 11 persons elected by members, and 2-4 ex-officio members (non-voting). At least five elected members must be women, with a woman Chairperson or Vice-Chairperson. Further, there must be at least one member from each family in TEDC for better representation of destination communities in ecotourism and related activities.

Decision making: In order to regularize the pattern of intervention, community members are regularly holding meetings under the aegis of TEDC to discuss issues or new policies and programmes. Most of the Executive committee members and the General body meet frequently, the former at least twice a month and the general body members on a monthly basis. Minimum number of quorum is also ensured in all meetings as per the guidelines prepared by the DFW. Often new norms and rules are also evolved while resolving earlier decisions. In principle they follow a stipulated method for sharing the benefit to ensure equity in resource sharing. It has been noted that such intervention has also helped to ensure standardization of wage structure across the destination, by improving the bargaining power of the community through negotiation.

Intermediary: Most often community members act as an intermediary between destination communities and other stakeholders of tourism of the respective region including government agencies. In the study area, it has been observed that the representatives or the leaders of the local community help their members to connect with FDA, or the next immediate (Range level) arm of DFW and other agencies like Directorate of Ecotourism (DOE), Department of Tourism (DOT) of Government of Kerala (GOK). These representatives also connect destination communities with local self government institutions and other government agencies for the overall development of the region.

Consultant: As the opinion of destination communities are of utmost important for managing destination issues, the authorities like FDA of the respective regions seek the suggestions and recommendations of these community members in important matters. It has been observed that in matters like tackling of poaching, and other anti social elements in and around PAs, community members play significant role and their advice is useful for handing such issues.

Programme for Social wellbeing: Community members themselves organise large numbers of social awareness programmes pertaining to health issues i.e. alcoholism, drugs etc., ethical issues i.e. illegal transactions, poaching, smuggling etc., and social issues like child marriage, dowry etc. among its members. These programmes one way or the other affect the health and hygienic environment in and around the destination.

Promotion: As a community driven initiative, TEDCs do often promote natural and cultural heritage of the community. Mostly they participate in various trade shows related to tourism in nearby areas, present indigenous art forms and practices and also exhibit traditional medicines and rituals.

Capacity building: Community members organise and participate various capacity building programmes with the support of FDA as part of skill building process to equip its members to explore various entrepreneurial and wage employment opportunities in the ecotourism sector. Capacity building programmes include training on hospitality services, customer handling and various self employment programmes, like production of fancy items from waste, extraction of minor forest products, handicrafts etc., for sale at the destinations.

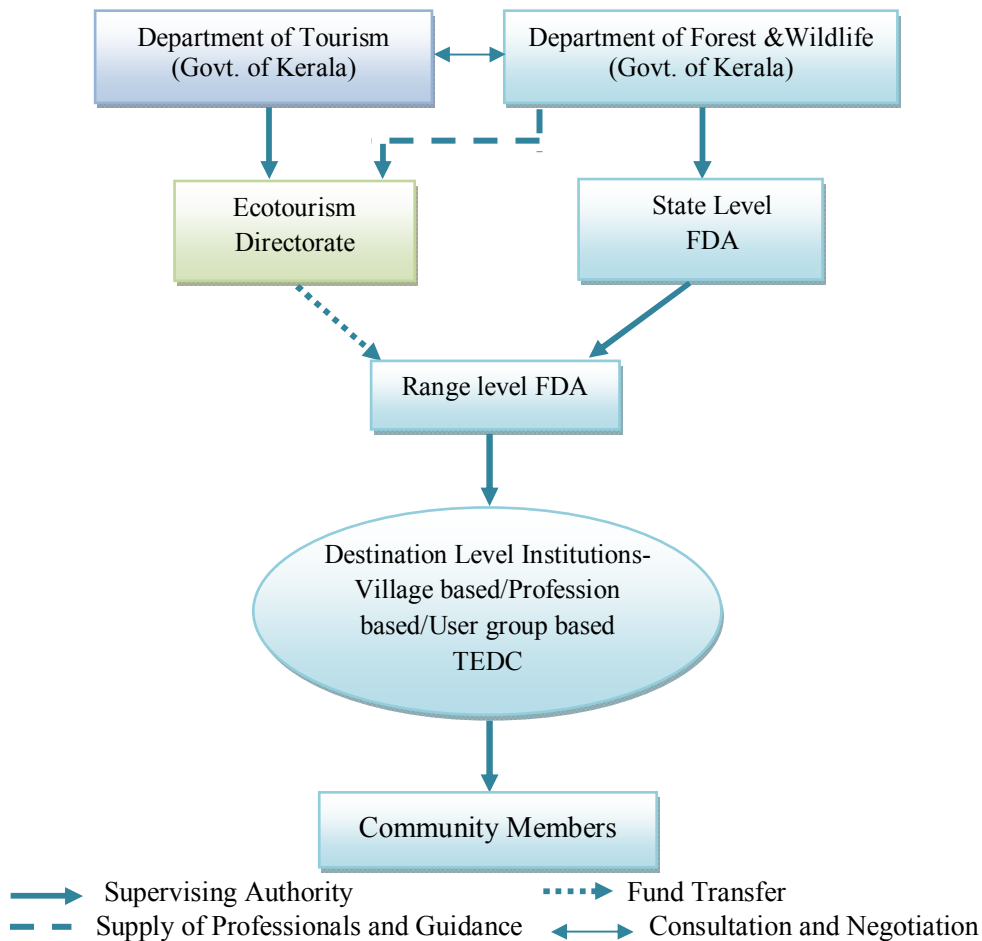


Figure 2.2: Community Intervention framework of ecotourism in Kerala

2.3 Tourism in Kerala

Kerala, the southernmost provincial state of India, is one of the most upscaled destination in south Asia popularly known as ‘God’s Own Country’ in tourism industry. Natural and cultural vividness and innovative destination management strategies, include declaration of special tourism zone with tourism master plan, intermittent policy initiatives for conservation, transparent quality control systems i.e. quality control norms and classification and grading for hospitality enterprises (Ayurvedic resorts, home stays, wayside amenities, serviced villas and house boats) and accreditation for tour guides, tour operators, eco-friendly practices and long-term approaches like eco-certification, Kerala eco-initiative etc., are the important aspects of tourism development of Kerala.

Kerala is an advanced state among all the Indian States in terms of different human development indicators. Some of the basic facts about the state is given in Table 2.3.

Table 2.3: Kerala at glance

Particulars	Description
Capital	Thiruvananthapuram
Population (2011)	33.39 Million
Density of population	859 per Sq. Km
Share of Kerala in total Population	2.76 %
Sex Ratio	1084 women for 1000 men
Literacy Rate	93.91 %
Languages Spoken	Malayalam, Hindi, English
Location	80 18 ‘& 120 48’ (N) latitude and 740 52’ & 770 48’ of longitude.
Total Area	38,863 Sq. Km
Forest Area	9400 Sq. Km
Per-capita income in 2009-10	52984(at 2004 – 05 prices)
Life expectancy at birth	74.0

Source: Compiled from various sources

2.3.1 Tourism Market: Present Scenario

In market terminology, tourism usually connotes travel for leisure, recreation and holidays. The definition of tourists as above is much broader (it can subsume, for example, many types of business travel). The UNWTO (2012) categories the purpose of visit for tourists as follows:

- 1) leisure, recreation and holidays
- 2) visiting friends and relatives
- 3) business and professional (including for study)
- 4) health treatment
- 5) religion, pilgrimage, and,
- 6) Others (e.g., airline or ship crew, transit travellers, etc).

According to Department of Tourism (DOT), Government of Kerala (GOK), there has been a moderate increase in domestic as well as foreign tourist arrivals as well as resultant income for the last two decades. The foreign tourist arrivals which showed an increase of 6% to 7 % for the past two decades, is much better than UNWTO's projected growth rate of 4% to 5% for the world as a whole during the same period and 7% to 9% for Asia and the Pacific (Department of Tourism, Government of Kerala, 2013). The definition of both domestic as well as foreign tourists given by Tourism Satellite Account (TSA) has been adopted for the study. Table 2.4 gives the tourist arrivals to Kerala from 2001-2013.

Table 2.4: Tourist Arrival in Kerala

Year	Domestic	International	Total No of Tourists	Revenue (₹)
2001	5239692	208830	5448522	4500.00
2002	5568256	232564	5800820	4931.00
2003	5871228	294621	6165849	5938.00
2004	5972182	345546	6317728	6829.00
2005	5946423	346499	6292922	7738.00
2006	6271724	428534	6700258	9126.00
2007	6642941	515808	7158749	11433.00
2008	7591250	598929	8190179	13130.00
2009	7913537	557258	8470795	13231.00
2010	8595075	659265	9254340	17348.00
2011	9381455	732985	10114440	19037.00
2012	10076854	793696	10870550	19037.00
2013	10857811	858143	11715954	20430.00

Source: Department of Tourism, Government of Kerala

2.3.2 Tourism Market: Prospects

Kerala's Tourism Vision 2025 envisages a growth rate of 7 % per annum in foreign tourist arrivals and 9 % growth in domestic tourist arrivals. Accordingly, there will be 808,000 foreign tourist as well as 29,365,000 domestic tourist arrivals during 2021-22. The study by

Tata Consultancy Services (TCS) stated that average growth rates of 3.5 % have been achieved in recent years in both domestic and foreign tourist arrivals to Kerala (TCS, 2000). The base of foreign tourist arrivals is small and this group has a higher percentage of niche interest and high spending tourists. The TCS has therefore targeted a long-term growth rate of 5 % per annum for foreign tourist arrivals in Kerala.

2.3.3 Tourism Resources: Segments

According to the TCS (2000), the principal tourism resources of Kerala fall into six categories: (1) heritage/cultural/religious sites and events, (2) backwaters, (3) beaches, (4) hill stations, (5) wild life sanctuaries and (6) Ayurveda. The segment-wise tourist statistics suggests the following pattern of interest (by percentage) among the tourists across various tourism resources as shown in Table 2.5:

Table 2.5: Tourism Resources of Kerala

Tourism product category	Domestic tourists	Foreign tourists
Heritage, culture and religion	65	40
Backwaters	15	20
Beaches	8	25
Hills and hill stations	7	5
Forests and wildlife	5	10
Health and Ayurveda	NA*	5

Source: TCS study (2000)

* Not available

All those identified products categories, one way or other, offer scope for ecotourism operations including culture, heritage and religious centers across the state. For example, the religious centre like Sabariamala offers immense scope for ecotourism operations in and around the temple.

2.4 Status of Ecotourism in Kerala

The tropical forest ecosystem of Western Ghats of Kerala provides a natural advantage for the development of ecotourism. Most of the ecotourism resources of Kerala are part of the Western Ghats, and consist of 13 Wildlife Sanctuaries, 5 National Parks, several scenic mountainous

regions beside a few estuarine ecosystems, fresh water lakes and mangroves. Ecotourism initiatives of the state can be classified as product development, policy initiatives and promotional programmes. Product development was initiated by establishing first planned ecotourism project in the country at Thenmala, Kollam district, with various ecotourism activities in 1997. The development of Periyar Tiger Reserve as an ecotourism destination under India Eco-Development Project funded by GEF of the World Bank (WB) along with various ecodevelopment initiatives in 1996 is another milestone in this direction. The various policy initiatives include Tourism Conservation, Preservation and Trade Act, 2001, and Participatory Ecotourism Programme, 2005 of DFW to promote sustainable ecotourism (Seema et al., 2006). The State's Tourism Vision 2025 envisages sustainable development of tourism with focus on Backwaters, Ayurveda and Ecotourism. In order to keep pace with the present technologies, Directorate of Ecotourism (DOE) has developed a website, www.ecotourismkeralam.org, that gives information on 16 ecotourism projects and initiatives taken by the government. DOE has unveiled a common logo for its ecotourism offerings—"Kerala by Nature" for state's ecotourism initiatives. By and large, ecotourism has been recognized as a conservation and development tool since 1997.

Presently, the state has identified 56 sites (Table 2.6) in all 14 districts in territorial areas of PAs as well as other ecologically important areas for developing ecotourism with special emphasis on conservation, ecological sustainability, environmental education and local community benefits. As mentioned above, ecotourism activities were operationalised through EDCs at Protected Areas (PAs) and VSS at the territorial division of the forest areas, thereby ensuring local community involvement for ecotourism

destination development and sharing the benefits from ecotourism for conservation of natural resources.

Table 2.6: District wise list of ecotourism sites identified in the forests of Kerala

Thiruvananthapuram	Kollam	Pathanamthitta
1. Agastyarvanam Biological Park	1. Thenmala	1. Konni
2. Neyyar	2. Kulathupuzha	2. Pamba
3. Peppara	3. Achancoil	3. Kochupamba
4. Ponmudi	4. Palaruvi	Thrissur
5. Arippa	Kottayam	1. Athirapally
Alappuzha	1. Kumarakom	2. Vazhachal
1. Gandhi Smritivanam, Purakkad	Ernakulam	3. Chimmony
Idukki	1. Bhoothankettu	4. Peechi
1. Kolahala Medu / Peerumedu	2. Thatekad Bird Sanctuary	5. Vazhani
2. Kuttikkanam	3. Mangalavanam	6. Sholayar
3. Thekkady	4. Kodanad	Palakkad
4. Munnar	Malappuram	1. Chullanoor
5. Rajamala / Eravikulam	1. Nilambur	2. Nelliampathy
6. Idukki	2. Nedumkayam, Nilambur	3. Silent Valley
7. Thommankuthu	Kozhikode	4. Parambikulam
8. Chinnar	1. Kakkayam	5. Malampuzha
Wayanad	2. Peruvannamuzhy	6. Walayar
1. Tholpetti	3. Chaliyam	Kasargod
2. Muthanga	Kannur	1. Ranipuram
3. Kuruva Islands	1. Pythalmala	2. Parappa
4. Thirunelli	2. Aralam	
5. Banasurakotta	3. Kottiyoor	
6. Vellarimala	4. Mangrove Ecotourism,	
7. Mananthavadi		

Source: Department of Tourism, Government of Kerala (2012).

2.5 Destinations under Study

The present study has identified four Protected Area (PA) based ecotourism destinations. These are: Thenmala, Periyar, Parambikulam, and Wayanad. These four destinations have operationalised ecotourism activities through community support. Most of the destination community members were, one way or other, engaged in ecotourism and related activities of these PAs. Reports of the DFW showed that community specific representation in ecotourism activities were ensured across destinations as shown in Table 2.7.

Table 2.7: Profile of the Study Area

Study Area	Area in Sq. Km	Year of Declaration as Wild life sanctuary	Community profile (85% are Scheduled Tribes)	Community intervention framework	Community Members in Ecotourism	Active Members#
Parambikulam (Tiger Reserve)	265	1973	Kadar, Malasar, Muduvar and Malamalasar,	FDA, EDC	503	302
Periyar (Tiger Reserve)	777	1934	Mannan, Paliya, Urali, Mala-araya, Malampandaram.	FDA EDC three types*	540	312
Thenmala (Senduruny Wildlife Sanctuary)	172	1984	Kanikkar Malayarayar Malaipandaram Malavedan Ulladan	FDA, EDC, SHG (for general tourism)	175	76
Wayanad (Wildlife Sanctuary)	344	1973	Panias, Adiyas, Kattunayakan, Kurichiyans, Urali Kurubas, Mulla Kurubas and Jen Kurubas.	FDA, EDC	125	71

#Total No. of active members in ecotourism and related activities came to 761 in these 4 PAs as on December 2013.

*1. *Village EDC*: Consists of EDC in tribal settlement and hamlets

2. *User Group EDC*: For Grazers, fuel wood, Thatching, Grass collection and assisting pilgrimage

3. *Professional Group EDC*: Consists of Ex-Cinnamon Bark Collectors, Tribal Trekker-cum- Guides and Watchers.

2.5.1 Thenmala Ecotourism Project (TEP)

TEP is the first planned ecotourism project in the country. The project has been formulated in and around Senduruny Wildlife Sanctuary (SWS), with the joint initiative of DFW, DOT and Department of Irrigation. The area surrounded by different species of endemism, especially the most important and endangered species *Gluta travancorica* (locally known as “Chenkurinji”) is protected here. This tree has got high medicinal properties, which can control arthritis, blood pressure etc., and even possesses aphrodisiac qualities.

According to DOT, GOK, TEP was initiated on an experimental basis for giving directions to the ecotourism initiatives in the country. In order to ensure the professional administration of the destination the Thenmala Ecotourism Promotion Society (TEPS) was formed. Local community participation is ensured through EDCs as well as through Self Help Group (SHGs). Ecotourism activities at Thenmala (SWS area) are given in Table 2.8.

Table 2.8: Ecotourism activities at Thenmala

Adventure	Leisure	Culture	Nature Education
Elevated Walkway	Boating	Facilitation centre	Nature Trail
Mountain Biking	Board Walk	Musical Dancing Fountain	Deer rehabilitation
Rock Climbing and Trekking	Suspension Foot Bridge	Amphitheatre	Butterfly garden
River Crossing	Bathing Ghat	Sculpture Garden	Paid nature camp
Flying Fox	Bamboo Raft		Birth star Plants
Valley Crossing	Tree Huts		Children's Eco-park
Burma Bridge	Bhoothamkallu		Interpretation centre
Commando Net	View point(s)		
Snorkelling			
Archery, Trampoline			

Source: From the records of TEPS.

2.5.2 Periyar Tiger Reserve (PTR)

PTR is a unique destination in the tourism map with distinct climate, landscape and possibility of wildlife watching. It has a lake which was artificially formed due to the submergence of low lying areas following the construction of Mullaperiyar Dam in 1895, and is the prime attraction of this place. As mentioned earlier, eco-development initiative including ecotourism as a forest management strategy was introduced at PTR in the year 1996 by under IED programme. Table 2.9 shows the ecotourism activities at PTR.

Table 2.9: Ecotourism Activities at Periyar Tiger Reserve

Trekking	Jungle Camp	Day Package	Nature Education
Day Trekking	Wild Adventure	Bullock Cart Discoveries	Organic Village Visit
Tiger Trail	Jungle Inn	Bamboo Rafting	Nature Walk
Border Hiking	Jungle Camp	Cruising	Bamboo Grove
Dreamscapes	Watch Tower	Tribal Heritage	Paid nature camp
Clouds Walk	Jungle Patrol (Night Package)	Elephant Ride	Green Walk
Windy Walks		Tribal Dance.	

Source: From the records of PTR.

2.5.3 Parambikulam Tiger Reserve (PRTR)

PRTR is the second tiger reserve situated in Palakkad district of Kerala state. PRTR is being identified as a well-managed PA in the country where conservation and livelihood go hand in hand (UNEP, 2013; Vinodan & Manalel, 2009). There are seven major valleys and three major river systems in and around the reserve. Apart from the natural rivers and streams, the PRTR possesses three man-made reservoirs, namely, Parambikulam, Thunacadavu

and Peruvaripallam. Geologically this PA is famous for the Hornblende *biotitogenesis* and *charnockites*. Table 2.10 shows the ecotourism activities at PRTR.

Table 2.10: Ecotourism activities at Parambikulam Tiger Reserve

Trekking	Night Halt Package	Jungle Camp	Day Package	Nature Education
Cochin State Forest Tram way Trekking	Full Moon Census	Tented Niche	Bamboo Rafting	Hornbill Watching
Forester's Dwelling	Treetop Experience	Wilderness Camp	Parambikulam Boating	Paid nature camp
Pugmark Trail	Machan World	Veetikkunnu Island Nest	Kannimara Safari	-
High Range Hiking	Peep through Watch Tower	Eco meditation	Tribal Symphony	-
Karianshola Trail	Theellikkal Nights	Dolmen Trial	Parambi Cruise	-
Elephant Song Trail	-	-	Parambikulam Safari	-
Dolmen Trail	-	-	-	-

Source: From the records of PRTR.

2.5.4 Wayanad Wildlife Sanctuary (WWS)

WWS is the second largest wildlife sanctuary in Kerala. The sanctuary is having four ranges, namely, Sulthan Bathery, Muthanga, Kurichiat and Tholpetty. WWS is a part of Nilgiri Biosphere Reserve and Project Elephant Reserve, the habitat of world's largest recorded population of Asiatic elephant. The tourism zones in the sanctuary are divided into two ranges: Muthanga and Tholpetty. Ecotourism in Muthanga and Tholpetty has been promoted for creating conservation awareness. Table 2.11 shows the ecotourism activities at WWS.

Table 2.11: Ecotourism activities at Wayanad Wildlife Sanctuary

Jungle Camp	Day Package	Nature Education
Bird watching	Elephant Camp Visit	Interpretation centre
Watch tower stay	Jeep safari	Nature Walk
Jungle Camp	Tribal folklore	Paid nature camp
	Day Trekking	Medicinal garden
		Birth star Plants

Source: From the records of WWS.

2.6 Summary

Communities play a very important role in the management of ecotourism destinations in India, particularly in PA based ecotourism destinations. A number of initiatives have been taken, both at national and state level, to improve community intervention in PA based ecotourism destinations. The Government of India had issued ecotourism guidelines in 1998, which emphasized the role of the community at all levels of operation in meeting the twin objectives of PA management i.e. Conservation and livelihood, and instructed state governments to issue ecotourism policy guidelines in their respective state to improve community based resource management practices in ecotourism destinations. Ecotourism programmes initiated in Kerala are considered to be one of the pioneering efforts in the community development model among tribals and marginalized groups of the society located in the territorial areas of PAs. In PA based ecotourism all such community interventions have been initiated through an institutional framework called EDC/VSS. This community frame-work considered to be an ideal model to meet the wellbeing of both hosts as well as guests.

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REVIEW OF LITERATURE

C o n t e n t s	3.1 <i>Sustainability Discourses and Ecotourism</i>
	3.2 <i>Research studies on Ecotourism</i>
	3.3 <i>Community and Ecotourism</i>
	3.4 <i>Destination Sustainability</i>
	3.5 <i>Destination Quality</i>
	3.6 <i>Implications of the Theoretical Background for the Study</i>

A literature review is an attempt to review the existing literature of the topic under study to make the logical order of the various concepts and its relationships. It includes reviews of theoretical and methodological contribution relating to the topic. The main purpose of review in macro sense, is to identify the theoretical gap and to frame new theories or establish relationship between concepts for addressing issues or phenomena of the society. In the micro sense, it usually throws light on underlying factors and helps to organise the hypotheses. It also helps to understand and prioritize the concepts and constructs of the study, sampling method and sample size, method of data collection, scale development, reliability and validity test, statistical tools, etc. Moreover, review would be the basis of the formulation of the conceptual framework of the study. It also tries to explain the rationale, context and relevance of the variables, operational meaning of the concepts and to indentify the research gap which this study seeks to fill.

3.1 Sustainability Discourses and Ecotourism

Developmental activities envisaged for mainstreaming the people is the hot topic of social science of today by giving references like ‘inclusive growth’, ‘pro poor strategies’, ‘financial inclusion’ etc. The scenario of tourism as a developmental tool is also no different from such experiments. Large numbers of programmes have been initiated in this sector. The natural and manmade, both tangible and intangible resources have been widely used in this regard.

It is argued that tourism operations have perhaps worked as a double-edged sword in terms of livelihood option for communities, and also the resource ownership or right of appropriation which is vested with outside agencies that are always coming to the scene as the financial capital contributors for channelizing the benefit (Sharpley & Telfer, 2002). This often leads to the leakage of income to outside sources. In practice, the decisions affecting tourism communities are driven by the industry. In other words, local people and their communities become the ‘object’ of development but not the ‘subject matter’ (Sharpley & Telfer, 2002). This practice is not conducive to the tourism sustainability but instead it has led to the deterioration and abandonment of many destinations, leaving local people on the verge of deprivation (Alarape, Yager & Salman, 2015). This demands the policy makers and scholars to rethink on the development mechanism by placing local people as the backbone.

As the largest growing industry in world, tourism has the responsibility of locality development through inclusive development, irrespective of inherent disparities in the society by ensuring equitable resource sharing

(Hyman, 2015). Locality development is the process of socialization of development among different regions through the development of the community concerned, and therefore the concept of locality development became a term of reference among policy makers, NGO's and other actors of the society today. Moreover, tourism's contribution to poverty reduction and development is increasingly recognized. Its geographical expansion, labour intensive nature, and employment potential is relevant particularly to developing and underdeveloped nations.

Tourism is considered as one of the important sectors for meeting all global development goals whether Millennium Development Goal -MDG (2000-2015) or Sustainable Development Goal –SDG (2015-2030). The Rio (UN Conference on Environment and Development) Summit, popularly known as the 'Earth Summit', held in Rio de Janeiro in 1992, reiterated the need for sustainable development promulgated by the Brundtland Commission in 1987. It defined sustainable development as *development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (WCED, 1987, p.12). Subsequent initiatives like World Summit on Sustainable Development (WSSD) at Johannesburg in 2002, and Rio+ 20 (UN Conference on Sustainable Development) Summit in 2012 also called for more localized form of development to meet sustainability.

Over the years, many global conferences and summits have been organised to discuss and deliberate upon the dynamics of sustainable ecotourism. The Quebec Declarations and the Oslo Declarations on Sustainable Ecotourism have contributed significantly to the sustainable management of ecotourism resources. The objective of the Quebec

Declarations was primarily on setting the preliminary agenda and a set of recommendations to bring in systematic operation of ecotourism activities (TIES, 2002). The Oslo Declarations of Ecotourism have furthered the efforts of private and public organisations at the international and national level to reinforce the commitments towards the practices of sustainable tourism at the ecotourism sites (TIES, 2007).

The emergence of the concept of sustainable development has promoted the concept of sustainable tourism as well. Agenda 21 of Earth Summit held in 1992 stated that one of the fundamental prerequisites for the achievement of sustainable development is public participation in resource appropriation including women, youth and indigenous people (UNWTO, 1997). The Seventh Session (1999) of United Nations Commission on Sustainable Development (UNCSD), also gave emphasis on sustainable development of tourism by combining the economic, social and ecological dimensions of sustainable development (UNCSD, 1999).

3.1.1 Defining the concept of Sustainable Tourism

Studies by Butler (1991), Lele (1991), Sharpley, (2000), and others have shown that due to its multidimensional facets no exact definition of sustainable tourism exists. As Clarke (1997) has stated that this situation has sometimes been understood as an ideology and point of view rather than an exact operational definition, and has been defined broadly as “tourism which is economically viable but does not destroy the resources on which the future of tourism will depend, notably the physical environment and the social fabric of the host community” (Swarbrooke, 1999, p.13). Though there were many interpretational and practical problems in conceptualizing

the term sustainable tourism and in its relation to sustainable development, the topic is widely discussed in various context. (Wall, 1997; Butler, 1999; Sharpley, 2000; Liu, 2003).

Another notable argument on sustainable tourism stated that sustainability approaches have developed in response to the post-Fordist scenario: end of mass production and the emergence of need based production (Urry, 1995) to meet tailor made experiences. Taking into account the irreversible loss to the local environment caused by mass tourism activities, many countries have adopted the guidelines of sustainable tourism for destination development, and sought alternative tourism options for further consumption. Inter alia, ecotourism has become an emerging form of nature-based sustainable- alternative tourism to neutralize the loss caused to ecology and environment and to help the ecosystem function effectively. Subsequently, ecotourism has evolved as an ideal and alternative form to curb the menace of mass tourism and maximize the positive impacts (Cuculeski, Petrovska & Petkovska, 2015).

As Krippendorf (1987) pointed out, alternative tourism aims to discourage the outside influence in the development and lays emphasis on proactive participation of local people. There can be several types such as soft or hard, consumptive or non consumptive, natural and unnatural and exploitive, passive and active forms of alternative tourism (Weaver, 1999).

These alternative forms of tourism have evolved as ecotourism (Scheyvens, 1999), Voluntourism (McGehee & Andereck, 2009), or Community-based ecotourism (Okazaki, 2008) and Pro-poor tourism (Briedenhanh, 2011) etc., particularly in developing countries.

3.1.2 Ecotourism

Ecotourism has evolved along with a number of other forms of tourism, most importantly, sustainable tourism, subsequently nature based tourism, cultural tourism, adventure tourism, wildlife tourism and so on. As Pforr (2001) has pointed out, ecotourism is more close to the concept of sustainable tourism and is consistent with the principles of sustainable development. The International Year of Ecotourism (IYE) which was celebrated by UNWTO and UNEP in the year 2002 on the theme “Ecotourism- A Key to Sustainable Development”, stated that the concept of ecotourism differs from sustainable tourism. The term ecotourism itself refers to a segment within the tourism sector with focus on environmental sustainability, while the sustainability principles should apply to all types of tourism activities, operations, establishments and projects, including conventional and alternative forms (International Ecotourism Society, 2002).

According to The International Ecotourism Society (TIES), ecotourism occurs in regional, rural and remote areas, where, alternative sources of livelihood are scarce and levels of poverty are frequently high. It can provide an addition to local income from an activity that values and supports conservation in both developed and emerging economies (International Ecotourism Society, 2006).

3.2 Research Studies on Ecotourism

Since the Socio economic importance of ecotourism goes beyond any other alternative forms of tourism, a detailed examination of various aspects of ecotourism is made an integral part of this study.

3.2.1 Ecotourism: Concept and Definition

According to Fennel (1999), there is no general agreement on who invented or first used this phenomenon as ecotourism. However, it appeared in the published material during 1980s by citing certain examples like Romeril (1985), Ceballose-Lascurain (1988), Laarman and Durst (1987), and Ziffer (1989). Fennel (2003) further stated that ecotourism lies within the broader framework of tourism under which mass as well as alternative tourism co exists.

Though disagreement exists on the origin of ecotourism, Hector Ceballos Lascurain is widely acknowledged as having coined the term ecotourism. He began to use the Spanish term *tourisimo ecologico* to designate ecological tourism and shortened as *ecotourisimo* in 1983. According to him, tourism that involves “*traveling to relatively undisturbed or uncontaminated areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas*” (Ceballos-Lascurain, 1996, p.12).

Several studies (Buckley, 2003; Cater, 1994; Fennell, 1999; Fennell & Dowling, 2003; Page & Dowling, 2002; Wearing & Neil, 1999; Weaver, 1998a, 2001b) emphasized that ecotourism should be minimally disruptive to the natural and cultural setting in which it operates. Ecotourism is a sustainable, non consumptive form of nature based tourism that focuses primarily on learning about nature first-hand, and which is ethically managed to be low impact, often small scale, and locally oriented (control, benefit and scale) and should add value to conservation initiatives (Weaver, 2008; Fennel, 2001). A widely accepted definition of The International Eco-tourism Society

(TIES) is *responsible travel to natural areas that conserves the environment and sustains the well being of local people*, and education and interpretation (TIES, 1990). World Tourism Organization (UNWTO) and United Nations Environment Programme (UNEP) have adopted this definition.

When we examine some of the noted definitions of ecotourism, both demand and supply side aspects have been covered. In the supply side definitions, sustainability related terms were prominent, besides the general conservation and livelihood aspects across the literature. In demand side, responsible travel conserve the environment and improve the welfare of the local people (Lindberg & Hawkins, 1993). The studies of Cater and Lawman (1994) and Goodwin (1996) also referred to tourist centric definitions of ecotourism.

Fennell (2001) in his analysis of definitions identified 85 definitions of ecotourism and has identified 13 main variables for ecotourism definition which have been adopted by various organisations, enterprises and nations. These are: Interest in nature, Contribution to conservation, Reliance on parks and protected area, Benefits to local people/long-term benefits, Education and study, Low impact/non-consumptive, Ethics-responsibility, Management, Sustainable, Enjoyment and appreciation, Culture, Adventure and Small scale. Study also confirmed that value-based dimensions such as conservation, ethics, sustainability, education and community benefits tended to be more prominent.

Blamey (2001), identified three criteria by connecting both demand and supply side aspects for ecotourism destinations: (1) attractions should be predominantly nature-based, (2) visitor interactions with those attractions should be focused on learning or education, and (3) experience and product

management should follow principles and practices which are ecologically, socio-culturally and economically sustainable.

The definition adopted by the Government of Kerala (GOK), indicates the intervention of both demand and supply side in defining a destination as ecotourism destination by indicating four conditions. These are: destination should be nature based, destination should be ecologically sustainable, where education and interpretations are important components and local people are to be benefited (Department of Ecotourism, 2015).

From the above review, we can summarize the following essential elements of ecotourism:

- Ecotourism is a nature based and ecologically sustainable tourism.
- Ecotourism should have minimal impact on the environment.
- Ecotourism should respect and conserve local cultures and traditions.
- Ecotourism should generate sustainable and equitable income (through wages and self employment) for local communities and related stakeholders.
- Ecotourism involves all local/destination communities in resource appropriation like planning, development, implementation and monitoring.
- Ecotourism offers continuous learning for tourist as well as all stakeholders.
- Ecotourism should emphasise on visitor management practices/ techniques i.e. zoning and management.

- Ecotourism should have appropriate/destination specific (low impact) infrastructure.
- Ecotourism stresses the importance of responsible business practices.

3.2.2 Role of Ecotourism

As mentioned in the definition analysis, studies on the role of ecotourism have always tried to identify the basic criterion of ecotourism through various study objectives. Most of these studies discuss about conservation, economic benefit, improvement in quality of life as a result of ecotourism operations while explaining negative impacts of existing tourism programmes.

Fennell (1999) highlighted the economic aspects of ecotourism by stating that ecotourism can enhance social equity and quality of life of the community concerned. Boo (1999) has extended that sustainable ecotourism makes important contribution to the welfare of both the guest and the host community and the environment. According to Kohli (2002) ecotourism is identified as an alternative means to improve the standard of living of the local people and to promote economic growth. Fennel and Dowling (2003) considered ecotourism as a tool for (sustainable) development, whereas, Heather (2006) highlighted the conservation and community benefits from indigenous-owned and operated ecotourism businesses or joint ventures. Ohl-Schacherer, Mannigel, Kirkby, Shepard and Yu (2008) also pointed that ecotourism can emphasis biodiversity values and incentive based conservation. Wearing and Neil (2009) used a case study to pinpoint the potential positive social and environmental benefits of Ecotourism. Jaime

(2012) also stated that ecotourism can create destinations and activities having low negative impact on the environment.

3.2.3 Evaluation of Ecotourism

Since the present study is going to present an evaluation of ecotourism, it is imperative to review such studies. Review showed that most of the studies tried to evaluate the ability of ecotourism to meet conservation and development goals. Agersted (1996) in his study about successful ecotourism outlines a number of factors which have to be kept in mind while determining components of successful ecotourism and how to balance conservation with development. He has suggested a few variables to evaluate the success of ecotourism activities in conservation and management of biosphere reserves.

Level of participation and improvement in standard of living were taken as the criteria for evaluation of ecotourism. Rosazman (2006) in his dissertation made a qualitative assessment of major micro aspects of ecotourism development like positive and negative impacts of ecotourism development on the socio-cultural life of the local community, mechanism and reason for direct or indirect involvement of local communities in ecotourism development. Assessments were made with regard to the level of participation, and improvement in the standard of living of the local community. Buckley (2009b) examined the social costs and benefits that ecotourism can bring for communities, and also considered ways and means of community involvement and its impacts. He further clarified that Community Based Ecotourism (CBE) has been recognized as a part of ecotourism where the primary focus is on involving local communities and ensuring socio economic

benefits to them in the light of the fact that local communities can influence both negative and positive impacts of ecotourism. Leonie (2011) in his thesis tried to develop an ecotourism model for South African National Parks. He found that there existed no clear guidelines regarding the development and management of ecotourism in South African National Parks. The study identified six factors for the implementation of sustainable ecotourism: Product development, Local community involvement, Environmentally friendly practices, Ethics, Food and activities, and Policies.

General management methods were also adopted for the evaluation of ecotourism programmes. Vishwanathan and Chandrashekara (2014) attempted to do a SWOT analysis to examine the strengths and weakness of ecotourism in Dodagu district of Karnataka. The environment landscape and unique cultural features of Kodagu district in various ecotourism sites were identified as the strengths, whereas sensitive environment and improper utilization of natural resources for earning livelihood and income for local people were found to be the weaknesses. Income generation and environmental education were found to be the main opportunities. Lack of environment protection knowledge and mismanagement of tourist spots were found to be the main threats. The study also suggested that there should be a separate ecotourism policy with environment friendly measures and principles to promote ecotourism.

As mentioned earlier, while there are studies which strongly support the criteria of evaluation of ecotourism on the basis of its attainment of basic premises of conservation and development, there are studies (Wells, 1993; Lindberg & Enriquez, 1994) which questioned the capability of ecotourism to meet the developmental objective of conservation and livelihood. By

citing various case studies, they stated that in reality, it is very difficult to structure ecotourism to achieve both conservation and development.

3.3 Community and Ecotourism

Studies on the linkages between community and ecotourism have tried to explore the relevant approaches of community intervention, nature of resources earmarked for ecotourism and the existing management strategies of such resources. Subsequent studies have moved to community based tourism (CBT) and community based ecotourism (CBE). The various discourses on community and ecotourism is organised and presented in the following manner (Figure 3.1):

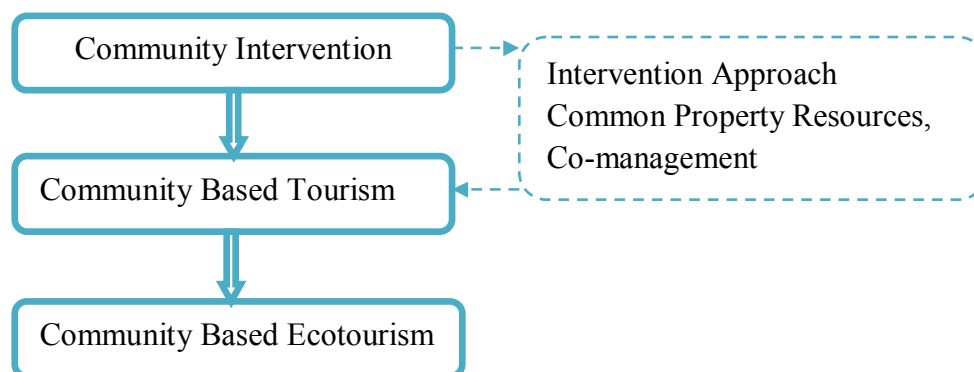


Figure 3.1: Review of Community and Ecotourism presented in the study.

3.3.1 Community Intervention

The word community is commonly used to refer to a locality where people live, as well as to all the people who live there. It includes their shared experience, values, culture, religion or way of living. There are different ways of conceptualizing community such as geography, place, interest or identity.

Intervention comes from the Latin word *intervenire*, meaning "to come between, interrupt." Often an intervention is intended to make things better or improve the situation. When we examine the dictionary definition of intervention, we can understand that intervention is the process of involvement for making some positive changes in the area involved. According Cambridge Advanced Learners Dictionary (2014, p. 311) intervention means to involve intentionally in a difficult situation in order to improve such situations. Macmillan English Dictionary for Advanced Learners (2007, p. 343) defines intervention as a situation in which someone involved in a particular issue or problem in order to influence the same. Oxford Advanced Learners Dictionaries (2015, p. 212) defines intervention as a process of 'take part' in something so as to prevent or alter a result or course of events.

Rothman (1995) examined the relationship between community and intervention and he conceptualized grass-root community organising as intervention. The missions of most organising groups explicitly involve instrumental goals such as local and societal change. Fritz (2014) also tried to define the term intervention from community point of view. According to him, intervention refers to taking action in an existing situation and that situation may, or may not, be defined by one or all involved as something that is problematic. Parties may want to understand, improve or prevent something and still not think of the current situation as something that is a problem. Community intervention is considered as a process of involvement of community groups through various formal and informal mechanism to create positive changes in the respective actions or areas. He has further explained that there are seven

levels of intervention such as global, international, national, local community, organisation, small group and individual and reiterated that each level has its own importance. However, the level of intervention coined by Graf (1995) is different. According to him, these are educational or other strategies that involve individuals, families, social networks, organisations, and public policy. He has further stated that relational organising models may be useful in other attempts to build relationships between residents as part of efforts to increase capacity for collective action and collective decision making.

According to Merzel and D'Afflitti (2003), the term 'community based' often refers to community as the setting for interventions. As setting, the community is primarily defined geographically and is the location in which interventions are implemented. Intervention may be direct or indirect. If the intervention is practiced through media, it is an indirect intervention. Direct Intervention is being practiced through institutions such as neighborhoods, schools, churches, temples, work sites, voluntary agencies, or other organisations.

Importance and lack of intervention was discussed by Dassah (2013). According to him, participation is a human right, the execution of the same is essential to realize the other human rights and is also central in enabling the people to claim their rights. He also identified the reasons for the democratic deficit in the developmental discourses, and further clarified that declining civic participation, alienation of grass-root level citizens from resource management in representative democracy and increased distance between the citizens and the governments are the reasons for the democratic deficits globally.

3.3.2 Community Intervention Approach

Recognition of the importance of community participation for sustainability may be found frequently in the academic literature (Simmons, 1994; Liu, 2003). These studies argued that involvement of the community helps to enhance the sense of belongingness and ownership which inspires development. It empowers the community to solve their own problems and stimulates self reliance.

Traditionally, development is considered as a state subject where the involvement of the community was undermined. But recently, there is a paradigm shift in development and grass-root level involvement. This can be observed in the context of the United Nations Conference on Environment and Development (UNCED) directions for local-level solutions derived from community initiatives for sustainable development goals (Ghai & Vivian, 1992).

Moreover, the global consciousness inculcated by Rachel Carson's 'Silent Spring', Garret Hardin's 'Tragedy of the Commons', the Club of Rome's 'The Limits to Growth', The Ecologist's 'A Blueprint for Survival' and Schumacher's 'Small is Beautiful' (Albo, 2007). As mentioned, the Earth Summit and subsequent discourse on environment and development strongly advocate government decentralization and devolution to local communities for natural resource management

The term Community Intervention in practice is used as community participation in many contexts. According to Midgley (1986), there are two main western ideologies which are in practice to denote community participation. These include: populist (neighborhood) democracy, where the

state has an important role to play in development along with the civil society, and anarchism, an anti statist attitude with naturalist tendencies. He further commented that intervention helps to humanise bureaucracy and also strengthen the capacities of individuals and communities. An authentic participation requires voluntary and democratic involvement of people to contribute to development effort, equity in benefit sharing, goal oriented decision making, formulating policies and planning and implementing development programmes.

One of the widely discoursed approach of community intervention is the locality development approach. Rothman, Erlich and Tropman (2001) used the word locality or community development interchangeably as a neighborhood management strategy to engage key stakeholders in developing goals and actions. He has considered locality/community development as a means to capacity building to address the social issues and thereby foster social integration and cohesion. Smock's (2004) model of locality development is based on informal forums of neighborhood groups. The purpose of such forum is to discuss issues and concerns and partnering with the public sphere to address those concerns. The process of the forum starts with self-interest as the initial motivating factor for involvement, and gradually address the problems in a holistic perspective or it will be addressed as a social cause.

Accordingly, there are six approaches for community intervention (Hyman, 2015) i.e. locality development, social action, advocacy planning, traditional planning, bureaucratic or institutional management and innovative management. Locality development has been considered as the most appropriate for this study because of the following reasons:

- Locality development emphasizes self-help and concerted local action by the overall community.
- Locality development approach follows total geographic community as a boundary definition of the beneficiary system.
- Conceptions of the beneficiary are the citizens of the locality.
- Participants in an interactional problem solving process are in the beneficiary role.
- Building capacity of the community to make collaborative and informed decision making and also promoting feeling of personal mastery by residents.
- Members of the power structure are considered as collaborators in the common venture and are developed as task oriented group.
- Consensus is the characteristic change tactics and technique used.
- Involves all people of a particular geographical area. For example, including rehabilitated people also as part of development process.
- Focuses on community based problem solving within the community structure.
- Community capacity and integration through self help is the goal of community action (adapted from Weil, 2014).

3.3.3 Community Intervention in Common Property Regime

Studies have shown that Community Based Natural Resource Management (CBNRM) is the most advanced and widely used bottom up

approach for community based development mechanism for non-privately owned resources including tourism (Ostrom, 1990; Murphree, 1991, Western & Wright, 1995; Getz et al., 1999). This is because, most of the destinations are located in and around ecologically important areas under co-management. In other words, CBNRM insists devolution of power from the state to local communities, popularly called as co-management

Studies of Ostrom (1990) and Bromley et al. (1992) showed that Common Property Resource (CPR) became a focal point of shift in bottom up resource management trajectory. They argued for several broad criteria for measuring success in commonly managed natural resources. These included autonomy and the recognition of the community as an institution, with rights to make rules regarding resource use and the means to implement and enforce these rules so that benefits may reach the community concerned. Other scholars attempted to document successful common property regimes and identify principles for successful community-based resource management (Baland & Platteau, 1996).

Ostrom (1990) and Murphree (1991) have demonstrated the mechanism of successful CBNRM by describing the characteristics of both human communities and resources that lead to sustainable collective resource governance systems, operationalised by defining the boundaries of the resource or land area and membership of the community, having rules which can be changed and adapted locally, and the existence of linkages across different institutional scales. It considers communities as decision makers and they enforce rules for governance, and exclude outsiders from using their resources.

Western and Wright (1994) stated that the concern over the injustice and inefficacy of top down natural resource conservation and development has forced the authorities to introduce CBNRM and Community Based Conservation (CBC) due to its inherent weakness, particularly in addressing the issue of conservation. Today, CBNRM has been considered as a very successful programme (Getz et al., 1999) for co-management of the CPR.

3.3.4 Community Intervention in Co-management

According to Pinkerton (1989), co-management refers to a management regime where decision-making authority is shared between local people and local, regional or national governments. Various studies (Ostrom, 1990; Western & Wright, 1994; Pretty & Ward, 2001; Walker & Salt, 2006) have stated several benefits of co-management. These include: (1) increased implementation of and compliance with management decisions (2) application of diverse knowledge sources to management, including both local ecological knowledge and science, (3) improved on-the-ground resource management, (4) increased monitoring and adaptive management, (5) decreased conflict over resources, (6) increased trust and strengthened relationships (social capital) within the community, (7) improved livelihoods, (8) greater community capacity, (9) improved environmental conditions, and (10) more resilient social-ecological systems.

Studies on community based resource management have tried to address effectiveness (Mansuri & Rao, 2004), enforcement mechanisms (Ostrom, 1990, 2009) and the organisation of community involvement and participation (Danielsen et al., 2009). More recently, studies have started appearing, that consider communities in their institutional context, arguing that effective community management requires linking with higher governance

levels (Armitage et al., 2008) and collaboration with authorities at other governance scales (Carlsson & Berkes, 2005). This strategy implies that local communities must have direct control over the use and benefits of natural resources in Protected Areas (PAs) by managing them in a sustainable way. Without significant direct benefits, community members tend to have little interest in conservation and may therefore actively seek to reduce or eliminate wildlife populations and habitats that affect their livelihood practices. In this direction, Ghimire & Pimbert (1997) emphasized that if the protected areas need to be maintained sustainably, these local communities must be given a greater role in the decision-making process and they should be actively involved in the protected area policies and planning.

3.3.5 Community Based Tourism (CBT)

Community-based approaches allow each community to develop a management strategy which meets its own particular needs and conditions, enabling more flexibility. This approach also enhances recognition and respect for cultural differences on the local and regional levels and among nations. It strives to make maximum use of indigenous knowledge and experiences in developing management strategies. CBT is more than a tourism business that aims at maximizing profits for investors; it is more concerned with the impact of tourism on the community and environmental resources. CBT emerges from a community development strategy, using tourism as a tool to strengthen the ability of community organisations that manage tourism resources with the participation of the local people. In order to connect community with tourism, it is imperative to have a glance of such studies which connects community and tourism, community and sustainability and operational aspects of community intervention in tourism (in general).

Murphy and Murphy (2004) studied how to integrate community with tourism. They have stated that the community approach to tourism development is an attempt to integrate the interests of all community stakeholders, including local community as a primary group both for analyses and proposals for development. But Morais, Zhu, Dong and Guihua (2006) tried to examine various factors constraining local residents from becoming involved in the tourism industry. They had outlined strategies and policies necessary to overcome those constraints, and also addressed the infrastructure improvements, training of villagers in basic hospitality skills, along with the introduction of key tourism policies. The study further stated that education and awareness programmes and local support are significant to preserve local culture and the natural environment. Similarly, UNWTO (2007) introduced Visitor Industry Community Environment (VICE) model to showcase the role of community in destination management (See Figure 3.2). It stated that destination management is the interaction between the visitors, the industry that serves them, the community that hosts them and the environment (built and natural) where this interaction takes place.

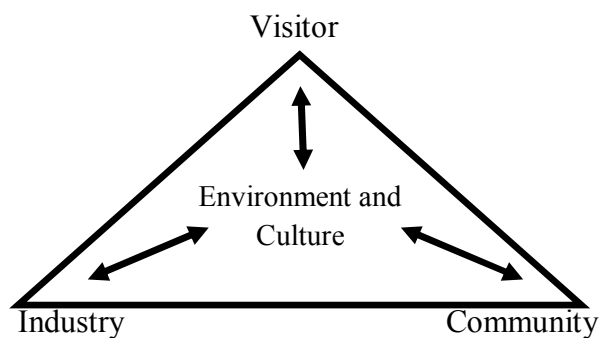


Figure 3.2: VICE Model

The VICE model highlights partnerships and a joint destination management plan in order to:

- Welcome, involve and satisfy Visitors.
- Achieve a profitable and prosperous Industry.
- Engage and benefit host Communities, and
- Protect and enhance the local Environment and culture.

Michael (2007) also underlined the relationship between community and destinations. But he has further reminded that new tourism projects must take community choices and community welfare into greater consideration and optimize the consequences of economic growth caused by tourism to be relevant and to meet the expectations of the new tourists. In other words, there must be a match between the economic benefits created and the needs as well as the values of the local population.

3.3.6 Relationship between CBT and Sustainability

According to Responsible Ecological Social Tours Project- REST Thailand (1997, p14), "CBT is tourism that takes all dimensions of sustainability into account. It is managed and owned by the community, for the community, with the purpose of enabling visitors to increase their awareness and learn about the community and local ways of life". The following model (See Figure 3.3) explains that relationship:

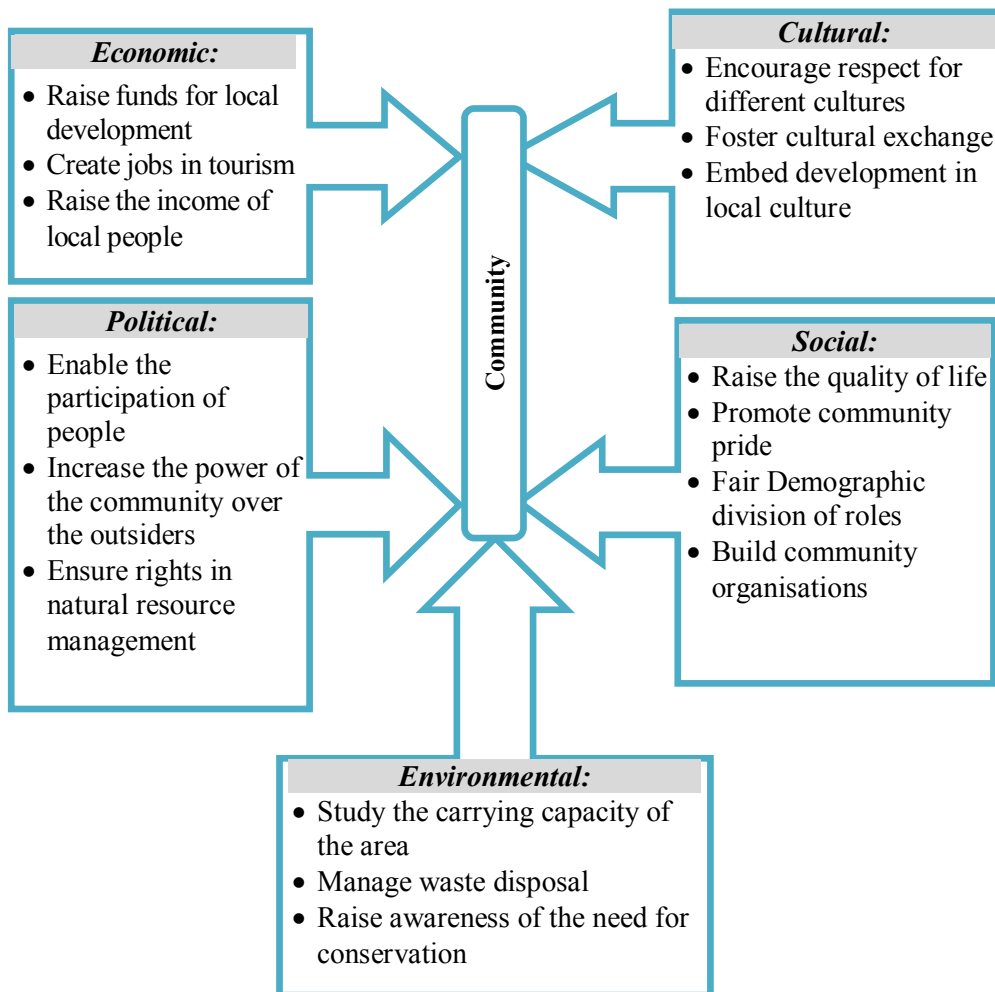


Figure 3.3: REST- CBT Model

REST further clarified that CBT and community development are inherently connected, because they share the same natural and cultural resource. Culture and social norms determine not only resource use, but also structure internal and external relationships. However, various studies have also commented that though community based models of tourism are widely advocated in these days as top down models, even they have also been unsuccessful in meeting various dimensions of destination sustainability

(Murphy, 1985; Scheyvens, 1999; Singh, Timothy & Dowling, 2003; Kiss, 2004; Jones, 2005).

When we examine operational aspects of CBT in general, the observation of Murphy (1997) with regard to the impact of tourism in connection with the individual entrepreneurs and community is found relevant. He has observed that tourism has managed to become a holy cow that can be let in anywhere. This indicated that tourism resources can be (mis) appropriated. But Raik (2002) opined that capacity building of the community members should be considered as an important factor to handle tourism operations and to control and explore their environment, extracting, developing, and investing in local resources. Similarly, Mohamad and Hamzah (2013) suggested community cooperatives as a means of CBT to bring economic sustainability as well as socio-cultural and environmental benefits. Further, they stated that shareholdership of community enables higher involvement in the decision-making processes, increases tourism income distribution, solidifies the sense of ownership, and strengthens social cohesion.

From the above observation, we can conclude that CBT is a strategy to create potential for empowerment of the community, enhancing their involvement in decision making, but it should also ensure that the will and incentive to participate comes from the community itself. It invokes a basic principle of control and accountability (leading to political sustainability) along with other dimensions of sustainability. In other words, this indicates that the control over an action should rest with the people who will bear its consequences. Or it has been perceived that community

intervention facilitates both quality as well as sustainability aspects of the destinations.

3.3.7 Community Based Ecotourism (CBE)

Though community intervention is prevailing in almost all types of tourism operations, in ecotourism, this is considered as one of the most appropriate strategy to encash their endemic endowment and environmental privileges. In other words, as the local communities are the major stakeholder of most of the ecotourism resources, there has been an increased demand to approach ecotourism from the standpoint of local communities' direct participation and involvement. Accordingly, the term community-based ecotourism is conceived as a form of ecotourism where the local community has substantial control and involvement in the development and management of ecotourism resources, activities, and the benefits from such resource appropriation. In this context, Cater (1994) highlighted the need for local community involvement in planning and managing ecotourism, particularly in the context of developing countries. She has described about the process of 'involvement' and 'participation' simultaneously in CBE and differentiated involvement as the process of gaining the cooperation of local people to enhance the feasibility of implementation of plans or, more often, simply ensuring that local people are provided with alternative means of employment, whereas, participation is a greater level of collaboration in the decision-making processes by which ecotourism planning and management takes place. The following section will examine the importance, dimensions, objectives, contributions, networking possibilities, interventional issues, success factors and failures along with the challenges and opportunities in

CBE. The review also covers the implication of community intervention like community empowerment.

Sproule (1996) focused on the means of achieving CBE objectives in practice, and identified CBE enterprises as solutions for achieving conservation and development objectives. The premise of his paper was that successful CBE initiatives are supported by partnerships between communities and government, non-government and private sectors. At the same time, Schevyns (1999) argued that ecotourism ventures should be considered as 'successful' only if the local communities have some measure of control and share equitably in the benefits. She cautioned about the use of the term 'CBE' in tourism theory and practice and proposed that CBE should be reserved for those ventures/destinations based on a high degree of community control (and hence where communities command a large proportion of the benefits) rather than those which are almost wholly controlled by outside operators.

Beeton (1998) emphasized the importance of generating community support for ecotourism, and considered local community participation to be a vital means of gaining and retaining such support. He argued that without strong local participation, ecotourism ventures cannot succeed. Haroon (1999) also emphasized the role of communities in ecotourism by recognizing local community as the back bone of ecotourism. The study further cautioned that ecotourism should have a blend of controlled activities of a group of people having the goal of sustainable development in their respective area.

Timothy and White (1999) examined CBE contribution to the grass-root tourism development in terms of participatory planning and the

spreading of economic benefits between various sectors of the society in Toledo, Belize. They argued that CBE initiatives in developing countries can be conceptualized and operationalised at a very small scale to improve the lives of residents, provide enjoyment for tourists, and protect the natural and cultural environments with local control. Similarly, Flores and Sipaseuth (2002) in their study attempted to define forms of participation and their implementation in community based ecotourism. The study called for empowered communities for ensuring self determined development and stressed the importance of community stewardship of resources to guard gains of community based ecotourism. Community linkage with other stakeholders of destination or tourism was inevitable for the successful operation of CBE.

CBE in the context of indigenous communities was examined by Bunly (2011). He studied the role of ecotourism for the development of indigenous communities and argued that, as a result of ecotourism, indigenous populations' living standards and quality of life can be enhanced, and indigenous resources can be protected, provided control over resource management is vested with the community. CBE was shown as an effective mechanism for the empowerment of indigenous communities, allowing them to participate in decision making about, and control over, tourism development. The study results revealed that power re-distribution among the stakeholders involved in a collaborative process in CBE planning and implementation can help the psychological, social and political empowerment of the community.

The observation of Kiss (2004) was quite different on CBE. He was particular about conservation objectives of CBE. He emphasized that

selection of an ecotourism site should be made on the basis of specific conservation needs. The studies of Himberg (2004) emphasized that community consciousness can be raised through ecotourism. The study identified that ecotourism can combine nature conservation as well as economic development of local communities. Increased possibilities for communities in decision-making and management of forests was found to enhance the commitment in conservation. Pichdara (2013) considered CBE as a form of CBNRM strategy for conservation as well as livelihood improvement especially for developing countries. CBE according to Pichdara was as an effective means of natural resource conservation by reducing deforestation rates and contribute to local income and make the community self sustainable. The study has also stated that sustainability can be ensured only through equity in resource or benefit sharing. CBE is considered as an opportunity for economic diversification, an alternative formal and informal off-farm employment, through participation. This may help to have greater control over tourism in the destination to meet not only economic, but socio-cultural as well as ecological sustainability of the region.

On the key (success) factors of the CBE, there have been a number of studies. According to Hiwasaki (2006), there are four key success factors: institutional arrangements, self-regulations related to conservation, high environmental awareness, and existence of partnership. According to Okazaki (2008) participation, empowerment, and collaboration are the essential features of a successful CBE project. In this context, Miller (2008) suggested six criteria to make CBE become sustainable. These are: (a) Activities must be at a scale small enough to be manageable by the community without external assistance (b) It must involve active

participation by a broad and representative spectrum of its members (c) It must provide tangible benefits for the host as a whole (d) It must bring about an equitable and (as nearly as possible) universal improvement in the quality of life of residents (d) It must result in the protection of conservation values, and (e) It should also enhance the maintenance of, or improvements in, the cultural environment. Satarat (2010) in her dissertation tried to add new dimensions to the requirements of a successful CBE. That is, inside as well as outside support is important for CBE by elaborating on the fact that community based tourism can create potential for community empowerment and enhanced decision making ability. The study revealed that community based tourism in Thailand emerged from both inside and outside factors, including economic difficulties, environmental issues as well as government policies. Community participation, strong leadership and community organisation and fair distribution of benefits, effective natural resource management and incessant outside support are considered as important factors of successful tourism projects. The study considered community based tourism as a means of community happiness, based on Buddhist philosophy.

Weaver (2008) observed that many of such CBE initiatives have unfortunately failed. He felt that there were no serious studies in practice to investigate the reasons for such failures. In other words, serious attempts were not made to identify the factors that contribute to the successful implementation of community based ecotourism. He further elaborated on the few issues which hamper the operation of ecotourism such as unclear definition of target community, absence of strong and popularly supported leadership, control over access to land, low level participation, poor

partnership, low skill and capacity, poor quality etc. Further, as Williams (1992) pointed out, community cohesion is also a deciding factor in ensuring quality of life to the guests and hosts in community driven destinations and argued for a strong institutional structure with ability to respond to changing tourism development. In this direction the observation of Fiorello and Bo (2012) needs special mention. They argued that ecotourism is a method to satisfy the concern of new tourists for environmental conservation but it neglected the host communities. Further, they stated that though CBE aims at environmental conservation, it hardly empowered the communities, by allowing them a degree of control over tourism projects and their impacts.

Kevin (2010) investigated the monitoring aspects of CBE with regard to sustainability by designing a baseline for future comparison. An evaluation framework was constructed to monitor the sustainability of the selected CBE ventures. The evaluation framework made use of a number of sustainability issues and their associated indicators. This evaluation framework was tested for its applicability to investigate the social, economic and environmental sustainability on the basis of six case studies in South Africa. The study provided a time-and cost-effective evaluation framework for monitoring the sustainability performance of community-based ecotourism ventures based on indicators for community-based ecotourism ventures.

Alemayehu (2011) made a detailed study on challenges and opportunities for developing CBE. The findings showed that even if a very conducive climate exists, CBE destination in terms of product availability and institutions and policy perspective, the possibility of certain constraints

which prevent the realization of potential opportunities cannot be ruled out. These include: low level involvement and participation in tourism, unsustainable livelihood and resource use patterns, illegal activities in the Park, lack of alternative livelihood options, lack of initiative, determination, and collaboration among the stakeholders for developing community-based ecotourism, lack of clear and detailed guiding policy to address community issues in tourism development particularly, issues related to community-based ecotourism in protected areas, lack of qualified personnel in the areas of ecotourism and community-based ecotourism, lack of awareness about tourism, ecotourism and CBE and less exposure to CBE appropriate models, infrastructural challenges within the Park and the surrounding community.

In a nut shell, as World Wide Fund for Nature (WWF) has observed, CBE is a form of ecotourism where the local community has substantial control over, and involvement in its development and management, and a major proportion of the benefits remain within the community (Denman, 2001). In many places, particularly those inhabited by indigenous peoples, there are collective rights over lands and resources. CBE should therefore foster sustainable use and collective responsibility. Involving the community is critically an important and complex subject for successful CBE. However, opportunities and solutions may vary with respect to community and destinations.

3.3.8 Community Intervention Mechanism in Ecotourism: Institutional Approach

Though various intervention strategies existed in CBE, organised or institutionalized interventions have been more focused, as they were mainly

adopted for conservation and livelihood objectives based on stringent rules and regulations.. As indicated in the studies of Ostrom (1990) and Bromley et al. (1992), recognizing community as an institution is one of the criteria for measuring success in commonly managed natural resources, where community has the right to make rules regarding resource use and the means to implement and enforce these rules for attaining the objectives.

Williams (1992) in his study also indicated the need for institutional mechanism at community level and opined that all factions within the community need to be addressed effectively to ensure that a high quality product is delivered without diminishing the ecology of the resource base. He further advocated that the development of an institutional structure strategy could respond to tourism development and community coherence. The suggested strategy included the following:

- Development of a grassroots planning process, driven by local interests and including aboriginal involvement.
- Understanding and appreciation of ecotourism market requirements.
- An inventory of the region's resources to determine areas that are suitable for ecotourism and ones that are not.
- The establishment of goals and objectives in line with concerns related to the cultural and natural impacts of ecotourism, with the creation of a vision statement to act as a control mechanism for the future.
- The establishment of a formal Tourism Management Board, to govern both the operators and the public, with the responsibility of monitoring changes, communication, local benefits, etc.

A number of studies (Ghai, 1994; Berkes, 1995; Baland & Platteau, 1996; Borrini-Feyerabend, 1996) have considered local level solutions as very important for the attainment of sustainable development goals. Their arguments were to propagate co-management or appropriate sharing of responsibilities in natural resource management between national and local governments, community organisations, and local communities.

According to Akinboade (1994) institutionalized participatory framework at the grass-root level is required to make intervention more sustainable. These institutions should have some form of autonomy and self reliance like beneficiary control over measurement of the programme and extended their actions for the future benefits of participating communities. He has further directed that the members of the local level institutions should: (a) attend meetings, call and discuss matters relating to the design, implementation and monitoring of natural resource management, (b) contribute money, labor or both to the activities of common interest to the community (c) seek new knowledge and information and share it with other members of the community as well as with authority, (d) adopt technologies and practices as and when required, (e) follow rules and regulations set by the community in consultation with local people, (f) protect the common property resources and (g) serve on the joint management committees constituted by authorities.

Sivaramakrishnan (1997) proposed that a successful decentralized management requires the enfranchising of local populations through legitimate community institutions. Decision-making power comes through empowerment, which occurs when the decentralization of resource management gives not just responsibilities, but also rights, to local communities. McKercher (2003) in his

study highlighted probable weakness of community based institutions and stated that such institutions become a failure if the institutional framework become weak with inadequate control mechanisms, and communities pursue tourism without proper understanding of its implications.

Though community based tourism programs are gaining popularity in these days, reference on local specific intervention strategies and its effect on both guests and hosts have got only very little attention. Therefore, the availability of literature on local level participation framework of ecotourism is very dismal. Though Conservation International called for establishment of representative governance systems that allow local people to be accountable and assume responsibilities in tourism and conservation partnership, and take action to fulfill them (Christ, et al., 2003), it has been noticed that such intervention has not been promoted either empirically or academically with focused objectives.

3.3.9 Types/Forms of Community Intervention Mechanism in Ecotourism

Reviews on community intervention mechanism show a few institutional or cooperative frameworks being used in eco or nature based tourism management. These are: Citizen Groups or Citizen Advisory Committees (Fennel, 2003), Donor Agencies (National and international) including Non Governmental Organisation (NGO) Agents (Heher, 2003), Destination Committees, Destination Management Board, Tourism Cooperatives, Community Associations (Jones, 2005), Village Councils and Ecotourism companies (Weaver, 2008), and NGOs (Wearing & Neil, 2009). Most of these institutional/partnership arrangements are of recent origin, having wider acceptance due to its economic sense and benefit. Conflicts between

donor agencies and communities paved the way for partnership between Government and NGOs or community based organisations that can act better for communities interest (Wearing & Neil, 2009).

Barkin and Bouch (2002) examined the case of partnership between NGO, community and the local government in managing ecotourism resources. The study further explored the modalities of partnership and operational aspects of various ecotourism activities undertaken among indigenous communities with the support of a local NGO. Collaboration between the local community and the government is considered as far better partnership management of natural resources than NGOs as some of these are not free from criticism and also it could bring more democratic framework according to community aspirations (Holden & Mason, 2005). For example, the destination management model of Jiuzhaigou Biosphere Reserve (JBR) in Sichuan province of China (Li 2006) and Uluru in Australia, (Wearing & Neil, 2009) are empirical support of this argument.

However, the Community- Government model is also not free from limitations. Li (2006) stated that destination management by village committees and local authorities could not bring the desired result due to poor participation of local communities in decision making process. However, there are hardly any studies discussing the reasons for such failure or whether these co-management frameworks meet the desired objectives, and more importantly the sustainability or quality aspects.

3.3.10 Community Intervention in PA based Ecotourism

A widely used community participation model with reference to ecotourism is Borrini Feyerabend (1996), which discuss the level of

participation for collaborative management of PAs through stakeholders' control, shared authority and responsibility, negotiating agreements, seeking consensus, active consulting and agency control. Mbaiwa (2004), went further in his studies and fixed three important criteria for CBE as a sustainable development tool for PAs: economic efficiency, social equity and ecological sustainability. A subsequent study by Lisa (2006) identified four common success factors of PA based ecotourism namely, institutional arrangements, self-regulations related to conservation, high environmental awareness, and the existence of partnerships. This study demonstrated how CBE could be facilitated by building upon these success factors in a Japanese national park.

The WWF (2006) in an extensive study on natural resource management mechanism at grass-root level clarified that creating a suitable community institution will enable the institution to exercise the rights over natural resources provided by legislation, and commented that the resource producers can then become appropriate resource managers. The study further called for:

- Empowerment of institution decision making.
- Implementation of democratic principles for representations.
- The institution must be recognized by key stakeholders, particularly the government.
- The representatives must be accountable to their membership.
- Members must be involved in key decisions regarding the running of the institution.
- The roles, responsibilities and decision-making of members, elected representatives and other stakeholders must be clearly spelled out.

- The operations of the institution must reflect good governance, including transparency and good communication.

Tazim and Amanda (2009) have given an account of community partnership based tourism in protected areas, by focusing on three aspects important for sustainability: (1) linking biophysical environments, tourism and park management structures, community- resident systems, local-global systems and use-conservation gap; (2) scale, structure and scope of collaborations (including community involvement and control) and (3) challenges of implementation and long term structuring.

Asteray (2011) in her dissertation, tried to assess how CBE is used as a tool for biodiversity conservation and sustainable development in PAs. Findings of the study demonstrated that CBE is an effective, efficient and sustainable strategy compared with alternative approaches of conserving biodiversity with economic benefit. Local communities' awareness level on biodiversity and its conservation has increased considerably through ecotourism. The study showed that capacity building programmes by government and NGOs to increase community participation in tourism played a significant role in biodiversity conservation. It also underlined the need for a good benefit sharing mechanism for community benefit. Moreover, CBE should be designed as part of a broader strategy for sustainable economic development to the community.

In short, institutionalising of collaboration between the public and local communities is a regulatory and political instrument to reduce the risk related to ecosystem, socio economic system, and risk of delivery of various services to consumers or tourists. In other words, various aspects of destination

sustainability and quality become the mandate of such government-community collaborations.

3.4 Destination Sustainability

3.4.1 Tourist Destination

Dredge (1999) has tried to conceptualise the term destination. According to him, a destination could be of any scale, from a whole country (e.g. India), a region (South India) or a provincial state (Kerala), to a village, town or city, or a self-contained centre etc.

Destinations contain a number of basic elements (Cho, 2000), which attract the visitors to the destination and which satisfy their needs on arrival. These are attractions, amenities, accessibilities, human resource, image and character and price. The provision and quality of these elements will be influential in the visitors' decisions to make their trip.

According to Pásková and Zelenka, (2002), a tourist destination is a target area in a given region for which a significant offer of attractions and infrastructure of tourism are typical. In a broader sense, these are countries, regions, human settlements and other areas which have high concentration of tourists, developed services and other tourist infrastructure.

UNWTO (2007) defined tourism destination as a physical space in which a tourist spends at least one overnight. It includes tourism products such as support services and attractions and tourist resources within one day's return travel time. It has physical and administrative boundaries defining its management, and images and perceptions defining its market competitiveness.

3.4.2 Destination Sustainability

The term sustainability is the ability to use and retain the resources, means and ends for present as well as future generations. According to Hart (1999), sustainability is defined as the balance between ecological, economic, and social values. Sustainability is frequently applied to communities, development and natural resources management. It has been applied to tourism, as an element of development (Wall 1997; Cole, 2006).

According to Moscardo and Murphy (2014), the relationship between tourism and sustainability has been paid considerable attention by tourism academics, even though empirical evidence of such nexus are considerably less in number. The linkage between destination and sustainability has been explained by Ross and Wall (1999) as follows (See Figure 3.4):

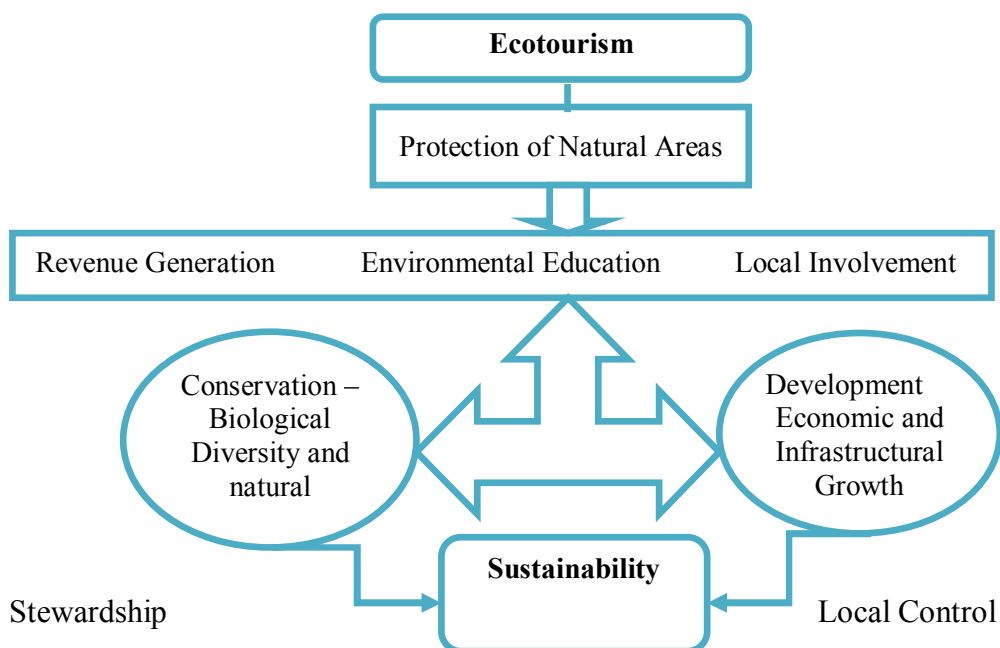


Figure 3.4: Linkage between ecotourism and sustainability

In this direction, Cole (2006) has observed that tourism contributes to sustainability if it is integrated into a greater sustainable development context within a community. In his observation, sustainable community tourism is tourism that meets the above definition of sustainability and uses local participatory processes.

3.4.3 Destination Sustainability: Types and Measurability

According to Weaver (2005), the core criteria of ecotourism based on the level of sustainability outcomes, are having two dimensions: the minimalist and comprehensive. The minimalist dimension emphasises superficial learning opportunities focused on fauna, while its sustainability objectives are site-specific and status quo-oriented. The comprehensive dimension adopts a holistic and global approach to attractions and interpretation that fosters environmental enhancement, deep understanding, and transformation of behavior. He has further argued that the comprehensive model can be the best to promote global sustainability. According to him, ecotourism sustainability can be perceived in two ways: status quo and enhancement. If the activities are directed to maintain the *status quo*, it is called as status quo sustainability whereas activities resulting in the improvement of the existing situation is called *enhancement* sustainability. In other words, sustainability is the degree to which ecotourism actually helps to improve the environment within which it occurs. An approach of status quo sustainability is required where levels of resources integrity do not need to be changed. Whereas, in the areas where resource integrity has been seriously compromised, an enhancement sustainability approach is *sine qua non*. Weaver (2008) further stated that enhancement sustainability serves to improve the environmental status quo through various measures

such as habitat rehabilitation, ecologically sensitive site hardening, and the acquisition of land for inclusion in the high order Protected Area (PA) networks.

There are criticisms on the measurement of sustainability in ecotourism. Studies by Cater (1994), Christensen, Thrane, Jorgensen and Lehmann (2009), and Jitpakdee & Thapa, (2012) have shown that the term sustainability is ambiguous and have no uniformity in its interpretation. Based on the exposure they carry, it varies. As Redclift (2000) has pointed out, environmental, social and economic sustainability are the three dimensions of sustainable ecotourism; however, what each dimension comprises are not clear. Unless these are specified, it is not possible to assess the sustainability of ecotourism.

Many studies such as Weaver, (2006), Choi & Sirakaya, (2006), Tsaor, Lin and Lin, (2006), and UNWTO, (2006) also have the similar opinion about the measurability of sustainability. They stated that it is almost impossible to measure sustainability precisely. There are different degrees and levels of sustainability. Therefore, in this present study, it is proposed to analyse the relative sustainability of ecotourism based on selected indicators covering ecological, socio-cultural, economic and political dimensions based on the enhancement theory.

Ecotourism encourages both guests as well as the host to make the destination sustainable through responsible resource appropriation. The present study however investigates the sustainability contributions of destination communities (host communities) only. As a sustainable development tool for destinations, ecotourism contributes to the sustainability of all dimensions of

development i.e. socio-cultural, economic, political and environmental, (Christ et al., 2003).

In this direction, following section will try to review existing literature on various dimensions of ecotourism from the host communities' perspective.

3.4.4 Indicator Based Sustainability Measurement

Measurement of sustainability as mentioned earlier, is a major problem encountered in theoretical and empirical scenario. Globally, a few indicators have been developed to ensure sustainability of development initiative. Indicators of United Nations Development Programme (UNDP) for measuring sustainable development are one of the most globally acclaimed and applied indicators of today. In tourism, developments of indicators are still in infancy. Studies of Orams (1995) and Diamantis (1997) have shown certain sustainable tourism indicators, which have been identified as tools for the implementation and measurement of sustainability at the destinations. Mowforth and Munt (1998) have tried to identify various dimensions of sustainability by moving from the existing standalone ecological dimensions. The study further explained destination specific sustainability indicators with social, economic, political and ecological dimensions. Studies of Hart (1999), Kaae (2001), Parkins, Stedman, and Varghese, (2001) stated that progression along the continuum towards sustainability is the goal of resource appropriation. These progressions or enhancement in sustainability can be measured by the use of local specific indicators. Though certain indicators are of universal application, most of the indicators are destination specific, as sustainability is always destination specific.

UNWTO had been promoting the use of sustainable tourism indicators since the early 1990s, as essential instruments for policy-making, planning and management processes at destinations, through a number of deliberations across the globe. The Guide book on Indicators of Sustainable Development for Tourism Destinations, published in 2004, explained that indicators are information sets which are formally selected to be used on a regular basis to measure changes that are of importance for tourism development and management. They can measure: (a) changes in tourism's own structures and internal factors, (b) changes in external factors which affect tourism, and (c) the impacts caused by tourism. Both qualitative and quantitative information can be used for sustainability indicators (UNWTO, 2004).

In order to trace the destination specific requirements of the progression of the continuum towards sustainability, it is imperative to absorb local specific development indicators leading to sustainability. In this direction, the selection of sustainability indicators can be built into the process of consultation and participation. This can be most valuable in helping the stakeholders involved to focus their minds on tangible sustainability issues and priorities (UNEP & UNWTO, 2005).

When we examine the method of framing indicators, Tsaur, Lin, and Lin, (2006) proposed a destination specific indicator to study the impact of tourism based on Delphi technique and analyzed the relationships between resource, community and tourism in sustainable ecotourism at a Taiwanese indigenous ecotourism site. They stated that the sustainability benchmark for ecotourism sites may vary with respect to space and time. Using subjective measures as indicators reflect variation in these factors. Similarly, Young (2008) tried to identify and develop criteria and indicators for forest-

based ecotourism, through expert evaluation by comparing the similarities and differences and developed a point evaluation system. The study was conducted through two rounds of the Delphi method. Experts were asked to rate the importance level of criteria and indicators using a Likert scale. In addition, the participants were asked to rank the importance of the criteria and indicators relative to each other. In both rounds, a high level of consensus existed among the groups. The study found that there was difference of opinion among expert groups about the criteria and indicators involved with the participation of and socio-economic benefits to local communities. In other words, the study confirmed the nature of sustainability as destination specific.

Various other indicators have also been developed to measure sustainability in the context of ecotourism. In this context, Choi and Sirakaya (2006) attempted to develop 125 sustainable tourism indicators with political (32), social (28), ecological (25), economic (24), technological (3), and cultural dimensions (13) for CBT at the local and regional level. One of the major highlights of this study was the incorporation of two new dimensions hitherto neglected or unidentified i.e., political as well as technological along with traditional dimension like economic, socio-cultural and ecological. They further called for a destination specific study to measure the efficiency and effectiveness of such indicators. This study is considered as a one of the most comprehensive approaches towards sustainability measurement with indicators.

While most of the studies focused on the development of sustainability indicators, Jitpakdee and Thapa (2012), tried to measure sustainability of ecotourism based on nine indicators covering environmental, economic

and socio-cultural dimensions. This is identified as one of the best such studies where indicators are used for measuring sustainability. The findings revealed that majority of the local people across income brackets are benefited from the employment opportunities generated by ecotourism. However, degradation of resources has also been noticed, which has called for appropriate interventions to ensure the effective conservation of environmental and natural resources and to protect the landownership of private property by local people.

Though the development of sustainability indicators for CBT/ CBE is an extremely discoursed topic of social science today, indicator based measurement of destination sustainability is still in infancy. Indicator development for measuring progression in sustainability has not been applied in empirical scenario to measure the real progress of such initiatives. The present study is an attempt to measure progression in the continuum of destination sustainability expected from the intervention of destination communities through destination specific indicators developed under various dimensions of sustainability in the context of CBE.

3.4.5 Dimensions of Destination Sustainability

Though initial reference about sustainability has been confined to natural environment (Ceballos-Lascurain, 1988), community based approach paved the way for other dimensions such as social, cultural, economic (Ziffer, 1989; Epler Wood, Gatz & Lindberg, 1991; Scace, Grifone & Usher, 1992) as well as community control and empowerment i.e. political (Edington & Stabler, 1997; Alexander, 2000). An attempt is made to examine these dimensions one by one in the following paragraphs.

3.4.5.1 Economic Sustainability

Economic sustainability is a core aspect of all development initiatives. Ecotourism ultimately seeks to contribute to the wellbeing of the community, both directly and indirectly. Ecotourism has been considered as a development strategy that has the dual advantage of benefiting the local economy while simultaneously protecting the local, natural, and cultural capital (UNWTO & UNEP, 2002) and is also ideally characterized as a small scale economic activity run by locals, (Thomlinson & Getz, 1996). For example, Annapurna Conservation Area Project the first and largest conservation area of Nepal introduced various types of ecotourism products and enhanced the living standards of the local people by following the principles of maximum people's participation, viz., employing 62 % of the country's total trekkers for tourism (UNEP, 2002).

Studies such as Choi & Sirakaya, (2006); Tsaur, Lin and Lin, (2006); UNWTO, (2006c); Bascomb & Taylor, (2008) have defined the term economic sustainability of ecotourism as the stability of economic growth and maintenance of benefits generated through ecotourism. On the other hand, scholars like Wijaya, (2010) have stated that local ownership of property along with employment and income derived from ecotourism are the major economic indicators, while studies of Eshliki and Kabousi (2012); Dolnicar, Yanamandram and Cliff (2012) have shown that capacity to enhance the quality of local communities' life through attractions, recreational opportunities and services on offerings at the destinations are the reflection of economic indicators in the context of ecotourism. The following section proposes to discuss some of the important economic sustainability indicators pertaining to ecotourism destinations.

- 1) *Employment*: Large numbers of academic and empirical evidences are published to highlight the local economic benefit of ecotourism in the form of increased employment opportunities and incomes (Pearce, 1989; Lindberg, 1991; Western, 1992; Brandon, 1993; Ratz, 2000; Lindsey, Roulet & Romanach, 2007). Cernat and Gourdon (2007) has considered employment created as an indicator of the economic sustainability of ecotourism. Accordingly, the present study also consider employment creation as an important criteria to measure economic sustainability of ecotourism.
- 2) *Enterprise development*: Studies of Stronza & Gordillo (2008), and Asadi and Kohan, (2011) showed that the relationship between enterprise development and ecotourism particularly showcase the very basic premises of ecotourism as a small scale activity. UNWTO (2013b) stated that capacity building, supporting and training communities/individuals/businesses in setting up Micro, Small and Medium Enterprises, will enhance the quality of visitor experience and ensuring economic sustainability. In this direction, enterprise development possibilities in ecotourism is considered as a measuring rod of economic sustainability.
- 3) *Linkage*: Scholars like Bann (1996) and Scholes and Biggs (2004), in their studies indicated that the basic objective of ecotourism is to contribute to the wellbeing of the community involved directly and indirectly integrating the existing and/traditional practices of livelihood like farming, fishing etc., and further added that ecotourism operation is not an isolated activity as the ecosystem encompasses many aspects of ecology and society. So an integration of related

activities which support community development is considered as an indicator of sustainability.

- 4) *Bargaining power*: Brandon (1993) in his study identified ecotourism as a means of community empowerment as well as a means of enhancing bargaining power of the local community for improved conservation as well as livelihood. Accordingly, the present study considers community bargaining power as an indicator of economic sustainability of CBE.
- 5) *Seasonality*: Studies of Cater (1994) and Dorji (2000) found that seasonality is one of the major issues of all types of tourism including ecotourism, which affects both employment as well as entrepreneurial spirit among communities. The study therefore, consider actions to reduce the seasonality as an economic indicator of economic sustainability.
- 6) *Thrift and savings*: The study conducted by Manalel and Vinodan (2009) stated that participation in ecotourism activities helped the destination communities to save a certain percentage of their earnings. The study further observed that most of the destination communities are operationalised as self help groups and retained certain percentage of their earnings' in a collective account. In certain cases, the community members save for themselves a portion of their earning from tourism activities for future purposes. So this is considered as an indicator for measuring economic sustainability of the destination.
- 7) *Benefit sharing*: Cater (1994) investigated the benefit sharing mechanism under ecotourism and opined that revenue accruing from

ecotourism should be distributed among local governments or community organisations. The scope for gaining income and its entitlement based sharing, equality in sharing and enhanced social security measures among community members are considered as important indicators of economic sustainability in the context of CBE.

In a nut shell, it can be concluded that economic sustainability in ecotourism represents an effort to ensure that local/regional economic self-reliance through employment generation, income stabilization, linkages with other sectors and entrepreneurship development among the community for the enhancement of their wellbeing without at the same time compromising on conservation objectives.

3.4.5.2 Ecological Sustainability

Ecotourism is a reflection of ecologically sustainable tourism seeking to contribute to the conservation and management of environmentally and culturally fragile areas by strengthening the management capability of all stakeholders, particularly, the local communities involved. It also provides opportunities to enhance environmental management and reduce damage to the environment (Kangas, Shave & Shave, 1995).

According to Blamey (2001), ecological sustainability involves the maintenance of natural capital consisting of both source and sink functions, over a specified time space. In other words, ecological sustainability involves the maintenance of natural capital based on output and input rule: output rule indicates the waste emission within the capacity of local environment without unacceptable degradation, and input rule indicates the

renewable within the limits of regenerative capacity and non renewable within the limit of renewable substitute (Goodland,1999).

A large number of studies (Tantrigama, 2000; Weaver, 2001a; Swarbrooke, 2002; Lim & McAleer, 2005; Choi & Sirakaya, 2006; Tsaur, Lin & Lin, 2006; UNWTO, 2006c) have used ecological and environmental sustainability interchangeably, to indicate that environmental sustainability in ecotourism is concerned about maintaining the pristine condition of natural resources and the environment through effective and efficient use of natural resources and proper management of wastes generated. More specifically, pollution control measures like waste collection and disposal, recycling, and efforts for better air and water quality could be considered as indicators reflecting the environmental condition. Accordingly, following section will examine the widely discoursed indicators of ecological sustainability pertaining to ecotourism.

- 1) *Reduced pollution:* Brandon (1996), Swanson (1992), and Palacio and Mc Cool (1997) have shown that ecotourism is the best means of environment management to minimize pollution with community support. Study further explored various means of pollution control mechanism like 3Rs, land management, drainage management, and intervention as forest watchers etc., where ecotourism destination can be practiced. So the presence of all or any of these variables can be considered as an indication of sustainability.
- 2) *Environmental Reporting:* Environmental reporting is one of the major community based environment management programmes widely practiced in the PA based ecotourism destinations in India. Tisdell (1995,

1999) and Palacio and Mc Cool (1997) in their studies have given emphasis on environment management by the communities in the PAs. In this study, community based environmental reporting system is regarded as an indicator of sustainability in ecotourism destinations.

- 3) *Reduced poaching and illegal activities:* Pattanayak, Wunder & Ferraro (2010) in their study indicated that CBNRM adopted in PAs of India has helped to check illegal activities as well as raised community attention to such activities. The report of Periyar Tiger Reserve, Kerala, India (2006) also showed that CBE paved the way for reducing poaching and other illegal activities in the PA. Moreover, the project could transform poachers to protectors (Department of Forest and Wildlife, Government of Kerala, 2002). Accordingly, this can be considered as one of the indicators for measuring ecological sustainability of ecotourism destinations.
- 4) *Environmental education:* The studies of Western (1992), Brandon (1996), and Veríssimo, Fraser, Bristol, Groombridge, and MacMillan (2009) have given a detailed report on educational component of ecotourism along with other criteria. Verissimo et al. (2009) extended their studies to explore the possibilities of educating local communities, and they argued that unless the destination communities are educated, it would be tough to maintain the ecotourism destination, as envisaged. So education and interpretation is required for both guests as well as host communities for enhancing ecological sustainability.

- 5) *Quality environmental information:* The study conducted by Manalel and Vinodan (2009) stated that destination communities of ecotourism are the backbone of quality environmental information in PA based ecotourism sites. These communities guide the tourists and interpret the endemic values and systems of the forest areas. The authenticity of such information dissemination is considered as one of the variables for ecological sustainability.
- 6) *Financing for conservation:* Studies of Cusack and Dixon (2006), Tisdell (1995,1999), Brandon (1996), and Lindberg (2001), show that conservation linked ecotourism can be sustained only if the financial sustenance for conservation activities are supported by the beneficiaries of ecotourism. Studies of Aylward and Freeman (1992), and Lindberg (1995), cautioned that if the revenue of ecotourism does not get accrued to national parks systems or local communities, there will be little economic incentive for investment in conservation activities, which are often recurring in nature. In other words, ecotourism revenue should be reinvested for conservation and management of the destination resources for the long term sustainability. So this is considered as one of the indicators of measuring ecological sustainability.

Thus it can be stated that ecological sustainability indicates the conservation of natural resources in a minimum of *status quo* principles and also promotes appropriation of natural resources for the economic wellbeing of the population. So it can be concluded that ecological sustainability implies the application of natural resources utilization that not only reduces the degradation of the resource base through adverse impacts on the

ecosystem, habitats, or species but also improves the degraded resources through proactive action.

3.4.5.3 Social Sustainability

Studies by Choi and Sirakaya (2006), Fennell (1999), Swarbrooke (2002), Tsaur, Lin and Lin (2006), and Weaver (2006) have established that the socio-cultural sustainability of ecotourism means a fair distribution of benefits among relevant stakeholders, preservation of local culture and norms, and maintenance of community structure.

The following section gives the reviews of widely identified and contextually generated social sustainability measures related to CBE.

- 1) *Skill development*: The studies of Western (1992), Cater (1996), Lindberg, Enriquez and Sproule (1997), and Ghaderi and Henderson (2012) have established that skill development is important where the demand by tourists has spurred the growth of arts and crafts and other hospitality services in the local tourism industry. In order to explore such opportunities, the community must be equipped with updated skills to enhance their livelihood and practice their cultures. Accordingly, skill development has been considered as an indicator of social sustainability.
- 2) *Reduced vandalism*: According to Cronkleton, Taylor, Barry, Stone-Jovicich and Schmink (2008), ecotourism addresses the social problems including crime due to poor planning and/management of destination resources. As observed by Lindberg (2001), community involvement can make destinations more safe and secure by directly involving communities against such antisocial elements and thereby protecting the

society. This indicates that community intervention can have an impact upon safe and secured destinations. So reduced vandalism at the destinations is considered as enhancement in social sustainability.

- 3) *Migration*: Studies of Gooroochurn & Sinclair (2003), and Kruger (2005) stated that along with other benefits of ecotourism, it can reduce migration of the local communities by engaging themselves in ecotourism as an alternative means of livelihood. In this context, the present study considers reduced migration as an indicator of social sustainability of CBE.
- 4) *Public utility infrastructure development*: Studies conducted by Lindberg (2001), Brandon (1993) on community participation in ecotourism argued that CBE helped to improve public utility infrastructure of the destinations. Such initiatives also help to improve destination environment, particularly in terms of health and hygiene. So improvement in public utility infrastructure at the destination is considered as an indicator of destination sustainability.

Social sustainability with regard to ecotourism thus involves a special approach to resource management that takes into account local community specific needs and practices. If the ecotourism programmes are able to meet the local needs and implement participative management, it can be considered as socially sustainable.

3.4.5.4 Cultural Sustainability

First reference on culture in ecotourism stated that ecotourism is the travel not only to enjoy the beauty of the nature, but also of the people (caretakers) who live nearby, their needs, their culture and their relationship

to the land (Wallace & Pierce, 1996). This inclusion is considered as an important extension of the concept.

Burchett (1992) who had studied the various aspects of cultural sustainability stated that by developing an appreciation of local communities and their customs and traditions mutual respect and understanding between societies can be greatly enhanced and will help to achieve successful interaction between hosts and guests. This will in turn benefit the local communities. When we examine tourism culture nexus, the studies indicate that tourism may enhance integrity of the host communities (Scace, Grifone & Usher, 1992), by improving the welfare of the people (Lindberg & Huber, 1993), instill a sense of local pride to villagers (Cater, 1994) and may promote or strengthen cultural heritage (Brandon, 1996). Sustainability of culture is more subjective and its indicators for measurement are considered as difficult. As Throsby (2001) has rightly pointed out, cultural sustainability is admittedly difficult to define and measure. However, the studies of Choi and Sirakaya (2006), and Tsaur, Lin and Lin, (2006) have suggested a few destination specific indicators for measuring the cultural sustainability of ecotourism.

In the following section it is proposed to examine the various indicators of cultural sustainability pertaining to ecotourism.

- 1) *Economic value of cultural properties:* The study by Fuller, Bultjens and Cummings, (2005) pointed out that a proper orientation about the economic value of the cultural properties of the communities is to be made and it should be highlighted as a means of livelihood. In practice, an array of such properties exists in the forms of costumes, architecture,

arts, festivals and other community engagements. Accordingly, understanding and appropriating economic value of cultural properties are considered as an indicator for CBE.

- 2) *Familiarization of culture*: Barry (2012) stated that as a nature-culture activity, ecotourism programmes have the responsibility of protecting and promoting traditional practices of the region. Familiarization of various cultural properties and facets among the community itself has been considered as a prerequisite for sustainability. So the present study considers this variable too as one of the indicators for measuring cultural sustainability in the context of CBE.
- 3) *Re-introduction of cultural properties*: Nicole (2013) examined the relationship between ecotourism and culture, and insisted that the system of ecotourism is culturally restorative, and leads to increased indigenous knowledge retention or reintroduction in these communities without further exploitation. Accordingly, the study has identified re-introduction of cultural properties as a measuring scale for cultural sustainability in the context of CBE.

In short, cultural sustainability with regard to ecotourism involves a prudent approach to identify, showcase and maintain various cultural properties of the destination as well as communities (both natural and manmade) for the purpose of promoting, educating and entertaining tourists. If the ecotourism programmes are able to provide such platform for the communities with care and concern in the use and encashing the entitlements with equity, then we can say that destination is culturally sustainable.

3.4.5.5 Political Sustainability

Traditionally the word sustainability has been attributed to economic, socio-cultural and ecological aspects. But the major area without which the entire aspect of sustainability becomes irrelevant is the participative or the political aspects of sustainability particularly in the context of CBE. As mentioned, in an anthropocentric development arena, this aspect plays a very important role. The assumption is that the participative role of the community could bring all other dimensions of sustainability. In other words, in the absence of participation, engagement or intervention of the community, the other objectives of CBE will become a futile exercise. However, very little emphasis is being given to these directions/dimension in the developmental discourse. As Hall (1994) has pointed out, political dimension of tourism has not been addressed the way it deserves to be. The present study tries to review the political sustainability dimensions of CBE, as the focal point of the study itself is community intervention in ecotourism.

Henry and Jackson (1996) in their study stated that while the physical and cultural environments have received focus in the literature on sustainability, insufficient attention has been paid to the sustainability of particular political programmes, and to particular approaches to management. They argued that the focus has been on the sustainability of *ends* (cultural and physical, and to a much lesser extent economic) than on *means* (the viability and desirability of specific political programmes and approaches to management).

According to Pearce (1993), Hall (1994), and McIntosh, Goeldner & Ritchie (1995), sustainable development is a political concept, and therefore

achieving the goals of sustainable tourism depends heavily on the society's political system and power distribution. They cite that despite the fact that sustainable tourism would pave the way for improved quality life for local residents in both developed and developing countries, most of the tourism projects are controlled by governments. As a result, local residents are often excluded from the decision-making process. So in order to make tourism more sustainable, the local community must have a decision making power (Hart, 1999; Simmons, 1994). As pointed out by Becker, Jahn and Stuess (1999), the main objective in the political context of sustainability is to renegotiate the goals of sustainable community based tourism programmes and to establish a system of governance that is able to implement policies moving towards sustainability at all levels.

Some of the major indicators identified in the context of political sustainability pertaining to CBE destinations are the following:

- 1) *Advisory role of community:* CBE ensures that the members of the local community have a high degree of control over the activities taking place, and significant proportion of the benefit accrue to them (Scheyvens, 2002). The intervention should go beyond revenue sharing and to involving communities actively in tourism through regular consultations, continued economic activity orientation and involvement and partial or full ownership of ecotourism products or projects (Kiss, 2004). In this study, therefore, the advisory role of the community in ecotourism operation is taken as one of the indicators of political sustainability.
- 2) *Democratisation:* According to Gartner (2005), community involvement can be viewed as part of the inexorable 'democratisation' of public life

including tourism resource appropriation. Large number of studies (Liu, 2003; Hiwasaki, 2006; Honey, 2008; Simpson, 2008) consider democratic representation in ecotourism as an indicator of sustainable ecotourism.

- 3) *Grass-root level decision making*: Democratization of development interference in ecotourism should be started from the grass-root level. In ecotourism, locally initiated planning and management is often identified as the key factor for its success (Ross & Wall, 1999). The study of Mbaiwa and Stronza (2010), showed that communities have neither been consulted while executing tourism operations nor have they been traditionally part of the planning process. The decisions are always been taken by experts from outside, who do not have a clear idea about the intricacies of the locality. Consequently, tourism operations will not satisfy the needs of the community and the resources are not used for the best interest of the community. As a result, unnecessary social unrest may arise. So the study has recognized the importance of grass-root level decision making in ecotourism for meeting the political dimension of destination sustainability.
- 4) *Indigenous community involvement*: Wesche (1996) in his study recognised the involvement of indigenous communities in ecotourism. The study explained that, in recent years, conservationists have come to recognize the crucial role of destination communities, particularly indigenous people, in conserving biodiversity. Hence, indigenous participation has been identified as an indicator for political sustainability of CBE.

- 5) *Involvement of Women:* UNWTO (2007) had stated that CBE could increase women's participation in resource management process. In his study, Barry (2012) also called for the participation of women in ecotourism and stated that women could bring more sustainable practices at destinations as they hold major household activities which require cautious approach in its resource consumption. Representation of women in CBE has been considered as an indicator of political sustainability in this context.
- 6) *Transparency:* UNWTO (2003a) observed that transparency is one of the elements of destination quality. According to Sausmarez (2007) and Neckermann (2013) transparency in transactions of the destination is in the hands of the community concerned. It is considered as one of the important criteria of CBE. So the study considers transparency as an important variable for measuring the existence of political sustainability at ecotourism destinations.

In practice, we can describe the concept of political sustainability as the intervention of all strata of the community concerned with democratic representation for the appropriation of resources. They have the role of consultant, appropriator, stockholder and also the responsibility of maintaining and safeguarding the integrity of the resources through representative intervention. Political sustainability also represents the ability of the community to promote and realize sustainable practices without sacrificing political legitimacy, through participative approaches leading to policy development, implementation and follow up at the destination level.

3.5 Destination Quality

Though studies on destination quality are in infancy, available literature (Laws, 1995, 2000; Lenehan & Harrington, 1998) is sufficient to show that the importance of managing quality at the destination level is increasingly recognized particularly in the context of emerging and matured destinations, urban destinations, sun and beach destinations and nature parks.

Vajčnerova and Ryglova (2012) discussed about destination quality definition and its complexities. They argued that defining destination quality is not an easy task due to its subjective nature in identifying the destination visitors' perception and the complexity of the destination as a social-economic system. The second reason according to them is the probability of difference in quality perception of residents with the visitors or the management of a destination.

When we examine the evaluation of destination quality, the observation we could find is that efforts have been made to measure destination quality based on certain local specific models. Notably, Bo, and Hong-hua (2007), developed a framework concept of 'destination eight factors' evolving from "tourism six factors". Vajčnerova and Ryglova (2012) went further and suggested two possible models towards the complex evaluation of destination quality. The first model is based on the European Consumer Satisfaction Index methodology and modified it for evaluating the satisfaction of a visitor to a destination; the second model is based on the integrated approach towards quality management.

3.5.1 Relevance of Destination Quality

The studies of Association of British Travel Agents (ABTA) and Ecotrans highlight the importance of maintenance of destination quality. According to ABTA (2002), 83 % of British package holidaymakers say that a dirty beach or polluted sea matter a great deal to them when choosing a destination. At the same time, 74 % were similarly influenced by levels of crime, and 62 % by incidence of local illness. Ecotrans (as cited in UNEP & UNTWO, 2005) analysis showed that 60 % of German tourists were concerned about litter, 51 % about noise pollution and 46 % about good nature protection in the destination. The joint study by the Travel Industry Association of America and National Geographic Traveller, the Geotourism Study (2002) stated that 61 % of US tourists were looking for travel experiences involving well preserved natural, historical or cultural sites. The study further demonstrated that 53 % had a better travel experience when they learn as much as possible about their destination's customs, geography and culture. In their study, Goodwin and Francis (2003) reiterated that three in four British tourists agreed that their trip should include experiences of local culture and food.

According to Weaver and Lawton (2006), in order to market tourism products and services the very basic nature of service industry needs to be understood. Ecotourism managers, however, seldom negotiate these factors in a satisfactory way (Chi, 2012). By providing high quality services, tourist destinations are more likely to entice both first-time and repeat visitors. Tourists who have a quality experience are likely to communicate favorable reports to friends and relatives. This creates both repeat business and potential for new business. Unfortunately the reverse is also possible. (McKercher & Tse, 2012; Chi, 2012).

So destination quality is the key factor necessary for the sustenance and promotion of a destination, for the following reasons: (a) it gives the edge over other destinations, (b) performance makes destinations to satisfy tourists and branding becomes easy, (c) creates repeat visitors, (d) increases revenue to the destination, (e) it makes for a stable tourism industry and thus reduces the seasonality issues to an extent, (f) provides a better quality of life for local residents, and (g) Avoids further erosion of quality of destinations.

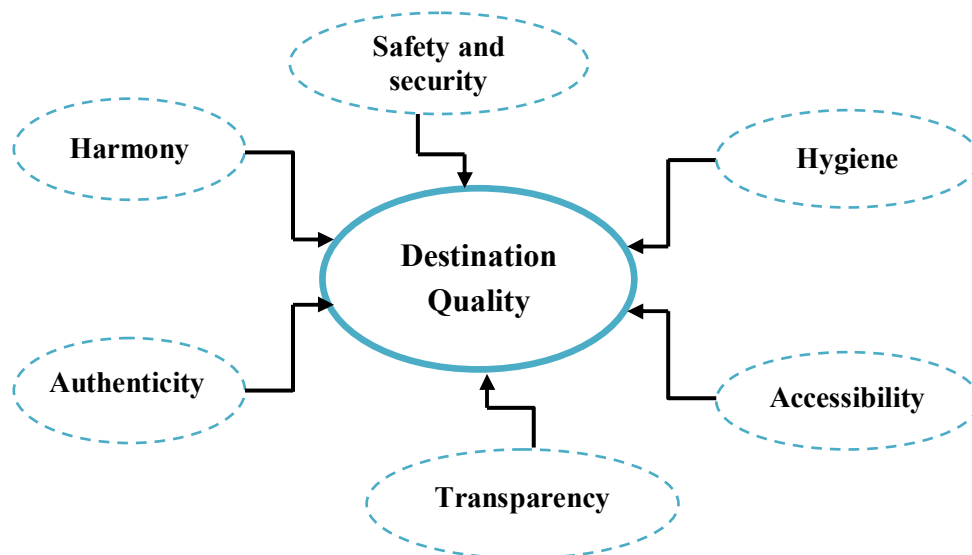
3.5.2 Components of Destination Quality

According to Mohammed (2006), UNWTO Guide for Local Authorities on Developing Sustainable Tourism has designed six standards for tourist product or service in 2003 (See Figure 3.4). These are as follows:

- 1) *Safety and security*: A tourism product cannot offer something which is dangerous/threat to life, health and other vital interests, and integrity of the consumer. All legalized quality standards are to be complied in toto to ensure safety and security of tourists.
- 2) *Hygiene*: Clean and hygienic environment is considered as an important quality variable in and around destination/ point of consumption. Legal, ethical and voluntary adherence of hygiene factors are to be complied in all these points.
- 3) *Accessibility*: All barriers like physical, communication and service are to be removed and allow, without discrimination, the use of mainstream tourism products and services by all people irrespective of certain natural and imposed differences, including people with disabilities.
- 4) *Transparency*: It is considered as a key element to provide legitimate expectations and consumer protection. It is concerned with providing

and effectively communicating truthful information on the characteristics and coverage of the product including price.

- 5) *Authenticity*: Authenticity is culturally determined and one of its results is making the product markedly distinct from other similar products. Authenticity must meet consumer expectations. It diminishes and eventually terminates when the product loses its links with its cultural and natural background. On the other hand, an authentic product can also develop and adapt to needs and expectations.
- 6) *Harmony*: Harmony with the human and natural environment pertains to sustainability which is a medium and long-term concept. Maintaining the sustainability of tourism requires managing environmental and socio-economic impacts, establishing environmental indicators and maintaining the quality of the tourism products and tourist markets. He has further stated that there can be no sustainability without quality.



Source: WTO Guide for Local Authorities on Developing Sustainable Tourism (UNWTO, 2003b)

Figure 3.5: Components of Destination Quality

In practice, due to the inherent nature of the service quality of a destination, it may vary according to the locations and nature/type of operation. Though the quality aspects encompasses various elements like visitors' satisfaction, service providers' satisfaction, the quality of local inhabitants' lives and the quality of the environment, it has been identified that tourist is one of the direct beneficiaries who can influence both demand and supply side of the tourism market. Moreover, it has been observed that destination quality is the result of a series of direct and indirect efforts of destination communities. Accordingly, the present study has tried to include tourists' as well as community's perspective on destination quality based on UNWTO parameters.

3.5.3 Community Intervention and Destination Quality

Studies related to CBE (Hiwasaki, 2006; Jennings et al., 2009) state that conservation and livelihood linked development initiatives through tourism with community support have paved the way for quality destinations and helped to improve the visitors experience. Various conservation initiatives through community support make destinations more attractive and reduce the intensity of negative impacts of tourism operations. Economic option under tourism helps to improve the overall standard of living as well as to create a harmonious environment between man and the environment. This way, the integrity or endemism of the destination can be maintained which improves the authenticity of the destination leading to a better visitor experience.

UNWTO and Secretariat of the Ramsar Convention on Wetlands (2012) have linked destination community to destination quality and highlighted the importance of maintaining quality across destinations and

also examined the role of destination community in contributing quality aspects at the destination. It was shown that poor community linkages at the destinations can create social tensions that diminish the quality of experiences/destination for tourists, which in turn leads to reductions in visitor numbers which may affect the income generating option at the destinations.

In this juncture, it can be concluded that destination communities are more a stockholders than a stakeholders particularly in the management of PAs, their intervention in PA based ecotourism, whatever may be the name, is inevitable for its sustainability. In practice, community's role is defined and incorporated at various levels of its operations acknowledging their contribution towards quality destinations by touching various aspects like safety, security, healthy environment, harmonious man and environment relationship etc.

3.5.4 Community Intervention and Destination Sustainability

Though there is very little literature discoursing the term 'community intervention' in ecotourism, terms like community engagements, participation, involvement and its resultant objective of sustainable development can be widely identified in this context.

Jamal and Getz (1995) elaborated community involvement through collaboration theory and its relationship with community tourism planning. It was found that community participation plays a very important role in sustainable development of community based tourism especially to enhance the positive effect at the destination by reducing the negative effects of tourism operations.

The investigation of Sebele (2010) identified that the involvement of community helped them to get more opportunities in tourism and related activities hitherto operated by others and thereby positive economic and social changes happened among community members.

The studies carried out by Simmons (1994), Lai (2003) and Tosun (1998) also discussed the importance of local level participation of sustainable development of tourism. The study revealed that there was no significant relationship between community involvement and sustainable development of the destinations as the interest exercised by different groups conflicted with each other and also varied in different degrees.

3.5.5 Destination Sustainability and Destination Quality

Reports of UNWTO have discussed various aspects of quality and sustainability of destinations and its variables. The report on ‘UNWTO Seminar on Rural Tourism in Europe: Experience and Perspective’ stated that, in order to ensure sustainability of the destinations, quality plays an important role (2002). Similar relationship was reiterated by the studies of McKercher and Tse (2012), and Chi (2012) particularly relating to economic sustainability. They concluded that economic sustainability can be ensured through the availability of quality destinations through various future behavioural intentions (FBI) like revisit intentions and word of mouth referrals.

Sustainability depends on the quality of specific tourism activities at the destinations (UNWTO, 2006a). UNWTO, in its Guide for Local Authorities on Developing Sustainable Tourism, wrote that “Maintaining the sustainability of tourism requires managing environmental and socio-

economic impacts, establishing environmental indicators and maintaining the quality of the tourism products and tourist markets” (UNWTO, 1998 p.11).

Similarly, Tigu and Tuclea (2008) attempted to understand destination quality and destination sustainability in detail and tried to check whether quality affects the destination sustainability in the context of coastal destinations. The study maintained that destination quality can contribute to sustainable development of destinations by improving the competitiveness of businesses, meeting social needs and preserving the cultural and natural environment.

The above reviews clearly show that there is a linkage between destination quality and destination sustainability. Most often, quality is considered as one of the variables or prerequisite for destination sustainability. However, in certain contexts, destination sustainability variables may contribute towards destination quality. According to Moscardo and Murphy (2014), another important aspect is capacity building which is necessary for the meaningful involvement of communities in tourism operations by extending their abilities for entitlement. They argued that capacity building is also important for partaking in governance and support and finalizing goals of tourism planning for the improvements in wellbeing of destination communities. Accordingly, it is assumed that such improvement may also contribute towards the quality of destinations. For example, improvement in wellbeing of the destination community helps to maintain clean and hygienic environment and thereby sustainability contributes for quality destination. In this direction, we may assume a reverse relationship between destination sustainability and quality.

3.5.6 Community Intervention, Destination Sustainability and Destination Quality

Fyall (2011) in his study proposed a framework of community involvement in tourism. In other words, a common administrative body is important for ensuring destination quality variables at the destination and thereby the continuum in development can be ensured. The study also indicated a local specific intervention framework at the destination having a bearing on quality aspects as well as sustainability of the destination. Such frameworks can manage capacity and maintain consistency of quality. Studies of Plog (cited in Pike & Page, 2014) also reiterated the same.

Fiorello and Bo (2012) had examined the possibility of community intervention and their empowerment through tourism. Intensity of community involvement and its resultant impacts on destination were also examined and thus concluded that varying degrees of empowerment of host communities provided by CBE were having a bearing on tourists' experience including quality. They were of the opinion that such community intervention could meet tourist expectations including quality, if adopted in letter and spirit while implementing the projects.

In another study Portugal and Babo (2014) stated that regularity in community involvement helped to maintain the quality of cultural sites well as the quality of the services offered to the visitors. Quality variables such as safety and security, comfort and accessibility, clean and hygienic environment etc., may act as indispensable components of long term sustainability of the destination.

However, destination specific experiments on community intervention and its linkages with sustainability and quality have not been initiated in the context of ecotourism destinations. Theoretical relationships have been established through qualitative assessments and observation notes in the discourses of tourism in general.

The present study has adopted the UNWTO parameters of destination quality. It may be noted that as far as PAs in Kerala are concerned, local inhabitants and destination service providers are one and the same, so all inhabitants of the regions are included in the study.

3.6 Implications of the Theoretical Background for the Study

Ecotourism is undoubtedly one of the most significant areas of research in tourism studies today. The review of literature revealed that most of the studies related to sustainability of ecotourism deal with economic, socio-cultural and ecological/environmental dimensions of ecotourism and its effects on destination. None of the studies investigated the political sustainability dimension of CBE in practice. They have only developed few indicators for this dimension. Review also showed that a holistic approach of identifying all the four dimensions relevant to CBE is missing in the contemporary discourses of sustainability. There was no evidence of employing enhancement sustainability covering any or all of these dimensions. Majority of the studies touched the status quo sustainability through various destination specific indicators. Development of indicators for identifying the community intervention in CBE was also in infancy.

Studies on community involvement in ecotourism in the Indian context are also not encouraging. Nepal (2002a) had discussed community involvement in ecotourism as an effective strategy to promote sustainable practices and balanced development for India and Nepal. The study suggested certain measures for sustainability and considered quality as a component of sustainability. Similar studies on ecotourism also have highlighted that community involvement helps to address unequal distribution of tourism benefits (Sekhar, 2003), contribute to minimize negative impacts, and visitors' management (Purva, 2006), whereas Chaturvedi (2004) has described it as a democratic method of involvement for conservation and reviewing development standards. More recently, Vishwanathan and Chandrashekhara (2014) attempted a destination specific SWOT analysis and called for a separate ecotourism policy with environment friendly measures and principles to promote ecotourism.

As far as Kerala specific studies are concerned, Anitha and Muralidharan (2006) tried to identify the concerns of local communities while involving private sector in ecotourism destination development. The study opined that local community support is indispensable for ecotourism development and underlined that through community based ecotourism practices, conservation of forest, and enhancement of the standard of living of the dependent communities can be attained. In another study, Rajasenan, Varghese and Bijith (2012) stated that ecotourism has helped to enhance the livelihood of the marginalized community. At same time Vinodan & Manalel (2012) were of the opinion that ecotourism support communities by providing direct and indirect benefits in the context of two PAs of Kerala.

Accordingly, the following gaps were identified in literature

- Community intervention strategy identification in the context of ecotourism, mode of operation, dimensional orientation of various intervention strategies.
- Identification of local specific sustainability indicators for measuring community contributions in ecotourism in India.
- As mentioned above, enhancement sustainability indicators for measuring community contributions in ecotourism destination management.
- Empirical assessment of destination quality based on UNWTO indicators in the context of ecotourism in India.
- Causal relationship between community intervention strategies and destination sustainability in PA based ecotourism.
- Causal relationship between community intervention strategies and destination quality in PA based ecotourism.
- Relationship between destination sustainability and destination quality in PA based ecotourism.
- Stakeholders opinion on various Community Intervention Strategies.
- Tourists opinion on quality improvement in ecotourism destinations.

It is clear that there were no review available linking the relationship between community intervention and destination sustainability in the context of India. There are a few studies pertaining to destination quality variables. However, evidence of employing such scales in real-time

operations of CBE was not available. A contextual examination of the relationship between community intervention and its effect on destination sustainability and destination quality has not been explored yet. Moreover, most of the studies admit that quality is an antecedent of sustainability, whereas, others have pointed out that sustainable development may also contribute towards quality destinations. As a result, many research questions remain unanswered both academically as well as empirically.

In brief, the literature review could provide certain directions in which theory needs to be developed pertaining to perceived relationship between community and its resultant effect on the quality and sustainability of the CBE destinations in Kerala.

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RESEARCH METHODOLOGY

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4.1 Introduction

This chapter discusses the research design and the methodology adopted to meet the various objectives of the study mentioned below:

- To understand the strategies and underlying dimensions of Community Intervention Strategies (CIS) and to develop a valid scale for its measurement.
- To identify the underlying key dimensions of destination sustainability (DS) of Community Based Ecotourism (CBE) and to develop a valid scale for its measurement.
- To examine the relationship between Community Intervention Strategies (CIS) and Destination Sustainability (DS) and Destination Quality (DQ) in the context of CBE.

- To understand the tourist perspective on DQ.
- To understand stakeholders perspective on CIS in ecotourism.

To meet the first objective, it was necessary to evaluate the CIS construct using statistical tools. A scale development for DS and DQ construct was the next task which automatically led to the second objective. Besides this, estimation of the theoretical model using appropriate statistical tools to reveal the linkages among various constructs was considered in the study.

This chapter proposes to outline the development of tools while standardizing them scientifically. Establishing validity and reliability of tools for appropriate measurement of the phenomenon under enquiry was included subsequently. The research design used in the study includes: operational definition of the research constructs, details of the sample, research tools, and validation of instruments, data collection and analysis procedure.

4.2 Statement of the Problem

As Weaver (1998b) stated, development implies progression towards some kind of desirable outcome. Development may be defined as positive socio economic and political change in the country or community and is also concerned with positive change in existing societies and the success is measured by the society (Stewart, 1997). It is the option for the community for advancing from the poverty or other absence of resources. Such advancement could be more relevant in the context of alternative or bottom up approach to development which emphasizes internal rather than external forces of change. This reiterate the importance of community based local

specific resource management strategies for the attainment of various dimensions of sustainability. Probably this is the right choice for developing countries as Potter, Binns, Elliott and Smith (2004), has pointed out that the developing countries can develop through their own ecology and culture appropriation rather than copying the blue print of development of developed countries which is mostly unsustainable.

Co-management which means management by the state and the community is considered as one of the appropriate Common Property Resource strategy (Holden & Mason, 2005). Ecotourism as an alternative form of development, which facilitates co-management of resources (Wearing & Neil, 2009). As a stockholder of most of the destination resources, community involvement is imperative to foster sustainability and quality practices at destinations and also to follow local specific management strategies for resource appropriation (Haroon, 1999). In other words CBE is considered as a viable means of meeting grass-root level development aspirations of ecotourism destinations particularly in the context of PAs. As Sivaramakrishnan, (1999) has proposed, legitimate community institutions are very much needed to sustain such development efforts. The present study tried to explore community intervention in the co-management of PA based ecotourism destination on the basis of an institutional approach, which were not explored in tourism studies till date.

In order to measure sustainability in tourism, a large number of indicators were developed (UNWTO, 2004; Tsaur, Lin & Lin, 2006; Choi & Sirakaya, 2006). However indicator based empirical measurement of sustainability has not been initiated in the context of ecotourism so far.

Studies pertaining to India gives a meager response on community involvement. Most of the studies covered benefits of community involvement in ecotourism. These are: balanced development (Nepal, 2002), equal distribution of tourism benefits (Sekhar, 2003), minimize negative impacts, visitors management (Purva, 2006), improving standard of living (Anitha & Muralidharan, 2006), enhancing livelihood (Rajasenan, Varghese and Bijith, 2012) whereas Vinodan & Manalel, (2012) has segregated benefits in to two: direct and indirect in the context of PAs of Kerala.

Intervention of destination community on the basis of sustainability principles are *sine qua non* for destination sustainability. Bringing sustainability at the grass-root level by meeting the needs of both guests and hosts are the objectives of sustainable ecotourism development. The primary objective of these or stakeholder of the destination, the community has to play a very important role. Its intervention is important for ecotourism to meet the requirements at both demand as well as supply side: on the supply side, for meeting the conservation and livelihood needs of the community and on the demand side, by providing quality destinations to the visitors. In other words, community intervention is inevitable to meet destination sustainability as well as destination quality.

The present study seeks to examine the following questions with regard to Community Intervention Strategies of ecotourism destinations in the state of Kerala:

- What are the major intervention strategies of destination communities in ecotourism in Kerala?. Do these interventions possess any operational or dimensional orientation? Or are such

activities oriented towards specified purposes like conservation and / livelihood etc?

- Have any positive changes occurred at the destinations due to the intervention of community members in ecotourism? Is there any dimensional orientation for these positive changes with regard to destination sustainability?
- Is there any improvement in the destination quality due to community intervention?
- Has the change in destination sustainability helped to improve destination quality?
- Do the other stakeholders of the destination like Vana Samrakshana Samities (VSS), Transport operators, Hospitality enterprises, and Shops have positive opinion about the Community Intervention Strategies (CIS) of today?

The purpose of this study is to identify the role of community in ecotourism development and how community intervention strategies are organised. The study also seeks to find out whether these intervention strategies by the destination community is leading towards enhancing destination sustainability and improving destination quality or not.

4.3 Objectives of the Study

The overall objective of the study was to study the Community Intervention Strategies (CIS) of ecotourism in Kerala. This was further sub-divided into primary objectives and secondary objectives.

4.3.1 Primary Objectives

- a) To study the Role of the community in meeting Destination Sustainability (DS) and Destination Quality (DQ).
 - To identify CIS in ecotourism destinations of Kerala.
 - To identify the various dimensions of DS in ecotourism destinations of Kerala.
 - To test the relationship between CIS and DS at the ecotourism destinations of Kerala.
 - To test the relationship between CIS and in DQ at the ecotourism destinations of Kerala.
 - To test the relationship between DS and DQ at the ecotourism destinations of Kerala.
 - To study the reverse relationship between DQ and DS at the ecotourism destinations of Kerala.
- b) To examine the opinions of tourists on the DQ of ecotourism destinations of Kerala.
- c) To examine the opinions of stakeholders on CIS at the ecotourism destinations of Kerala.

4.3.2 Secondary Objectives

- a) To highlight the structure of Community Intervention in eco tourism destination.
- b) To understand the practical aspects of enhancement sustainability perspective of ecotourism.

4.4 Scope of the Study

Scope of the study defines the boundaries of the research. The three elements, viz., population, place and source of data, characterizing the scope of the study are defined as below:

Population: The destination community members based at the Protected Areas (PAs) of Kerala and the related stakeholders including tourists forms the population of the study. Data related to CIS, DS and DQ were collected from members of destination communities of PAs of Kerala. Opinions of other stakeholders on CIS were also collected from various stakeholders located in and around PAs of Kerala. Improvement in DQ has been tested by collecting data from tourists who have visited other ecotourism sites as well as repeated visitors or tourists who had visited the site before 2006. The units of observation were destination community members, Other Stakeholders of CBE, and the tourists. All the three population is finite but its exact number is not available.

Place of study: The study was conducted in the following four (out of 18) of PAs, viz., Thenmala, Periyar, Parambikulam and Wayanad. These selections were made basically to ensure spatial representation. Finalization of the locations were also done on the basis of statistical analysis where all the four destinations had no significant difference in the mode of community intervention.

Data Sources: Major source of data was primary data collected from the destination community members, tourists and stakeholders for qualitative as well as quantitative analysis. The study is also supported by large volume of

secondary data collected from Forest and Wildlife department, Directorate of Ecotourism and Department of Tourism, Govt. of Kerala.

4.5 Rationale of the Study

In an anthropocentric development arena, the intervention of human beings for resource mobilization and its appropriation plays a very important role. Human participation in resource management at all strata of the society is *sine qua non* for equity in development. Top down approach to development had a lot of lacuna in bringing justice at the grass-root level. So a bottom up or triple bottom line is being evolved to rectify those perceived issues. As the review of literature revealed, most of the development programmes of developing countries were not reaching its perceived goals mainly because of the absence of organised mechanism to channelize the resources. In tourism, issues are more acute in terms of distribution of benefits to the community concerned. Most often, the destination communities are not aware about the benefits of tourism, as tourism is often considered as a market led operation meant for outsiders by outsiders, and thereby the level of interest and participation is low. For instance, local community members are enrolled as major stakeholders of ecotourism programmes organised at catchment area of Okavango Delta, Botswana, but the concerned community members were not aware about the same (Susan, 2014). So it is imperative to have a close observation of the *modus operandi* for the development of ecotourism.

Ecotourism is often considered as a strategy to support conservation of natural ecosystem while, promoting sustainable local development. In spite of the availability of large number of literature highlighting the benefits of

ecotourism, the practical or operational aspects of ecotourism in literature is very negligible or yet to emerge. Moreover, failure of ecotourism projects are also getting noticed in tourism literature. Rather than highlighting the pitfalls of ecotourism, a new approach needs to be developed to study the operational and related process which could bring more pragmatic solutions to tackle such failures and enhance the quality of tourism development by meeting the socio economic requirements of the society. It is in this context that a study on operational aspects, by emphasizing the importance of grass-root level intervention of community in ecotourism, becomes important. In other words, in order to put ecotourism theory into practice, peoples participation has to be considered as very essential, like any other developmental or community based livelihood initiatives, especially to meet socio economic and environmental objectives at the destination level.

4.6 Conceptual Framework

There are two important terms which take the research forward; theoretical framework and conceptual framework. A theoretical framework is a guideline in determining what is to be measured, and what statistical relationships should be analyzed in a research. The conceptual framework of a study embodies the specific direction by which the research will have to be undertaken.

The present study seeks to identify the institutional approach of community intervention in the ecotourism destinations of Kerala and its causal relationship with Destination Sustainability (DS) and Destination Quality (DQ). In this direction, the term institutional approach needs to

clarified as part of conceptual framework. In this direction, investigator made an enquiry and summarised it as follows:

4.6.1 Institutional Approach

Community intervention in tourism can be classified into two: organised intervention and unorganised intervention. Unorganised intervention includes the voluntary involvement of local community to provide various tourism and related services/commodities without proper guidelines or modus operandi in resource appropriation. Generally, these are practiced in two ways: (1) community member(s) involve in the appropriation of their/his own resources for meeting visitors' needs and, (2) involvement of community member(s) in appropriating common property resources, mostly owned by the state with or without permission for creating and delivering tourism and related services. If this intervention is with permission, most often such appropriation is based on local specific norms or legislation (for example Provisions of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006) or traditions. In such intervention, the main focus was given to livelihood particularly in generating income and employment among identified communities. Experience shows that tourism and related activities were given less recognition as a means of livelihood in these kinds of intervention. However, economic contribution of such intervention cannot be undermined.

In a nutshell, unorganised intervention of communities in resource appropriation may bring economic sustainability whereas other dimensions of sustainability issues may not be addressed in a proactive manner. These

other dimensions include: collective intervention of community for the holistic conservation of resources or more specifically environment management, democratic representation of all strata of the community concerned, strengthening neighborhood relations etc.

Organised intervention, on the other hand, tries to spell out all dimensions of sustainability along with economic sustainability. These include: political, socio-cultural and ecological in a holistic manner to address the multifaceted issues of society and ecology in an anthropocentric way. Organised intervention is most often initiated and institutionalized for the purpose of resource management based on well documented rules, regulations and guidelines based on the local specific norms or practices by considering the human being as the centre of the development process. These institutionalized structures identify various dimensions of the sustainability and address them in a systematic manner. In the contemporary resource management practices particularly for common property management, community based institutions are considered as the panacea for grass-root level, bottom up approach of resource management.

In ecotourism, the community is considered as an integral part of tourism activity owning many stocks of their credit including cultural and social properties, conservation and resource management strategies etc., which are considered as attractions having good market demand. In this context, the present study tried to examine this organised or institutionalized intervention of communities in ecotourism destinations of Kerala. Further, it has explored the causal relationship of such intervention on DS particularly enhancement in sustainability and DQ, more specifically improvement in quality.

The investigator had visited all the five National Parks (NP) selected by World Bank (WB) for India Eco Development (IED) programme to get an idea of community intervention in ecotourism. Observation revealed limited or curtailed involvement of the community members in almost all destinations. While investigating the major cause of this malfunctioning, it has been identified that participative level of local community was very poor due to multiple reasons including lack of awareness, low level of enthusiasm of officers in charge, irregular or uncertainty about the return, socio-cultural factors and failures on the part of implementing agency. Besides, it was also found that efforts to bring local community into the fore of tourism program has also not gained sufficient attention among the communities. A study on community intervention in ecotourism will therefore help to identify various activities as part of intervention strategy and its dimensional orientation as well as its effect on DS and DQ. Further it will help to understand:

- a) How the intervention could be made possible in tourism destinations for conservation and community wellbeing?
- b) What are the planning and management options available to local communities in ecotourism operations?
- c) Activities in which these communities are being engaged to protect natural resources and biodiversity, and
- d) The kind of activities leading to monetary benefits and contribution to local economy.

Moreover, community intervention for resource management at ecotourism should meet the sustainability requirements of the destination.

One of the success stories of the India Eco Development (IED) Programme i.e. IED at Periyar is analyzed in detail to identify how far such intervention helped to meet various parameters of sustainability, particularly conservation and livelihood options. The present study attempts to analyze these aspects of community intervention across the state and to understand the basic functions and how far it meets the DS and DQ for a better future.

The present study is the outcome of few such personal experiences gained during the period 2004-2007 related to CBE operations in Kerala, India, and it includes:

- Identification of different means and levels of community intervention in ecotourism destination management.
- Exploring the role and modus operandi of the local (destination) community in ecotourism operations.
- Identifying the contribution of the community towards various dimensions of DS, more specifically, the kind of positive changes i.e. enhancement in sustainability in economic, socio-cultural, ecological and political context that the community could bring to the destinations.
- Examining the contributions of community towards improving DQ.
- Observation on how the tourists' respond to the quality of CBE destinations.
- Observation on stakeholders response to local community interventions in ecotourism destinations.

4.6.2 Constructs of the Study

Three constructs identified for the study is explained in the following sections.

4.6.2.1 Community Intervention Strategies (CIS)

An important construct developed for the study was 'CIS'. Co-management strategies are the local level Community Based Natural Resource Management (CBNRM) framework followed in India in its PAs to meet conservation and livelihood objectives. These co-management strategies are organised by following CBNRM framework, the core of which is community participation. Ecotourism initiated in PAs of India has adopted this co-management model through Eco Development Committees (EDC) or Vana Samrakshana Samitis (VSS). So the community members are actively engaged in the production and distribution of various tourism products at these destinations. For the purpose of this study, CIS are defined as various activities and functions performed by the community members at the designated ecotourism destinations for the purpose of meeting the twin objectives of conservation and livelihood.

During the exploratory research stage as well as review of academic and other research reports, it was found that there were no such effort to study intervention strategies of destination communities in ecotourism sites in the Indian context so far. This may therefore be the first of its kind to identify factors of community intervention, which could measure destination specific sustainability with both first and second order constructs. The present study on CIS in ecotourism is conceptualized as multi level: based on expert review (opinions were sought from Forest Development Agency

(FDA) officials, range officers of Department of Forest and Wildlife (DFW) of Government of Kerala (GOK), expert opinion from tourism researchers of reputed universities in India) and Focused Group Discussion (FGD) with office bearers of Tourism Eco Development Committees (TEDCs), and accordingly, a multi dimensional construct was formed with the following dimensions:

- Commercial Intervention
- Ecodevelopment Intervention
- Governance Intervention

Operational definition of the above three constructs are given in the section 4.8.6 under the heading measurement strategy of construct.

4.6.2.2 Destination Sustainability (DS)

In the context of sustainable tourism development, indicators are information sets which are formally selected for a regular use to measure changes in resources and issues that are key for tourism development and management of a given destination. Literature suggests that indicators are widely used for measuring DS (Miller, 2001; Ko, 2005). Indicators are considered as effective means of site evaluation provided they are practical, facilitate prediction, sensitive to temporal and spatial variation and related to a valid conceptual framework (Kreuntzviser, 1993). Generally, an indicator is meant to indicate something beyond the property it expresses *prima facie* (Sirakaya, Jamal & Choi, 2001). According to OECD (1997), an indicator is an empirical interpretation of reality, not reality itself. Indicators are commonly used to present quantitative account of complex situations or process. Indicators are also used to identify something which is not

immediately visible, audible or perceived in a precise situation. A plethora of research has been done in the area of indicator development (Rossi & Gilmartin, 1980; Brown, Ward & Jansen 1994; Azar, Holmberg & Lindgren, 1996; Liverman, Hanson, Brown & Meredith, 1988). As sustainable development contain ecological, economic, social, cultural, and political dimensions at all levels i.e. international, national, regional, and community, indicators for these dimensions and levels have to be identified and applied for measuring sustainability. Application of these dimensional and level nuances are more prominent in ecotourism as the goal of ecotourism is to improve the quality of life of the host community, provide quality experience to visitors and protect natural and human environment. In practice, it tries to meet the economic, cultural, social, and political dimensions of the sustainability (McIntyre, 1993). As mentioned earlier, sustainability is always destination specific, so issues and concerns related to sustainable tourism vary from one tourism destination to another. Hence, he suggested that dimensions, indicators and data gathering methods could vary from one tourist destination to another, in order to adapt the methodology to the specific conditions of each tourist destination.

According to UNWTO (2004), there are different types of indicators, each with different utility to decision-makers:

- Early warning indicators (e.g., decline in numbers of tourists who intend to return).
- Indicators of stresses on the system (e.g., water shortages, or crime indices).
- Measures of the current state of the industry (e.g., occupancy rate, level of tourists' satisfaction).

- Measures of the impact of tourism development on the biophysical and socio-economic environments (e.g. indices of the level of deforestation, changes in consumption patterns and income levels in local communities).
- Measures of management efforts (e.g., cleanup cost of coastal contamination).
- Measures of management effect, results or performance (e.g., changed pollution levels, greater number of returning tourists).

As Thomas, Williams and Trotz (2014) has noted, indicators are considered as appropriate tools for measuring ecotourism activities leading to changes in quality of life of guest and host community. Since the present study is confined to community level intervention, indicators pertaining to measures of management effect are used with multi dimensions of enhancement sustainability applicable to community based ecotourism.

As we are aware, there are two schools of sustainability being discussed in tourism literature i.e. status quo or steady state and enhancement sustainability as a part of minimalist and comprehensive approaches of sustainability (Weaver, 2008). Enhancement sustainability propagates a more prudent approach towards resources conservation and appropriation where resources are being used for meeting the inter-generational needs and provisions are being made to recreate, regenerate and increase community contributions in resource appropriation. Maintaining the resources in the form of constant capital is considered as the aim of status quo sustainability. However, recreating and maintenance are equally important in the highly shrinking resource context. As the stock holder, community

obviously has the responsibility to take initiatives to recover the resources that are already being lost due to mass and unsustainable pattern of consumption rather than just to act as invigilators of the consumption.

According to Weaver and Lawton (1999), steady state sustainability is appropriate in a wilderness setting that has only been minimally modified by human activity. However, a highly degraded area merits an enhancement sustainability approach, or else the whole idea of sustainability will become irrelevant.

As noticed in the literature (Weaver, 2008), enhancement sustainability is mostly confined to ecological or environmental dimensions of sustainability in sustainable tourism discourses, whereas other development initiatives (like water resource management) have studied the enhancement sustainability measures. The present study attempts to identify various dimensions of enhancement sustainability variables which can be used to measure the CBE of PAs as majority of the resources of these regions are already damaged or irreparably languished due to various circumstances not necessarily because of tourism development. This is further reiterated by the recently released International Institute for Sustainable Development (IISD) Report (2015) on Global Goals and the Environment: Progress and Prospects, which highlights the progress on Millennium Development Goal, based on official indicators and data. The report stated that none of the target of Ensuring Environmental Sustainability (MDG-7) could be achieved anywhere. So it has been understood that communities concerned have the moral responsibility to take measures to revive or recover the languished resources also to improve the inter-generational equity in an anthropocentric development arena. Practically, in ecotourism, enhancement sustainability means that ecotourism

activity would result in improvements to the status quo. So it is imperative to enhance the sustainability dimensions at ecotourism destinations for the better wellbeing and conservation of resources. In this direction, it is expected that community intervention shall promote sustainability dimensions of the destinations by making improvements in the status quo.

Given below is a brief description of the sources from where the multidimensional community level indicators were sourced for the present study:

The first phase in the construction of the indicators was a review of literature related to globally acknowledged sustainable/ community based tourism indicators. Since some aspects of sustainability are used more often than others, a comparison was made between four popular sources to determine the most commonly used aspects. The sources included: (1) Guidelines for Community Based Ecotourism –Principles and Criteria for Parks of World Wide Fund for Nature (Denman, 2001), (2) Sustainable Tourism Base Line Indicators and Indicators for Parks and Ecotourism (UNWTO, 2004), (3) Evaluation Criteria for India Eco Development Programme (World Bank, 2004), and (4) most importantly, the Sustainability Indicators for Managing Community Tourism of Choi and Sirakaya (2006) were also reviewed and found more relevant to the present study as it incorporated almost all empirical dimensions of DS with 125 indicators, viz., political (32), social (28), ecological (25), economic (24), technological (3), and cultural (13).

Enhancement in tourism sustainability can be achieved through a number of specific actions. The community members work as neighborhood

groups in different human settlements in the study areas and engage in various activities to meet destination sustainability. The members of the community were engaged in various designated activities decided mutually. They identified their catchment areas and organised activities to meet the dual objectives of conservation and livelihood. The present study as mentioned earlier, is an investigation of intervention of community members and its effect on destination sustainability. In other words, how community intervention contributed towards socio economic wellbeing of destination communities without compromising the ecological integrity of the destinations, based on the destination specific indicators developed for the study. These indicators with four widely accepted dimensions were the result of various levels of brain storming exercise among stakeholders, experts and practitioners with reference to above mentioned reviews.

As discussed earlier, there are two types of sustainability widely used in tourism discourses: Status quo sustainability and enhancement sustainability. For the purpose of the present study, ‘enhancement sustainability’ (Weaver, 2008) has been considered as a base, indicators were designed and the investigation has been directed towards the positive changes occurring after the intervention of communities. So DS can be defined as the positive changes that have occurred at the destination to meet the demands of the present as well as future generations. The DS dimensions of the present study include the following:

- Economic sustainability
- Ecological sustainability

- Socio Cultural sustainability
- Political sustainability

Operational definition of the above four constructs are given in the section 4.8.6 under the heading measurement strategy of construct.

4.6.2.3 Destination Quality

In this study, the construct DQ, is the combination of various indicators developed by UNWTO (2006). This construct was defined as various aspects of DQ applicable to all forms of tourist destinations across the world. The six underlying variable of DQ proposed by UNWTO is the basis of this study. They are: Safety and Security, Hygiene, Accessibility, Transparency, Authenticity, and Harmony. The study has made an attempt to investigate the improvement in DQ due to various CIS in the ecotourism in the PAs of Kerala.

4.7 Research Design

To achieve the objectives of the study, the researcher combined qualitative and quantitative methods for data collections and analysis. In the literature, this approach is categorized as mixed-method research (Driscoll, Mansfield & Strasdas, 2007; Teddlie & Tashakkori, 2009). The rationale for applying this method, after reviewing the literature on CBE, was to ensure a more comprehensive understanding of all the variables potentially impacting CBE, particularly intervention strategies of the community in ecotourism and its role in meeting DS and DQ.

There are three types of analytical approaches widely used while conducting study based on both qualitative and quantitative methods: parallel,

sequential, and supplemental (Teddlie & Tashakkori, 2003). For this study, a mixed-methods approach was considered particularly important. Specifically, it was felt that a wholly quantitative methodology was not appropriate for this study, as it has been argued in previous studies that a purely quantitative approach “rarely captures the subtleties of the tourism experience” (McIntosh, 1998, p. 121). Moreover, studies related to community intervention in ecotourism is still in infancy and availability of literature on the related areas are also very limited. Fundamentally, the principle of sustainability especially destination-specific, warrants qualitative methodology for sustainability studies. The present study followed a sequential mixed method because one stage was conducted after the previous stage was completed (Creswell, Plano Clark, Gutmann & Hanson, 2003). Furthermore, results of stage one of this study were used to develop the measurement instrument for stage two.

The rationale for adopting sequential mixed method was justifiable on following grounds. The objective of the research was to identify certain dimensions capable of capturing the domain of intervention of communities in ecotourism management, and its affect on DS and DQ in a destination specific setting that was not explored in prior studies. It is also observed that employing mixed methods in sustainability studies could give more authenticity as sustainability is always destination specific. Moreover, quantitative phase is also considered as an important phase of this study because validation of the scale and estimation of the theoretical model requires statistical procedures. In order to give more soundness for the generalisability of the findings, it is imperative to know the sample size, randomness and related statistical considerations. Accordingly, the first stage in the study was conducted to identify and shortlist appropriate dimensions.

The study has adopted an exploratory approach for the following reasons: (1) To construct an evaluation framework using indicators to measure Community Intervention Strategies (CIS) and (2) To measure the resultant sustainability and quality changes at ecotourism destinations through indicators.

4.8 Research Process

The research process involved in this study is segmented into two: Phase one and Phase two (Table 4.1). Phase one consisted of literature review, finalization of objectives, and identification of variables and development of theory and model development. As mentioned earlier, the process of finalizing objectives was done by an exploratory research which consisted of literature reviews, experts opinion, and focused groups discussion.

Table 4.1: Research Process adopted for the study

Phase 1			
Literature Review	Identifying problems/Finalizing objectives	Preliminary study to finalize variables	Theory development
Phase 2			
Sampling Design	Questionnaire Design	Data collection	Analysis

The Research process of this study consists of exploratory and descriptive researches. Exploratory research was conducted to identify involvement of community members and its dimensions in order to define research problem precisely based on appropriate data. Researcher also tried to develop a theory to be tested. In the descriptive stage, the details regarding the

research design was finalized, and all identified causal relationships were tested. The research design adopted for this study is explained in Figure 4.1.

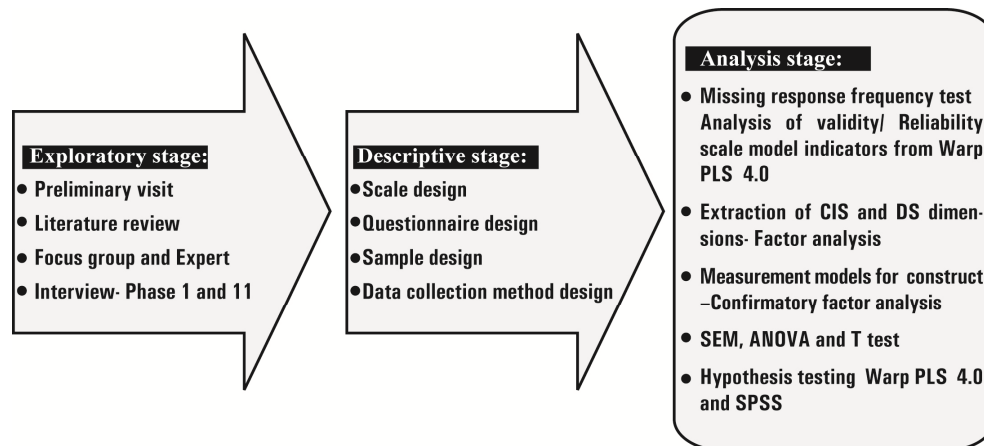


Figure 4.1: Stages in Research process

4.8.1 Qualitative Data Collection Methods

Most of the studies in CBE have used a qualitative approach with various data collection methods. Table 4.2 below shows the data collection methods applied by previous researchers on CBE and acknowledges their contributions for focus group and for expert advice. This thesis has applied a mix of focus groups and expert interviews. This methodology helped the investigator to combine and complement certain advantages and ameliorate certain disadvantages of each technique (Bryman, 2006) especially in identifying areas of community intervention in ecotourism.

Table 4.2: Qualitative data collection methods adopted in CBE

Author	Title	Data collection methods
Lo and Lee, (2010)	Motivations and Perceived Value of Volunteer Tourists from Hong Kong	Focus groups, personal interviews
Yoda, (2010)	Volunteer Tourism in Japan: its Potential in Transforming “Non-Volunteers” to Volunteers	Questionnaire, face-to-face interviews
McIntosh and Zahra, (2007)	A Cultural Encounter through Volunteer Tourism: Towards the Ideals of Sustainable Tourism?	In-depth interviews, diaries, participant observation

Multiple data collection techniques were applied in stage one: focus groups and expert in-depth interviews. The output of the stage one study was analyzed, and the results, along with the existing literature, were used to develop the stage two instrument.

Before conducting Focused Group Discussions (FGD) with Tourism Eco Development Committee (TEDC) office bearers and expert interview with officials of the Department of Forest and Wildlife (DFW), the investigator sought permission from Chief Conservator of Forest (CCF), Government of Kerala (GOK) (See Appendix VII).

The investigator has briefed about the purpose of the study to all respondents during Focused Group Discussion (FGD) as well as Expert interview. Advance permissions were also sought from various PA

authorities of the study area, and as per their convenience and availability, interviews were arranged. The objective of this study, the questions, and the respondents' roles were discussed with the respondent's prior to the commencement of the qualitative data gathering processes.

4.8.2 Stages of Exploratory Study

Stages of exploratory study conducted for the present study is summarised in Table 4.3.

Table 4.3: Stages of exploratory study

Stage	Action	Participant	Purpose
Preliminary	Initial visit	Community Members, Officials of DFW, Tourists and Stakeholders	To Identify ecotourism programmes and prospective respondents
Secondary Phase I	Focus groups	TEDC office bearers	To Identify various CIS
	Expert interviews Phase I	Officials of DFW	To Identify various CIS and its dimensions
Phase II	Expert interviews Phase II	Officials of DFW	To discuss variables and dimensions of: 1. CIS 2. DS
	Expert interviews (Academic)	Researchers and educators in (eco) tourism	To discuss and finalize variables and dimensions of: 1. CIS 2. DS 3. Stakeholders opinion on CIS in ecotourism

4.8.2.1 First Stage

A preliminary visit helped to identify the people related to ecotourism, mechanism of community intervention and officials looking after ecotourism and other stakeholders of the destinations.

Table 4.4: Details of preliminary visits made for the study

Locations	Days Spent/Period at each destinations	Purpose
<ul style="list-style-type: none"> ▪ Aralam Wildlife Sanctuary, Kannur district. 	2 days April 2008	<ul style="list-style-type: none"> ▪ Observation of ecotourism operations ▪ Identification of CIS ▪ Interaction with Tourism EDC office bearers ▪ Interaction with officials of Forest and Wild life Department
<ul style="list-style-type: none"> ▪ Silent Valley National Park and Parambikulam Tiger Reserve, Palakkad district. 	5 days May 2008	<ul style="list-style-type: none"> ▪ Observation of ecotourism operations ▪ Identification of CIS ▪ Interaction with Tourism EDC office bearers ▪ Interaction with officials of Forest and Wild life Department ▪ Interactions with tourists ▪ Identification of other stakeholders
<ul style="list-style-type: none"> ▪ Periyar Tiger Reserve, Idukki district. 	2 days May 2008	<ul style="list-style-type: none"> ▪ Interaction with TEDC office bearers ▪ Identification of CIS ▪ Interaction with officials of Forest and Wild life Department ▪ Interactions with tourists ▪ Identification of other stakeholders
<ul style="list-style-type: none"> ▪ Department of Forest and Wild life (DFW) Head quarters at Trivandrum 	2 days August 2009	<ul style="list-style-type: none"> ▪ Interview/interactions with officials of DFW
<ul style="list-style-type: none"> ▪ Directorate of Ecotourism, Govt. of Kerala 	2 days August 2009	<ul style="list-style-type: none"> ▪ Interview/interactions with officials of Thenmala Ecotourism Promotion Council (TPES). ▪ Interview with the Director of Ecotourism, Govt. of Kerala ▪ Review of promotion materials and tourist statistics and other secondary sources.

Visit also helped to tap the knowledge of those familiar with the topic of research by way of informal interviews with people involved, in order to identify the relevant dimensions to be considered for measuring

variables for the study. During the preliminary visit, the investigator could identify the prospective respondents for the study and informal interactions were done on one to one basis. These respondents included: wildlife wardens, special officer ecodevelopment, range officers of the DFW, Community (TEDC) members, tourists and other stakeholders. The details are as follows (Table 4.4).

4.8.2.2 Secondary Stage

The secondary stage of the exploratory study consisted of two phases. Phase one consisted of Focused Group Discussions (FGD) with Tourism Eco Development Committee (TEDC) office bearers and Expert interviews with officials of Department of Forest and Wild life (DFW) under Govt. of Kerala (GOK). This phase also included expert interviews with officials as well as experts from Academics.

A) Focus Group Discussions (FGD)

According to Kitzinger (1995), a focus group is beneficial to explore people's knowledge and experience and can be used to examine not only what people think but how they think and why they think that way. As a part of mixed method, the present study used focus group to increase the validity of findings. It tried to capture various intervention strategies of destination communities in ecotourism and tried to explore the depth and nuances of opinions regarding such strategies.

Initial visits during the period 2007-09 at various destinations helped to establish a good rapport with officials and TEDC office bearers and also to identify appropriate respondents under chain referral sampling method.

Most of the past presidents of TEDC were identified by following this method. Moreover, such visits helped:

- To introduce the investigator and topic of study
- To inform the kind of information to be collected
- Indicate the procedure for interview/discussion
- Seek convenient time for interview/ discussion

According to Powel and Single (1996), Kitzinger (1995) and Krueger and Casey (2009), six participants in a group is considered adequate to gather information. As the number of office bearers (present as well as former) were less in number, focus groups had to be conducted even with less number than the stipulated limit in some cases. Only three respondents at Aralam and four each at Thenmala and Wayanad were available during the study period. So they were also considered for FGD for the study.

B) In-depth interviews

An in-depth interview is an open-ended, discovery-oriented method to obtain detailed information about a topic from a stakeholder to explore in depth a respondent's point of view, experiences, feelings, and perspectives. Such interviews were conducted at initial phase of the present study with the following primary objectives:

- To narrow the focus of the research
- To identify questions to be explored through the research.
- To retrieve insights, and explore the reality from the concerned respondents, and
- To get response on one to one basis

The present study followed in-depth interviews with experts or officials of Department of Forest and Wildlife (DFW) of Government of Kerala to get quality data from skilled people.

4.8.2.3 Criteria Adopted for selecting Respondents under Qualitative Study

For identifying the respondents in phase one of the study, the following conditions were stated:

- a) Respondents (TEDC office bearers) who had responded with a lot of enthusiasm during the initial visit held during 2007-09.
- b) Respondents with 4-7 years of experience as TEDC members as well as those holding the post of president/vice president.
- c) Officials from Department of Forest and Wildlife (DFW) associated with Eco and Tribal development, not below the rank of range officer or superintendant

For phase two, only officials from DFW associated with Eco and Tribal development not below the rank of range officer or superintendant, were interviewed for their expert views to finalize the variables related to community intervention as well as DS.

4.8.2.4 Development of Qualitative Questions

A semi-structured interview outline was used in both the qualitative research methods: focus groups, and expert in-depth interviews. Each question was carefully and deliberately designed based on the methodology suggested by Thomas (2003) on the following; evaluation, context, process, prediction, and symbolism.

- a) **Evaluation:** Evaluative questions were used to explore respondents' past experience in ecotourism activities, modus operandi etc.
- b) **Context:** Respondents (TEDC office bearers and DFW staff) were asked to express their attitudes on the concept of destination sustainability.
- c) **Process:** Respondents were prompted to explain how they had been involved and how they organised the various forms of community activities from the beginning and how it helped the local communities to meet their livelihood needs. Official were asked how this community based platform helped to organise conservation programs at PAs.
- d) **Prediction:** Predictive questions were developed to explore the intention of the officials as well as TEDC office bearers expectations about ecotourism programmes and how to explore further for destination sustainability.
- e) **Symbolism:** Respondents were asked to suggest modification or changes in the present form of community intervention, what are the additional activities that can be taken up, and what are the areas where sustainability can be enhanced with respect to their regions.

4.8.2.5 Task Undertaken During Phase I

The first phase of the exploratory research of the present study consisted of Focused Group Discussion (FGD) and Expert interviews to identify variables and its dimension with regard to community intervention. The experts were also requested to note down important dimensions they

felt more sensible to capture the different facets of community intervention. Due to paucity of available literature, indicators for measuring CIS were formulated on the basis of focused group discussion, expert opinion, observation and review of various reports of Forest Development Agency (FDA). The present study followed a semi structured interview method. Semi-structured interviews are often used as the sole method of data collection for a qualitative research project and can be used to obtain data from individuals or groups (Bloom & Crabtree, 2006). Semi-structured questions allowed the respondents to express their own points of view and to describe situations, events and their experiences regarding CIS and their impacts on conservation and livelihood by ensuring tourist satisfaction in the destinations under study. As David and Sutton (2004) had pointed out, it permits the researcher to obtain more details from the participants about their own views regarding the issue under study.

A) Focus Group Discussion with Tourism EDC Office Bearers

FGD were organised at Parambikulam, Periyar, Thenmala, Aralam and Wayanad with TEDC office bearers present as well as past (see table 4.4). They were considered as reliable sources of information with regard to various managerial aspects of community intervention. They were acting as a interlocutor between community and various government departments. So it is understood that they can give more clarity about community participation and related aspects with regard to ecotourism.

All the TEDC office bearers were first timers in FGD. It helped to get some spontaneous but genuine information to the investigator. They were seemingly least concerned about the outcome of their expressions. This

might be on the basis of assurance given by the investigator that the outcome of the discussions will be used only for academic purpose. Translators were used for FGD at Periyar and Parambikulam to get the information from Tamil speaking office bearers.

- 1) **Location and Time:** FGD locations were near to the interpretation centres /assembling points and were held mostly in early mornings and late evenings before or after their routine work.
- 2) **Methodology:** Face to face meeting where the investigator could assess the body language/gestures which support or oppose the response from fellow members also, to get participant's undivided attention were used.
- 3) **Focus Group Guide:** Focus Group facilitation/content guide was prepared with open ended questions which could provide in-depth responses. The following questions were asked: How were the local communities involved and what were various intervention strategies in practice, how it helped the development of the destination and livelihood, and how it was beneficial to the tourists. Each major question was again subdivided and put before the group to get its various facets/ dimensions and to identify the thrust area where the community is interested in ecotourism operations.
- 4) **Process:** The investigator welcomed each group (at different locations and occasions as per the schedule determined) and introduced himself and purpose of the visit, study objectives and process of discussion. Then chance was given to each of the participant to introduce themselves including their contribution to ecotourism and TEDC. The

investigator then asked a few simple “icebreaker” questions to help participants to get used to the process, to help reduce any anxiety and thereby develop a rapport with the group. Second part of the session included a detailed discussion based on the content guide on the various questions and related and relevant issues, and ensured that all topics relevant to the study were covered. (A few sub-questions relating to the benefits of ecotourism were added, like participating in the exhibitions, on the basis of inputs from the participants and were explored further). Participants were encouraged to express agreements and disagreements with one another about the topics. The investigator tried to explore participants’ thinking and attitudes rather than sitting as a passive listener across discussions. The investigator also sought opinions from all participants, irrespective of their political association and ideological differences. Note taker took all the responses in a note book. The translator also helped to do the same. Separate such records were maintained for each study locations.

- 5) **Duration and Number of participants:** The duration of each session varied, from 60 to 90 minutes. 26 members participated across all five PAs under the study (see Table 4.5). After reviewing the focus group transcripts, the researcher assessed that there was potential unexplored information evident during the focus groups. The FGD were completed during the period May-December 2011.

B) Expert interview with Officials

Expert interviews with Officials were organised during the same period of FGD with TEDC office bearer. This method was introduced especially to examine more deeply certain topics that remained unexplored in the focus groups and also where TEDC office bearers are not able to give a concrete view.

Experts consisted of 30 officials of DFW with the eligibility criteria as mentioned earlier and they were interviewed. Employees of DFW in the respective forest ranges acting as the secretaries of TEDC were also included.

Process: An in-depth interview guide was prepared with open ended questions which could provide in-depth response. The following questions were asked: What role does the DFW play with regard to ecotourism in the respective destination? How is community participation ensured in ecotourism sites? and What are their major intervention areas?. Questions on the role of TEDC in community participation and operationalisation, how destination community participation is being ensured, how it helps the development of the destination, conservation and livelihood, and how it is beneficial to the tourists were also included. Each major question was again subdivided and put before each official to get its various facets/ dimensions. Finally, they were asked for their comments and suggestions about the research topic.

Based on the FGD and Expert interview, the study could produce an elaborative list of appropriate indicators for measuring Community Intervention Strategies (CIS) in the context of CBE (See Appendix IV-1).

Table 4.5: Respondents for the Exploratory study Phase I & II

Expert interview respondents		Focused Group respondents	
Officials	No. of People Interviewed	EDC Presidents/ Vice Presidents (Past as well as Present)	No. of People participating
Office of the DFW HQ Trivandrum (Senior officials)*	02	TEDC Presidents/ Vice Presidents - Parambikulam Tiger Reserve##	08 (05)
Directorate of Ecotourism, GOK (Director and Staff) Trivandrum*	02	TEDC Presidents/Vice Presidents - Periyar Tiger Reserve##	07 (04)
Office of the Wildlife Warden** Parambikulam Tiger Reserve (Wildlife warden and staff)	08	TEDC President/Vice President-Senduruny Wildlife Sanctuary (Thenmala)##	04 (01)
Office of Thenmala Ecotourism** project (Officials) Thenmala	04	TEDC President/ Vice President-Wayanad Wildlife Sanctuary (Muthanga Range) ##	04 (01)
Office of Senduruny Wildlife Sanctuary** (Senior Forest Guards)	03	President/ Vice President -Aralam Wildlife Sanctuary##	03 (01)
Office of the Tribal and Eco development, Periyar Tiger Reserve** (Tribal and Eco development Officer and staff)	02		
Office of the Wayanad Wildlife Sanctuary** (Assistant Wildlife Warden, Range officer, Superintendent and staff)	04		
Office of the Wildlife Warden Aralam Wildlife Sanctuary** (Wildlife warden and Staff)	03		
Officials of Silent valley National Park (Staff)*	02		
Total	30		26

** Interviewed and expert advice sought in phase one and two

Initial Visit and Focused Group Discussion

* Interviewed during preliminary visit

Initial visit only. In parenthesis No. of TEDC

4.8.2.6 Task Undertaken During Phase II

In continuation to the first FGD, a review of the results or responses from TEDC office bearers during the period May-December 2011 was done. The second phase of expert interviews of 24 officials from five ecotourism destinations (Thenmala ecotourism is a part of Senduruny Wildlife Sanctuary), except Silent Valley National Park (SVNP), were held during the period May, 2011. Officials were interviewed in their chambers. The second phase consisted of two reviews: an initial review and confirmation by officials of DFW and final confirmation by academic experts. A structured interview method was followed along with their own observations as well as the review of various reports of FDA. Based on the interviews of experts, as well from the outcome of FGD with TEDC office bearers, the investigator could identify a number of variables and their dimensions for CIS.

The literature review produced an elaborative list of appropriate indicators for measuring Destination Sustainability (DS) in the context of CBE (See Appendix IV-2). The list of DS variables thus obtained was given to the experts i.e. Range officers, ecotourism researchers and were requested to mark the indicators that they felt important to their destination's sustainability, particularly enhancement sustainability.

A) Expert interview with Officials

By now, they all were aware about the purpose of the study and cooperated accordingly. Respondents were advised to put a tick mark on the variables pertinent to their destinations in both category: CIS as well as enhancement in DS. The interviews ran from 45 to 90 minutes for each interviewee. Interviews were held in their chambers only. Twenty seven

variables relating to CIS were presented before 24 officials from five PAs (Thenmala or Senduruny, Periyar, Parambikulam, Wayanad and Aralam). It may be noted that the dimensions identified by the investigator with regard to CIS had been informally discussed with the officials during the interviews. They had identified a few redundant variables and suggested to remove them for a comprehensive view of community intervention across the states. A few items were reworded to get a holistic view and thus 18 variables were finalized for CIS.

As far as DS variables are concerned they had difference of opinion about its prevalence in their respective region. Officials from Wayanad, Aralam and Thenmala stated that most of the sustainability variables were difficult to be met and were not present in their locations. Expert responses from Parambikulam and Periyar were also not able to confirm a few variables, particularly in the enhancement sustainability context. Finally, after the removal of a few redundant variables identified by experts and rewording of few to get a holistic view, the study finalized 16 variables for DS.

B) Expert interview with Academics

After the verification from the officials of DFW, the details of the research design were presented before academic experts in (eco) tourism from reputed organisations and universities for review. Eight experts were consulted in person and/ or by mail. They confirmed the variables with minor modification in the wordings. The investigator then discussed about the identified dimension of CIS like Governance Intervention (GI), Commercial Intervention (CI) and Ecodevelopment Intervention (EI) with the experts.

They also agreed on the same dimensions and suggested to go for an Exploratory Factor Analysis (EFA) during descriptive research process. Finally 18 and 16 variables for CIS and DS respectively were finalized.

4.8.3 Qualitative Data Analysis Method

The present study identified 18 variables related to the construct CIS through focus group discussions as well as expert interviews and were categorized according to the nature of activities like governance, commercial and eco development. In addition, 16 variables pertaining to DS construct were finalized after expert opinion. Four dimensions such as economic, socio-cultural, ecological and political were also finalized for the study.

Another important construct under the study was DQ. DQ indicators of UNWTO was adopted in to for the this purpose. The same indicators were used for ascertaining the perspective of community members as well as tourists on DQ. Perspective of stakeholders on CIS were also framed on the basis of responses from tour operators/managers conducting tours to four ecotourism destinations under study. The results of exploratory stage could finalize the dimensions required for the study. The results of the preliminary study (See Appendix VI) helped to finalize the relevant constructs and their measurements.

4.8.3.1 Reliability and Validity of Qualitative Measurement

In order to assess the reliability and validity of the qualitative part of the present study, the Trochim (2006) criteria has been adopted. These are credibility, transferability, dependability and conformability. Credibility and transferability corresponds to internal and external validity of the quantitative

research. Creditability seek to ensure that their study measures or tests what is actually intended. Lincoln and Guba (1985) argue that ensuring credibility is one of most important factors in establishing trustworthiness.

In this direction, as Shenton (2004) has pointed the first attempt is to assess the adoption of the research methods selected for the concepts. For this study, firstly, the objective was to identify the CIS in the ecotourism sites, for which the methods of FGD and Expert Interview were adopted. The second point for measuring creditability is the selection of respondents. All respondents were finalized based on certain specified criteria (spatial representation of community members were ensured) to avoid the researcher's bias of selecting only certain types of participants who are easily accessible (Shenton, 2004). Third point is triangulation, which means employing two different methods for data collection like FGD and Interviews with officials of DFW for getting more information about CIS (Shenton, 2004). In this context, informal conversations with various stakeholders, secondary data and information gained from DFW and people living outside the Protected Areas (PAs) were used. Thus, the usage of multiple sources for data collection increases the creditability of this research. Fourth point is that the respondents who were really interested to participate in the data collection were only included (Shenton, 2004). Development of an early familiarity with the culture of participants before the first data collection is one of the method of ensuring credibility. In this study, investigator verified various documents of DFW and conducted preliminary visits to all those destinations under study for gaining proper understanding and trust (Shenton, 2004).

Transferability in qualitative research is the process of applying the result of research in one situation to another. Even if the fundamental purpose of qualitative research is not to replicate to other situations or populations, the transferability is still considered as an important criteria of validity. Instead of the researcher himself doing it, the reader of the study evaluates the transferability with the help of the background information provided by the researcher. For this, information on the scales of the study, the number of groups or persons taking part in the study, the geographical location, the data collection methods, the number and length of the data collection sessions and the time period over which the study was conducted are to be included (Shenton, 2004). The outcome of the present study can be replicated particularly in PA based ecotourism as the settings are almost the same.

Dependability in qualitative research corresponds to the concept of reliability in quantitative research, where the consistency were measured (Trochim, 2006). Due to the inherent nature of flexibility, reliability cannot be applied in toto. So the process has to be repeated to gain similar results (Shenton, 2004). In this study, the methodology and approach used by the researcher may give a consistent result for other researchers.

Lastly, the conformability refers to the degree to which the findings can be verified by others or the measure of objectivity of the study (Trochim, 2006). The conformability aims to measure the genuineness of the respondents. As mentioned above, here the application of triangulation could help to reduce the effect of researcher's bias. Moreover, no preliminary theories relating to the study were available, so the chances of possible bias can also be ruled out. .

4.8.4 Descriptive Stage

The second stage of the present study is the descriptive research. According to Ethridge (2004), in descriptive research issues and problems are analysed through data collection to describe the situations more effectively. In this study, descriptive study was planned on the basis of primary knowledge of the subject matter obtained from the exploratory study. For the purpose of this study, a cross-sectional study was considered as the appropriate technique. As Jick (1983) has suggested, survey is also one of the major method of data collection used in descriptive research that contribute to a greater confidence in the generalisability of the results of the study.

4.8.5 Scale Development Process

Developing a scale to measure CIS, enhancement in DS, improvement in DQ was difficult because every case is unique due to locations, situations, operational diversity and diversified perception of the individual, culture and visitors characteristics as revealed from the literature review. Hence, an attempt was made to develop a scale for CIS and DS. More importantly, all the scale developed for the study were destination specific. The scale development developed was based on Churchill's (1979) guidelines, and content validity was ensured on the basis of C-OAR-SE procedure (Rossiter, 2002).

A 5-point Likert agreement scale was designed to understand CIS, (enhancement in) DS and (improvement in) DQ, Stakeholders opinion towards CIS in ecotourism and tourists opinion on DQ.

The present study tried to incorporate widely used indicators to develop scales for constructs particularly (enhancement in) DS and (improvement in)

DQ. Due to paucity of literature on CIS as mentioned earlier, the author attempted to develop a scale with the support of qualitative means like FGD and Expert interview. For developing a scale for opinions of other stakeholders’ on CIS, Expert interview was adopted. As mentioned earlier, tourists’ opinion on DQ was based on UNWTO parameters. The amalgamated scale development procedure adopted in this study is shown in Figure 4.2.

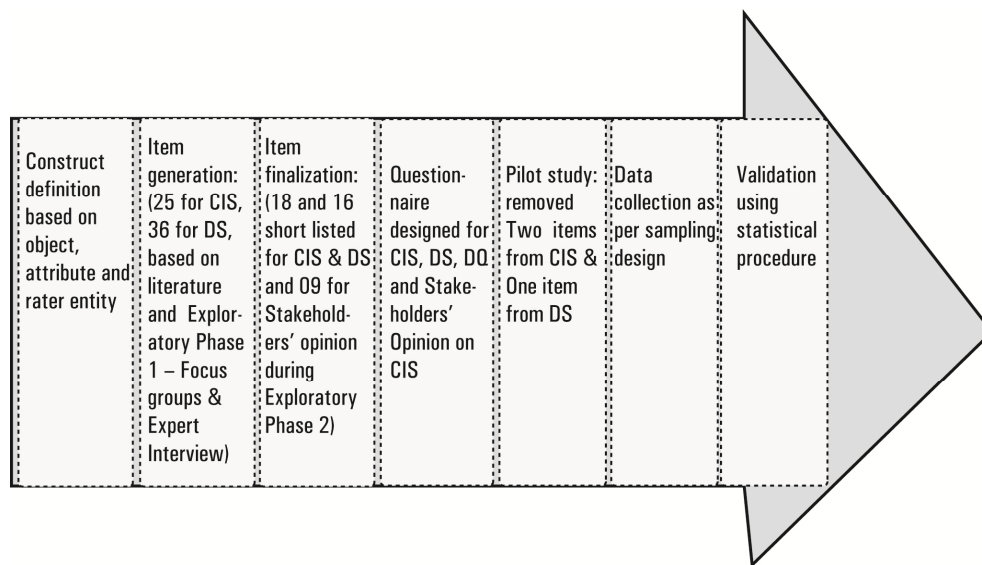


Figure 4.2: Scale development process

4.8.6 Measurement Strategy of Constructs

The first step in developing a conceptual model linking CIS, DS and DQ was to identify the variables having significant relation in the analysis of the relationship. The preliminary study produced an elaborate list of appropriate indicators from community members point of view on the same as well as tourists on DQ and stakeholders on CIS. The analysis and results gave insights into the nature and structure of various constructs to be developed for the study. The ‘CIS’ and ‘DS’ constructs were conceived as

second order constructs and the corresponding first order constructs are explained below. Each of these constructs were explained with theoretical considerations to develop a conceptual framework. Figure 4.3 indicates the measurement strategy adopted for the study.

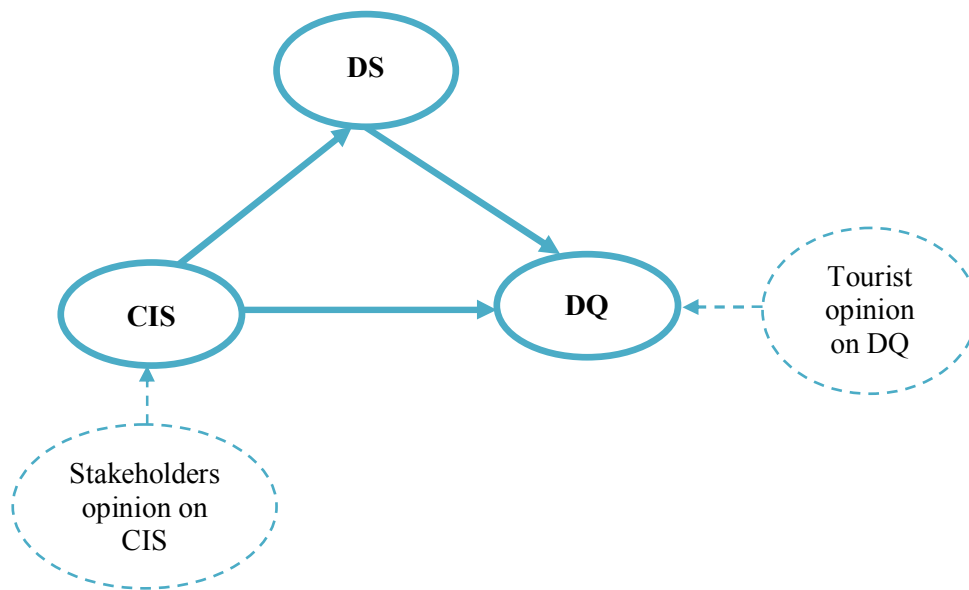


Figure 4.3: Measurement strategy of the construct

4.8.6.1 Community Intervention Strategies (CIS)

The construct of CIS was conceptualized as a multi dimensional construct explaining different areas of community intervention traced from FGD, EI and observation. As identified during the exploratory stage, the indicators used to measure each of the sub dimensions of CIS are Commercial Intervention (CI), Governance Intervention (GI) and Ecodevelopment Intervention (EI). The construct of CIS was also measured as a multidimensional hierarchical construct with both first order and second order in the formative manner. The first order formative dimensions were CI, GI and EI as explained above, which together constitute CIS.

Thus CIS was developed as a multilevel, multi-dimensional construct formed from the following minor constructs.

- 1) **Commercial Intervention (CI):** Commercial Intervention consists of both waged, self employment as well as other income generating activities to improve the economic conditions of the destination communities. These include: production of local products (commodities) like food, handicrafts etc., and for tourists requirements, development and organisation of various tourism activities like trekking, bird watching etc. It also include various promotional activities for the product as well as destination, exploring various entrepreneurial options at the destination like home stay, restaurants etc., and diversification of products like monsoon tourism, agri-tourism etc., for meeting seasonality and attracting new customers.
- 2) **Governance Intervention (GI):** Governance Interventions are the acts of the community by using its power and authority to appropriate destination resources to organise tourism related services for maintaining social integrity and wellbeing of the community. These are: democratic selection of the community members for tourism operations through TEDCs, undertaking capacity building programmes to strengthen their skills and establishing linkage with other sectors like agriculture, spice cultivation etc. Other variables are acting as an intermediary between various organisations like government departments and nongovernmental organisations (NGOs), organising awareness programmes for both visitors and members, ensuring equity or standardized benefit sharing mechanism among members, providing support to community work like

providing welfare measures, and acting as consultant/advisor for matters relating to local specific issues.

- 3) Ecodevelopment Intervention (EI): Ecodevelopment Intervention consists of a series of activities to protect the ecological integrity of the destinations. These include: engaging community members as watchers or guards, participating in environmental reporting, engaging the community in various resource protection measures like 3Rs, measures against resource degradation etc., direct financial support for conservation, and involvement of community members as guides and interpreters.

CIS was assumed as a second order construct formed by these first order latent variables. To measure these latent constructs (formative/reflective) with indicators as shown below (See Table 4.6) were used:

Table 4.6: Lists of first order constructs and its corresponding variables

Construct	Indicator variables
Governance Intervention (GI)	Democratic Selection, Capacity building, Linkage with other sectors, Consultant, Awareness programmes, Benefit sharing, Support to community work, and Intermediary
Commercial Intervention (CI)	Production of local products, Tourism activities, Promotional activities, Enterprise development, and Product diversification
Ecodevelopment Intervention (EI)	Engage as Watchers, Environmental reporting, Resource protection, Financial support, and Eco guiding

Stakeholders' opinion on CIS: According to Timothy and White (1999) community linkage with other stakeholders of the destination is inevitable for the successful operation of CBE. As a major stakeholder of ecotourism,

community's interventions shall also to be ratified by other stakeholders as their involvement is expected to make some implication on them also. The present study identified a few stakeholders in and around the destinations to understand the CIS practiced in ecotourism destinations. These stakeholders included VSS members i.e. habitants located outside of the PA, hospitality establishments, i.e. hotels and home stays, transport operators i. e operating services to destinations from the nearest pickup points and Shopkeepers at the study area. Stakeholders' opinion on CIS can be identified as the opinion of VSS members, vendors/Shopkeepers, transport operators, and hospitality service providers on identified variables of CIS at the ecotourism destinations under study. As mentioned, these indicators were formed through Expert interview. The study tried to identify the opinions of various stakeholders at the destination regarding important areas of community intervention through nine items viz., Democratic procedure, Capacity building programmes, Eco-guiding and interpretation, Integration of tourism with other sectors, Conservation activities, Education and awareness programmes, Diversification of products, Promotional activities, and Intermediary.

4.8.6.2 Destination Sustainability (DS)

Another main construct in this study was Destination Sustainability (DS) of Community Based Ecotourism (CBE) destinations in the state of Kerala. Preliminary study conducted as part of the research evaluated an elaborate list of dimensions with indicators considered in the previous studies relating to sustainability indicators for CBE. An attempt was made to shortlist these dimensions based on theoretical grounds with the help of an expert panel, to represent the domain of destination specific sustainability indicators.

As mentioned earlier, only enhancement sustainability (Weaver, 2008) has been considered as the primary objective of grass-root level intervention to enhance conservation and livelihood means of the destination as well as the community. Indicators developed by Choi and Sirakaya, (2006) for Community Based Tourism (CBT) has been considered for the present study with five dimensions viz., Economic, Ecological, Socio-Cultural, Political and Technological. Of these, Technological dimension was found to be irrelevant in the context of CBE operated in the PAs of India as the said communities were ignorant and unable to take-up such initiatives due to various inherent reasons like illiteracy, lack of orientation etc. Further, such responsibilities were not transferred to the communities by the state owned PA authorities. However, the expert panel suggested to consider social and cultural dimensions together as most of the indicators included in these dimensions were seemingly related in the context of PAs of Kerala. Hence, in order to get valid response for the study, the suggestions from the expert panel has been entertained for the study. These four dimensions namely, economic, ecological, socio-cultural, and political were considered as various first order constructs which are expected to contribute to an enhancement in DS.

- 1) **Economic Sustainability (ECS):** Economic Sustainability refers to the improvements and changes that occurred at ecotourism destinations due to communitys' involvement by engaging them in various income generating activities. It consists of increase in employment opportunities, reduced income leakages, improved bargaining power, meeting seasonality, changes in thrift and savings and improved entrepreneurial development.

- 2) **Socio-Cultural Sustainability (SCS):** This refers to the improvement in socio-cultural life of the community due to the community's effort to maintain social harmony and strengthening social relation between them. Improvements or positive changes in social life includes reduced antisocial elements, enhanced participation of women and indigenous communities, reduced migration, improvements in skill level and public utility infrastructure. In the cultural sphere, reintroduction of cultural properties and ushering more venues, increased awareness level on the values of cultural properties and improved maintenance are the indicators of sustainability.
- 3) **Ecological Sustainability (EGS):** The present study has defined ecological sustainability as the ability of the destination to maintain its ecosystem with resilience while exploring it for tourism activities. In other words, it refers to the positive changes in ecological conservation efforts and the maintenance of ecological resources of the destination due to community's intervention. These include improvements in natural resource conservation efforts, reduced pollution, increased number of environmentally managed sites, reduced poaching and illicit activities, enhanced awareness on environment and direct participation of environment impact assessment activities. It also includes adoption of low impact technologies and financial support for conservation by communities.
- 4) **Political Sustainability (POS):** Political sustainability is being defined for the study as the positive changes in intervention of community in decision making process for resource appropriation. Rather than becoming a mere beneficiary through tokenism, the community

performs advisory role as well as a participant role in resource appropriation matters affecting their lives in a democratic way. The study has identified important indicators which could ensure such changes among destination communities. These include transparency in selection of community members and decision making process and benefit sharing, increased attendance of the community in meetings, enhanced decision making ability, advisory role of the community, improved linkages with related institution/organisations and downward shift in decision making process.

The most popular concept regarding measurement of latent variables considered in the study was the usage of reflective indicators, assuming that changes in the latent variables are reflected (i.e. manifested) in the observable indicators (Mill & Morrison, 2002). However, in many cases, the latent variables are formed by the joint influence of indicators (Jarvis, MacKenzie & Podsakoff, 2003). Automatic acceptance of reflective indicators (Diamantopoulos & Winklhofer, 2001) for specifying measurement models, consequently ending up with misspecification (Jarvis et al., 2003) was avoided in this study by defining the construct correctly on theoretical strength and by selecting indicators capable of measuring the constructs in the best manner as either formative or reflective. In this study, both CIS as well as DS were conceptualized as second order constructs formed from three and four first order (latent) dimensions mentioned above. In order to confirm CIS as second order formative construct (as the theoretical support was minimal to construe as formative variable), analysis has also been done by considering its first order construct as both formative as well as reflective. The first order latent dimensions were measured using reflective manifested

indicators capable of capturing the domain of interest related to the corresponding construct. Accordingly, CIS with 16 item and DS with 15-item instruments were developed for measuring the latent dimensions (See Appendix VI). Subsequently, factor analysis was done to re-confirm the existence of three and four distinct factors.

4.8.6.3 Destination Quality (DQ)

The present study define destination quality based on UNWTO indicators. There indicators are safety and security, hygiene, accessibility, transparency, authenticity and human environment harmony (Mohammed, 2006). Accordingly, destination quality can be defined as the improvement or positive change in safety and security, hygiene, accessibility, transparency, authenticity and human environment harmony of the destination. In the literature, these indicators are the reflection of the underlying variables DQ. Accordingly, destination quality construct was construed with reflective indicators for measurement.

Tourist's opinion on DQ: The study has made an attempt to investigate the improvement in DQ due to various CIS in ecotourism in the PAs of Kerala. As study on community intervention and its contributions in improving DQ require ratification from both demand and supply side, the responses of community members alone may not be sufficient to reach a valid conclusion about the improvement in DQ. So the present study sought responses from demand side also. For this purpose the present study categorized tourists into two segments to get a clarity of opinion on improvement if any, in the quality of the destination in the study area:

- New Visitors (NV): Tourists who visited other ecotourism sites not having institutionalized intervention of destination communities
- Repeated Visitors (RV): Tourists who visited the same site before 2006 as most of the community intervention framework under study were operationalised after 2006.

It may be noted that ecotourism operations and community involvement at Periyar and Thenmala were operationalised before 2002. But these projects became popular only after 2005 and subsequently only included more local community members for tourism related operations, and introduced various ecotourism activities.

Thus, the tourist opinion on DQ may be identified as the opinion of the tourist about the improvement in quality of destinations based on UNWTO indicators.

4.8.7 Concept Mapping

According to Novak & Gowin (1984), concept mapping is a visual display of design or operation of the study. It helps to develop theory and make the theory more explicit. In the present study, the researcher has tried to identify the various CIS at ecotourism destinations of Kerala and their causal effect on DS, specifically enhancement sustainability based on destination specific indicators. The study further investigated the effect of CIS on DQ also.

The model developed for the study is given in Figure 4.4 and 4.5. 'R' denotes constructs conceptualized in the reflective manner, and 'F' denotes constructs conceptualized in the formative manner. The constructs of

GI,CI,EI, ECS,EGS,SCS POS and DQ were defined as reflective constructs, and the constructs of CIS and DS were defined in the formative manner in this study. The constructs of CIS and DS were developed as multilevel, hierarchical formative constructs with first order dimensions as illustrated. The direction of the arrows represents the causality assumed among constructs. Each path between constructs in the research model was conceptualized as hypotheses to be tested in this study.

A. Research Model

The research model (See Figure 4.4) indicate that CIS of ecotourism destinations may cause in enhancing DS and it may also cause in improving DQ. And it is also stated that there is a relationship between DQ and DS in the context of ecotourism. These relationship occurs in two ways: enhancement of DS may occur as a result of improvement in DQ, and an improvement in DQ occurs as result of enhancement in DS. The research model shows that an enhancement of DS may occur as a result of improvement in DQ.

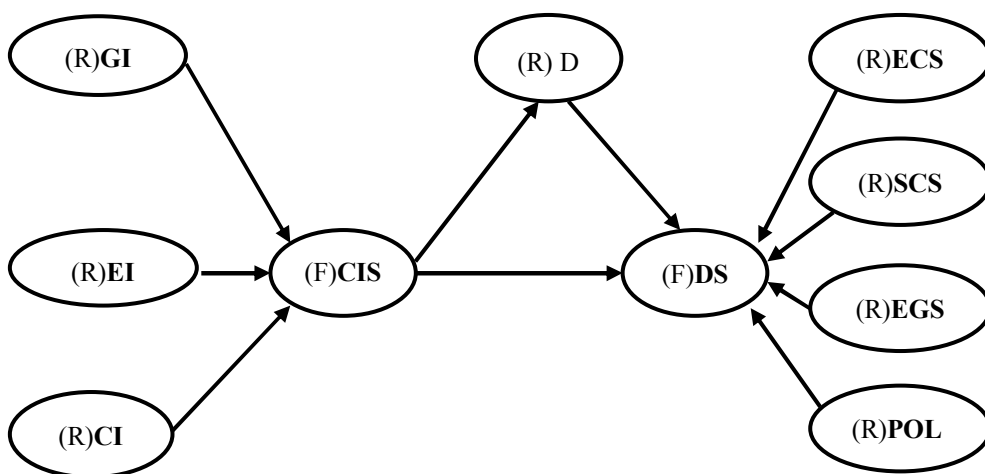


Figure 4.4: Research model developed for the study

B. Reverse Model

The reverse model (See Figure 4.5) indicate that there is a reciprocal relationship between DS and DQ. The rationale of drawing a reverse model is that variables like ‘safety and security’ is found in both DS as well as DQ. Moreover, contextual examination also shows that certain activities leading to enhancement in DS may also helps to improve DQ. For example, ‘capacity building programme’ among community helps to improve quality as well as sustainability of the destinations. In other words, improvement in DQ may also occur as result of enhancement in DS.

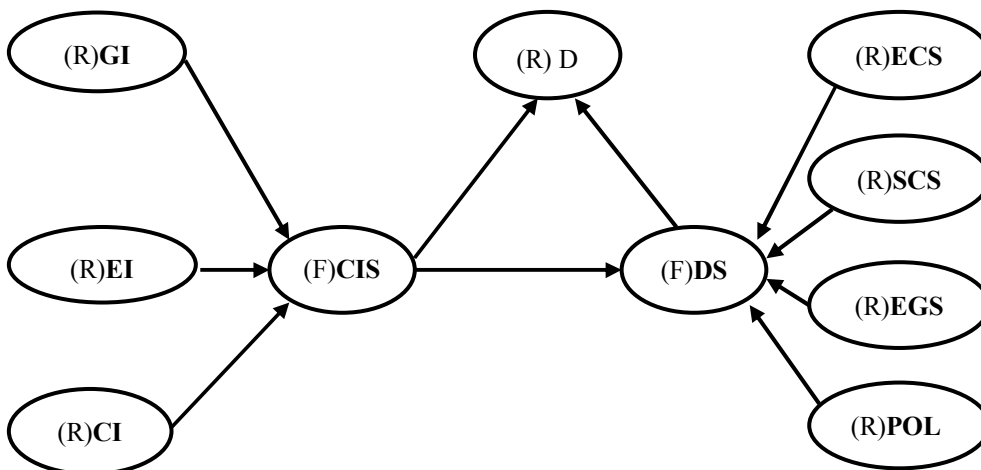


Figure 4.5: Reverse Model developed for the study

GI: Governance Intervention

EI: Ecodevelopment Intervention

CI: Commercial Intervention

DQ: Destination Quality

CIS: Community Intervention Strategies

ECS: Economic sustainability

SCS: Socio-Cultural sustainability

EGS: Ecological sustainability

POS: Political sustainability

DS: Destination Sustainability

4.8.8 Hypothesis Development

Hypotheses developed for this study were derived from the understanding based on the literature review, observation and expert opinion.

In order to identify the community's role in ecotourism, a sound measure of their intervention strategies was necessary. This will help in scientific evaluation and act as a basis of various measures of improvement/remedial measures if necessary. The present study attempted to develop a CIS scale specifically for PA based ecotourism in the context of Kerala. In this study, responses pertaining to 16 indicators covering three dimensions finalized were subjected to EFA, which was followed by Confirmatory Factor Analysis (CFA) for being included in the measurement of CIS. The three finalized dimensions were: Governance, Ecodevelopment and Commercial. In this study, an attempt is made to verify the significance of these dimensions to CIS in the ecotourism context. Hence the following Hypotheses were proposed:

- H1(a) - There exists a significant relationship between Governance Intervention dimension and Community Intervention Strategies in the ecotourism context.
- H1(b) - There exists a significant relationship between Ecodevelopment Intervention dimension and Community Intervention Strategies in the ecotourism context.
- H1(c) - There exists a significant relationship between Commercial Intervention dimension and Community Intervention Strategies in the ecotourism context.

In order to identify the sustainability in ecotourism destinations, a sound measure of DS was necessary. This would help in the pragmatic assessment and evaluation of the existence of sustainability in the selected destinations under study. This may be an indication for further decision making like suggesting various measures for improvement if any, at the destinations. This study attempted to develop a destination specific scale for PA based ecotourism for measuring sustainability in the context of Kerala. There were a large number of studies indicating various dimensions of community based (eco) tourism which had framed indicators for measuring the same. Among this, as mentioned earlier, the contribution of Choi and Sirakaya (2006) in identifying six dimensions of sustainability for community based tourism was especially viable. They had attempted to develop 125 sustainable tourism indicators with political, social, ecological, economic, technological, and cultural dimensions for CBT at the local and regional level. According to Kevin (2011), there are two types of indicators for measuring destination sustainability: (a) General indicators which include a few common base line criteria applicable to tourism destinations/venture, and (b) Destination/local specific indicators. Redclift (2000) on the other hand, asserted that environmental, social and economic sustainability are the three dimensions of sustainable ecotourism while Jitpakdee and Thapa (2012) investigated the sustainability of ecotourism based on nine indicators covering environmental, economic and socio-cultural dimensions. In this study, responses pertaining to 15 indicators covering various dimensions were finalized and were subjected to EFA followed by CFA in the measurement of DS. The four finalized dimensions were: Economic, Ecological, Socio-Cultural and Political. As the study

aimed to verify the significance of these dimensions to DS in the ecotourism context, the following Hypotheses were proposed:

H2(a) - There exists a significant relationship between Economic Sustainability dimension and Destination Sustainability in the ecotourism context.

H2(b) - There exists a significant relationship between Ecological Sustainability dimension and Destination Sustainability in the ecotourism context.

H2(c) - There exists a significant relationship between Socio-Cultural Sustainability dimension and Destination Sustainability in the ecotourism context.

H2(d) - There exists a significant relationship between Political Sustainability dimension and Destination Sustainability in the ecotourism context.

Review of literature had shown that linkage between CIS and DS were not directly identified in the context of ecotourism. However, a number of studies (Wearing, McDonald & Pointing, 2005; Holden & Mason, 2005; Li, 2006) have shown that community based organisations were in practice trying to meet the different dimensions of sustainability in the context of ecotourism, particularly, government community initiatives. The present study aimed to verify the relationship between CIS and DS in the ecotourism context. Hence the following hypothesis was proposed.

H3 - There exists a significant relationship between Community Intervention Strategies and Destination Sustainability in the ecotourism context.

As noted earlier, UNWTO and Secretariat of the Ramsar Convention on Wetlands (2012) linked destination community to Destination Quality (DQ) and reiterated the role of community in maintaining quality across destinations. It also called for better community linkages to improve the quality of visitor experiences. Vajčnerova and Ryglova (2012) also revealed that the visitors' satisfaction within a destination depends on the quality of their overall experience as a result of actions of all stakeholders including local community. Studies related to community based tourism (Hiwasaki, 2006; Jennings et al., 2009) stated that conservation and livelihood linked development initiatives through tourism with community support paved the way for quality destinations and helps to improve the visitors experience. Various conservation initiatives through community support make the destination more attractive and reduces the intensity of negative impacts of tourism operations. Economic benefit under tourism helps to improve overall standard of living as well as to create a harmonious environment between man and the environment. In this way, the integrity or endemism of the destination is being maintained which improves the authenticity of the destination leading to better visitor experience. Portugal and Babo (2014) stated that regularity in community intervention helps to maintain the quality of cultural sites as well as the quality of the services offered to the visitors. They also pointed out that quality variables such as safety and security, comfort and accessibility, clean and hygienic environment etc., may act as indispensable components of long term sustainability of the destination. In this context, the present study aimed to verify the relationship

between CIS and DQ in the ecotourism context. Hence the following hypothesis was proposed:

H4 - There exists a significant relationship between Community Intervention Strategies and Destination Quality in the ecotourism context.

Many discourses on the relationship between DS and DQ were found in the tourism literature. Mohammed (2006) has clearly stated, quality and sustainability are interlinked and it is the face of sustainability. Research studies of McKercher and Tse (2012), and Chi, (2012) showed that sustainability of the destination is the result of various quality parameters particularly economic sustainability. They concluded that economic sustainability can be ensured through the availability of quality destinations through various Future Behavioral Intentions (BFI) like revisit intentions and word of mouth referrals. Sustainability depends on the quality of the specific tourism activities at the destinations (UNWTO, 2006). As mentioned, UNWTO in its Guide for Local Authorities on Developing Sustainable Tourism, also reiterated that Maintaining the sustainability of tourism requires managing environmental and socio-economic impacts, establishing environmental indicators and maintaining the quality of the tourism products and tourist markets (UNWTO, 1998). Similarly, Tigu and Tuclea (2008) attempted to understand DQ and DS in detail and tried to check whether quality affects the DS in the context of coastal destinations. The study maintained that quality tourism can contribute to sustainable development of the destinations by improving the competitiveness of businesses, meeting social needs and preserving the cultural and natural environment. These reviews show that there exists a positive relationship in the tourism context in that quality often act as an independent variable or

predictor for sustainability. The present study therefore attempted to verify the relationship between DQ and its relationship with DS in the context of ecotourism. Hence the following hypothesis was proposed:

H5 - There is a significant relationship between Destination Sustainability and Destination Quality in the ecotourism context.

While examining various indicators of the constructs under study, it was also found that certain parameters of DS and DQ are complementing each other. For example, 'safety and security' related variable is found in these two constructs. Moreover, certain intervention strategies of community also contribute towards enhancement in sustainability and also helps to improve destination quality. For instance, capacity building initiatives aimed to improve quality as well as sustainability of the destinations. The indicator variable 'harmony' of destination quality call for a co-existence of human and natural environment. This is in anticipation of strengthening destination sustainability. By analyzing these interconnectedness, it can be inferred that there is a Reverse' causality exists between sustainability and quality. Reverse causality refers either to a direction of cause-and-effect contrary to a common presumption, or to a two-way causal relationship. The present study attempted to verify the reverse relationship between DQ and DS within the context of ecotourism. Hence the following reverse causal hypotheses was proposed:

H6 - There is a significant reverse relationship between Destination Quality and Destination Sustainability in the ecotourism context.

After testing the causal relationship between community intervention and DQ, the study further attempted to ratify the existence of quality

variables from the tourists visiting those destinations. For this purpose, the study identified two sets of tourists; Repeated Visitors (RV) and New Visitors (NV), to the destinations and the following hypothesis was formed in this respect.

H7 - There is no significant difference of opinion among tourists regarding Destination Quality in the ecotourism context.

In the discourses on sustainability and quality of ecotourism destinations, the intervention of community and its effect on DS and quality were tested. At the same time, it may be noted that sustainability and quality of destination is the result of comprehensive efforts of all other stakeholders also. Hence, the present study tried to examine the opinions of other stakeholders about the CIS adopted in the ecotourism destinations and framed following hypothesis:

H8 - There is no significant difference of opinion among stakeholders regarding Community Intervention Strategies in the ecotourism context.

4.8.9 Questionnaire Design

Questionnaire design stage consist of selecting appropriate measurement scales, question wording and content, response format and arranging the sequence of questions. The literature review and exploratory study in the form of observation, focus groups and expert interviews had given a clear idea of the contents to be included in the questionnaire. The stages involved in questionnaire design process are shown in Figure 4.6.

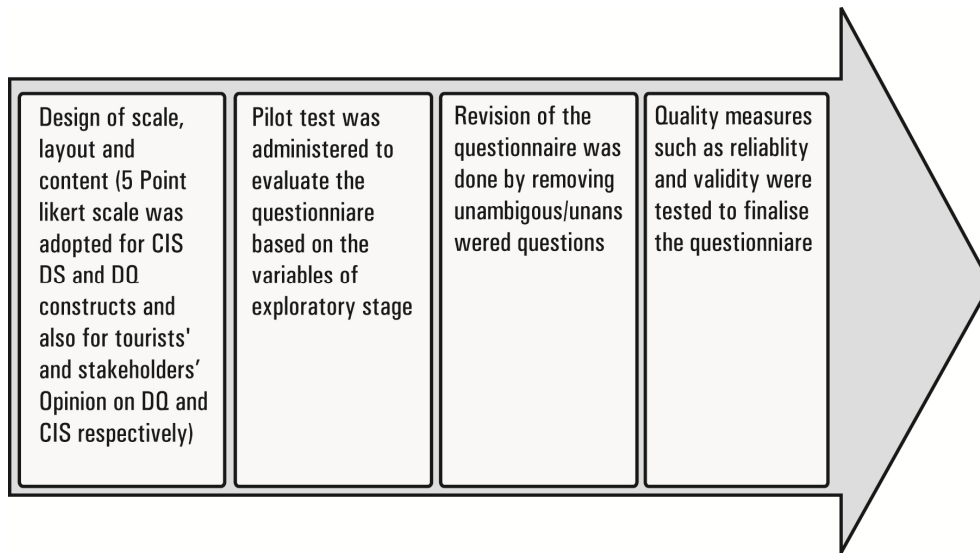


Figure 4.6: Questionnaire design stages

In order to trace the responses from the community members with regard to CIS, DS, DQ, and the opinions of tourists on DQ, and opinions of stakeholders on CIS, a 5 point Likert scale varying from “Strongly disagree” to “Strongly agree” were administered. This scale was adopted based on the following reasons:

- This scale has been extensively tested in educational and social sciences.
- In survey research, manifest variables are often measured based on answers to questions on Likert-type scales (Schumacker & Lomax, 2004)
- It yields higher reliability coefficients with fewer items than the scales developed using other methods (Chang, 1994).
- It offers a high likelihood of responses that accurately reflect respondent opinions under study (Burns & Bush, 2002).

- It helps to increase the spread of variance of responses, which in turn provides stronger measures of association (Aaker, Kumar & George, 2000).

To understand the demographic profile of the respondents, questions related to age, sex, education and income from tourism related jobs, major employment of the area, years of experience in ecotourism, number of family members and number of family members in ecotourism operations etc., were included in the questionnaire for community members. Questionnaire for tourists and stakeholders also included all demographic variables of the respondents. It may be noted that these variables have not been considered for either pilot or main study as the objective of the study is to understand CIS and its relationship with DS and DQ.

In a nutshell, three different questionnaires were prepared to get responses from community members, tourists and stakeholders.

The final questionnaire for community members consisted of four sections, described as follows:

- Section A: Income and Occupational status of community
- Section B: Indicators related to CIS
- Section C: Demographic and other profile of members
- Section D: Indicators related to DS
- Section E: Indicators related to DQ

Final questionnaire for tourists as well as stakeholders consisted of two sections:

- Section A: Categorical variables related to demographic and other basic information on community intervention
- Section B: Indicators related to DQ for tourists and indicators related to CIS for stakeholders

As far as question content and wording are concerned, it should be short, simple and comprehensible, avoiding ambiguous, vague estimation or generalization leading to double barreled and presumptuous questions (Oppenheim, 1992). Use of negative worded questions and multi-clause items were avoided to prevent confusion to respondents in answering the questions (De Vellis, 2003). The questionnaire contained questions related to all the indicator variables related to the constructs used for the study.

Four questionnaires were designed for the study for community members to elicit the responses with regard to CIS, DS and DQ respectively. One set of questionnaires was designed to obtain response of stakeholders with respect to CI in ecotourism and another for tourists opinion on DQ. Each questionnaire contained two sections. Latter part of the questionnaire contained scale items for measurement of various major constructs, viz., CIS (18) DS (16) and DQ (6). Stakeholders' Opinion on CIS and Tourists' Opinion on DQ contained nine and six items respectively. The items related to each of the identified dimensions of the CIS and DS constructs were arranged on the basis of identified latent dimensions.

4.8.10 Pilot Study

A pilot study was conducted by collecting responses from community members, stakeholders and tourists from Parambikulam Tiger Reserve, Silent valley National Park, and the Wayanad Wild life Sanctuary for the study. The basic purpose of pilot study was to detect and rectify potential problems with the instrument. The details are given in Table 4.7.

Table 4.7: Data source for Pilot study

Location	Period	No. of respondents		
		Community members	Other Stakeholders	Tourists
Parambikulam, Palakkad district	July 2011	12	2	12
Silent Valley, Palakkad district	July 2011	7	6	6
Wayanad, Wayanad district	August 2011	10	4	10
Total		29	12	28

In this study, two questions from CIS has to be deleted from a total of 18 scale items short listed by the expert panel because it was found unanswered by the majority. The enquiry by the investigator revealed that those variables (support to community and product diversification) have no significance in their context as the community intervention itself is meant for supporting the community. Considering the same as a separate variable was therefore confusing to many respondents. Moreover, due to certain operational constraints, the community cannot diversify tourism related activities within PAs, which require special approval and permission from different administrative hierarchy. This may be the reason that the variable product diversification was also found unanswered. From the 16 questions,

relating to DS, which were shortlisted by the experts after the pilot study, one question (maintenance of cultural sites) was not properly answered and had to be left out. The remaining 15 questions were retained for the final study. The questions relating to DQ administered to the community members as well as to the tourists were retained as such, and the responses from stakeholders on CIS were also found valid during the pilot study (See Appendix VI).

Table 4.8: Nos. of respondents and Reliability measures in Pilot study

	Community Members			Tourist	Stakeholders
	CIS	DS	DQ		
Nos. of Q. asked	18	16	6	6	09
Nos. of Q. answered	16*	15*	6	6	09
Total Numbers of Participants	29	29	29	28	12
Valid answers	29	22	22	25	10
Cronbach's Alpha	0.883	0.885	0.889	0.722	0.827

*Product diversification & Support to community were removed from CIS and Maintenance of Cultural sites was removed from DS

A) Reliability Measures of the Pilot Study

Testing the reliability of the various constructs is a pre-requisite for data analysis and inference. Reliability analysis tests whether a scale consistently reflects the subset it measures (Price & Mueller, 1986). Consistency indicates that a respondent should score the questionnaire the same way at different times. It also means that two respondents with the same opinion about a particular construct should have identical score in the survey. The closer the Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items in the scale. George and Mallery (2003) provide the following rules of thumb: > 0.9 = Excellent, > 0.8= Good, > 0.7 = Acceptable,

> 0.6 = Questionable, > 0.5 = Poor, and < 0.5 = Unacceptable. Hence, a high value for Cronbach's alpha indicates good internal consistency of the items in the scale. In the present study as shown in the Table 4.8 all constructs had values between 0.7 and 0.9, which indicate good reliability.

4.8.11 Main Study (Finalization of Sampling design)

Based on the inputs from the pilot study, a detailed descriptive final study was designed after making necessary changes. The final descriptive research process includes: finalization of sampling design and data collection strategy for the main study. The procedures adopted for this stage is described in the following sections:

4.8.12 Sampling Design

The sampling design explains the definite plan for obtaining a sample from the population i. e., the entire group of people whom the researcher is interested to know about (Gupta & Gupta, 2013). In this study, the destination community members, stakeholders of ecotourism destinations and tourists who are visiting ecotourism destinations in Kerala were considered as the population for the study. In order to conduct the main study, the investigator identified four identical PA based ecotourism destinations and were finalized on the basis of statistical significance based on ANOVA. The four destinations identified were Thenmala: the first planned ecotourism destination in the country, Periyar: the first and one of the identified ecotourism models as per World Bank (WB) and various Government agencies, Parambikulam: one of the emerging ecotourism projects and spatially located in north central Kerala and Wayanad: which is also one of the emerging ecotourism projects and located in the northern

part of Kerala. In this way, the spatial representation of ecotourism projects in the state of Kerala was ensured for the study.

The above selections were made on the basis of purposive sampling. Purposive sampling is justified on the following grounds:

- It helps the researcher to use his discretion to select the respondents, so as to get the best samples to meet the purpose of the study.
- It helps to generate samples that can generate qualitative research questions.
- Purposive sampling is widely used in mixed method research (Maxwell & Loomis, 2002).
- In terms of sampling frame, it was basically judgmental in nature as the researcher's judgment has been combined with expert opinion which had been checked through the exploratory study.
- In this research, the sampling unit is the CBE destination operating at PAs and, therefore, purposeful sampling is appropriate.

Further, in order to address the specific purpose related to research questions with high information content, purposive sampling was found to be ideal method of sampling. Moreover, since the study attempted to measure enhancement in sustainability and positive changes in the quality of the destinations, the study considered only those locations which have ecotourism in practice since 2006 and had identical community interventions.

As a first step, it was necessary to address the question of identical intervention of destination community members before finalizing the geographical location of the study area. In this direction, the study further

explored the possibility of investigating whether selected destinations had identical framework of community intervention or not. It also tried to ratify the selection by hypothesizing that there was no significant difference in the CIS in these destinations and tested the same, using one-way ANOVA. The purpose of this analysis was to ensure that the selected destinations had identical CIS as the destinations with diversified intervention strategies may not give clarity to the later part of this study. This was necessary because diversified intervention strategies may bring different results at the destination, in which case establishing the causal relationship with resultant sustainability and quality at the destinations would have become difficult. So the ratification of the selection of identified destinations was made on the basis of the statistical significance of the analysis conducted immediately after pilot study on the 16 variables of CIS finalized for EFA. The results of the ANOVA for identifying destination specific difference in CIS are included in Appendix V.

The resultant F statistics are illustrated in Appendix V, which clearly show that there exists no significant difference among destinations on CIS at 0.05 levels. Accordingly, all four identified destinations were finalized for the main study. The geographical territory of the study area covered: Senduruny Wildlife Sanctuary, Thenmala in Kollam district; Periyar Tiger Reserve, Thekkady in Idukki district; Parambikulam Tiger Reserve in Palakkad district; and Wayanad Wildlife sanctuary in Wayanad district of Kerala state.

The present study as mentioned earlier, has attempted to check the positive changes in the destinations due to community intervention as well

as its effect on DQ based on both qualitative as well as quantitative methodologies.

The study considered the identified sample units i.e. the number of destination community members, tourists and stakeholders as finite. It may be noted that present study required two category of tourists as samples to ensure that the CIS have bearing on DQ. They are as follows:

- New Visitors (NV): who have also visited other ecotourism sites.
- Repeated Visitors (RV): who have also visited the same site before 2006.

The major steps in sampling design included:

- a) Deciding the sample units
- b) Determining the sample size, and
- c) Deciding the sampling technique

In this study, the destination community members, tourists and stakeholders of ecotourism were considered as the sampling unit. There has been considerable discourse on what should be the acceptable sample size for the results to be statistically valid (Hinkin, Tracey & Eng, 1997). According to Flynn & Percy (2001), there is no accepted rule to define an appropriate sample size. Further, revealed that different authors have suggested different sample sizes as appropriate, ranging from one hundred to two hundred, and also suggested item respondent ratios that ranges from 1:4 to 1:10. In this study, no special methods were followed to determine the sample size. As indicated in the Table 4.9, an item ratio more than the threshold range suggested by Flynn & Percy (2001) was tried to maintain.

Table 4.9: Data collected for the main study

Unit of analysis	Construct	Identified number of respondents	Collected	Finalized for main study	Item Ratio*	Remarks
Community members	CIS (16)	480	405	350	1:21	
	DS (15)	480	405	350	1:23	
	DQ (6)	480	405	350	1:58	
Tourist (Repeated Visitor)	Opinion on DQ(6)	100	100	100	1:17	Visited before 2006
Tourist (New Visitor)		200	180	150	1:25	Visited other sites
Stakeholders	Opinion on CIS (9)	250	200	200	1:33	

* In the study the item ratio is much higher than the stipulated ratios.

The sample frame of tourists, considered for final study was 250, consisting of tourists who visited the study area before 2006 (100 Nos.), and tourists who visited other ecotourism destinations (150 Nos.).

4.8.12.1 Sampling Technique

In this study, convenience sampling was used to select the sample units. Convenience sampling refers to sampling by obtaining units or people who are most conveniently available. For example, it may be convenient and economical to select samples of community members, tourists or stakeholders in nearby areas from a pool of these groups. Since studies in the area of community intervention in ecotourism are still in infancy, it may be the best way to get information quickly and efficiently to test ideas or to guide ideas about the subject of interest. Moreover, convenience sampling is the only feasible way to proceed while attempting to learn about groups that are difficult to gain access to, especially for a category of people who are relatively rare in population and for whom no data on membership exists (Weiss, 1994). The

present study presents all these conditions/situations and therefore convenience sampling had to be adopted. The important justifications are:

- Destination communities, tourists and stakeholders in and around PAs are small groups.
- Meeting the members of the destination communities in PA requires special permission from the Forest and Wild life department.
- Accessibility to PA especially in tribal hamlets are regulated.
- There is a significant interpersonal communication problem as most of the destination communities belong to tribal communities who speak mainly their ethnic language.
- Response for the study requires minimum two years of experience in ecotourism activities.
- Unit chosen must have eked out a livelihood in the destination before the implementation of ecotourism activities.
- Exact membership of community members engaged in ecotourism were not available.

The samples were selected on the basis of availability or presence of tourists, community members and stakeholders after visiting different CBE destinations under study without any prejudice for considering or rejecting a particular respondent. Selection of the respondents like community members, tourists, stakeholders (few stakeholders were identified from nearby areas as there is a restriction in engaging tourism related activities inside the PAs) at the destination at the time of visit was purely by chance.

4.8.13 Data Collection

The first stage involving a convenience sampling method was adopted to collect primary data using a structured questionnaire. Though convenience sampling was employed in the study, necessary attention was paid to ensure adequate representation of the diverse geographical distribution of the residential areas of the CBE project areas under the study. In the next stage, to confirm the representation of the members of destination community, the investigator sought the help of president/treasurer of TEDC, and as per their advice, all hamlets of the villages where community members resided were identified and interviews and data collection were organised. The sample size for each community was determined by the proportional representation of the community in ecotourism in the research area (see, Table 4.10).

Two eco-guides from the community who are the members of the TEDC at the respective locations were hired to locate each member of the community, and they even extended their help to conduct the questionnaire survey by translating the questions into local language, as few respondents spoke only Tamil language.

Convenience sampling method was also employed for collecting data from tourist as well as other stakeholders under study. Details of data collected from the tourists and other stakeholders is given in table 4.11 and 4.12. Researcher himself approached tourists both RV and NV and stakeholders at different locations for collecting data.

The final stage of data collection took nine months to complete. The time stayed by the investigator in all these community settlements and entry and exit points for collecting data from tourists varied from 8 to 14 days. A short and

simplified questionnaire consisting of items which had been pretested with the advice of expert officials of DFW, has been used for the final study.

Table 4.10: Destination-wise Data collected and analyzed for final study

Unit of analysis	Thenmala	Periyar	Parambikulam	Wayana d	Total Collected	Total Analyzed	%
Community members	52 (43)	152 (132)	154 (134)	47 (41)	405	350	86
Tourists	31	88	125	36	280	250	89
Stakeholders	22	73	43	62	200	200	100

Table 4.11: Tourist wise data collected and analyzed for the final study

Tourist	Locations				Total collected	Total Analyzed	%
	Thenmala	Periyar	Parambikulam	Wayanad			
Repeated	7	32	53	8	100	100	100
New	24	56	72	28	180	150	83
Total	31	88	125	36	280	250	89

Table 4.12: Other Stakeholder wise Data collected and analyzed for final study

Study Locations	Stakeholders				Total
	VSS Members	Transport Operators	Accommodation Providers	Shops	
Thenmala	09	05	04	04	22
Periyar	16	25	16	16	73
Parambikulam	05	22	05	11	43
Muthanga	07	18	17	20	62
Total	37	70	42	51	200

The data collection was done personally by meeting the respondents. The structured questionnaires were distributed to respondents and the purpose of the study was explained. The questionnaires were administered using a direct face-to face survey methodology because of the strength of this method in achieving high response rates. The respondents were met in

the premises of interpretation centers, offices, and residence and only those who offered willingness to participate in the survey were considered. All field visits for descriptive stage: pilot study and final survey were made as per the approval (See Appendix VII) of Chief Conservator of Forests (CCF), GOK during the period April, 2011 to May 2012.

4.8.14 Data Analysis Strategy

In order to complete the study, the following analyses were adopted:

- SEM to identify causal relationship between CIS and DS as well as DQ
- t test to check the difference among tourist groups on DQ considered for the study
- ANOVA for verifying difference of opinion among stakeholders on CIS

After the verification of quality of data, a three level approach was adopted to analyze the data (See Figure 4.7). The first attempt was to identify the existence of three distinct factors with regard to CIS construct as well as four distinct factors with regard to DS by performing an EFA of 16 and 15 indicators respectively used for measurement. The analysis confirmed the existence of three factors and in the process one indicator variable was eliminated for poor loading in the case of CIS construct. The second attempt was to develop measurement models for all latent constructs considered for the study. Using CFA and by testing the goodness of fit, measurement models were developed and the final indicators capable of measuring the constructs were finalized.

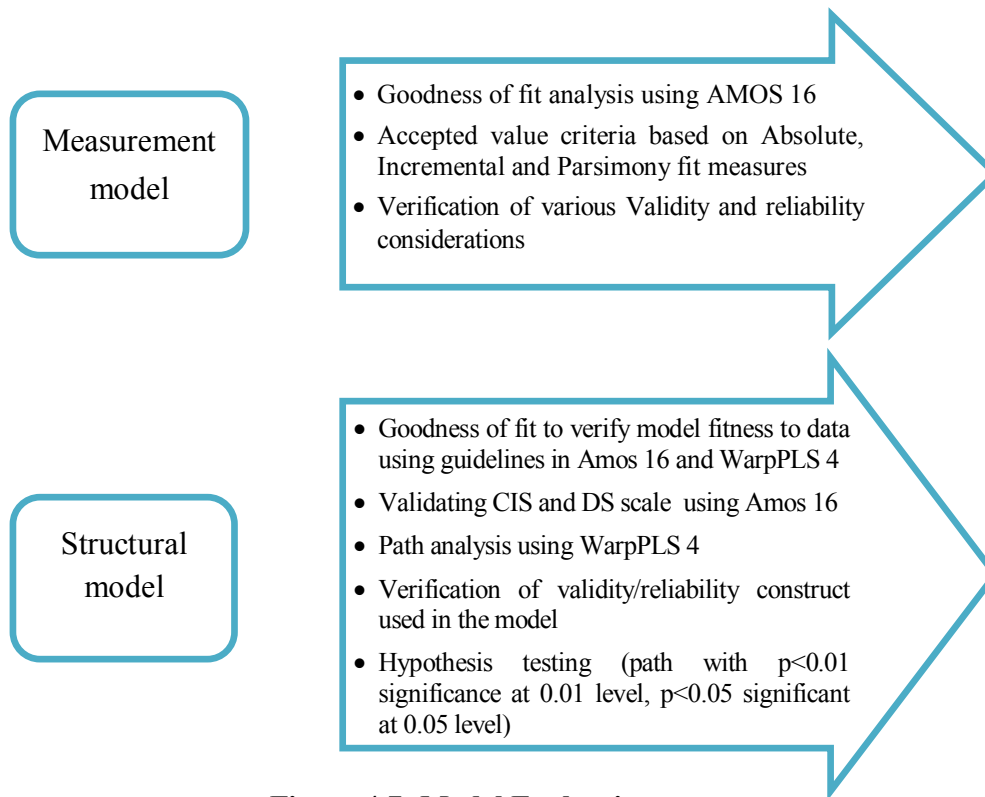


Figure 4.7: Model Evaluation stages

Subsequently, the confirmed scale was tested for common methods like variance, convergent validity, and discriminant validity of population under study. Based on the goodness of fit, it was confirmed that CIS and DS constructs are multidimensional second order formative constructs with three and four first order reflective constructs respectively.

Thirdly, the structural model with all the constructs were tested for its ability to represent the data using Warp PLS 4.0. In order to assess the model fit with the data, the recommended p-values for both the Average Path Coefficient (APC) and the Average R-squared (ARS) be lower than 0.05 was considered as suggested by Kock (2009). In addition, it is also

recommended that the Average Variance Inflation Factor (AVIF) be lower than 5 (Kock, 2009). The significant paths in the model have been utilized for drawing various conclusions in the study.

A) Structural Equation Modeling

According to Gefen, Straub & Boudreau (2000), SEM is a statistical technique that enables the researcher to answer a set of interrelated research questions in a single, systematic and comprehensive analysis by modeling the relationship among multiple independent and dependent constructs simultaneously. SEM has the ability to test causal relationships between constructs with multiple measurement items and it can also give statistical solutions with complex models (Gefen, Rigdon & Straub, 2011). SEM is a combination of factor analysis and multiple regression (Ullman, 2001).

SEM is generally considered as a confirmatory technique to determine whether the model developed for the research is valid for data. The variables in SEM are measured (observed, manifest) variables (indicators) and factors (latent variables) (Bollen, 2002). According to Anderson and Gerbing (1988), a two-step approach is adopted to perform SEM analysis. In the first step, the measurement model is specified using the interrelationships between indicator (observed) and latent (unobserved) factors. The second step is the development of a structural model related to dependent and independent variables to test the hypotheses. Since this study required the hypothesized model to be tested for the best-fit of the data, SEM is found to be the appropriate analysis method for analyzing the causal relationship between CIS and DS and DQ. It also produces a more comprehensive overall goodness-of-fit (Bollen, 2002).

There are two schools of thought in SEM: covariance-based SEM (CBSEM) and PLS-based SEM. The first school developed around Karl Jöreskog which is considered as Covariance-based and is usually used with an objective of model validation (Tenenhaus, Vinzi, Chatelin & Lauro, 2005). It may be noted that CBSEM require a sample size preferably more than 200. The various methods of estimation used for covariance-based SEM, like Maximum likelihood or Unweighted least squares, are full information methods. AMOS, LISREL are the various softwares developed for performing CBSEM.

In this study, both approaches are used in different stages of analysis. For CFA of the CIS and DS constructs, CBSEM based software Amos.22 was used. For the analysis related to structural model representing all the constructs, PLS based software WarpPLS4.0 was used.

The following Table 4.13 gives the accepted values for each of the above indices as considered for the study.

Table 4.13: Accepted values for each of indices considered in the study

Sl. No.	Fit Index	Acceptable Value
1.	Normed Chi-square (CMIN/df)	<3
2.	Comparative fit index (CFI)	>0.9
3.	Root mean square error of approximation (RMSEA)	<0.08
4.	Goodness of fit index (GFI)	>0.9
5.	Non Normed fit index (NFI)	>0.9
6.	Adjusted goodness of fit index (AGFI)	>0.9

Source: Compiled from various sources

The choice of PLS for the present study is justified on the following grounds:

- The research is being done in situations where theory is less developed.
- The purpose of the research is theory development and prediction and not theory confirmation.
- It does not require any priori distributional assumptions and relatively small sample size is acceptable (Chin, Marcolin & Newsted, 2003).
- Formative constructs are part of the structural model.
- Permits structural model with many constructs and many indicators.
- Requires to use latent variable scores in subsequent analyses (Hair, Sarstedt, Ringle & Mena, 2012).

A structural equation model with all constructs pertaining to destination community used in the study was analyzed using Warp PLS 4.0 for identifying the significant relations between variables of interest in the study. As mentioned earlier, the term structural equation model is used to refer to both the structural and measurement models together. According to Teo, Tsai and Yang (2013) in a Structural Equation Modeling (SEM) analysis, the inner model (structural model) is that part of the model that describes the relationships between the latent variables considered in the model whereas outer model (measurement model) specifies the relation between the indicators and the latent variables. Weights and loadings are measurement model parameter estimates, whereas, the path coefficients are

inner model parameter estimates. This is depending up-on whether the measurement model is formative or reflective (Monecke & Leisch, 2012). Warp PLS 4.0 estimates enable evaluation of measurement model as well as structural model simultaneously. However when second order constructs are used, measurement model for first order constructs are to be evaluated separately (Ciavolino & Nitti, 2013).

In this study, two constructs namely CIS and DS are conceptualized as second order constructs. For analysis of second order constructs using Warp PLS 4.0, it is required to calculate the Latent Variable (LV) scores (factor scores) at first, by creating models with latent variables and indicators without linking. These LV scores are used to define the second order construct in the final model.

The most important feature of Warp PLS 4.0 which is found different from other PLS based software is the inclusion of model fit indices. For assessing the model fit with the data, it is recommended that the P values for both the Average Path Coefficient (APC) and Average R-squared (ARS) be both lower than 0.05, that is, significant at the 0.05 level. Also it is recommended that the Average Variance Inflation Factor (AVIF) < 5 . R-squared coefficients are shown under criteria latent variables. They reflect the percentage of explained variance for those variables. Validity Criterion for various constructs in Warp PLS are explained in Table 4.14.

Table 4.14: Validity/Reliability guidelines in WarpPLS4.0

Sl. No.	Consideration	Guideline WarPLS (4.0)	
		Reflective	Formative
1	Common method variance	Exists if first factor on exploratory factor analysis explain for more than 50% in the variance in the variables (Podsakoff and Organ)	NA
2	Cronbach Alpha Coefficient	>0.7	NA
3	Composite reliability	>0.7	NA
4	Average variance extracted	>0.5	>0.5
5	Convergent Validity	P values associated with loading be lower than .05; and that the loading be equal to or greater than 0.5	VIF<5, all indicator weight should be with p<0.05
6	Discriminant Validity	The square root of the average variance extracted should be higher than any of the correlations involving that latent variable	The square root of the average variance extracted should be higher than any of the correlations involving that latent variable
7	Construct validity	Assumed if no.3,4,5,6 above are satisfied	
8	Squared Multiple Correlation	>0.5	

Source: MacKenzie, Podsakoff, and Podsakoff (2011), User Manual WarpPLS4.0

B) Independent Sample t Test

Independent sample t test is a hypothesis testing procedure that uses separate samples for each treatment condition. In other words, this test is commonly used when the population mean and standard deviation are

unknown, and two separate groups are being compared. This test is used on the basis of the following assumptions:

- Independence: Observation within each samples must be independent.
- Normal distribution: The score in each population must be normally distributed.
- Homogeneity of variance: The two populations must have equal variance.

In a nutshell, to find out the significance of difference between two means t-test is used. In the present study, it was required to find the significant difference of opinion, if any, among tourists (Repeated Visitor as well as New Visitor) with regard to DQ at PA based ecotourism destinations of Kerala.

C) ANOVA

ANOVA is employed to test the differences among the means of the populations by examining the amount of variation within each of the sample, relative to the amount of variations between the sample. There may be variation between the samples and there may be variations within sample items. The technique of ANOVA consists in splitting the variance for analytical purpose into various components.

In the ANOVA, two estimates of population variation is derived. One based on between group variance and the other based on within group variance. A ratio of these two estimates of population variance is calculated. This is noted as the 'F'. The value of 'F' may be compared to the F-limits for

given degree of freedom. If the F value exceeds the F-limit values, it is stated that there are significant differences among the sample means. In the present study, ANOVA is used to test the difference of opinion, if any, of other stakeholders with regard to CIS at PA based ecotourism destinations of Kerala.

4.8.14 Validity and Reliability Considerations

The two most important and fundamental characteristics of any measurement procedures are: reliability and validity (Kimberlin & Winterstein, 2008). According to Brink (1993), validity and reliability are two factors which should be cautiously identified while designing, analyzing results and judging the quality of a research study.

4.8.15 Validity

Validity is the extent to which an instrument measures what it purports to measure (Kimberlin & Winterstein, 2008). Basically there are three types of validity (Hardy & Byrman, 2004). These are as follows:

- **Content validity:** It is also called as face validity. Content validity is the degree to which the content of a measurement scale appears to tap all the relevant facets of the construct it is going to measure (Malhotra, 2005). It requires a thorough examination of the wording of the items included in the instrument and their connection to the relevant frame of reference used in the particular study. Content validity can also be examined through experts judgment.
- **Criterion-related validity:** Criterion-related validity is the degree of correspondence between a test measure and one or more

external referents (criteria), usually measured by their correlation (Drost, 2011). This includes concurrent and predictive validity.

- **Construct validity:** Construct validity refers to how well a construct is transformed into a functioning and operating reality, the operationalisation (Trochim, 2006).

The questionnaires were assessed for content validity based on feedback from an academic expert who specializes in nature-based tourism. All those items identified during the exploratory phase 2 were retained for pilot study and also because they met the criteria for the item analysis. However, the researcher made minor changes to the wordings of some of the items related to CIS and DS to improve comprehensibility.

Criterion-related validity deals with the instrument's ability to measure an item accurately and also analyze it. The scale used in the study for SEM was mainly a five-point Likert-type scale. Likert scale is a popular scaling technique used widely in social science research. A common scale is used for all questionnaire to ensure criterion validity of all constructs under study. Construct validity was assessed through Convergent and Discriminant validity based on theoretical inference pertaining to various constructs used in the study.

4.8.16 Reliability

As mentioned earlier, reliability is the extent to which measurements of the particular test are repeatable (Brink, 1993). The more consistent the results given by repeated measurements, the higher the reliability of measurement procedures. In order to test reliability two aspects of the reliability are to be considered: external and internal reliability. According

to Kimberlin & Winterstein (2008), external reliability is the degree to which the research can be replicated, whereas internal reliability is a measure of internal consistency. In other words, it compares two sets of data on the same subject using different measures. Cronbach's Alpha Test of Reliability is one of the most popular methods used for estimating internal reliability. In this study, the Cronbach coefficient alpha value was above 0.7, showing scale reliability for all reflective constructs.

As mentioned, in order to validate the scale developed for measuring two major constructs under study, i.e., CIS and DS, the present study has adopted CFA using AMOS 16. Final evaluation of the research model through structural equation modelling was done by using Warp PLS 4.0. Subsequently, verification of the results was done based on various validity and reliability considerations (See Table 4.14).

4.8.17 Level of Significance

The rejection or acceptance of a null hypothesis is based on some level of significance (alpha level) as a criterion. In educational and psychological circles, the 5% (0.05) alpha (α) level of significance is often used as a standard for rejection. If the null hypothesis is rejected at the 0.05 level, it means that 5 times in 100 replications of the experiment, the null hypothesis is true and 95 times this hypothesis would be false. In other words, this suggests that a 95% probability exists that the obtained results are due to the experimental treatment rather than due to some chance factors. The more stringent test of significance is 0.01 level which suggests that a 99% probability exists that the obtained results are due to the experimental treatment, and hence, once in 100 replications of the

experiment the null hypothesis would be true. The present study adopted 1% level of significance for testing the community members response on CIS, DS and DQ, whereas, 5% level of significance for testing the opinion of tourists on DQ and opinion of other stakeholders on CIS.

4.9 Limitations of the Study

4.9.1 Enhancement Sustainability Approach

The present study considered only enhancement sustainability expected from destination community intervention. In the tourism discourses, there are two schools of sustainability viz., status quo or steady state and enhancement. Practically, enhancement sustainability means ecotourism activity would result in improvements to the status quo. So it is imperative to enhance the sustainability dimensions at ecotourism destinations for the conservation of resources as well as for better wellbeing. In this direction, it is expected that intervention of destination community shall promote sustainability dimensions of the destinations by making improvements in the status quo. Further estimating the status quo sustainability is beyond the scope of the present study as it requires a holistic survey of all the destination resources as well as level and mode of community intervention.

4.9.2 Non availability of Relevant Literature

There is a severe dearth of studies available for reference related to institutional framework of tourism, particularly ecotourism. However, the present study has tried to review a good number of literature related to ecotourism and community based ecotourism, where sustainability parameters have been followed by both ecotourism as well as community

based ecotourism. Moreover, review of available relevant literature on Protected Area (PA) based ecotourism also helped to give a direction to proceed further. Quality reference on ecotourism operations are very limited, and moreover, even the available literature shows a holistic approach on CBE without specific directions on sustainability and quality. In this scenario, the study tried to review literature which are contextually different. It may also be noted that there were no such literature available which link the community intervention and Destination Sustainability (DS) and Destination Quality (DQ) as a result of experimental research. It may be noted that in order to finalize the dimensions and the variables related to Community Intervention Strategies (CIS) as well as DS, an exploratory approach has been adopted in the initial phase of this study. The researcher has tried to overcome these limitations by adopting a mixed method: identifying community intervention forms and framing destination specific sustainability scales and applied globally recognized scales for DQ.

4.9.3 Respondent Characteristics

As a community based study particularly related to tribal and other disadvantaged groups, it has been observed that the distinct identity of these groups make them aloof from the mainstream of the society and thereby there is a wide variation in their capital holdings, either social or financial, resulting in low level of esteem and attitude and expressions towards the mainstream. In the present study, the investigator came across with respondents who were mostly illiterate and who used oral dialects for communication. In order to overcome this, the investigator sought the help of a translator. Even then, this may have affected their responses related to the various questions which may not have been familiar to them at all.

4.9.4 Ecotourism Operations at Protected Areas

The study was confined to the community intervention in ecotourism at PAs only. Though ecotourism operations are found in other destinations, the investigator identified four major destinations under PAs category to ensure uniformity in the context of research. As the sustainability is destination specific, the mode and level of operation and its sustainability parameters may vary according to locations and occasions. It is expected that the destinations having identical setting could give more clarity in identifying various CIS and its effect on DS and DQ. Moreover, these are isolated areas (away from mainstream operations) and hence tourism activities can be identified distinctly.

4.9.5 Selected Time Frame of Investigation

Since the study covered changes that have occurred at the destinations under study after 2006, CIS and its effects on DS and DQ prior to that period was not considered. In other words, incremental changes that normally happens in every society due to various other development measures has not been considered in this study. The study investigated the positive changes if any, with regard to DS and DQ, as a result of various CIS at PA based ecotourism destinations since 2006 as most of the community interventions were operationalised during this period at PAs based ecotourism destinations in Kerala, on the assumption that this base year may give more clarity to the study.

4.9.6 Tourists' Perspective on Quality

Though the quality aspects encompass various elements like visitors' satisfaction, service providers' satisfaction, the quality of local inhabitants'

lives and the quality of the environment, the present study considered only the tourists' perspective or visitors' observation on destination's quality. This is justified in the context where the tourist is considered as the one of the direct beneficiaries who can influence both demand and supply side of the tourism market.

4.9.7 Technological Dimensions

Studies like Choi and Sirakaya (2006) have highlighted technological dimensions of sustainability by developing indicators for measuring community based ecotourism. The present study has not considered technological dimensions of sustainability, as the qualitative research carried at the initial phase of the study had indicated that the role of the community was confined to tourism operations and only limited responsibilities were assigned to them for linkage with other stakeholders. Networking, which is required for tourism product distribution was undertaken by the respective Department of Forest and Wildlife (DFW) and community members were nowhere in the scene. Accordingly, it has been understood that there is no such direct intervention of the community in the PAs of Kerala pertaining to technological application in ecotourism. Even then, the researcher would like to state that technological dimension may be one of the factors or constructs that need to be verified before proceeding to conduct sustainability assessment of the destinations in future studies.

4.9.8 Community Contribution towards Sustainability

Ecotourism encourages both guests as well as the host to make the destination sustainable through responsible resource appropriation. Hosts consists of destination communities, hospitality providers, transport operators

and others who directly or indirectly support destination to receive guests. The present study, however, investigates the sustainability contributions of destination communities only. As a sustainable development tool for destinations, ecotourism contributes to the sustainability of all dimensions of development, i.e., socio-cultural, economic, political and environmental with the support of all stakeholders.

4.10 Summary

The chapter discussed various methods adopted to conduct the study. The rationale for each decision regarding data collection strategy, sample size, questionnaire design and analysis methods were explained in detail. This study used a qualitative approach in the initial stage to properly define the domain of the study and to develop a sensible theory that can lead to fulfillment of the objectives. It is noteworthy to state that tourism research particularly sustainable approach based tourism researches are still in infancy in India, and so the development of theory requires a qualitative approach. In the qualitative phase, FGD, Expert interviews, and informal discussions were conducted by the researcher with the experts in ecotourism domain as well as community members and leaders of the study area. Qualitative procedure helped in finalizing the theory and items for measurement of the constructs of interest in the study. Finally, the analysis strategy of the study was finalized along with the rationale for using each procedure. The next chapter discuss the analysis of the data collected.

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	5.3 <i>Analysis of CIS and DS Dimensions</i>
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	5.18 <i>Conclusion</i>

In this chapter, five important aspects of this research are presented. The first part deals with descriptive statistics pertaining to the demographic profile of the respondents. The second part includes the steps adopted for checking the quality of data collected. The causal relationship between CIS and DS as well as DQ are dealt with in the third part and it is presented

using SEM. This includes EFA and CFA for factor identification and measurement model verification of outer model with AMOS 22 and structural model verification with Warp PLS 0.4. The fourth part analyses the opinions of tourists on DQ by using Independent sample t- test, and in the last section the opinions of other stakeholders on CIS by using One-way ANOVA are analyzed.

5.1 Descriptive Statistics of the Respondents

5.1.1 Profile of Community Members

Table 5.1: Destination wise Occupational status in percentages

		Thenmala	Periyar	Parambikulam	Wayanad	Total
<i>Occupation</i>	Agriculture	57	60	31	64	53
	Industry	07	07	02	03	05
	Services	13	07	04	09	08
	Tourism	23	26	63	24	34

- Occupation:* Agriculture is considered as the preferred employment in all the destinations except Parambikulam. Destination wise occupational status in percentages is shown in Table 5.1. Tourism and related jobs were the major source of income for the inhabitants of Parambikulam. 53 % of the inhabitants depended on farming or other means for their livelihood except in Parambikulam where 63 % of them were involved in tourism related activities.

Table 5.2: Demographic and Ecotourism related variables of Community members

Variables		Status in average /percentages
Income		4800 (Average)
Number of family members		06 (Average)
Age of the respondents	Below 25	12%
	25-40	40%
	40-55	30%
	Above 55	18%
Gender in Ecotourism	Male	72.4%
	Female	27.6%
Education	Below matriculation	58%
	Higher secondary	33%
	Graduates/Diploma	08%
Members in Ecotourism		02 (Average)
Experience in Ecotourism		06 Years (Average)

- *Income:* As indicated in the Table 5.2, the average monthly income per person from tourism came to ₹ 4000-5000.
- *Number of family members:* Average number of members in the family was six (See Table 5.2).
- *Age of the respondents:* It was found that 12 % of members were in the age group of below 25, 40 % in the age group of 25-40, 30% between 40-55 and 18% above 55 years. Therefore, the average age of the respondents is 40. Details of the age group of respondents are given in the Table 5.2.

- *Gender representation ecotourism:* Gender wise 72.4% of community members involved in ecotourism and related operations were males (See Table 5.2).
- *Educational status:* As indicated in the Table 5.2, nearly 58% of the members were below matriculation including illiterates, while 33% had completed higher secondary and only 8% were graduates or diploma holders.
- *Number of members in Ecotourism:* Average Number of family members engaged in ecotourism was two (See Table 5.2).
- *Experience in ecotourism:* Average years of experience in ecotourism was 6 years as on December 2012 (See Table 5.2).

5.1.2 Profile of Tourists

Table 5.3: Profile of Tourists under study

Variables		Status in Percentages
Gender	Male	74
	Female	26
Age	Below 25	23
	25-40	44
	40-55	26
	Above 55	07
Nationality	Indian	79
	Foreign	21
Education	Matriculation	18
	Higher secondary	31
	Graduates/Diploma	39
	Post Graduation and Above	12

- *Gender:* 74 % of tourists were males (See Table 5.3).
- *Age:* As indicated in the Table 5.3, nearly 23% of members were in the age group of below 25, 44% in the age group of 25-40, 26% between 40-55 and 7% above 55 years.
- *Nationality:* As indicated in the Table 5.3, almost 21% of the tourists interviewed were domiciles of foreign countries
- *Education:* As indicated in the Table 5.3, nearly 18% of the members were below matriculation, 31% had completed higher secondary and 39% included graduates or diploma holders and 12% were having post graduation and above educational qualifications.

5.2 Verification of Data Quality

Various procedure adopted for verifying the quality of data are as follows:

- Identification of Missing Values
- Identification of Outliers
- Analysis of Normality
- Analysis of Validity and Reliability

5.2.1 Identification of Missing Values

The responses were collected from all respondents under study through structured questionnaires. Respondents of the study consisted of community members (405 Nos.), tourists (280 Nos.) and other stakeholders (200 Nos.). The responses collected were entered in SPSS 16 under different variable names. Subsequently, a frequency test was done to identify missing variable. There were 55 missing responses among community members'

response. After removing these missing responses, 350 usable responses were finalized. Responses collected from tourists who had visited other sites was 180, out of which around 30 responses could not be included due to their incompleteness. So only 150 responses from that category were included. All responses (100 Nos.) from tourists who had visited the site before 2006 were included. The entire responses (200 Nos.) collected from other Stakeholders were also considered for the study (Table 5.4).

Table 5.4: Accepted responses

Unit of analysis	Collected Responses	Responses Analyzed	Percentage
Community Members	405	350	86
Tourists	280	250	89
Other Stakeholders	200	200	100

5.2.2 Identification of Outliers

There are two types of outliers: univariate and multivariate outliers. Outliers are cases whose scores are significantly different from all other cases in a data set. These variation is mainly due to sampling errors, data entry errors as well as biased responses. In the present study, Grubbs' test was followed to address univariate outliers. Test shows that there were no outliers in this data. In order to address multivariate outliers squared Mahalanobis distance (D^2) was followed. The AMOS output showed that there is no significant extreme score. Accordingly, no deletions were done from the data.

5.2.3 Analysis of Normality

In statistical analysis it is assumed that all the variables observed are normally distributed. It is also generally assumed that the combination of

variables will follow a multivariate normal distribution in multivariate statistics. In Structural Equation Modeling (SEM), it is important to have normality. Otherwise it may adversely affects the goodness-of-fit indices and standard errors (Anderson & Gerbing, 1988). The output of SEM reflects the normality of the data. In order to correct non normality of the data, the present study used Maximum likelihood estimation with Bollen-Stine bootstrap (with 1000 samples). Based on the above procedure, all data collected for the study from community members to identify the causal relationship between CIS and DS and DQ are considered as normal. Data from tourists (both Repeated Visitors as well as New Visitors) and other stakeholders were tested individually and were also found to be normal.

5.2.4 Analysis of Validity and Reliability

Checking the unidimensionality of data is the pre-requisite for the reliability and validity analysis to reduce the probable misspecifications (Anderson & Gerbing, 1988). Validity determines whether the scale truly measures what it is intended to measure, whereas reliability analysis tests the ability of a scale to produce consistent results (Nunnally & Bernstein, 1994). As mentioned earlier, testing the reliability of the survey data is a pre-requisite for data analysis and inference.

In this study, both reflective and formative measures were used. The reliability of reflective constructs was ascertained using Cronbach's alpha criterion. According to Field (2005), Cronbach's α values between 0.7 and 0.8 are acceptable values of consistency. As far as formative constructs are concerned, no reliability tests are mandatory (Diamantopoulos & Winklhofer, 2001). Various validity and reliability criteria adopted in this study for SEM are explained in Chapter 4, in Table 4.15.

As mentioned earlier, data related to stakeholders' opinion on CIS and tourists' opinion on DQ were used in this study to substantiate and to cross check the results obtained through SEM. The measurement tools used for analysis of these data were t-test and ANOVA. Internal reliability of these data was measured to check that all the constituent indicators of a variable are measuring the same or not, based on Cronbach's Alpha Test of Reliability. A value above 0.7 was considered for further analysis.

5.3 Analysis of CIS and DS Dimensions

The analysis and confirmation of various dimensions of two major constructs i.e. Community Intervention Strategies (CIS) and Destination Sustainability (DS) under study were done in two stages. These stages are:

- Exploratory Factor Analysis (EFA) using AMOS 16.0
- Confirmatory Factor Analysis (CFA) using AMOS 16.0

5.3.1 Exploratory Factor Analysis (EFA)

The role of factor analysis is to identify the underlying structures derived from a set of variables (Hair, Anderson, Tatham, & Black, 1998). As mentioned above, EFA was conducted for two major constructs i.e. CIS and DS to identify the underlying factors and to test whether the factors extracted were similar to the dimensions proposed in the study. The initial 16 and 15 scale items, as explained in the previous chapter, were used to measure CIS and DS respectively. All the indicator variables in the CIS and DS were subjected to factor analysis to get naturally occurring underlying variables (Rosen & Surprenant, 1998).

EFA with varimax rotation was performed to identify the number of factors with maximum explanations (Hair et al., 1998). A higher factor loading is considered better. As mentioned earlier, loadings above 0.71 are excellent, 0.63 very good, 0.55 good, 0.45 fair, and 0.32 (Tabachnick & Fidell, 2007). In the this study, items that load higher than 0.5 were retained.

The result showed that the EFA identified three latent constructs viz., Governance Intervention (GI), Ecodevelopment Intervention (EI) and Commercial Intervention (CI) from the CIS construct and four latent constructs were retained i.e. Economic Sustainability (ECS), Socio- Cultural Sustainability (SCS), Ecological Sustainability (EGS) and Political Sustainability (POS) from the DS construct. The identified factors of all these constructs with an Eigen value greater than 1, together explained over 60.23 % and 71.9 % of the variance for CIS and DS respectively and hence it was assumed that the model represents the data. There were no significant cross loadings between items in this analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.861 for CIS and 0.827 for DS. The Bartlett Test of Sphericity was significant ($p < 0.001$) with a Chi Square value of 2554.0 with 120 degrees of freedom for CIS and Chi Square value of 2576.0 with 105 degrees of freedom for DS which are considered to be appropriate for further analysis of factorization. Table 5.5 gives the details.

Table 5.5: Correlation Matrix

Particulars	CIS	DS
Determinant of the matrix	0.000	0.001
Bartlett's statistic	2554 (df: 120; p = 0.000)	2576 (df: 105; p=0.000)
Kaiser-Meyer-Olkin(KMO) Test	0.861	0.827

Communalities

Communalities between measured items loaded on the EFA model varied from 0.648 for EI.4 item to 0.818 for EI.1 of CIS (Table-5.6). The lowest communality of the GI.3 item (linkage with other sectors) showed that this item was the weakest measured item, so such item cannot be retained for further analysis. As far DS is concerned, all items were loaded significantly and the explanation of the model ranged from 0.709 for EGS 4 item to 0.886 (Table 5.7).

Table 5.6: Factor loadings of CIS construct (Rotated)

Variable	Coding	Indicator	Factor Loadings	Cronbach Alpha	Cumulative variance (Percentages)
1.	GI.1	Democratic Selection	0.767	0.808	21.619
2.	GI.2	Capacity building	0.771		
3.	GI.3	Linkage with other sectors	0.247		
4.	GI.4	Intermediary	0.676		
5.	GI.5	Awareness programmes	0.732		
6.	GI.6	Benefit sharing	0.815		
7.	GI.7	Advisory	0.731		
8.	EI.1	Engage as Watchers	0.818	0.875	43.041
9.	EI.2	Environmental reporting	0.812		
10.	EI.3	Resource protection	0.789		
11.	EI.4	Financial support	0.648		
12.	EI.5	Eco-guiding	0.812		
13.	CI.1	Production of local products	0.752	0.823	60.230
14.	CI.2	Tourism activities	0.753		
15.	CI.3	Promotional activities	0.796		
16.	CI.4	Enterprise development	0.719		

Table 5.7: Factor loadings of DS construct (Rotated)

Variable	Coding	Indicator	Factor Loadings	Cronbach Alpha	Cumulative variance (Percentages)
1.	ECS.1	Increase in tourism employment	0.793	0.881	22.825
2.	ECS.2	Improvement in bargaining power	0.817		
3.	ECS.3	Increase in thrift and savings	0.817		
4.	ECS.4	Increase in community enterprises	0.819		
5.	ECS.5	Improved Linkages	0.826		
6.	EGS.1	Decreased illicit activities	0.814	0.836	40.685
7.	EGS.2	Improvement in Envntl. reporting	0.798		
8.	EGS.3	Improvement in Envntl. awareness	0.859		
9.	EGS.4	Improvement in Envntl. information	0.709		
10.	SCS.1	Decrease in anti social issues	0.885	0.886	57.971
11.	SCS.2	Improvement in Skill level	0.886		
12.	SCS.3	Reintroduction of traditional art forms	0.863		
13.	POS.1	Increase in representation	0.829	0.778	71.903
14.	POS.2	Downward shift in decision making	0.783		
15.	POS.3	Improved community linkages	0.833		

Loadings of measure item on latent factors

The rotated component matrix (Table 5.6 & 5.7) showed that loadings of each measured item on each of the three latent factors identified (GI, EI and CI) for CIS and four latent factors identified (ECS, EGS, SCS and POS)

for DS. One indicator variable Eco-guiding It indicated that the measured items have significantly high loadings on their hypothesized constructs and the cross loadings between them and other factors are lower than the minimum criteria of 0.5. Accordingly, the convergent and divergent reliabilities of the constructs and their measured items have been confirmed.

It was seen that EFA does not show any diversion from the existing hypothesized dimension of construct in both CIS as well as DS. Even then, one indicator variable ‘Eco-guiding and interpretation’ (initially identified with CI dimension) showed higher loading to EI dimension. This can be contextually justified as the prime objective of community based guiding and interpretation is to protect the ecosystem. So all those identified three latent factors of CIS and four latent factors of DS were retained, henceforth those identified constructs are called as the latent constructs. One indicator variable ‘linkages with other sectors’ showed loading less than 0.50 (i.e. 0.247) and hence has been excluded from further analysis. The final three latent constructs retained under CIS were: (a) Governance Intervention (GI), (b) Ecodevelopment Intervention (ED) and (c) Commercial Intervention (CI). Similarly, the latent constructs of DS were: (a) Economic Sustainability (ECS), (b) Socio-Cultural Sustainability (SCS), (c) Ecological Sustainability (EGS) and (d) Political Sustainability (POS).

5.3.2 Confirmatory Factor Analysis (CFA)

In order to determine the ability of a predefined factor model to fit an observed set of data Confirmatory Factor Analysis (CFA) was conducted. CFA provides estimates for each parameter of the measurement model. CFA is also useful to:

- Test the relationship between two or more factor loadings.
- Test the significance of a specific factor loading.
- Assess the convergent and discriminant validity of a set of measures.
- Test whether a set of factors are correlated or uncorrelated.

In order to evaluate model, various parameters were used (Table 5.8).

Table 5.8: Model evaluation Parameters

Sl No.	Parameter
1.	Factor loading
2.	Factor variance
3.	Covariance
4.	Indicator Error variance
5.	Error Covariance

Before validating the full structural model with all latent variables, it was necessary to validate each of the measurement models to get more clarity about all constructs (first and second order) under study. The measurement model deals with the latent variables and their indicators. Through measurement model validity can be evaluated by using goodness of fit measures. Further, it is necessary to verify various data considerations before conducting CFA (Table 5.9).

Table 5.9: Data Considerations

Sl. No	Data considerations
1.	Absence of missing data
2.	Absence of outliers
3.	Adequacy of sample size
4.	Existence of univariate and multivariate normality

The data collected for the study were found free from missing values and outliers as per the procedure explained in section 5.2.1. As there is no specific method to determine the sample size required for CFA, as mentioned, certain threshold limits were followed in statistical analysis. Though the threshold ratio recommended range is within 4:1 to 10:1 (Flynn & Pearcey, 2001), the present study had item ratio more than 20:1 for the SEM. It indicates a very high acceptance ratio. Analysis of normality was done in the univariate level and multivariate level as discussed in section 5.2.3. Maximum likelihood estimation method was used in all analysis using AMOS.16.

5.4 Confirmatory Factor Analysis for CIS Dimensions

It is generally recommended that measurement model of individual dimensions are to be verified before drawing a structural model of a construct. In other words, the exogenous constructs and their respective explaining variables are to be finalized before drawing a structural model. This may give more clarity to various dimension of constructs under study. Following section presents measurement models of various dimensions of CIS and its appropriateness in finalizing a structural model.

5.4.1 Measurement Model for Governance Intervention (GI)

The six indicator variable model of GI dimension was found to be a poor fitting model in the initial estimate. The Normed data, RMSEA and CFI were above permissible level. On subsequent verification of modification indices, one factor variable, viz., ‘advisory role’ was showing cross loading to other variables and was found to be the reason for the poor fit and hence was removed. The resultant model was found to be a good fitting model with five indicators as illustrated in Figure 5.1. All the paths shown in the

model were significant as critical ratios were above 1.96. Table 5.10 shows the fit indices of Commercial Intervention.

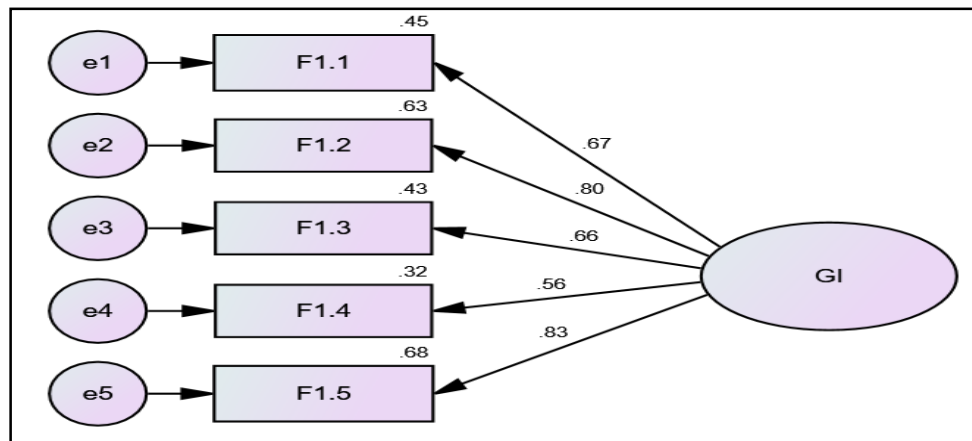


Figure 5.1: Measurement model for Governance Intervention

Table 5.10: Fit Indices of Governance Intervention

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	2.970
	2. RMSEA	0.075
	3. Goodness of fit index (GFI)	0.983
Incremental fit measures	4. Non normal fit index (NFI)	0.976
	5. Comparative fit index (CFI)	0.984
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.952

5.4.2 Measurement Model for Ecodevelopment Intervention (EI)

The five indicator variable model of EI dimension was found to be an over identified model (the number of estimable parameters is less than the number of data points) in the first estimates. The Normed data, RMSEA and CFI were within the permissible limits. All the path shown in the model were significant as critical ratios were above 1.96. The confirmatory factor

analysis showed an acceptable overall model fit and hence, the theorized model was found to fit well with the observed data. It is therefore concluded that the hypothesized five factor CFA model fits the sample data very well as illustrated in Figure 5.2. Table 5.11 shows the fit indices of Commercial Intervention.

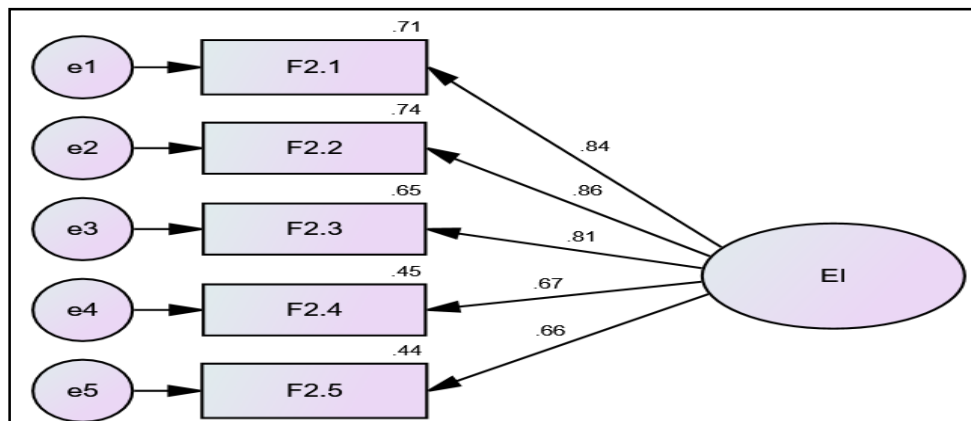


Figure 5.2: Measurement model for Ecodevelopment Intervention

Table 5.11: Fit Indices of Ecodevelopment Intervention

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	1.773
	2. RMSEA	0.047
	3. Goodness of fit index (GFI)	0.990
Incremental fit measures	4. Non normal fit index (NFI)	0.990
	5. Comparative fit index (CFI)	0.996
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.971

5.4.3 Measurement Model for Commercial Intervention (CI)

The four indicator variable model of CI dimension was also an over identified model in the first estimates. The Normed data, RMSEA and CFI were within the permissible limits. So the identified model was found to be

right fitting model with four indicators as illustrated in Figure 5.3. All the paths shown in the model were significant as critical ratios were above 1.96. Accordingly, it can be concluded that the hypothesized four factor model fits the sample data very well. Table 5.12 shows the fit indices of Commercial Intervention.

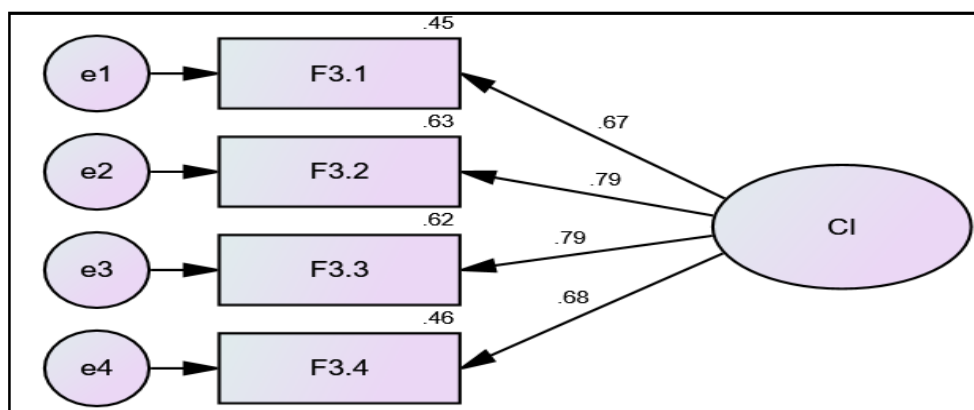


Figure 5.3: Measurement model for Commercial Intervention

Table 5.12: Fit Indices of Commercial Intervention

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	2.477
	2. RMSEA	0.065
	3. Goodness of fit index (GFI)	0.993
Incremental fit measures	4. Non normal fit index (NFI)	0.990
	5. Comparative fit index (CFI)	0.994
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.966

5.4.4 Structural Model for CIS Construct

The statistical significance of the relationships among CIS and its identified and extracted dimensions such as GI, EI and CI were second order constructs in this study. The identified measurement models of CIS

dimensions such as GI, EI and CI were taken together to form a structural model of CIS, as shown in Figure 5.4

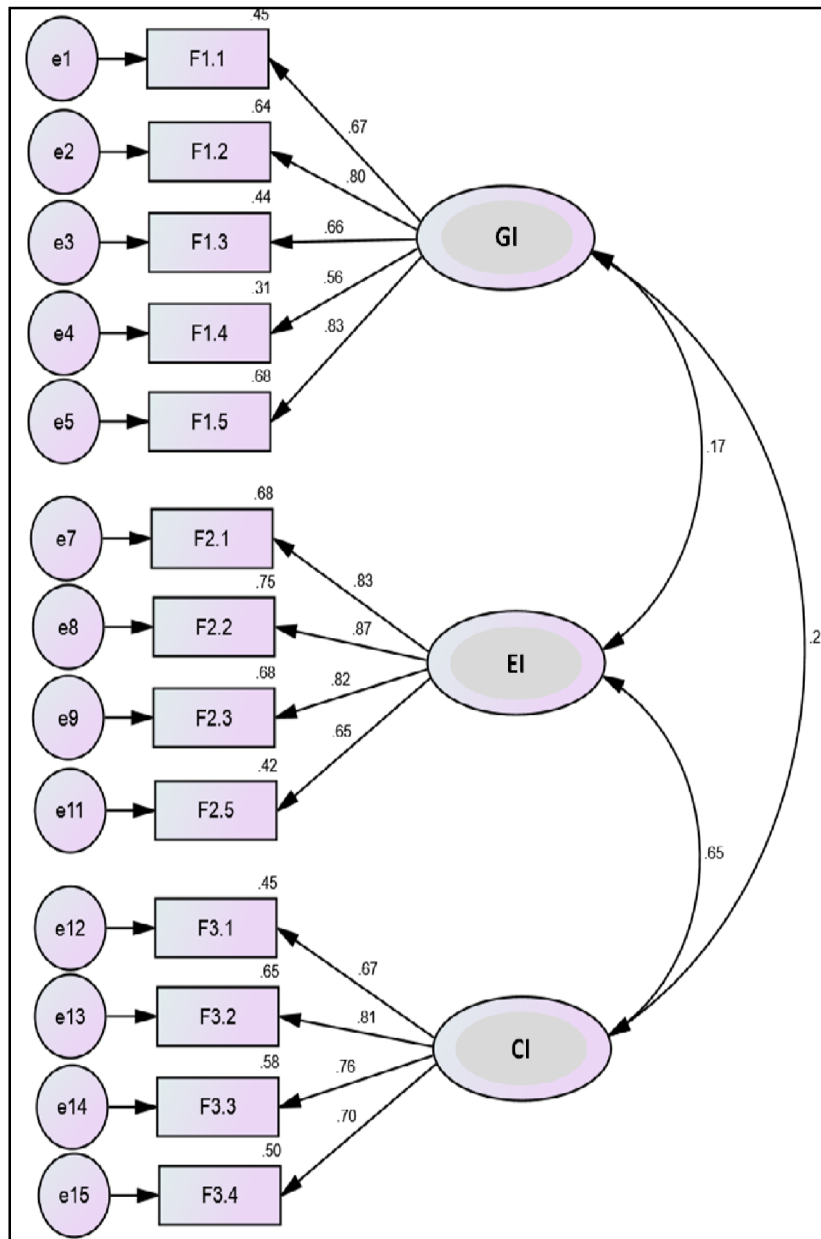


Figure 5.4: Structural model for CIS construct

5.5 Confirmatory Factor Analysis for DS Dimensions

Before presenting the structural model of DS, it is imperative to identify the relative importance of various dimensions and its fitness with data. In other words, the exogenous constructs and their respective explaining variables are to be finalized as the first step. Following section discuss measurement models of various dimensions of DS.

5.5.1 Measurement Model for Economic Sustainability (ECS)

The five indicator variable model of ECS dimension was suggesting an over identified model (the number of estimable parameters is less than the number of data points) in the first estimates. The Normed data, RMSEA and CFI were within the permissible limits. All the paths shown in the model were significant as the critical ratios were above 1.96. The confirmatory factor analysis showed an acceptable overall model fit and hence, the theorized model fit well with the observed data. It can be concluded that the hypothesized five factor CFA model fits the sample data very well as illustrated in Figure 5.5. The fit indices of economic sustainability are given in Table 5.13.

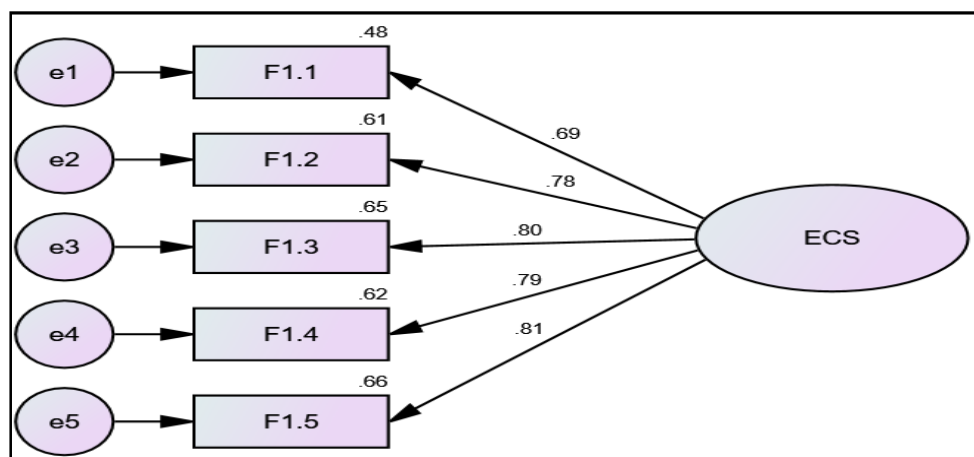


Figure 5.5: Measurement model for Economic Sustainability

Table 5.13: Fit Indices of Economic Sustainability

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	2.313
	2. RMSEA	0.061
	3. Goodness of fit index (GFI)	0.949
Incremental fit measures	4. Non normal fit index (NFI)	0.938
	5. Comparative fit index (CFI)	0.970
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.921

5.5.2 Measurement Model for Ecological Sustainability (EGS)

The four indicator variable model of EGS dimension is also an over identified model in the first estimates. The Normed data, RMSEA and CFI were within the permissible limits. So the identified model was found to be the right fitting model with four indicators as illustrated in Figure 5.6. All the paths shown in the model were significant as the critical ratios were above 1.96. Hence, it can be concluded that the hypothesized four factor model fits the sample data very well. Table 5.14 shows the fit indices of Ecological Sustainability

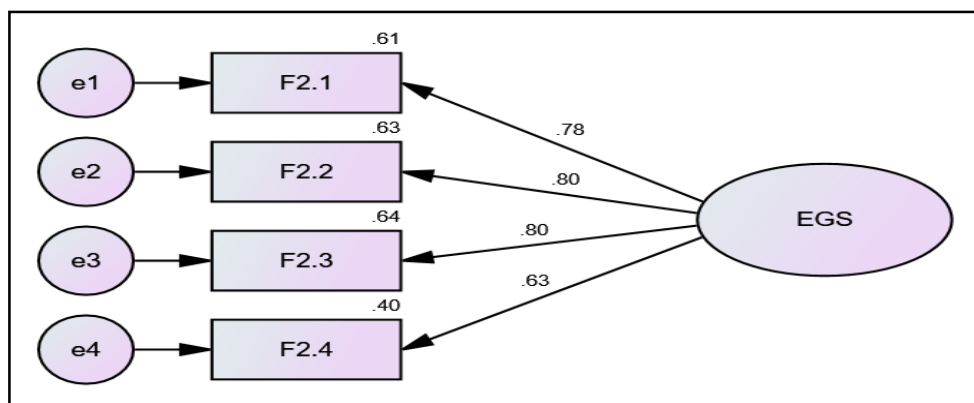
**Figure 5.6: Measurement model for Ecological Sustainability**

Table 5.14: Fit Indices of Ecological Sustainability

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	1.512
	2. RMSEA	0.038
	3. Goodness of fit index (GFI)	0.996
Incremental fit measures	4. Non normal fit index (NFI)	0.995
	5. Comparative fit index (CFI)	0.998
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.978

5.5.3 Measurement Model for Socio Cultural Sustainability (SCS)

In the very first estimate the three indicator variable model of SCS dimension was found to be an over identified model. All the fit indices were within the permissible limits. All the paths shown in the model were significant as critical ratios were above 1.96. Accordingly, the identified model can be considered as the right fitting model with three indicators as illustrated in Figure 5.7. The fit indices of socio cultural sustainability are given in table 5.15.

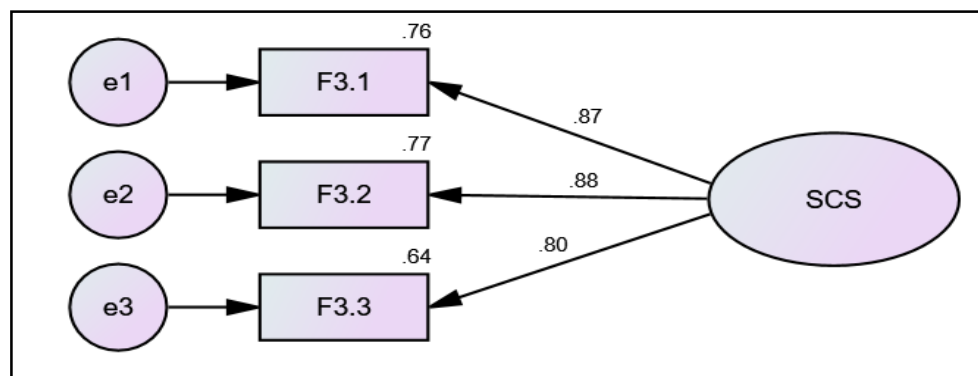
**Figure 5.7: Measurement model for Socio Cultural Sustainability**

Table 5.15: Fit Indices of Socio Cultural Sustainability

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	1.129
	2. RMSEA	0.019
	3. Goodness of fit index (GFI)	0.994
Incremental fit measures	4. Non normal fit index (NFI)	0.990
	5. Comparative fit index (CFI)	0.997
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.980

5.5.4 Measurement Model for Political Sustainability (POS)

The measurement model of political sustainability constructs showed that the initial estimates of the three indicator variable model was found to be a valid fitting model. All the fit indices were within the permissible limits. All the paths shown in the model were significant as the critical ratios were above 1.96. So the identified model is considered to be right fitting model with three indicators as illustrated in Figure 5.8. Table 5.16 shows the fit indices of Political Sustainability.

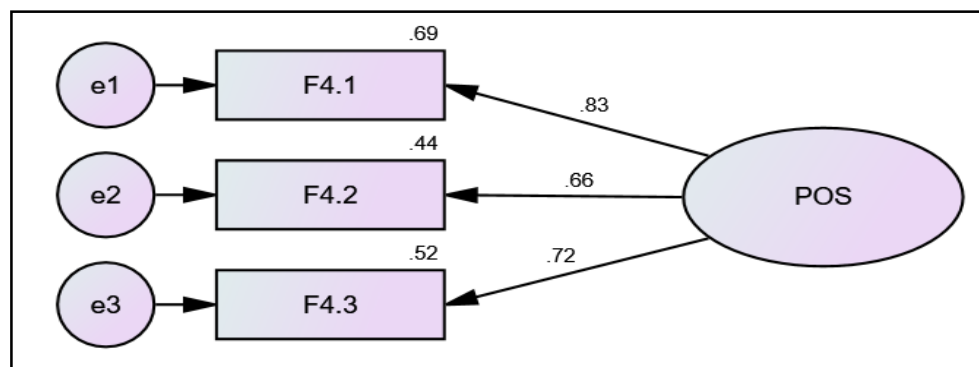
**Figure 5.8: Measurement model for Political Sustainability**

Table 5.16: Fit Indices of Political Sustainability

Fit measures	Indicators	Value obtained
Absolute Fit Measures	1. CMIN/DF	1.952
	2. RMSEA	0.050
	3. Goodness of fit index (GFI)	0.941
Incremental fit measures	4. Non normal fit index (NFI)	0.940
	5. Comparative fit index (CFI)	0.972
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.919

5.5.5 Structural Model for DS Construct

Statistical significance of relationship among DS construct and its identified and extracted dimensions such as ECS, EGS, SCS and POS were second order constructs in this study. As mentioned earlier, in order to form a structural model of DS, all the four right fitting measurement models economic sustainability, ecological sustainability, socio cultural sustainability and political sustainability were taken together. The model developed is illustrated in Figure 5.9.

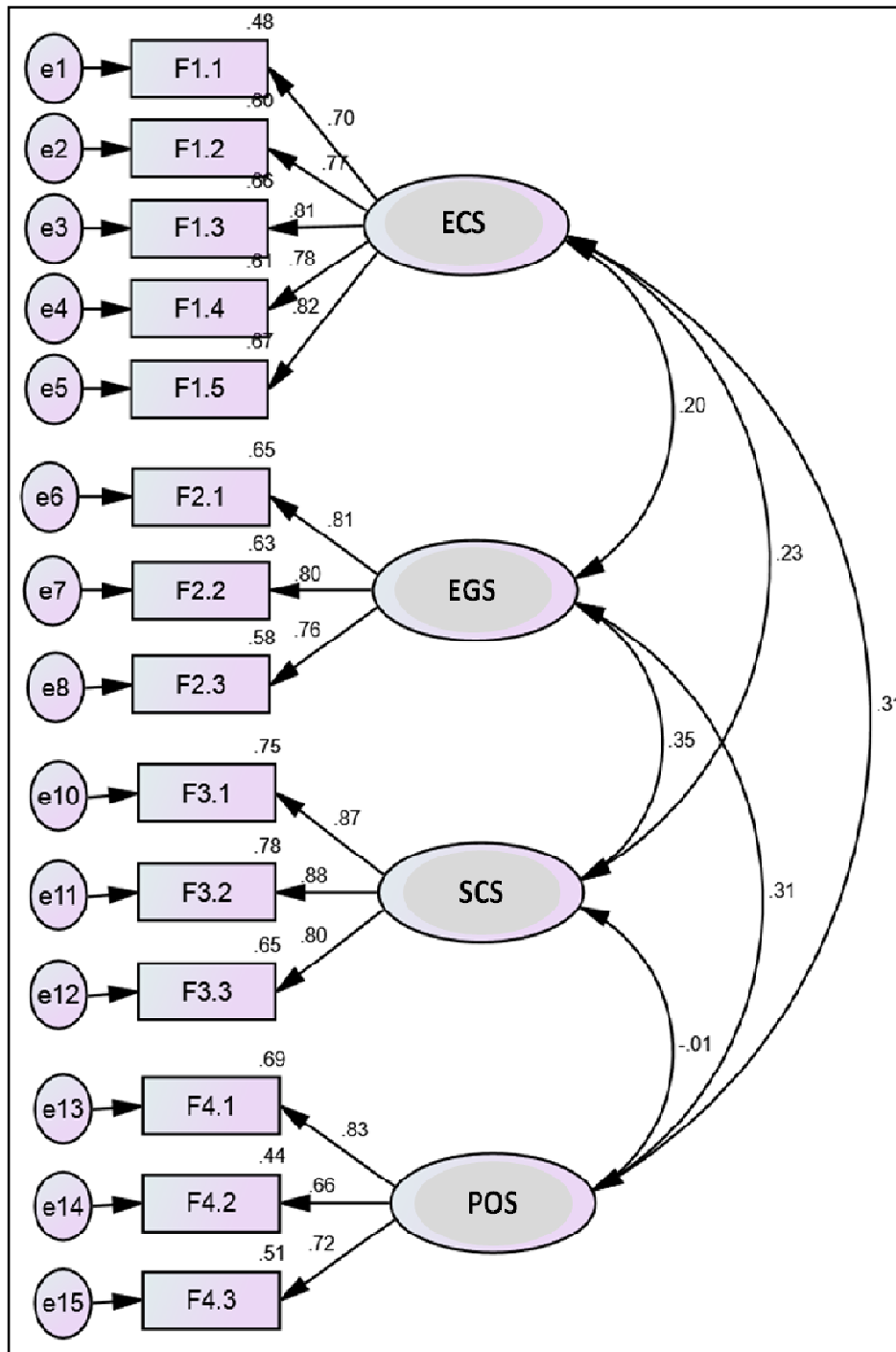


Figure 5.9: Structural model for DS construct

There are two important considerations which are used to test the statistical significance using Amos output. Firstly, the critical ratio (C.R.), which represents the parameter estimate divided by its standard error based on a probability level of 0.05, where the critical ratios are to be $> \pm 1.96$ for statistical significance. At the same time non-significant parameters, with the exception of error variances, can be considered unimportant to the model and hence they have to be removed from the model (Byrne 2010). Secondly, the standard residual co-variance should be less than the threshold limit of 2.58 to conclude statistically significant co-variance between two variables (Byrne 2010). In such cases, these observations cannot be considered for further analysis. In the present model, the first model developed for CIS as well as DS showed that standard residual covariance between some of the variables were above the threshold limit i.e. 2.58. In such cases, re-specification is required for finalizing a good fitting model by considering empirical reasoning as well as the appropriateness of the model. Accordingly, model re-specification was done on the basis of modification indices. Through re-specification two variables pertaining to EI (Resource protection) of CIS and EGS (Improvement in environmental information) of DS have been removed. The re-specified model thus showed a better fit as shown in Table 5.17.

Table 5.17: Fit Indices of CIS and DS after re-specification

Fit measures	Indicators	CIS	DS
Absolute Fit Measures	1. CMIN/DF	2.240	1.959
	2. RMSEA	0.060	0.052
	3. Goodness of fit index (GFI)	0.945	0.944
Incremental fit measures	4. Non normal fit index (NFI)	0.934	0.942
	5. Comparative fit index (CFI)	0.962	0.970
Parsimony fit measures	6. Adjusted goodness of fit index (AGFI)	0.919	0.918

From the above analysis, it can be concluded that:

- As far as CIS was concerned, initially there were 16 indicator variables. However, one variable which related to ‘linkage with other sectors’ had to be removed from the factor set due to poor loading in EFA. Similarly two variables viz., ‘advisory role’ from GI was removed from the stage of development of measurement model, and ‘Resource protection’ from EI (F1.6) was removed during the re-specification stage. Finally the CIS construct had 13 indicator variables.
- In case of DS, all the initial 15 indicator variables were retained at EFA stage and one variable i.e. ‘Improvement in environmental information’ from EGS (F2.4) was removed at the stage of re-specification structural model (see Figure 5.9). Accordingly DS construct was finalized with 14 indicator variables.

Table 5.18 shows the details of the first order constructs with 13 indicators of the CIS scale which was finally developed for Community Based Ecotourism (CBE) in PAs of Kerala. Overall reliability scale was 0.838 for CIS. The model fit summary and estimates are given in Table 5.17.

Table 5.18: Variables after Confirmatory Factor Analysis- CIS

Construct	Variables	No. of Indicators	Cronbach's Alpha
Governance Intervention (GI)	Democratic Selection, Capacity building, Intermediary, Awareness programmes, and Benefit sharing	5	0.826
Ecodevelopment Intervention (EI)	Engage as Watchers, Environmental reporting, Financial support, and Eco guiding	4	0.866
Commercial Intervention (CI)	Production of local products, Tourism activities, Promotional activities, and Enterprise development	4	0.823

Table 5.19 gives the details of the first order constructs with 14 indicators of DS scale developed finally for CBE in PAs of Kerala. Overall reliability scale for DS was 0.817. The model fit summary and estimates are given in Table 5.17.

Table 5.19: Variables after Confirmatory Factor Analysis- DS

Construct	Variables	No. of Indicators	Cronbach's Alpha
Economic Sustainability (ECS)	Increase in tourism employment, Improvement in bargaining power, Increase in thrift and savings, Increase in community enterprises, and Improved Linkages	5	0.881
Ecological Sustainability (EGS)	Decreased illicit activities, Improvement in Env'tal. Reporting, and Improvement in Env'tal. awareness level	3	0.828
Socio Cultural Sustainability (SCS)	Decrease in anti social issues, Improvement in Skill level, and Reintroduction of traditional art forms	3	0.886
Political Sustainability (POS)	Increase in representation of community, Downward shift in decision making, and Improved community linkages	3	0.778

5.6 Validation of CIS and DS

5.6.1 Common Methods Variance

Common methods variance (CMV) is considered as an issue to be addressed while measuring the soundness of measurement scale developed, as it is considered as a major source of measurement error in data

collection when variables are latent and measured using the same survey at one point of time. It may affect the validity of the conclusions as there is a possibility of inflating the correlation among latent constructs. So an EFA is warranted. According to Podsakoff and Organ (1986), the presence of CMV can be understood if:

- a single factor emerges from unrotated factor solutions, or
- a first factor explains more than 50% of the variance in the variables.

The EFA of CIS construct with all variables in the study emerged with three distinct factors with an Eigenvalue above 1. The first factor accounted for 21.6% of the variance but all factors together accounted for 60.23% of the total variance. After initial solution using varimax rotation in principal component analysis, the same factor was retained with the same value (21.6%). So it can be concluded that CMV was not identified in this study. As far as DS is concerned, the first factor accounted for 24.88%, at the same time, all factors together constituted 71.9% of the total variance. After initial solution same factor accounted for 22.82 % and hence it is confirmed that CMV is not present in this study.

5.6.2 Convergent Validity

Convergent validity refers to the extent to which the same trait is measured by different methods. In other words, the relationship between measurement items and the factors are significantly different from zero and thus the Convergent validity is established. Critical ratios were used to evaluate the statistical significance of convergent validity. Parameters which have a critical ratio greater than 1.96 are considered significant based on the confidence level of $p=0.05$ (Anderson & Gerbing, 1988). In this study, for

both CIS as well as DS, critical ratio of all of the measurement items were more than 1.96 value; hence, convergent validity is satisfied (See Table 5.16 & 5.17). Further, as Hair, Black, Babin, Anderson and Tatham (2006) has suggested that the standardized regression weights should be more than 0.5 or ideally it should exceed 0.7. In this study as indicated in Table 5.20 and 5.21, the factor loadings for CIS as well as DS are more than 0.5. Hence convergent validity is established further.

Table 5.20: Estimates and squared multiple correlation of all indicators of CIS

Items	Estimate	SE	CR	P	Std.Reg.Coef.	smc
F1.1 <--- GI	1.000				0.668	0.446
F1.2 <--- GI	1.026	0.084	12.256	***	0.797	0.636
F1.3 <--- GI	0.826	0.078	10.580	***	0.660	0.435
F1.4 <--- GI	0.810	0.088	9.160	***	0.559	0.313
F1.5 <--- GI	1.112	0.089	12.499	***	0.825	0.681
F2.1 <--- EI	1.000				0.826	0.682
F2.2 <--- EI	1.079	0.059	18.428	***	0.868	0.753
F2.3 <--- EI	1.018	0.059	17.342	***	0.823	0.677
F2.5 <--- EI	0.904	0.071	12.792	***	0.650	0.422
F3.1 <--- CI	1.000				0.670	0.449
F3.2 <--- CI	1.132	0.092	12.281	***	0.808	0.653
F3.3 <--- CI	1.063	0.090	11.806	***	0.761	0.579
F3.4 <--- CI	0.894	0.080	11.128	***	0.705	0.496

Table 5.21: Estimates and squared multiple correlation of all indicators of DS

Items			Estimate	SE	CR	P	Std.Reg.Coe.	smc
F1.1	<---	ECS	1.000				0.695	0.484
F1.2	<---	ECS	0.929	0.071	13.041	***	0.772	0.595
F1.3	<---	ECS	1.070	0.079	13.615	***	0.811	0.657
F1.4	<---	ECS	0.968	0.073	13.221	***	0.784	0.614
F1.5	<---	ECS	1.069	0.078	13.703	***	0.817	0.667
F2.1	<---	EGS	1.000				0.805	0.649
F2.2	<---	EGS	0.882	0.064	13.890	***	0.795	0.632
F2.3	<---	EGS	1.017	0.075	13.572	***	0.764	0.584
F3.1	<---	SCS	1.000				0.868	0.753
F3.2	<---	SCS	1.033	0.053	19.407	***	0.881	0.776
F3.3	<---	SCS	0.961	0.054	17.668	***	0.803	0.645
F4.1	<---	POS	1.000				0.830	0.690
F4.2	<---	POS	0.811	0.076	10.676	***	0.662	0.438
F4.3	<---	POS	0.905	0.081	11.166	***	0.717	0.515

Convergent Validity Assessment is an important validating tool consists of measure of construct reliability and average variance extracted (AVE). AVE is the amount of variance that is captured by the construct in association with the amount of variance due to measurement error (Anderson, 1994). AVE is a more conservative measure than construct reliability (Anderson & Gerbing, 1992). Besides these two measures, the other criteria used to assess convergent validity are as follows:

- As a rule of thumb, good reliability is suggested if Cronbach's alpha estimate is higher than 0.7.
- An acceptable Variance extracted for a construct should be larger than 0.5.

- As a rule of thumb, composite reliability is considered high if squared multiple correlation R^2 (“smc”) is greater than 0.5, moderate if between 0.3 and 0.5 and poor if less than 0.3 (Holmes-Smith, 2001).

The construct reliability and variance extracted by each of the dimensions used for CIS and DS are given in Table 5.22.

Table 5.22: Composite Reliability and Variance Extracted by each construct

Sl. No.	CIS			DS		
	First order construct	Composite reliability	Variance extracted	First order construct	Composite reliability	Variance extracted
1.	GI	0.880	597	ECS	0.915	682
2.	EI	0.912	721	EGS	0.899	748
3.	CI	0.884	656	SCS	0.930	815
4.				POS	0.872	694

5.6.3 Discriminant Validity

Discriminant validity is defined as the extent to which traits are distinct. This can be confirmed through correlations among the constructs. In SEM, correlation among construct should be less than 0.85. In other words, correlation more than 0.85 indicates poor discriminant validity in structural equation modeling (Anderson & Gerbing, 1988). As indicated in Tables 5.23 and 5.24 none of the correlations among variables were above 0.85. This results indicates an adequate discriminant validity of the measurement.

Table 5.23: Correlations among constructs of CIS

Correlation			Estimate	SIC
GI	<-->	EI	0.168	0.026
EI	<-->	CI	0.645	0.416
GI	<-->	CI	0.225	0.051

Table 5.24: Correlations among constructs of DS

Correlation			Estimate	SIC
ECS	<-->	EGS	0.204	0.042
ECS	<-->	SCS	0.229	0.052
ECS	<-->	POS	0.310	0.096
EGS	<-->	SCS	0.349	0.121
EGS	<-->	POS	0.313	0.098
SCS	<-->	POS	0.010	0.001

Further, squared inter construct correlations (SIC) were calculated and compared with the average variance extracted to confirm discriminant validity. All variance extracted given in Table 5.22 indicate higher values than the SIC estimates as given in Tables 5.23 and 5.24. Therefore, discriminant validity of the measurement can be established again.

5.6.4 Nomological Validity

Finally, construct covariance was used to assess the Nomological validity. All the covariance among the constructs of CIS as well as DS were positive and significant as can be seen in Tables 5.25 and 5.26, thereby confirming nomological validity.

Table 5.25: Covariance among constructs of CIS

Covariance			Estimates	SE	CR	P
GI	<-->	EI	0.098	0.037	2.652	.008
EI	<-->	CI	0.392	0.051	7.649	***
GI	<-->	CI	0.119	0.036	3.334	***

Table 5.26: Covariance among constructs of DS

Covariance			Estimates	SE	CR	P
ECS	<-->	EGS	0.119	0.038	3.158	.002
ECS	<-->	SCS	0.157	0.043	3.629	***
ECS	<-->	POS	0.204	0.045	4.515	***
EGS	<-->	SCS	0.228	0.044	5.205	***
EGS	<-->	POS	0.196	0.044	4.499	***
SCS	<-->	POS	0.168	0.047	3.894	***

From the above analysis, it can be confirmed that the scale developed for the measuring CIS and DS of CBE programmes of PAs in Kerala have adequate psychometric soundness.

5.7 Structure of CIS and DS

The present study identified both CIS as well as DS as a multidimensional second order formative constructs with three first order reflective constructs for CIS and four first order constructs for DS for the CBE destinations of Kerala. For instance, if there is an increase in overall magnitude of CIS due to an incremental change in any one of the dimension like ‘Governance Intervention’, without affecting the other dimensions, then CIS will be considered as a formative construct. Similarly, if there is an

increase in the overall magnitude of DS due to an incremental change in any one of the dimensions like ‘Economic sustainability’ without affecting other dimensions, then DS will also be considered as a formative construct. Theoretically, CIS and DS constructs can be conceptualized as first-order reflective constructs and second-order formative constructs.

5.8 Measurement Model for DQ

Another reflective model conceptualized in the study was Destination Quality (DQ). Validation of this construct was also done using AMOS 16.0. The six indicator variable model suggested by UNWTO for “Destination Quality” has been adopted for this study. Measurement items of the DQ are coded as: Destination Safety and Security (DSS), Destination Harmony (DHAR), Destination Accessibility (DACC), Authenticity at the Destination (DAUT), Transparency at the Destination (DTRN), and Destination Hygiene (DHYG).

The analysis indicated that the resulting model suggested a poor fit in its initial estimates. One indicator variable ‘Healthy and hygienic environment’ (DHYG) was not loaded and removed from further analysis. Two other variables viz., ‘authenticity’ (DAUT) and ‘transparency’(DTRN) were also showing poor values of squared multiple correlation. However, it was noticed that these two variables have strong error correlation. Since these questions are contextually complementary, the possibility of correlated responses are also more. So the identified relationships can be theoretically justified. Though DAUT and DTRN were poorly loaded, the study tried to retain these two variables by considering the theoretical as well as experimental importance. All fit indices were within the permissible limits in the subsequent modification

(See Table-5.27). All the paths shown in the model are found to be significant as the critical ratios were above 1.96. Accordingly, the five indicators were retained in the measurement model and in all further analysis DQ was considered as a reflective construct with five indicator variables. Measurement model for DQ is shown in Figure 5.10.

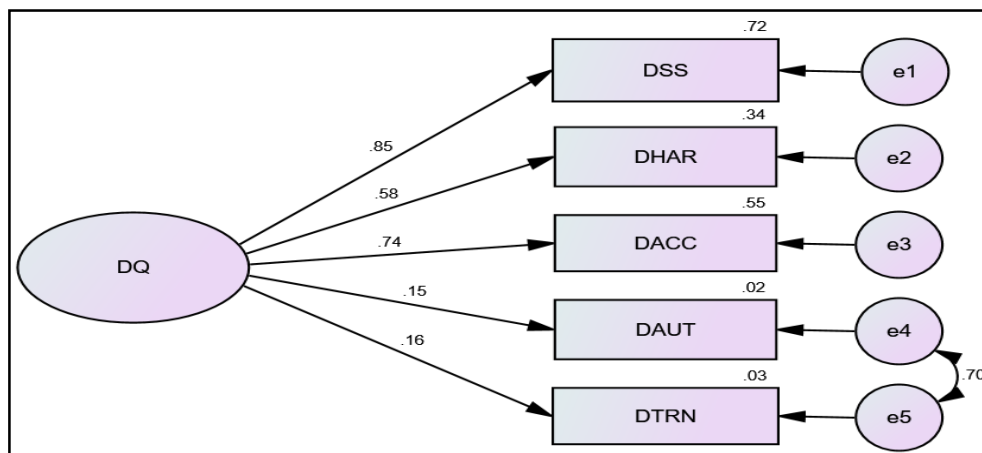


Figure 5.10: Measurement Model for DQ

Table 5.27: Goodness of Fit statistics of DQ

Fit measures	Indicators	Values
Absolute Fit Measures	1. CMIN/DF	1.019
	2. RMSEA	0.007
	3. Goodness of fit index (GFI)	0.995
Incremental fit measures	a) Non normal fit index (NFI)	0.992
	a) Comparative fit index (CFI)	1.000
Parsimony fit measures	a) Adjusted goodness of fit index (AGFI)	0.983

5.9 Hypothesis Testing

The present study used WarpPLS 4.0 for the analysis of the research model. In this study, two constructs, namely CIS and DS were conceptualized

as second order constructs. It is required to calculate the latent variable scores by creating models with latent variables and indicators (initially) without linking them in the analysis of second order constructs with WarpPLS. These latent variable scores are used to define the second order constructs in the final model.

As Kock and Lynn (2012) has stated, SEM is essentially a path analysis with latent variables, where each variable in a path model is measured through multiple indicators (e.g., multiple questions referring to the same construct in a questionnaire). Acceptance of the model is based on the model fit and conformity with various validity and reliability criteria. The detailed results of the analysis are provided in the following sections:

5.10 Individual Model

The purpose of the study was to test individual path coefficients to get more clarity about the relationships under the study. It also tried to verify whether the results of the individual model confirms the results of the integrated model or not. The following section will present the individual models of various constructs including first and second order under study.

5.10.1 Analysis of Relationship between Various Dimensions of CIS (Formative)

In order to identify CIS as formative or reflective constructs the statistical validity needs to be established. Though the researcher conceptualized CIS as formative second order constructs with reflective first order constructs, it has to be established statistically. Accordingly, analysis has been initiated to test the relationship between CIS, as a formative second order construct, and corresponding first order constructs were tested (See Table-28). The purpose

of this analysis was to test the relative ability of various first order constructs to explain the second order construct of CIS. In other words, CIS is an outcome formed of its dimensions.

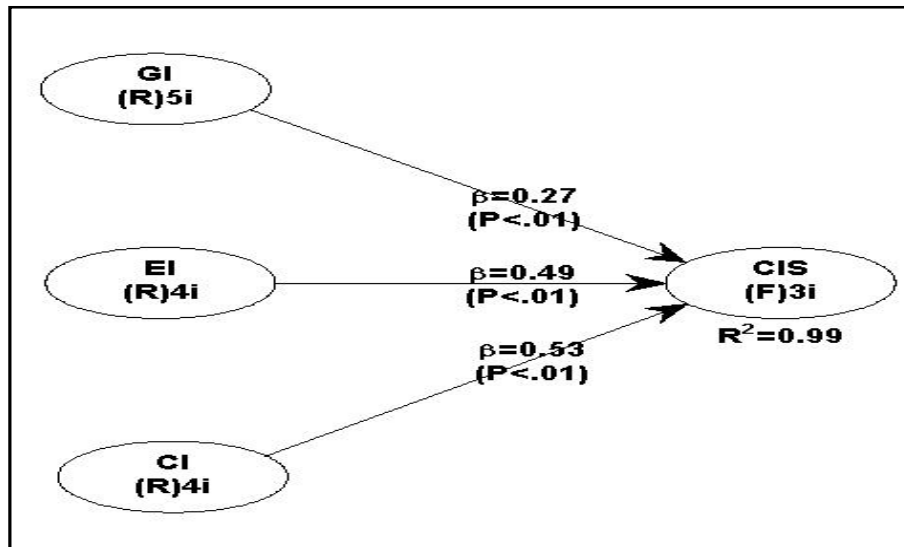


Figure 5.11: Relationship between various dimensions of CIS (Formative)

Table 5.28: Latent Variable Coefficients of CIS and its dimensions (Formative)

	GI	EI	CI	CIS
R-squared coefficients				0.992
Composite reliability coefficients	0.880	0.912	0.884	0.772
Cronbach Alpha coefficients	0.829	0.870	0.824	0.559
Average variance extracted	0.597	0.721	0.656	0.546

Table 5.29: Model fit indices and P values of CIS and its dimensions (Formative)

Model fit indices	P values
APC=0.430	P= <0.001
ARS=0.992	P= <0.001
AVIF=1.334	acceptable if <= 5

Model Validation

In order to identify the fitness of the model with the data, the recommended p-values for both the Average Path Coefficient (APC), the Average R-squared (ARS) have to be less than 0.05. Moreover, Variance Inflation Factor (AVIF) should be lower than 5 (Kock, 2009). Table 5.29 shows the model fit indices with p values of the estimated model. All the three fit criteria were found within the limit and so it can be assumed that: (a) the model has acceptable predictive and explanatory quality, and (b) the data is well represented by the model. As indicated in Figure 5.11, all hypothesized relationships were supported as all the standardized paths are more than 0.20 (Chin, 1998). All hypothesized dimensions namely, GI ($\beta = 0.27$), EI ($\beta = 0.49$) and CI ($\beta = 0.53$) were found significant at $p < 0.01$. Overall the explained variance for the CIS was 99%. Therefore it can be concluded that the CIS is a formative construct..

5.10.2 Analysis of Relationship between Various Dimensions of CIS (Reflective)

The next step was to test the relationship between CIS, as a reflective second order construct, and corresponding first order constructs (See Table-30). The purpose of this analysis was to check whether the second order construct CIS explains all the three first order constructs or not. In other words, it implies that the separate dimensions of CIS such as GI, EI and CI are different manifestations of CIS. Such a cross verification is required in a situation where the theoretical background is not established earlier.

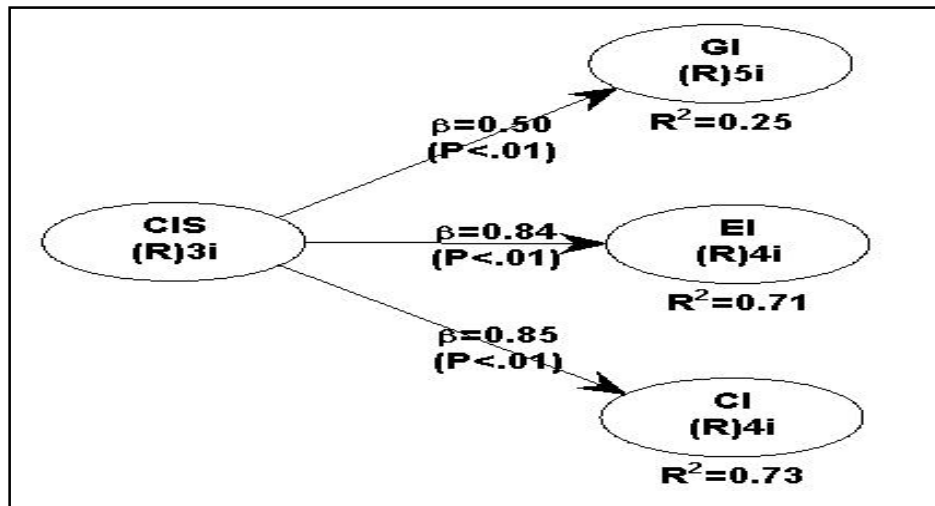


Figure 5.12: Relationship between various dimensions of CIS (Reflective)

Table 5.30: Latent Variable Coefficients of the variables in the model (Reflective)

	GI	EI	CI	CIS
R-squared coefficients	0.250	0.711	0.726	0.992
Composite reliability coefficients	0.880	0.912	0.884	0.772
Cronbach Alpha coefficients	0.829	0.870	0.824	0.559
Average variance extracted	0.597	0.721	0.656	0.546

Table 5.31: Model fit indices and P values of CIS and its dimensions (Reflective)

Model fit indices	P values
APC=0.732	P= <0.001
ARS=0.562	P= <0.001
AVIF=NA	acceptable if ≤ 5

Model Validation

The analysis shows that the p-values for both the Average Path Coefficient (APC), and the Average R-squared (ARS) were less than 0.05.

However, Average Variance Inflation Factor (AVIF) was not available. Since all three fit criteria were not found within the limit it can be assumed that: (a) the model has no acceptable predictive and explanatory quality as indicated in Table 5.31. So it can be inferred that the hypothesized model (relationship) is not supported. Accordingly, it can be concluded that CIS is second order formative construct with three first order reflective constructs (Figure 5.12). All subsequent analysis (integrated model) shall follow this hypothesized model (formative) in the study.

5.10.3 Analysis of Relationship between Various Dimensions of DS

The relationship between DS construct and corresponding first order constructs were tested (See Table-32). The purpose this analysis was to find out the relative ability of the various first order constructs to explain the second order construct DS.

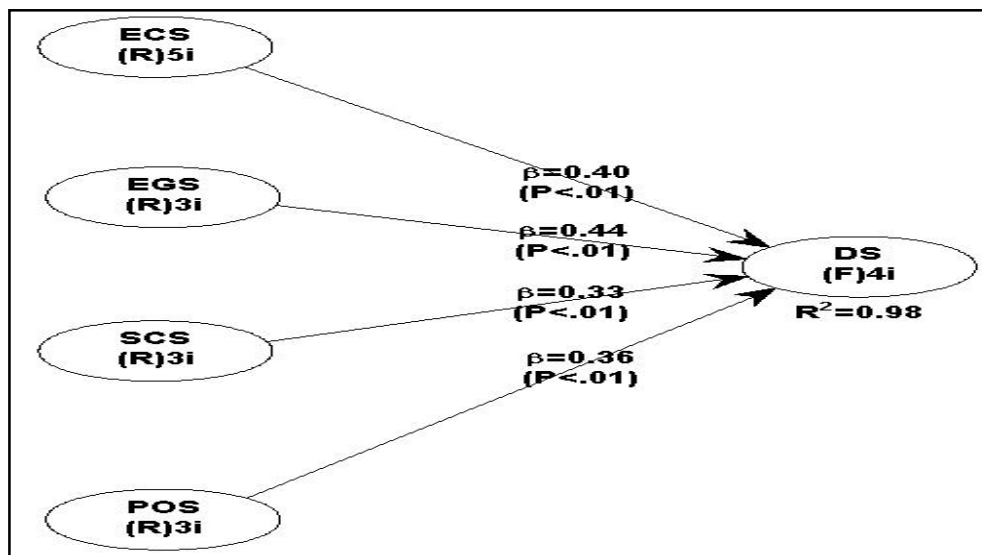


Figure 5.13: Relationship between various dimensions of DS (Formative)

Table 5.32: Latent Variable Coefficients of DS and its dimensions (Formative)

	ECS	EGS	SCS	POS	DS
R-squared coefficients					0.983
Composite reliability coefficients	0.915	0.899	0.930	0.872	0.727
Cronbach Alpha coefficients	0.883	0.831	0.887	0.779	0.499
Average variance extracted	0.682	0.748	0.815	0.694	0.402

Table 5.33: Model fit indices and P values of DS and its dimensions (Formative)

Model fit indices	P values
APC=0.380	P= <0.001
ARS=0.983	P= <0.001
AVIF=1.170	acceptable if ≤ 5

Model Validation

The results showed that the p value for both APC and ARS fell within the threshold value i.e. 0.05. The AVIF was also found within the limit (≤ 5). As given in Table 5.33, all the three fit criteria were found within the limit and so it can be assumed that: (a) the model has acceptable predictive and explanatory quality, and (b) the data is well represented by the model. As indicated in Figure 5.13, all hypothesized relationships were supported. All hypothesized dimensions: ECS ($\beta = 0.40$), EGS ($\beta = 0.44$) and SCS ($\beta = 0.33$) and POS ($\beta = 0.36$) were found significant at $p < 0.01$. Overall, the explained variance for the DS was 98%. Therefore it can be concluded that DS is a formative construct.

5.10.4 Relationship between First Order Constructs of Both CIS and DS

Since the study tries to establish various relationships among constructs, the relationship between the various first order constructs of CIS and first

order constructs of DS constructs were tested. The individual model analysis pertaining to various first order constructs of CIS and DS was administered to verify their ability to explain their individual relationships between these first order construct (See Table-34). In other words, before going to assess the collective predictive and explanatory quality of the second order construct CIS on DS, a detailed examination of the ability of first order construct of CIS to explain the relationship on various identified dimensions (first order constructs) of DS were considered imperative in the present context as the possibility of showing causal relations by the individual constructs cannot be ruled out in the contextual observation as well as statistical analysis, particularly in sustainability based studies.

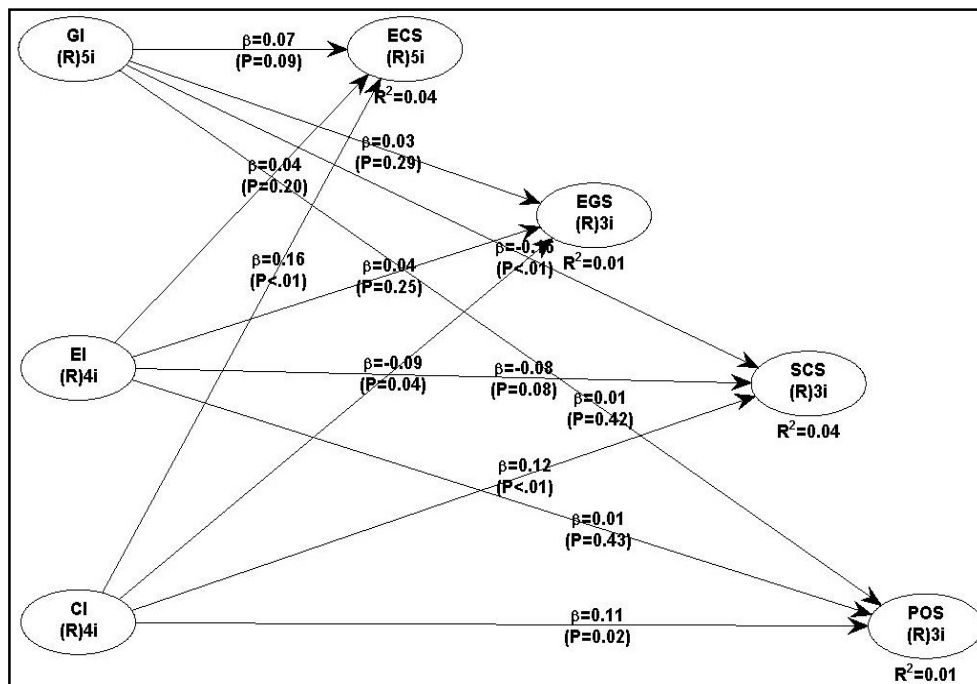


Figure 5.14: Relationship between the First order constructs of both CIS and DS

Table 5.34: Latent Variable Coefficients of the First order constructs of CIS and DS

	GI	EI	CI	ECS	EGS	SCS	POS
R-squared coefficients				0.038	0.013	0.044	0.012
Composite reliability coefficients	0.880	0.912	0.884	0.915	0.899	0.930	0.872
Cronbach Alpha coefficients	0.829	0.870	0.824	0.883	0.831	0.887	0.779
Average variance extracted	0.597	0.721	0.656	0.682	0.748	0.815	0.694

Table 5.35: Model fit indices and P values of the First order constructs of CIS and DS

Model fit indices	P values
APC=0.076	P= <0.037
ARS=0.027	P= <0.154
AVIF=1.050	acceptable if <= 5

Model Validation

The analysis showed that the p-values for both the APC, and the ARS were more than 0.05. However, AVIF was found within the limits. In practice, VIF is calculated for each of the predictors of a block of variables involving multiple predictors and one criterion (Kock 2009). However, the analysis presented here has examined direct relationship also. It may also be noted that the analysis was also administered with multiple predictors and one criterion while framing individual models for the study and it was found that there was no statistically significant difference in AVIF and the values were more or less similar with the model given in Figure 5.14.

Since all three fit criteria were not found within the limit, it can be assumed that: (a) the model has no acceptable predictive and explanatory quality as indicated in Table 5.35. So it can be understood that the hypothesized model (relationships) is not supported. It may be noted that the interpretation of the model fit indices depend on the goal of the SEM analysis. If the goal is to only test hypotheses, then the model fit indices are of little importance (Kock, 2012). With regard to influence of various dimensions of CIS to the dimensions of DS, it was observed that CI constructs have minor direct impact ($\beta = 0.16$) on ECS at $p < 0.01$, whereas none of the CIS dimensions were found to have significant direct impact on EGS at $p < 0.01$. As far as SCS is concerned, GI and CI dimensions have minor direct impact ($\beta = 0.16$ & $\beta = 0.12$) at $p < 0.01$. None of the CIS dimensions found significant direct impact at $p < 0.01$ with POS. According to Chin (1998), standardized paths should be at least 0.20 for a meaningful for discussion. However, in the context of enhancement sustainability, activities resulting in the improvement of the existing situation is being evaluated. In other words, measurement was directed towards the positive changes occurred above status quo sustainability of the ecotourism destinations. In this context, even a minor changes in the existing situation need to be acknowledged. In this direction, it can be inferred that though some of the relationships viz., relationship between CI and ECS, the relationship between GI and SCS, relationship between CI and SCS, are statistically not found very significant, but in reality, all these relationships are found significant in the enhancement sustainability perspective.

5.10.5 Relationship between Various Dimensions of DS and DQ

As mentioned, certain indicators of DS and DQ are same. For example, reduced antisocial elements leading to safety. So there is a reciprocal relationship between these two constructs. Another observation is that DQ precedes DS as DQ is considered as an important component of DS. In order to test these two arguments, the following step was adopted: The relationship between various first order constructs of DS and DQ were tested (See Table-36). The analysis aimed to test the ability of various dimensions of DS to explain DQ. In other words, it was observed that various indicator variables of DS most often help to contribute to DQ.

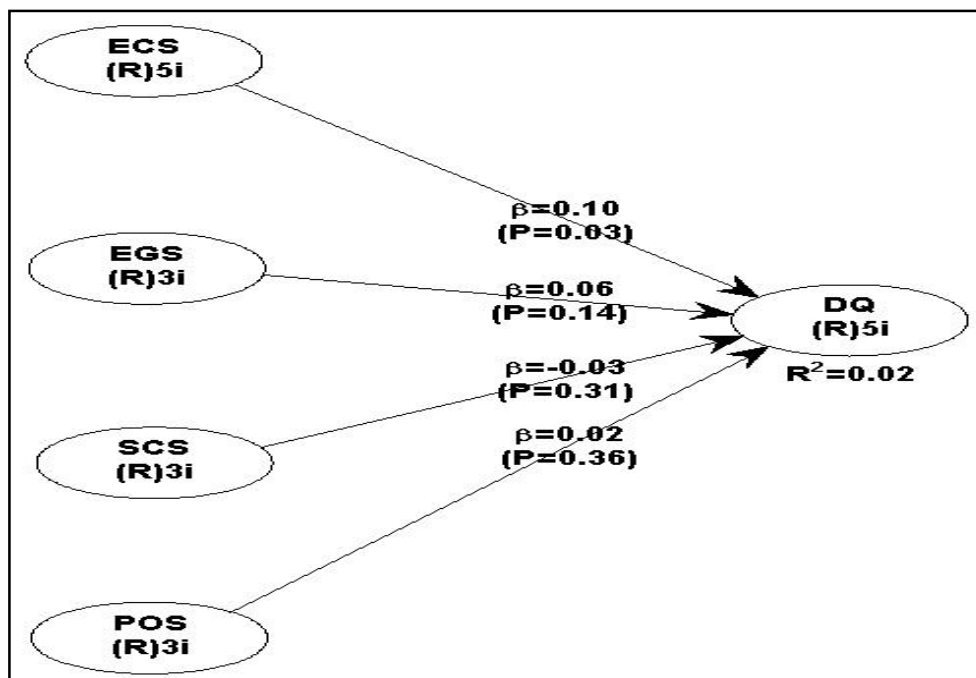


Figure 5.15: Relationship between first order constructs of DS and DQ

Table 5.36: Latent Variable Coefficients of the first order constructs of DS and DQ

Coefficient	ECS	EGS	SCS	POS	DQ
R-squared coefficients					0.018
Composite reliability coefficients	0.915	0.899	0.930	0.872	0.790
Cronbach Alpha coefficients	0.883	0.831	0.887	0.779	0.673
Average variance extracted	0.682	0.748	0.815	0.694	0.438

Table 5.37: Model fit indices and P values of first order constructs of DS and DQ

Model fit indices	P values
APC=0.050	P= <0.086
ARS=0.018	P= <0.185
AVIF=1.124	acceptable if ≤ 5

Model Validation

The results showed that the recommended p-values for both APC and ARS are more than 0.05. The AVIF was lower than 5 as indicated in the Table 5.37. Out of all the three fit criteria, only AVIF was found to be within the limit. So it can be assumed that: (a) the model may not have the required predictive and explanatory quality. As mentioned, if the goal of analysis is to only test hypotheses, then the model fit indices are of little importance (Kock, 2012). In this analysis, it was observed that none of the dimension of DS have direct significant impact on DQ at $p < 0.01$ (See Figure-5.15). In other words, there must be at least 0.20 standard coefficient for a significant path (Chin, 1998).

5.10.6 Relationship between DQ and Various Dimensions of DS

As mentioned above, the reverse relationship between DQ and various dimensions (first order constructs) of DS were tested to address the conceptual alternatives. This is important because there are arguments that DQ is the antecedent to DS, so the structural positions of DS and DQ were exchanged to support integrated reverse causality model. In other words, this analysis aimed to test the causal relationship between DQ on various dimensions of DS, as the indicators of both DQ and DS complement each other (See Table-38).

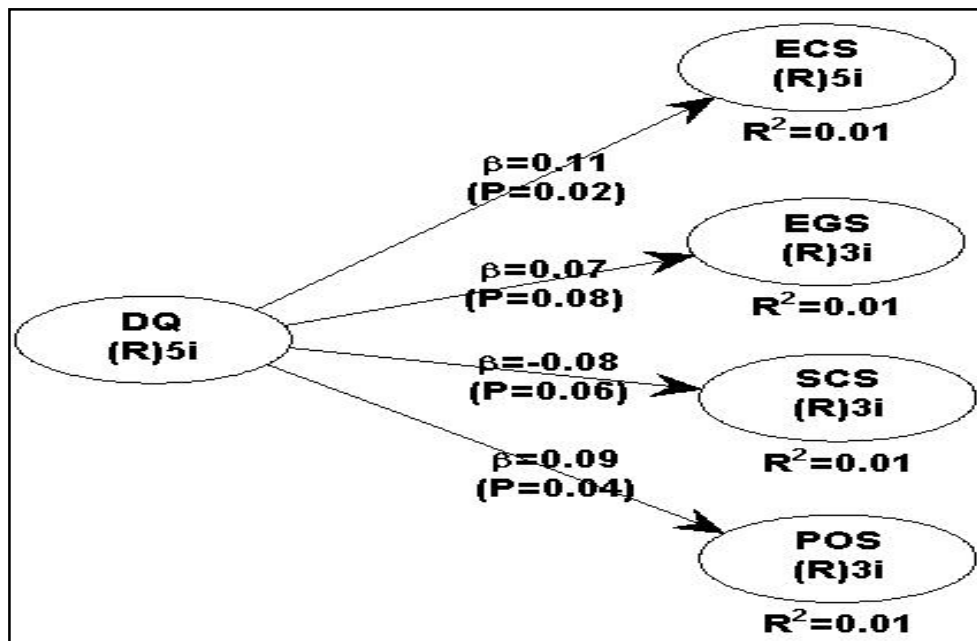


Figure 5.16: Relationship between DQ and first order constructs of DS

Table 5.38: Latent Variable Coefficients of DQ and first order constructs of DS

Coefficient	ECS	EGS	SCS	POS	DQ
R-squared coefficients	0.012	0.006	0.007	0.009	-
Composite reliability coefficients	0.915	0.899	0.930	0.872	0.790
Cronbach Alpha coefficients	0.883	0.831	0.887	0.779	0.673
Average variance extracted	0.682	0.748	0.815	0.694	0.438

Table 5.39: Model fit indices and P values of DQ and first order constructs of DS

Model fit indices	P values
APC=0.091	P= <0.021
ARS=0.008	P= <0.219
AVIF=NA	acceptable if ≤ 5

Model Validation

The analysis shows (Table 5.39) shows that out of all the three fit criteria only AVIF was found within the limit and so it can be assumed that: (a) the model may not have required predictive and explanatory quality. Accordingly, it was observed that DQ does not have direct significant impact on any of the dimensions of DS at $p < 0.01$ (See Figure-5.16). In other words, it can be stated that the influence of DQ on various dimensions of DS is found to be less significant.

5.10.7 Relationship between Various Dimensions of CIS and DQ

Another important relationship to be tested in this study is the relationship between various first order constructs of CIS and DQ (See Table-40). The purpose of this analysis was to identify the ability of various first order constructs of CIS to explain DQ in the context of PA based ecotourism.

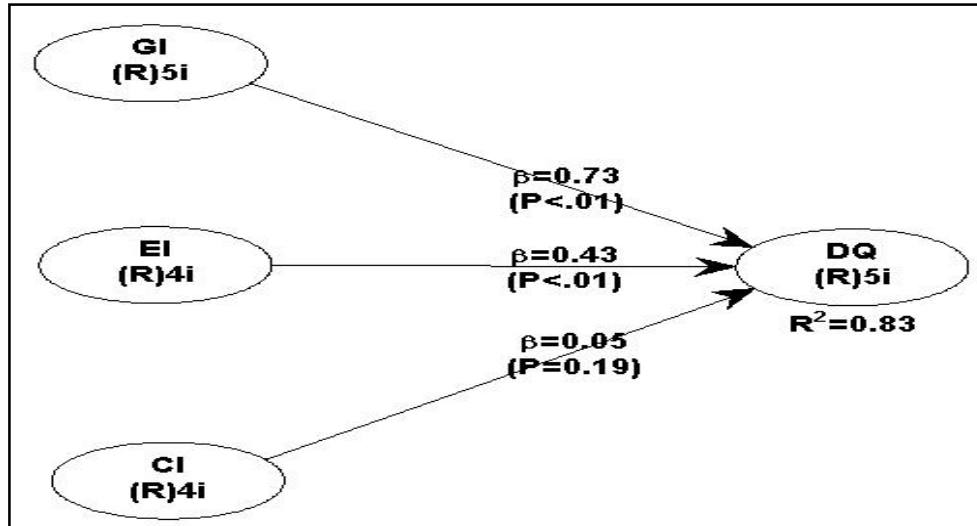


Figure 5.17: Relationship between First order constructs of CIS and DQ

Table 5.40: Latent Variable Coefficients of the First order constructs of CIS and DQ

Coefficient	GI	EI	CI	DQ
R-squared coefficients				0.829
Composite reliability coefficients	0.880	0.912	0.884	0.790
Cronbach Alpha coefficients	0.824	0.870	0.829	0.673
Average variance extracted	0.597	0.721	0.656	0.438

Table 5.41: Model fit indices and P values of the First order constructs of CIS and DQ

Model fit indices	P values
APC=0.400	P= <0.001
ARS=0.829	P= <0.001
AVIF=1.323	acceptable if <= 5

Model Validation

The recommended p-values for APC and ARS should be less than 0.05. The AVIF should be lower than 5. Table 5.41 shows that all the three fit criteria were found within the limit. Accordingly it has been assumed that: (a) the model has acceptable predictive and explanatory quality, and (b) the data is well represented by the model. When we analyse the influence of various dimensions of CIS to DQ, it was observed that out of the three hypothesized relationships, two dimensions viz., GI ($\beta = 0.73$) and EI ($\beta = 0.43$) had significant impact on DQ whereas CI ($\beta = 0.05$) was found insignificant at $p < 0.01$ (See Figure-5.17). Overall the explained variance for the CIS was 83%. Therefore it can be concluded that among the three first order constructs of CIS, GI and EI has significant causal relation with DQ.

5.11 Integrated Model

An integrated model is designed to get more clarity about the effect of CIS on DS and DQ, and how DS and DQ mediate reciprocally while assessing the community contribution on these two constructs. It is also helps to understand the cumulative effect if any, of community intervention on DS as well as DQ in the context of CBE destinations of Kerala.

5.11.1 Integrated Research Model Assessing the Relationship between Formative Second Order Construct CIS on DQ and DS

In this analysis, the effect of CIS as formative second order construct was tested on DS and DQ. The effect of DQ as a mediating construct (Stacy, Michael & Peter, 1991; Morgan & Hunt, 1994) on DS has also been tested in this context. The purpose of this analysis was to get a holistic idea of the causal relationship between the major constructs under study (See Table-42).

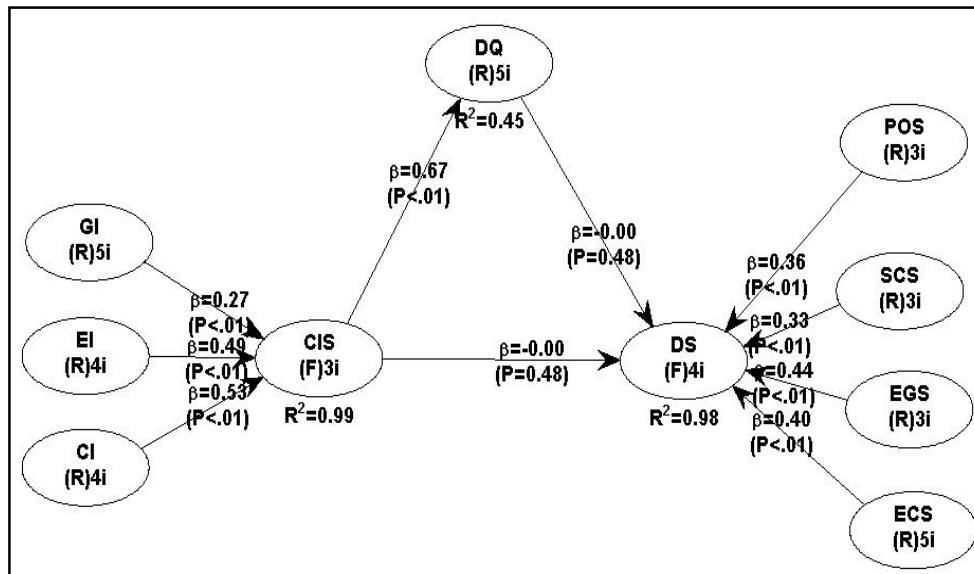


Figure 5.18: Relationship between second order construct CIS on DQ and DS

Table 5.42: Latent Variable Coefficients of the variables in the model

Coefficient	CIS	DS	DQ
R-squared coefficients	0.992	0.982	0.455
Composite reliability coefficients	0.772	0.727	0.790
Cronbach Alpha coefficients	0.559	0.499	0.673
Average variance extracted	0.546	0.402	0.438

Table 5.43: Model fit indices and P values of the Research Model

Model fit indices	P values
APC=0.349	P= <0.001
ARS=0.810	P= <0.001
AVIF=1.231	acceptable if ≤ 5

Model Validation

Table 5.43 shows the model fit indices with p values of the estimated model. All the three fit criteria were found within the limit. Therefore it can be assumed that: (a) the model has acceptable predictive and explanatory quality, and (b) the data is well represented by the model.

Analysis of the integrated model linking the influence of CIS construct on DQ and DS as well as DQ on DS showed that out of the three, only one hypothesized relationship was supported. i.e., the relationship between CIS and DQ ($\beta = 0.67$). In other words, CIS has direct significant impact on DQ at $p < 0.01$ in the reverse causality model also. The explained variance for DQ was 45. The other hypothesized relationship i.e. CIS on DS as well as DQ on DS were found insignificant ($\beta = 0.00$.) at $p < 0.01$ as shown in Figure 5.18.

5.11.2 Integrated Reverse Model Assessing the Relationship between Formative Second Order Construct of CIS on DS and DQ

In this analysis, the effect of CIS as formative second order construct was tested on DS and DQ. The effect of DS as a mediating construct (Stacy, Michael & Peter, 1991; Morgan & Hunt, 1994) on DQ has also been tested in this context. The purpose of this analysis was to get a holistic idea of the causal relationship between the major constructs under study (See Table 24).

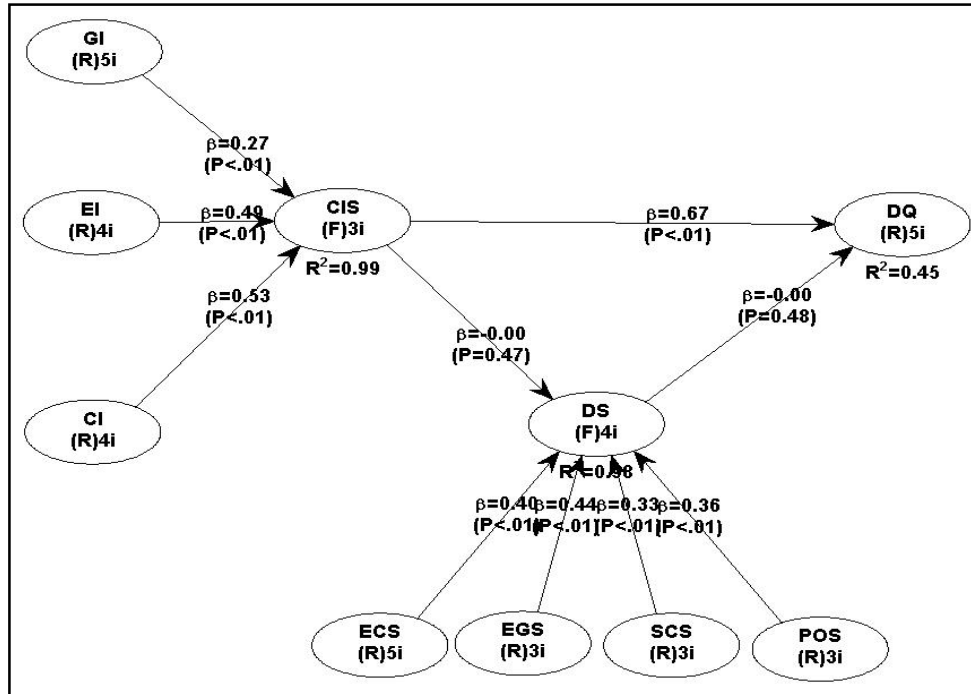


Figure 5.19: Relationship between second order construct of CIS on DS and DQ

Table 5.44: Latent Variable Coefficients of the variables in the model

Coefficient	CIS	DS	DQ
R-squared coefficients	0.992	0.983	0.454
Composite reliability coefficients	0.772	0.727	0.790
Cronbach Alpha coefficients	0.559	0.499	0.673
Average variance extracted	0.546	0.402	0.438

Table 5.45: Model fit indices and P values of the Reverse Model

Model fit indices	P values
APC=0.349	P= <0.001
ARS=0.810	P= <0.001
AVIF=1.173	acceptable if ≤ 5

Model Validation

Table 5.45 shows the model fit indices with p values of the estimated model. All the three fit criteria were found within the limit. Hence it can be assumed that: (a) the model has acceptable predictive and explanatory quality, and (b) the data are well represented by the model.

Analysis of the integrated model linking the influence of CIS construct on DS and DQ as well as DS on DQ, showed that out of the three, only one hypothesized relationships i.e. the relationship between CIS and DQ ($\beta = 0.67$) was supported (See Figure 5.19). In other words, CIS has direct significant impact on DQ at $p < 0.01$. The explained variance for DQ was 45. All other hypothesized relationships i.e. CIS on DS as well as DS on DQ were found insignificant ($\beta = 0.00$) at $p < 0.01$.

5.12 Validity of Reflective Constructs in the Model

Reflective constructs used in this model were first order dimensions of CIS and DS constructs as well as DQ. In order to check the validity of reflective constructs, the following criteria were adopted:

5.12.1 Validation of DQ

As the indicators like composite reliability co-efficient (0.790), Cronbach alpha (0.704) and the average variance extracted (AVE = 0.438) obtained after the estimation of the model were above the threshold limits we can conclude that the construct DQ is reliable.

In order to verify the Convergent validity, the loadings of each indicator of the construct and their p values were considered. All the items were considerably loaded above 0.5 and were significant at $p < 0.05$ and thus we could establish the convergent validity (Table 5.46).

Table 5.46: Factor loadings and p values for DQ construct-Convergent validity

Indicators	Loading to DQ	'P' Values
Safety and security (DSS)	0.802	<0.001
Human and environment relations (DHAR)	0.673	<0.001
Accessibility (DACC)	0.755	<0.001
Authenticity (DAUT)	0.505	<0.001
Transparency (DTRN)	0.520	<0.001

Discriminant validity of both reflective and formative constructs, latent variable correlations in the model were considered. The square root of the average variance extracted was found to be higher than any of the correlations involving that latent variables. Table 5.47 indicates that all the diagonal values were higher than any of the values above or below. Thus the discriminant validity is established.

Table 5.47: Latent variable correlations of constructs- Discriminant validity

Dimensions	CIS	DS	DQ
CIS	0.739	0.052	0.660
DS	0.052	0.634	0.023
DQ	0.630	0.036	0.662

5.12.2 Validation of Various Dimensions of CIS

The tables 5.48, 5.49, and 5.50 establish the reliability, convergent validity and discriminant validity of the three dimensions of the CIS construct as per guidelines mentioned in the previous section.

Table 5.48: Reliability analysis of CIS dimensions

Dimensions	Composite reliability	Cronbach Alpha	AVE
GI	0.880	0.829	0.597
EI	0.912	0.870	0.721
CI	0.884	0.824	0.656

Table 5.49: Factor loadings and p values for CIS dimensions-Convergent validity

Dimensions	GI	EI	CI	P Value
GI1	0.765			<0.001
GI2	0.826			<0.001
GI3	0.749			<0.001
GI4	0.670			<0.001
GI5	0.841			<0.001
EI1		0.876		<0.001
EI2		0.886		<0.001
EI3		0.866		<0.001
EI4		0.765		<0.001
CI1			0.772	<0.001
CI2			0.842	<0.001
CI3			0.836	<0.001
CI4			0.787	<0.001

Table 5.50: Latent variable correlations among CIS dimensions -Discriminant validity

Dimensions	GI	EI	CI
GI	0.773	0.164	0.183
EI	0.164	0.849	0.545
CI	0.183	0.545	0.810

(All correlations are significant at $p < 0.001$)

5.12.3 Validation of Various Dimensions of DS

As in the case of CIS, the following tables (Tables 5.51, 5.52 & 5.53) show the rationale of the reliability, convergent validity and discriminant validity of the four dimensions of the DS construct.

Table 5.51: Reliability analysis of DS dimensions

Dimensions	Composite reliability	Cronbach Alpha	AVE
ECS	0.915	0.883	0.682
EGS	0.899	0.831	0.748
SCS	0.930	0.887	0.815
POS	0.872	0.779	0.694

Table 5.52: Factor loadings and p values for DS dimensions-Convergent validity

Indicators	ECS	EGS	SCS	POS	P Value
ECS1	0.770				<0.001
ECS2	0.829				<0.001
ECS3	0.842				<0.001
ECS4	0.838				<0.001
ECS5	0.848				<0.001
EGS1		0.869			<0.001
EGS2		0.867			<0.001
EGS3		0.858			<0.001
SCS1			0.911		<0.001
SCS2			0.913		<0.001
SCS3			0.884		<0.001
POS1				0.865	<0.001
POS2				0.803	<0.001
POS3				0.830	<0.001

Table 5.53: Latent variable correlations among DS dimensions - Discriminant validity

Dimensions	ECS	EGS	SCS	POS
ECS	0.826	0.174	0.195	0.263
EGS	0.174	0.865	0.297	0.264
SCS	0.195	0.297	0.903	0.006
POS	0.263	0.264	0.006	0.833

(All correlations are significant at $p < 0.001$)

By verifying these values we can establish the reliability, convergent validity and discriminant validity of the measurement. The results re-confirmed the findings from confirmatory factor analysis.

5.13 Results of Individual Model Analysis

The results of the analysis can be verified based on the strength of beta coefficients. The beta coefficients are standardized partial regression coefficients, and reflect the strength of the associations between pairs of linked latent variables. Results of the individual model analysis is presented in the Table 5.54.

Table 5.54: Results of Individual model analysis

Sl.No	Relationship	Path Coefficient	P value	Significance	Special Remarks
1	GI → CIS	0.27	<0.01	Yes	
2	EI → CIS	0.49	<0.01	Yes	
3	CI → CIS	0.53	<0.01	Yes	
4	ECS → DS	0.40	<0.01	Yes	
5	EGS → DS	0.44	<0.01	Yes	
6	SCS → DS	0.33	<0.01	Yes	
7	POS → DS	0.36	<0.01	Yes	
8	GI → ECS	0.07	0.09	No	
9	EI → ECS	0.04	0.26	No	
10	CI → ECS	0.16	<0.01	Yes	*
11	GI → EGS	0.03	0.29	No	
12	EI → EGS	0.04	0.25	No	
13	CI → EGS	0.09	0.04	No	
14	GI → SCS	0.16	<0.01	Yes	*
15	EI → SCS	0.08	0.08	No	
16	CI → SCS	0.12	<0.01	Yes	*
17	GI → POS	0.01	0.42	No	
18	EI → POS	0.01	0.43	No	
19	CI → POS	0.11	0.02	No	
20	GI → DQ	0.73	<0.01	Yes	
21	EI → DQ	0.43	<0.01	Yes	
22	CI → DQ	0.05	0.19	No	
23	ECS → DQ	0.10	0.03	No	
24	EGS → DQ	0.06	0.14	No	
25	SCS → DQ	0.03	0.31	No	
26	POS → DQ	0.02	0.36	No	
27	DQ → ECS	0.11	0.02	No	
28	DQ → EGS	0.07	0.08	No	
29	DQ → SCS	0.08	0.06	No	
30	DQ → POS	0.09	0.04	No	SS at 0.05

* Significant in the context of enhancement sustainability

5.14 Results of Integrated Model Analysis

The results of the integrated research and reverse model analysis is verified based on the strength of beta coefficients and compared with individual model results. Results of the individual model analysis is presented in the Table 5.55.

Table 5.55: Results of Integrated (Original and Competing) Model analysis

Sl. No	Relationship	Path Coefficient	P value	Significance	Remarks
1.	GI → CIS	0.27	<0.01	Yes	#
2.	EI → CIS	0.49	<0.01	Yes	#
3.	CI → CIS	0.53	<0.01	Yes	#
4.	ECS → DS	0.40	<0.01	Yes	#
5.	EGS → DS	0.44	<0.01	Yes	#
6.	SCS → DS	0.33	<0.01	Yes	#
7.	POS → DS	0.36	<0.01	Yes	#
8.	CIS → DS	0.06	0.12	No	
9.	DS → DQ	0.00	0.48	No	
10.	CIS → DQ	0.67	<0.01	Yes	#
11.	DQ → DS (Reverse Model)	0.05	0.17	No	
12.	CIS → DS (Reverse Model)	0.04	0.25	No	
13.	CIS → DQ (Reverse Model)	0.67	<0.01	Yes	#

Found significant in individual model also

5.15 Analysis of Opinions of Tourists' towards DQ

The test of differences between Repeated Visitors (tourists who visited before 2006) and New Visitors (tourists visited other ecotourism sites) on the six different independent statements explaining Destination Quality (DQ) in CBE Destinations under study was done by using the Levene's independent sample 't' test along with the mean and standard deviation.

Repeated Visitors (RV) and New Visitors (NV) consisted of 100 and 150 persons respectively. RV (100 Nos.) were identified from the data base of tour operators' and tour guides'. Escorting staff of college or school study tours, independent travelers, back packers and regular visitors were the respondents. The investigator had visited the locations (5 to 7 times) to meet such repeated tourists as per the information from tour operators and guides.

Responses from New visitors were collected (150 Nos.) by issuing questionnaires to all tourists who were present during the visit of the investigator to the particular destination. Sorting was done to find those responses which related to tourists who had visited other ecotourism sites and they were met subsequently.

Both categories of respondents were encouraged to give their comments on six aspects of DQ. These were related to: the availability of authentic products (AAP), improvements in safety and security (ISS), improved transparency in transactions (ITT), improved health and hygienic measures (IHH), improved accessibility (IAC) and improved human environment relations (IHE).

The mean results of these six statements measured on a five point Likert scale of Repeated Visitor (RV) ranged from 3.66 to 2.86. At the same, time the mean values for New Visitor (NV) varied between 3.51 and 3.89.

Further, all the statements signifying AAP, ISS, ITT, IAC, IHE secured the mean values more than three except IHH. Thus, the relatively high mean value clearly indicated that the respondents could experience quality across PA based ecotourism destinations in the state.

Similarly, the results of standard deviation shown that there is a minor variation of dispersion from 1.26 to 1.10. Lower the standard deviation, the higher would be the uniformity of agreement. So the result of this study indicate that all tourists had more or less similar opinion about the quality aspect of the destination visited.

Table 5.56: Descriptive Statistics between Repeated Visitor (RV) and New Visitor (NV) on factors explaining DQ

Destination Quality Variables	Tourist category	Descriptive statistics result	
		Mean	Std. Dev.
AAP	RV	3.470	1.258
	NV	3.143	1.259
ISS	RV	3.200	1.255
	NV	3.186	1.244
ITT	RV	3.660	1.112
	NV	3.513	1.139
IHH	RV	2.860	1.172
	NV	2.893	1.210
IAC	RV	3.330	1.263
	NV	3.300	1.267
IHE	RV	3.410	1.101
	NV	3.360	1.124

The detailed examinations show that the level of agreement of RV on DQ is marginally higher as compared to the NV on all the factors, excepting IHH. However, the differences of mean are insignificant in the case of all the statements (See Table-5.56). It can be inferred that both RV and NV found each statement important in assessing quality of destinations. The response of the RV can give more clarity about the changes in quality that has happened during the past 7 years of the operationalisation of ecotourism across the PAs of Kerala.

‘t’ Test for Analysing the Opinions of Tourists towards DQ

In order to test the hypothesis, Levene’s sample independent t-test was employed. The purpose of this test was to test the significance of mean differences between Repeated Visitor (RV) and New Visitor (NV). As mentioned, NV are the tourists who visited other sites where community members were not active in ecotourism operations. It is important to find out whether the difference of means between the two groups are statistically significant or not. That is whether the P-value is less than or greater than .05. The two-tailed P values for all the six factors are 0.728, 0.934, 0.315, 0.829, 0.855, and 0.729 respectively. Table 5.57 illustrates the Levene’s t test for equality of variances between RV and NV on the six different aspects of DQ

The analysis shows that the means of both RV and NV are not significantly different on the six factors signifying the DQ in CBE Destinations of Kerala. So the null hypothesis is not rejected as P value for each individual statement is more than 0.05. The mean differences between RV and NV are statistically insignificant implying that RV and NV do not have differences as far as the six indicators comprising the improvement in the availability of authentic products, improvements in safety and security, improved transparency in transactions, improved health and hygienic measures, improved accessibility and improved human environment relations. Though minor differences between the means of the two categories of respondents may have occurred by chance, it is inferred that both the categories of tourists who visited CBE destinations of Kerala have expressed similar opinions about the quality aspects of the Destinations.

Table 5.57: t Test Independent sample test

Quality Variables		Levene's Test for Equality of Variances		T-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
AAP	Equal variances assumed	0.005	0.946	0.349	248	0.728	0.05667	0.16257	-0.26354	0.37687
	Equal variances not assumed			0.349	212.37	0.728	0.05667	0.16256	-0.26377	0.37710
ISS	Equal variances assumed	0.050	0.824	0.083	248	0.934	0.01333	0.16122	-0.30421	0.33087
	Equal variances not assumed			0.083	211.04	0.934	0.01333	0.16150	-.30503	0.33170
ITR	Equal variances assumed	1.131	0.289	1.007	248	0.315	0.14667	0.14571	-0.14032	0.43365
	Equal variances not assumed			1.012	215.83	0.313	0.14667	0.14500	-0.13913	0.43246
IHH	Equal variances assumed	0.202	0.653	-0.216	248	0.829	0.03333	0.15431	-0.33727	0.27060
	Equal variances not assumed			-0.217	216.93	0.828	0.03333	0.15332	-0.33553	0.26886
IAC	Equal variances assumed	0.071	0.791	0.184	248	0.855	0.03000	0.16347	-0.29196	0.35196
	Equal variances not assumed			0.184	212.77	0.854	0.03000	0.16336	-0.29201	0.35201
IHE	Equal variances assumed	0.003	0.958	0.347	248	0.729	0.05000	0.14405	-0.23371	0.33371
	Equal variances not assumed			0.349	215.31	0.728	0.05000	0.14345	-0.23274	0.33274

5.16 Analysis of Opinions of Stakeholders towards CIS

The following section will analyse the opinions of the various stakeholders i.e. Vana Samrakshana Samitis (VSS), Transport operators, Hospitality service providers and Shops and Establishments' about CIS across CBE destinations of Kerala. This study adopted expert (academic) interview method for finalizing the measurement instrument. Initially 12 indicators were identified, but during the discussion stage, it was found that three variables were redundant in nature and so they were removed. Finally, a nine item scale was used to get responses from the stakeholders. These items are: Democratic procedure (DMPR), Capacity building programme (CPBD), Eco-guiding and interpretation (EGIP), Integration of tourism with other sectors (INTR), Conservation activities (CONS), Education and awareness programmes (EDUA), Diversification of products (DIPD), Promotional activities (PRMN), and Intermediary (ITMY).

Levene's test for homogeneity was administered to check whether the assumption about homogeneity is violated or not. The test result revealed that it was not significant ($p > 0.05$) as shown in the Table 5.58. Hence, it is concluded that population variance of all groups are more or less equal.

Subsequently, One-Way ANOVA was administered to find the significant difference in the opinions of various stakeholders at the CBE Destinations of Kerala on CIS. The resultant F statistics shows that there existed no significant difference in the opinions of stakeholders on CIS at 0.05 levels (Table 5.59).

Table 5.58: Test of Homogeneity of variance

Test of Homogeneity of Variances				
CIS	Levene Statistic	df1	df2	Sig.
DMPR	0.464	3	196	0.708
CPBD	0.273	3	196	0.845
EGIP	0.645	3	196	0.587
INTR	0.028	3	196	0.994
CONS	0.285	3	196	0.836
EDUA	0.073	3	196	0.974
DIPD	0.227	3	196	0.877
PRMN	0.041	3	196	0.989
ITMY	0.889	3	196	0.448

Table 5.59: F Test for significance among stakeholders opinion on CIS variance

Opinion on CIS	VSS		Transport		Hospitality		Shops		F Value	P Value
	M	SD	M	SD	M	SD	M	SD		
DMPR	3.432	0.958	3.471	0.912	3.452	0.916	3.333	1.013	0.227	0.877
CPBD	3.621	0.923	3.671	0.863	3.666	0.874	3.607	0.960	0.065	0.978
EGIP	3.216	1.181	3.357	1.063	3.166	1.166	3.274	1.114	0.289	0.834
INTR	3.324	1.055	3.328	1.017	3.309	1.023	3.274	1.021	0.030	0.993
CONS	3.432	1.041	3.485	0.974	3.404	1.013	3.509	0.945	0.111	0.954
EDUA	2.783	1.133	2.885	1.110	2.809	1.109	2.823	1.143	0.082	0.970
DIPD	3.162	1.190	3.285	1.131	3.214	1.158	3.156	1.172	0.155	0.926
PRMN	2.864	1.228	2.942	1.202	2.785	1.200	2.862	1.216	0.152	0.928
ITMY	3.513	0.931	3.642	0.780	3.547	0.889	3.568	0.854	0.225	0.879

Significance level 0.05

5.17 Result of Hypothesis Testing

The results of the hypothesis developed and tested for the study is presented in Table 5.60.

Table 5.60: Results of hypothesis testing

Sl. No	No	Hypothesis	Significance
1	H1a	Governance Intervention → Community Intervention Strategies	Yes
2	H1b	Ecodevelopment Intervention → Community Intervention Strategies	Yes
3	H1c	Commercial Intervention → Community Intervention Strategies	Yes
4	H2a	Economic Sustainability → Destination Sustainability	Yes
5	H2b	Ecological Sustainability → Destination Sustainability	Yes
6	H2c	Socio-Cultural Sustainability → Destination Sustainability	Yes
7	H2d	Political Sustainability → Destination Sustainability	Yes
8	H3	Community Intervention Strategies → Destination Sustainability	No
9	H4	Community Intervention Strategies → Destination Quality	Yes
10	H5	Destination Quality → Destination Sustainability	No
11	H6	Destination Sustainability → Destination Quality (Reverse Model)	No
12	H7	Tourists' Opinion → Destination Quality	Yes
13	H8	Stakeholders' Opinion → Community Intervention Strategies	Yes

5.18 Conclusion

In order to meet the first study objective, the study tried to identify various Community Intervention Strategies (CIS) in ecotourism destinations of Kerala. Through exploratory sequential method, study has identified three dimensions with 13 indicators for CIS finalization, which has been done through EFA followed by CFA.

To identify various dimensions of destination sustainability in ecotourism destinations of Kerala, the study adopted the same procedure followed for CIS. The CFA results shows that there are 14 indicator variables forming four dimensions of DS in ecotourism destinations of Kerala.

The third major objective of the study was to examine the relationship between CIS and DS at the ecotourism destinations of Kerala. To understand the causal relationship between various second order construct i.e. CIS and DS individual model as well as integrated model were drawn. All indicators to corresponding construct were found significant in this study. Measurement variable to first order CIS latent constructs such as GI, EI and CI were found significant in the CFA. Similarly, the first order constructs of DS i.e. ECS, EGS, SCS, and POS were found significant in the CFA. All the indicators were found significant and thus content validity of the theory could be confirmed. The analysis shows that the relationship between CIS and DS was found to be statistically insignificant, baring minor changes noticed in the individual model, which can otherwise be interpreted as significant in enhancement sustainability perspective. This shows that the intervention of community could not bring a regular and sustaining change at the destinations of CBE of Kerala as it is envisaged.

The fourth objective of the study was test the relationship between CIS and DQ. The individual model as well as the integrated model indicates that the relationship between CIS and DQ was found significant (Table. 5.55). The significant relationship between CIS and DQ can be justified from the fact that the intervention of community members in ecotourism could bring substantial changes in the destinations particularly affecting various aspects of quality.

The fifth objective of the study was to test the relationship between DS and DQ in the context of ecotourism in Kerala. The results of the individual as well as integrated (Research) model indicates that the relationship between DS and DQ also found to be insignificant. Since the identified enhancement in sustainability is because of non- tourism activities, the absence of the causal relationship between DS and DQ can be justified.

The sixth objective of the study was to test the reverse relationship between DQ and DS in the context of ecotourism in Kerala. The results of the individual as well as integrated (Reverse) model indicates that the relationship between DQ and DS is found to be insignificant. This indicate that the presence of reciprocal relationship between DQ as well as DS variables are not found in this context.

Another important objective of the study was to understand the tourist's opinions on DQ. In order to study this objective, the present study formed a hypothesis stating that there is no significant difference in the opinions among tourist on DQ. The study supported this view, as both the types of tourists i.e. Repeated Visitors (RV) as well as New Visitors (NV) were having similar opinions on all the six indicators measuring DQ under study.

The final objective the study was to understand the stakeholders opinion on CIS across CBE Destinations of Kerala. The hypothesis relating to this showed that there is no significant difference in opinions among the various stakeholders about CIS. The study has found that all the nine indicators were similarly agreed to by all the stakeholders of the destinations.

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DISCUSSIONS, FINDINGS AND CONCLUSIONS

C o n t e n t s	6.1 <i>Rationale of the Study</i>
	6.2 <i>Development of Valid Scale for CIS and DS</i>
	6.3 <i>Examination of Linkage among CIS, DS and DQ</i>
	6.4 <i>Examination of Tourists' Opinion on DQ</i>
	6.5 <i>Examination of Stakeholders' Opinions on CIS</i>
	6.6 <i>Discussions of the Findings</i>
	6.7 <i>Supplementary Findings from the Study</i>
	6.8 <i>Conclusions</i>
	6.9 <i>Contribution to the Theory, Practice and Society</i>
	6.10 <i>Significance of the Study</i>
	6.11 <i>Scope for Future Research</i>
	6.12 <i>Implications of the Study</i>
	6.13 <i>Suggestions</i>
	6.14 <i>Recommendations</i>

In this chapter, the main findings of the study with regard to the research objectives are summarized. Conclusions are presented on the basis of the findings of the study, and discussed with empirical evidences and results from prior researches. Furthermore, significance of this study are considered and suggestions for further research are presented. A few recommendations are also made to strengthen community intervention to meet the sustainable development of the region and also to enhance the quality of the destinations.

6.1 Rationale of the Study

As mentioned in the WTO Guide for Local Authorities on Developing Sustainable Tourism, “Maintaining the sustainability of tourism requires managing environmental and socio-economic impacts, establishing environmental indicators and maintaining the quality of the tourism products and tourist markets” (UNWTO, 1998, p 11). Though the basic premises of ecotourism warrant for sustainable development of the region, empirical evidences show that attainment of such goals are far from reality. Such non compliance has happened due to the shortcomings in human/community intervention in operationalisation of ecotourism. Effectiveness of community participation has unfortunately not been adequately discoursed in the tourism scenario, particularly ecotourism. A conscious effort to study the structure of community intervention, probable dimensions and its resultant output have not received the required attention.

Quality management of destinations helps to increase the revisit intention among visitors and consequently, the destinations will have repeated visitors. It also helps to get increased word of mouth publicity leading to new visits. Both of these will help to increase the employment and income potential of the destination, thereby ensuring the economic sustainability of the region. It has been observed that if the ecotourism programmes are implemented in letter and spirit, the realization of other dimensions of sustainability also become possible to a great extent.

In Community Based Ecotourism (CBE), as Moscardo and Murphy (2014) have pointed out, communities in and around the destination should develop their capacity to manage tourism ventures or destinations and

thereby they can improve the well being of the community through tourism. This is the basic step to achieve destination sustainability as well as destination quality.

Institutionalized form of community intervention is considered as a reliable mechanism in ensuring consistency in operations and thereby a sustainable and quality destination can be guaranteed or envisioned. As Portugal and Babo (2014) have stated, such a mechanism can become instrumental in ensuring the achievement of such objectives through effective supervision as well as by delivering quality services to the visitors.

Existence of a common administrative body for ensuring quality and development of destinations is of utmost importance for CBE destinations. A local specific community driven framework at the destination will have an important bearing on quality aspects as well as sustainability of the destination. Such a framework may manage capacity and maintain consistency of quality of the destination (Pike & Page, 2014).

Evidence from various studies clearly indicate that activities of the community can have a strong bearing on destination sustainability as well as destination quality. More specifically, in the case of Protected Area (PA) based ecotourism destinations, local communities are considered as the major stake and stock holders of the attractions as the intervention of other groups are restricted in these regions.

It is in this background that this study was proposed. The objectives of the study were finalized based on these observations. The overall objective of this study was to study the community intervention strategies of ecotourism in Kerala. The other objectives were as follows:

6.1.1 Primary Objectives

- 1) To study the role of the community in meeting Destination Sustainability and Destination Quality.
 - a) To identify Community Intervention Strategies in ecotourism destinations of Kerala.
 - b) To identify the various dimensions of Destination Sustainability in ecotourism destinations of Kerala.
 - c) To test the relationship between Community Intervention Strategies and Destination Sustainability at the ecotourism destinations of Kerala.
 - d) To test the relationship between Community Intervention Strategies and Destination Quality at the ecotourism destinations of Kerala.
 - e) To test the relationship between Destination Sustainability and Destination Quality at the ecotourism destinations of Kerala.
 - f) To study the reverse relationship between Destination Quality and Destination Sustainability at the ecotourism destinations of Kerala.
- 2) To examine the opinions of stakeholders on Community Intervention Strategies at ecotourism destinations of Kerala, and
- 3) To examine the opinions of tourists on the Destination Quality of ecotourism destinations of Kerala.

6.1.2 Secondary Objectives

- 1) To highlight the structure of community intervention in ecotourism destination, and
- 2) To introduce enhancement sustainability perspective in ecotourism discourse.

6.2 Development of Valid Scale for CIS and DS

The study attempted to meet these objectives by identifying suitable dimensions capable of explaining the Community Intervention Strategies (CIS) in the context of ecotourism destinations in Kerala. The qualitative phase of the study had finalized 18 variables in the context of the present study. The empirical investigation into the dimensionality of CIS after confirmatory factor analysis, revealed three CIS dimensions containing 13 CIS attributes. It may be noted that there were no prior studies conducted exclusively to identify CIS in the context of ecotourism.

As far as Destination Sustainability (DS) is concerned, the study employed both primary and secondary inputs for finalizing the sustainability variables in the context of ecotourism destinations of Kerala. Indicators developed for assessing community based (eco) tourism by various governmental agencies like UNWTO and nongovernmental agencies like WWF were reviewed along with widely accepted journal articles for framing a valid scale for measuring the destination sustainability of the study area. In comparison with similar scales developed for DS, the validated scale for this study contained only 14 items. These items and dimensions were corroborative with the five dimensional sustainability scale proposed by Choi and Sirakaya (2006).

The study also attempted to address the existing discourses on including political dimensions component in destination sustainability measurement as proposed by Choi and Sirakaya (2006). The inclusion of political sustainability dimensions hitherto unidentified was found to be more significant in the present study as the term intervention itself is a political term. Various experts also agreed in incorporating political dimension in the discourses of community intervention in ecotourism during the exploratory phase of the study. The psychometric soundness of the items and dimensions of the scale on validation was also found to be satisfactory.

Discussion on the structure of CIS in the context of ecotourism was found to be in a nascent stage. In order to identify various indicators as well as dimensions of CIS, the present study had to adopt an exploratory sequential method. Focused Group Discussion, Expert interview and Observation were adopted for finalizing various indicators and dimensions of CIS. DS construct, on the other hand, was always an area of interest to various researchers. Reviews on DS showed that various indicators and dimensions were widely discoursed in the context of ecotourism. Various studies have proposed different numbers of dimensions such as four (Mowforth & Munt, 1998), five (Choi & Sirakaya, 2006), two- general and destination specific (Kevin, 2011) and nine (Jitpakdee & Thapa, 2012). Hence, it was apparent that DS evaluations are highly complex processes with different destination specific abstractions.

As the construct CIS carries various dimensions, to explain the construct, a hierarchical structure was considered as ideal. As mentioned above, the indicators were developed for measuring sustainability with

dimensions. In this direction, the present study sought the opinions of experts to finalize various sustainability indicators and dimensions identified from various literature, and accordingly adopted a hierarchical structure of the construct DS.

Hence as mentioned, to explain these two constructs, a hierarchical structure was considered in the present study for both CIS as well as DS. Multi-level models for CIS were developed in the present study. A multi level model of DS was also found to be imperative to the present study as DS is explained better through its dimensions.

This study conceptualized CIS construct as reflective first order and formative second order with each dimension measuring different facets of community intervention. The first order dimensions were assumed as reflective constructs, and measurement was done through CFA procedure by emphasizing the item reliability (Diamantopoulos & Siguaw, 2006). In the second order conceptualization, i.e., the relation between first order dimensions and second order construct, two contrasting options are also possible among reflective and formative constructs.

The study also tried to check CIS as a reflective or formative construct as there were no prior research in the area and also to verify the possibility of explaining it as a formative or reflective construct in the ecotourism context. Goodness of fit statistics of both the models of CIS clearly supported the claim that CIS is a multilevel, multi dimensional formative hierarchical construct with three first order reflective dimensions.

Regarding DS, the study identified it as a second order formative construct based on literature support and experimental evidences. These

findings are in corroboration with the observations shared by many experts/scholars that the hierarchical model is more reliable in community based ecotourism.

6.2.1 Identification of Key Dimensions of CIS

The validated scale for measuring CIS in ecotourism in the context of Kerala contained sixteen indicators relating to three dimensions. The scale contained seven items on “Governance Intervention”, five items on “Ecodevelopment Intervention”, and four items on “Commercial Intervention”, dimensions which together measure the CIS in ecotourism.

The emergence of a dimension capable of capturing governance in the context of CIS was found significant in the study. Accordingly, seven indicators explaining (1) Democratic Selection, (2) Capacity building, (3) Linkage with other sectors, (4) Intermediary, (5) Awareness programmes, (6) Benefit sharing and (7) Support to community work, were identified to measure the governance construct of CIS with good internal consistency ($\alpha=0.826$).

Ecodevelopment is considered as one of the widely identified dimensions of ecotourism. In this study, Ecodevelopment construct is identified with five indicators. These are: (1) Engage as Watchers, (2) Environmental reporting, (3) Resource protection, (4) Financial support, and (5) Eco guiding. These indicators had good internal consistency ($\alpha = 0.866$) which is required for further analysis.

Since ecotourism goes beyond the subsistence function of co-management of PAs, a new dimension called commercial intervention has been identified. Commercial intervention construct of CIS encompassed

four indicators consisting of: (1) Production of commodities, (2) Tourism activities (3) Promotional activities, and (4) Enterprise development. The internal consistency of these indicators were also very good ($\alpha = 0.823$).

The relevance of Governance, Ecodevelopment and Commercial aspects are emphasized in the contemporary setting of community based ecotourism. Almost all indicators except one (linkage with other sectors) which were initially assumed to capture the responses of community members towards these dimensions were properly loaded in the factor analysis. It may be noted that none of these indicators were identified or studied previously in the context of ecotourism.

6.2.2 Identification of Key Dimensions of DS

The validated scale for measuring DS in ecotourism in the context of Kerala contained fifteen indicators relating to four dimensions. The scale contained five items on “Economic”, four items on “Ecological”, three items on “Socio Cultural” and three items on “Political” dimensions which together measure the DS in ecotourism in the context of Kerala.

Economic sustainability of ecotourism is one of the most widely discoursed topics by researchers (Choi & Sirakaya, 2006; Tsaur et al., 2006; UNWTO, 2006; Eshliki & Kabousi, 2012; Dolnicar, Yanamandram & Cliff, 2012). The relevance of economic dimension of destination sustainability has been emphasized and underlined in the contemporary ecotourism discourses (Wall, 1997; Lindberg, 1991; Western, 1992; Brandon, 1993; Ratz, 2000; Lindsey, Roulet & Romanach, 2007). This provided ample scope for including this dimension to gather the observations of the community members. The five indicators explaining (1) Increase in tourism

employment, (2) Improvement in bargaining power, (3) Increase in thrift and savings, (4) Increase in community enterprises, and (5) Improved Linkages were identified with a fair internal consistency ($\alpha=0.881$) to explore the perceptions of the respondents.

Ecological dimension of destination sustainability was found in various research studies (Tantrigama, 2000; Weaver, 2001b; Swarbrooke, 2002; Lim & Mc Aleer, 2005; Choi & Sirakaya, 2006; Tsaur, Lin & Lin, 2006; UNWTO, 2006c). The ecological dimensions tried to capture the intervention of the community with regard to conservation of natural resources by engaging themselves or through corrective or prudent measures (Swanson, 1992). In this direction, the present study developed four indicators capable of measuring ecological sustainability of PA based ecotourism programmes. These are: (1) Decreased illicit activities, (2) Improvement in Environmental reporting (3) Improvement in Environmental awareness level and (4) Improvement in Environmental information with good internal consistency ($\alpha = 0.828$). Most of these indicators and corresponding underlying dimensions were well documented in prior researches (Brandon, 1996; Palacio & Mc Cool, 1997; Tisdell, 1995, 1999; Western, 1992; Verissimo et al., 2009)

Prior researches (Choi & Sirakaya, 2006; Fennell, 1999; Swarbrooke, 2002; Tsaur, Lin & Lin, 2006; Weaver, 2006; Brunt & Courtney, 1999; Aref, Marof & Sarjit, 2009) show that socio cultural aspects of sustainability have been widely discoursed in the context of ecotourism. The socio cultural dimensions in the present context tried to capture the resultant effect of intervention of community with regard to production, conservation and delivery of socio cultural capital of the destination and communities by

engaging themselves or through corrective or prudent measures (Western, 1992; Wallace & Pierce, 1996; Cater, 1996; Sproule, 1997; Burchett, 1992; Ghaderi & Henderson, 2012; Sree, 2010; Lindberg, 2001; Brandon, 1993; Williams, White & Spenceley, 2001; Nicole, 2013). For contextual measurement of the socio-cultural sustainability from the enhancement point of view, three indicators were developed. These were: (1) Decrease in anti social issues, (2) Improvement in Skill level, and (3) Reintroduction of traditional art forms, with good internal consistency ($\alpha = 0.886$). These explain the important attributes of the socio cultural construct expected from a community based ecotourism.

The review of literature had revealed that the political dimensions of sustainability was unfortunately not defined in the context of tourism so far. It may be because of various reasons, notably, that the democratic process is yet to be practiced in many of the nations or communities despite the fact that the core of political sustainability is the democratic way of intervention by the people for the people and of the people for the resource appropriation. Though there were many concerns with regard to political sustainability in tourism literature (Henry & Jackson, 1996; Hall, 1994), evidence of recognizing the term political sustainability in the context of eco or sustainable tourism was not found, even though the term sustainability is always construed as political (Goeldner & Ritchie, 1995). At the same time there were studies (Drake, 1991; Wesche, 1996; Cebellos Lascurain, 1996; Kiss, 2004; Bryy, 2012; Neckermann, 2013) indicating community participation and involvement in tourism. However, reference on political sustainability itself in the context of tourism with regard to indicator development was found in literature (Choi & Sirakaya, 2006) in assessing community based

tourism sustainability. The present study identified three important indicators which could measure political sustainability of PA based ecotourism from the enhancement perspective. These included: (1) Increase in representation of community, (2) Downward shift in decision making, and (3) Improved community linkages, and these had good internal consistency ($\alpha = 0.778$).

6.2.3 Identification of DQ

Though studies on DQ (Bo & Hong-hua, 2007; Vajčnerova & Ryglova, 2012) presented various indicators, the present study adopted the UNWTO indicators for measuring the same. These are: (1) Safety and security, (2) Hygiene, (3) Accessibility, (4) Transparency, (5) Authenticity, and (6) Harmony with the human and natural environment. These indicators also had good internal consistency ($\alpha = 0.673$) which is required for further analysis.

6.3 Examination of Linkage among CIS, DS and DQ

As Fyall (2011), and Portugal and Babo (2014) have stated, community intervention can lead to destination sustainability and quality. Most often, quality becomes a prerequisite for sustainability of the destinations. In other words, DQ becomes a mediating construct while analyzing the relationship between CIS and DS. On the other hand, Fiorello and Bo (2012) had opined that the intensity of community involvement and its resultant impacts on destination sustainability like empowerment of community will have a bearing on tourists' experience including quality. This indicates that existence of sustainability at the destinations may lead to quality destinations. In other words, sustainable destinations can also

enhance quality or DS may act as mediating constructs in the relationship between CIS and DQ. So there is a reciprocal relationship between DS and DQ. Accordingly, the study developed two models which depicted these reciprocal relationships and measurements were administered to test the hypotheses.

In this study, both reflective indicators and reflective and formative constructs were used on the basis of practical as well as theoretical justification. The study adopted variance-based PLS (Partial Least Squares) because it has the capability to analyze both formative and reflective models (Fornell & Bookstein, 1982). The model estimation revealed the linkages existing between the variables. The various hypotheses in the study examined the linkages among the different constructs.

6.4 Examination of Tourists' Opinion on DQ

In order to verify the quality aspects of the destinations after the introduction of CBE programme across Kerala, the present study tried to examine the opinions of two important segments of tourists i.e. new visitors and repeated visitors. New visitors are those who have visited other sites but are first time visitors to the destinations under study. Repeated visitors, on the other hand are those who have already visited the destinations under study before 2006. This segmentation may help us to get clarity on how far destinations could improve in quality through community intervention. Indicators adopted for the initial model have been applied in this contexts also. These are: (1) Safety and security, (2) Hygiene, (3) Accessibility, (4) Transparency, (5) Authenticity, and (6) Harmony with the human and

natural environment. An independent sample t test was administered for this purpose.

6.5 Examination of stakeholders' opinions on CIS

As a stakeholder activity, tourism requires intervention and support of all counterparts to make it sustainable. So it is imperative to understand whether the intervention of community members in the ecotourism operations is fully recognized by other stakeholders or not. The present study tried to explore the opinions of other stakeholders on various community intervention strategies. Accordingly, to find the significant difference in the opinions of various stakeholders i.e. VSS, Transport operators, Hospitality service providers and Shops and establishments at the ecotourism destinations of Kerala on CIS, nine indicators were developed through expert opinion. These are: (1) Democratic procedure (DMPR), (2) Capacity building programme (CPBD), (3) Eco guiding and interpretation (EGIP), (4) Integration of tourism with other sectors (INTR), (5) Conservation activities (CONS), (5) Education and awareness programmes (EDUA), (6) Diversification of products (DIPD), (7) Promotional activities (PRMN), and (8) Intermediary (ITMY). One-Way analysis of variance was found more appropriate for the analysis.

Results of the hypothesis testing are given in the Table 6.1.

Table 6.1: Results of Hypothesis Testing

Sl. No	No	Hypothesis	Significance
1	H1a	Governance Intervention → Community Intervention Strategies	Yes
2	H1b	Ecodevelopment Intervention →Community Intervention Strategies	Yes
3	H1c	Commercial Intervention →Community Intervention Strategies	Yes
4	H2a	Economic Sustainability →Destination Sustainability	Yes
5	H2b	Ecological Sustainability →Destination Sustainability	Yes
6	H2c	Socio-Cultural Sustainability →Destination Sustainability	Yes
7	H2d	Political Sustainability →Destination Sustainability	Yes
8	H3	Community Intervention Strategies →Destination Sustainability	No
9	H4	Community Intervention Strategies →Destination Quality	Yes
10	H5	Destination Quality →Destination Sustainability	No
11	H6	Destination Sustainability →Destination Quality (Reverse Model)	No
12	H7	Tourists' Opinion →Destination Quality	Yes
13	H8	Stakeholders' Opinion →Community Intervention Strategies	Yes

6.6 Discussion of the Findings

The following section presents the significant observations from the analysis of the models developed for the study.

6.6.1 Relationship between CIS and Its Dimensions (H1)

The study tried to examine the relationship between CIS and its various dimensions. The results showed that all the three dimensions of CIS i.e., Governance intervention ($\beta = 0.27$, $p < 0.01$), Ecodevelopment intervention ($\beta = 0.49$, $p < 0.01$) and Commercial intervention ($\beta = 0.53$, $p < 0.01$) bear significant direct relation to Community Intervention Strategies. This is in tune with the observation of Aas, Ladkin, and Fletcher, (2005) that various

forms of community engagements help the local people to take part in management and decision making for the specific objectives of various development programmes like conservation and livelihood and also power redistribution.

6.6.2 Relationship between DS and Its Dimensions (H2)

The results of the analysis of the relationship between DS and its various dimensions revealed that all the four dimensions of DS, viz., Economic sustainability ($\beta = 0.40$, $p < 0.01$), Ecological sustainability ($\beta = 0.44$, $p < 0.01$), Socio Cultural sustainability ($\beta = 0.33$, $p < 0.01$) and Political sustainability ($\beta = 0.36$, $p < 0.01$) have direct significant positive relationships to destination sustainability. This is in conformity with the view of Choi and Sirakaya (2006) that sustainability has various dimensions and the synergetic effect of all these dimensions at the destinations is construed as destination sustainability.

6.6.3 Relationship between CIS and DS (H3)

The study tried to examine the relationship of CIS on DS in the context of ecotourism. The results of the integrated research model could not show any significant relationship between CIS and DS in the context of CBE of Kerala. Though there are observations which support the arguments that community intervention can create destination sustainability, the present study could not substantiate the same. In fact these results reiterate the observation made by Simon (1994) and Tosun (1998) that community involvement may not necessarily lead to sustainable tourism due to various reasons. Some of the major reasons pointed out in this regard are: low level of involvement in decision making and low level of involvement in

management process of tourism development (Nicholas, Thapa & Ko, 2009). It is pertinent to mention here that the present study had covered only enhancement sustainability of the destinations, not the basic or status quo sustainability conditions.

However, the results of the individual model indicating the relationship between various first order constructs of CIS and DS showed a slight deviation from the results of the integrated research model. Though all three fit criteria were not found within the limit, it can be understood that the hypothesized model (relationships) is not supported. As Kock (2012) has pointed that the interpretation of the model fit indices depend on the goal of the SEM analysis. If the goal is to only test hypotheses, then the model fit indices are of little importance. Accordingly, the interpretation of the results of the relationship between first order constructs of CIS and DS can be inferred as:

- a) Commercial Intervention (CI) constructs have minor direct impact ($\beta = 0.16$) on Economic Sustainability (ECS) at $p < 0.01$.
- b) None of the CIS dimensions were found to have significant direct impact on Ecological Sustainability (EGS) at $p < 0.01$.
- c) As far as Socio-Cultural Sustainability (SCS) is concerned, Governance Intervention (GI) and Commercial Intervention (CI) dimensions have minor direct impact ($\beta = 0.16$ & $\beta = 0.12$) at $p < 0.01$.
- d) None of the CIS dimensions were found to have significant direct impact at $p < 0.01$ with Political Sustainability (POS).

According to Chin (1998), standardized paths should be at least 0.20 for a meaningful discussion. However, in the context of enhancement sustainability, activities resulting in the improvement of the existing situation is being evaluated. In other words, measurement was directed towards the positive changes occurred over and above status quo sustainability of the ecotourism destinations. In this context, even a minor change in the existing situation need to acknowledged. In this direction, it can be inferred that even though some of the relationships viz., relationship between CI and ECS, the relationship between GI and SCS, relationship between CI and SCS, are statistically not found very significant, in reality, all these relationships are found significant in the enhancement sustainability perspective.

In this direction, the investigator conducted a detailed discussion with community members including the office bearers of Tourism Ecodevelopment Committee (TEDC) as well as officials of Department of Forest and Wildlife (DFW), Government of Kerala (GOK) about the reasons for the same. The investigator tried to verify the reasons for the very low or absence of statistically significant enhancement in sustainability due to various CIS in ecotourism destinations of Kerala through participant observation. The interactions revealed that ecotourism operations is only one of the many other socio economic activities operationalised through community participation. So the reflections of CIS related to ecotourism may not necessarily have started to contribute to enhance DS particularly in the initial years of the project life. According to them, the presence of enhancement in DS noticed in the study could be due to various other social and economic activities of the communities. The various other activities and their impacts are summarised as follows:

- The Positive changes in the general consciousness of the communities brought out by changing social scenario might have helped them to improve their surroundings. This may be because of the desirable changes brought in by the community members themselves or through external sources. An overall realization about the exploitative attitude of the mainstream may have forced these marginalized segments to rethink and come forward and indulge in certain community level activities. Some of the community led activities (for democratic rights, ethnic identity etc.,) within the framework of the Constitution led by the leaders of marginalized sections themselves must have helped them to take prudent measures to safeguard their interest across the sections.
- Another important observation is that besides tourism activities, the DFW helps the local communities through various income generating activities in consultation with the communities concerned and applied their inputs for the conservation and livelihood initiatives. Farming and collection of minor forest produce, other self employment training programmes, for example, tailoring units run by community members at Parambikulam, must have helped them to improve their socio economic conditions.
- The institutional framework of community intervention like Tourism Ecodevelopment Committee (TEDC) admits only up to two members from each family. The remaining members are part of other conservation or income generating activities through

general or other Ecodevelopment Committees (EDCs). The data collected for the study indicate that 53 % of the inhabitants depend on farming or other means for their livelihood except in Parambikulam. In Parambikulam, 63 % were involved in tourism related activities. The seasonal nature of tourism also discourages them to take up a regular job in tourism. In other words, they had to depend on other income generating options for most of the months.

- Regular intervention of DFW beyond tourism related operations (employing forest guards, strict instructions to locals not to indulge in destructive activities etc.) must also have helped to improve ecological environment of the destinations. Other important conservation and livelihood programmes of DFW like National Medicinal Plant Board Scheme, Schemes for the welfare of Scheduled Tribes living within the forests: Tribal Insurance Scheme, National Aforestation Programme, Green India Mission, Forest Rights Act, 2006, Vanasree for non wood forest products etc., also must have brought certain changes in the socio economic welfare of the local communities in and around the forest areas of Kerala.
- Better connectivity of roads must have helped the locals to opt for migration in search of less strenuous and more lucrative job opportunities outside. In this way, their understanding about the outside world must have improved and such exposure and give-and-take relationships also might have influenced their socio cultural and psychological spheres.

- Besides the DFW, there are a good number of other Government departments who intervene in these regions to improve the socio economic wellbeing of the communities. The programmes of the Department of Rural Development (DRD), Department of Public Works (DPW), Department of Water Resources (DWR), Department of Social Welfare (DSW), Department of Social Justice and Empowerment (DSJE), Department Scheduled Castes and Scheduled Tribes (DSC/ST), Department of Youth Welfare (DYW), and Department of Agriculture (DOA) have also introduced an array of programmes to improve the wellbeing of local community members belonging to different demographic strata. All these programmes are implemented through consultations with the community members. Regular meetings and evaluations are also forming part of these initiatives.

- Intervention of Non Governmental Organisations, Environmentalists and other special purpose institutions like the Periyar Foundation etc., also introduced various programmes for the improvement of the socio economic conditions of these local communities. For example, the local area development programmes of the Periyar Foundation have undertaken a large number of community development programmes directly or in association with nearby Grama Panjayat (GP). They also undertake various studies to improve the wellbeing of the local communities as well as for the conservation and management of natural resources through community participation.

- According to Vallaban (1996), NGOs have helped a lot in formulating public opinion and organising public activities for environmental protection in general and forest protection in particular, in Kerala. International agencies like the World Bank have also acknowledged the role of NGOs in the participatory development process and implemented many programmes through NGOs. It has also been observed that a handful of NGOs are directly working in the forest areas of Kerala (Vallaban, 1996). The interventions of NGOs must have helped to improve the socio economic conditions of the communities under study.

Besides these, certain other study specific aspects must also have affected the very low or presence of statistically non significant enhancement in sustainability due to tourism-bound CIS. These are:

- The study considered data pertaining to only 6 to 7 years. This is not a sufficient time period to evaluate a development project based on parameters like enhancement sustainability. It may require more years to get a fair review of the outcomes. Hence any future research may not necessarily give the same result.
- Representation of women in ecotourism and related operations is not encouraging as 72.4 % of active members were males. This might have negatively affected in lifting the socio economic conditions of the family to a great extent as it is understood that the income earned by women benefit the family more than men.
- The researcher's own interactions with the community members showed that all age groups were not getting their due credit in

economic and social transactions through EDC. As most of the tourism jobs require physical labour, senior members in the community could not contribute much.

- The study also observed that there were certain internal grievance within the community, pertaining to allocation of tourism related work, representation in tourism operations etc. This may have had an impact on their productivity and functioning and also in adhering to sustainability practices at the destinations.
- Another important observation of the study is that, as indicated in the exploratory stage, there is poor linkage with other departments who can offer an integrated development option through tourism. It was found that TEDCs are nodal agencies of DFW and less connected to other departments who undertake various integrated development programmes leading to the expansion of livelihood and conservation at the community level.

6.6.4 Relationship between CIS and DQ (H4)

The results of the analysis of (individual as well as integrated model) the relationship between CIS and DQ clearly showed that CIS has direct significant relationship with destination quality, implying that CIS can lead to high DQ. The integrated model showed that CIS has a very significant relationship ($\beta = 0.67$, $p < 0.01$) with destination quality. This observation is in tune with the observations of various studies related to community based tourism such as Ham and Weiler (2002), Hiwasaki (2006), Jennings et.al., (2009) and Fiorello & Bo (2012) which stated that community support paved the way for quality destinations and helped to improve the visitors'

experience. So it can be stated that community intervention strategies have helped to improve destinations quality across CBE destinations of Kerala.

The subsequent investigation revealed that none of CI variables (production of local products, development of tourism activities, promotion activities and enterprise development) were directly contributing towards various quality aspects of the destinations. This could be because of the failure to ensure their authenticity. Though there is an argument that the CI variables like local products (ethnic food, craft work etc.,) and tourism activities (presentation of art forms) are expected to provide authentic experience and thereby these CI variables are expected to have relationship with ‘authenticity’ variable of DQ. However, there are observations which refute the above one that since there is no provision to check the authenticity of local products and tourism activities, their authenticity variables cannot be ensured. For example, engaging community members as watchers helps to improve safety and security of the destination. Similarly, awareness programmes organised among community members help to ensure hygienic environment at the destinations. In a nutshell, it can be concluded that community engaged in tourism sector is contributing significantly towards improving DQ, particularly, governance and ecodevelopment interventions.

6.6.5 Relationship between DS and DQ (H5)

The relationship between destination sustainability and destination quality was examined in the context of CBE by creating individual as well as integrated (research) model. The results of these two analysis showed that there is no significant relationship between DS and DQ. However, in practice (UNWTO, 2006; Chi, 2012) through sustainable destinations,

particularly in the context of enhancement sustainability, destination quality can be ensured. In such cases, sustainability can be a determinant of quality destinations. But the present study found that there is no significant relationship between DS and DQ in the context of CBE. Accordingly, this study refutes the existing observations in literature in this regard. In the subsequent investigation, as mentioned above, the presence of sustainability across the destinations was the result of non-tourism-bound interventions of communities and other agencies. In this juncture, it is evident that the possibility of establishing a causal relationship between tourism-bound quality with non-tourism-bound enhancement in sustainability cannot be justified theoretically as well as empirically. This indicate that the result of this hypothesis is in tune with the contextual reality. Moreover, this result further reiterate the result of the previous hypothesis (H4) that, tourism-bound CIS play an important role in improving DQ across CBE destinations of Kerala by explaining a direct and significant relationship ($\beta = 0.67$).

In the integrated (research) model DS is identified as a mediating construct while explaining the relationship between CIS and DQ. The result of the integrated research model also indicates that DS is not having significant mediating relationship with DQ. In other words, in the causal relationship between CIS and DQ, DS is not found to be a significant mediating construct in the context of CBE destinations of Kerala. This observation refute the argument of Fiorello and Bo (2012) that sustainability variables can contribute towards destination quality in the context of community based tourism.

6.6.6 Relationship between DQ and DS (H6)

The relationship between DQ and DS was also examined in the context of CBE through individual and integrated (reverse) model based on the assumption that quality can be a determinant of destination sustainability. The result of these two models showed that the reverse relationship between DQ and DS was not found to be significant. In other words, it was established that DQ is not having significant relation with DS. Though Tigu and Tuclea (2008) argued that there is a relationship between DQ and DS, the present study found that there is no significant relationship between DQ and DS in the context of CBE. Accordingly, the present study refutes the existing observations in literature. However, as discussed above, here also it is pertinent to mention the fact that the improvement in DQ is the result of tourism-bound CIS. In this context, the possibility of establishing a causal relationship between tourism-bound quality variables and non-tourism-bound sustainability across CBE destinations cannot be justified both practically as well as theoretically.

In the integrated reverse causality model, DQ was identified as a mediating construct while explaining the relationship between CIS and DS. The result of the integrated reverse model indicate that, in the causal relationship between CIS and DS, DQ is not found to be a significant mediating construct in the present study. So it can be concluded that DQ may not be taken as a mediating construct in the context of CBE destinations of Kerala. This result in turn refute the arguments of Fyall (2011), Portugal and Babo (2014) that quality variables can act as indispensable component of long term sustainability of the destination with the support of destination communities. Based on the discussions, it can be

inferred that the tourism-bound quality may not necessarily lead to non-tourism-bound sustainability and vice versa, even if some of the variables of these two constructs are same.

The subsequent investigation among officials of the DFW and other experts on the reciprocal relationship between DS and DQ (H5 & H6), showed that the existing practices of measuring these two constructs require more clarity in the literature itself. Redundancies were found in the indicators of the both constructs like 'safety and security' for example. Other variables like environmental preservation or resource protection (through pollution control, sewage system, low impact technologies, water quality etc.) also play an important role for both sustainability and quality of the destinations. Besides, it is also argued that the sustainability indicators like reduced illicit activities, improved environmental information could influence health and hygienic indicators of quality. So it is also argued that these variables are to be included in both measurement indicators. Further discourses and experiments are therefore required to examine this relationship in the context of ecotourism/community based tourism to finalize which construct acts as the predecessor or successor of the other.

6.6.7 Examination of Tourists' Opinion on DQ (H7)

An independent sample t test was administered to cross-check the existence of destination quality attribute construed by the destination communities, from the end users of the destinations i.e. tourists.

The result of the independent sample t test for assessing the significance of difference of opinion among Repeated Visitors (RV) and New Visitors (NV) showed that there was no significant difference among

their opinion with regard to destination quality. The two tailed P value for the estimated six variables under study were: 0.728, 0.934, 0.315, 0.829, 0.855, and 0.729 respectively. Thus, the mean differences between RV and NV were statistically insignificant leading to the conclusion that both the categories of respondents do not have differences as far as the six indicators comprising: increased availability of authentic products, improvements in safety and security, improved transparency in transactions, improved health and hygienic measures, improved accessibility and improved human environment relations. Therefore, it can be inferred that there is no difference among tourists on the improvement in the quality of CBE destinations of Kerala. In other words, tourists agreed that there is an improvement in DQ where CBE has been operationalised.

6.6.8 Examination of Stakeholders' Opinion on CIS (H8)

In order to find out whether there was any significant difference in the opinions of various stakeholders, i.e., VSS, Transport Operators, Hospitality Service Providers and Shops and Establishments at the ecotourism destinations of Kerala on CIS, a One-Way analysis of variance was administered. The F statistics showed that there existed no significant difference in the opinions of stakeholders on CIS at 0.05 levels. This indicates that the results are statistically insignificant leading to the conclusion that all stakeholders under study do not have differences as far as the nine items scale used. These items are related to: Democratic procedure (DMPR), Capacity building programme (CPBD), Eco guiding and interpretation (EGIP), Integration of tourism with other sectors (INTR), Conservation activities (CONS), Education and awareness programmes (EDUA), Diversification of products (DIPD), Promotional activities (PRMN), and Intermediary (ITMY).

Accordingly, it can be inferred that all the stakeholders of ecotourism are well aware about various intervention strategies of destination communities in PA based ecotourism destinations of Kerala. The stakeholders agreed that destination communities play a very active role by directly engaging them in various ecotourism and related activities, which may enhance DS and improve DQ.

6.7 Supplementary Findings from the Study

Before discussing the supplementary findings based on various models, it is important to give a glance of certain observations of the exploratory study. The results of the EFA showed that the CIS item pertaining to linkage with other sectors i.e. '*Community integrate tourism activity with other sectors like farming through TEDC*' showed very poor loading whereas DS item pertaining to '*There is an improvement in linkages among various sectors like farming*' was loaded significantly and hence that item has been retained for further analysis. This apparent contribution indicates the possibility that there is an enhancement in DS at the destination. But such an enhancement was not necessarily because of CIS.

As a part of confirming the results of the hypothesized integrated model, the study further tried to explore the relationship between various identified constructs under study through individual models. As mentioned earlier, in the context of enhancement sustainability, activities resulting in the improvement of the existing situation only was evaluated. In other words, measurement was directed towards the positive changes occurred above status quo sustainability of the ecotourism destinations. In this context, even a minor change in the existing situation need to be

acknowledged. In order to trace such effect, if any, occurred due CIS at ecotourism destinations, the researcher's repeated attempts particularly to identify the relationship between various first order construct of CIS as well as DS also yielded similar results.

The results also indicated that Commercial Interventions (CI) have a less significant relation ($\beta = 0.16$, $p < 0.01$) with economic sustainability of the destinations. The contextual reality also shows that there should be a direct relationship between CI of community and economic sustainability of the destinations. This is so because the intervention strategies of communities are one way or other directed towards the economic development of the regions. The present study showed that there is no significant enhancement in economic sustainability in the study areas. However, a minimal enhancement ($\beta = 0.16$, $p < 0.01$) could be found in the PA based ecotourism destinations of Kerala.

At the same time, none of the first order constructs of CIS were found to have significant relationship with Ecological Sustainability (EGS) constructs of DS. It is pertinent to mention here that the study results revealed that Ecodevelopment Intervention (EI) of the community could not bring any significant enhancement in ecological sustainability of the destinations. Though a number of initiatives were made to improve the awareness level among the community members and the tourists, and efforts were made to reduce illicit activities to protect the resources, and other steps like financial support for conservation, and direct intervention as watchers and guides were undertaken, the results of the study showed that there was no significant improvement in the ecological sustainability of the ecotourism destinations of Kerala.

Another major observation of this study was that Governance Intervention ($\beta = 0.16$, $p < 0.01$) and Commercial Intervention ($\beta = 0.12$, $p < 0.01$) dimensions of CIS had less significant relationship with socio cultural constructs of DS. Such a relationship is generally assumed as some of the indicators of GI and CI in one way or the other help in protecting, projecting and improving the socio cultural resources of the community (Jones, 2005; Asteray, 2011; UNEP & UNWTO, 2005). For example, democratic selection of GI helps to ensure spatial representation of the community in tackling anti social elements across the destinations. Similarly, capacity building variables of GI and enterprise development variables of CI are intended to contribute towards the improvement in skill level, and it may even help to reintroduce various cultural properties of the destination communities by institutionalizing such properties like craft work. But the results showed that there was a minimal enhancement noticed even after introducing CBE at the PA based destinations of Kerala.

The relationship between Governance, Ecodevelopment and Commercial constructs of CIS with political sustainability dimensions of DS was found to be not significant. Here also the assumption is that there shall be an increment in representation of community, improvement in community linkages or changes in decision making order as a result of various community interventions like performing advisory role, democratic selection and supporting community work (Ostrom, 1990; Bramwell & Lane, 2000; Scheyvens, 2002). In other words, these intervention variables are expected to contribute directly to political sustainability of the destinations. But the study showed that none of the CIS constructs have significant relationship with political sustainability of the destinations. There was no significant

enhancement in political sustainability across the CBE destinations of Kerala as a result of CIS. Interaction with the community members revealed that due to some local specific reasons like internal conflicts, political polarization and so on, the democratic representation of the community members in ecotourism and related activities were not followed in letter and spirit. This in turn, has affected various roles of the community like performing advisory role, supporting community work etc., and thereby reducing political sustainability.

The relationship between first order constructs of CIS and DQ were also examined in the individual model to find out which of the constructs of CIS were working well with DQ of the destinations under study. The study found that the constructs of GI and EI explained strongly ($\beta = 0.73$, $p < 0.01$ & $\beta = 0.43$, $p < 0.01$ respectively) with destination quality in the context of ecotourism. In other words, there is an improvement in DQ due to various GI and EI of CIS of ecotourism destinations across Kerala. However, an important observation of the study is that the CI construct of CIS could not cause any significant improvement in DQ, though production of tangible products, development of tourism activities, promotion activities and enterprise development indicators formed part of the CI construct.

The analysis of the relationship of first order constructs of DS with DQ also were designed to confirm the results of the hypothesized models. The result showed that none of the beta coefficients of the first order constructs of DS could explain significantly with DQ at $P < 0.01$ level. Hence, the assessment of the individual (reverse) model was also designed to verify the reverse hypothesized relationship between DQ and DS. The results showed that the DQ constructs had no significant relation with any of

the individual first order constructs of DS at $P < 0.01$ level. Since some of the previous studies, as indicated earlier, strongly advocate for reciprocal relationship (DQ leads to DS and DS leads to DQ) in various contexts, the present study made an attempt to verify the same in the context of CBE destinations of Kerala. But the analyses could not yield similar results.

All these relationships were analysed in the context of enhancement sustainability. The results indicated that all those explained variables have a strong presence in CBE destinations of Kerala. However, the causal relationship between various constructs under study were not found significant in the context examined except the relationship between CIS and DQ. Hence, it can be inferred that:

- a) CIS of ecotourism destinations of Kerala helped to improve destination quality to a greater extent.
- b) Though minor improvement was noticed with regard to economic and socio-cultural sustainability as a result of economic and governance intervention of CIS, by and large CIS of ecotourism destinations of Kerala are unable to enhance destination sustainability as envisaged.
- c) The relationship between DS and DQ was also not found significant in the context of ecotourism destinations of Kerala.
- d) The reverse relationship between DQ and DS was also not found significant in the context of ecotourism destinations of Kerala.
- e) The tourists who visited the destinations under study opined that there is a significant improvement in destination quality, by ratifying the assumption that most of such improvements are the results of CIS.

- f) The stakeholders of the ecotourism destinations of Kerala are well aware of various CIS and there is no disagreement in this regard among them.

This indicates that community contribution towards DQ is evident whereas its contribution towards enhancing DS is not fully visible. So it can be assumed that all those efforts of the communities are still effective only in maintaining the status quo or supporting resilience of the destinations, and not yet adequate to enhance the sustainability further.

6.8 Conclusions

Conclusion of this research is presented in two sections:

- (1) Observations from the exploratory stage, and
- (2) Findings from the descriptive stage.

With respect to the exploratory stage, it is important to highlight the identification of 16 variables to explain the three dimensions of CIS in ecotourism. The three identified intervention dimensions were: Governance, Ecodevelopment and Commercial intervention strategies. The identification and finalization of 15 sustainability indicators spanning four dimensions of sustainability in the context of ecotourism was another contribution of the exploratory stage of the study. The four dimensions of sustainability in the context of ecotourism included: Economic, Ecological, Socio Cultural, and Political. Indicators for measuring stakeholders' opinion on CIS was also identified during the exploratory stage while adapting the UNWTO indicators as a measurement scale for DQ.

In the descriptive stage, the study further validated the indicators through EFA and CFA and finally selected 13 indicators for CIS and 14 indicators for DS under three and four dimensions respectively. The examination of the relationship between CIS and its causal relationship with DS revealed that there is no statistically significant relationship between community intervention strategies and destination sustainability of ecotourism destinations of Kerala. This leads to several questions on the Kerala model of (eco) tourism development, which is widely acclaimed in the tourism discourses for its responsible initiatives for conservation and livelihood. As far as the relationship between CIS and DQ are concerned, the study clearly established that there exists a strong and significant relationship and that the community intervention has helped significantly to contribute to destination quality. Major indicators used for measuring destination quality were adapted from UNWTO (2006), and they included: Authenticity of the product, Safety and security scenario of the destinations, Transparency in transactions at the destinations, Healthy and hygienic environment, Healthy human and environment relations at the site, and Accessibility. The strong positive contribution of CIS can be considered as a major achievement of policy makers as well as community members with regard to their respective initiatives to provide quality ecotourism destinations by intervening community as catalysts. These are therefore replicable practices which can be explored further for the betterment of destinations in similar situations.

When we examine the individual dimensions of all the hypothesized constructs, it can also be concluded that Governance and Ecodevelopment dimensions emerged as the only significant dimension having direct bearing

on destination quality. The significant indicators of Governance dimension included: Democratic Selection of community members , Capacity building for community to improve their tourism and related skills, Acting as an intermediary between various stakeholders and PA authorities of the destination or ecotourism, Organising Awareness programmes on environment and conservation, and Benefit sharing mechanism among community members. Indicators identified along with the Ecodevelopment dimension are: Engaging community members as Watchers, Actively participating in Environmental reporting, Providing financial support for conservation, and Deploying community members for Eco guiding at the destinations.

Another major observation of the study was that there was no significant relationship between destination quality and sustainability. The reverse relationship between destination quality and sustainability also showed no significant relation in the context of CBE destinations of Kerala. This indicates the need for further discourses and experiments to identify and establish this relationship in the context of ecotourism/community based tourism.

The present study further tried to examine the consensus among tourists about the destination quality due to community intervention in the context of ecotourism of Kerala. The study revealed that there is no difference of opinion among new visitors and repeated visitors with regard to destination quality. This should help the policy makers and community groups to strengthen their intervention strategies through various methods to improve as well as to maintain the quality across destinations.

Finally, as a stakeholders activity, ecotourism requires a positive feedback from all other stake holders with regard to community intervention. The present study sought the opinions of all other important stakeholders related to PA based ecotourism destinations on various CIS. The study revealed that there is no significant difference of opinion among the stakeholders with regard to various CIS operationalised in ecotourism destinations. In other words, all stakeholders are well aware of the various CIS for the betterment of ecotourism destinations of Kerala.

Though most of the findings are in tune with the existing observations, three observations of the present study get less support from the existing literature. The relation between CIS and DS was one such hypothesis of this study. As in the case of Simon's (1994) and Tosun's (1998) observations, the findings showed that the CIS could not influence the DS, though all the four first order constructs of DS (economic, ecological, socio cultural, and political) were explained significantly. This could be due to the fact that ecotourism operations is only one of the many other socio economic activities operationalised through community participation. So the reflections of CIS related to ecotourism may not necessarily have started to contribute to enhance DS particularly in the initial years of the project life. Hence whatever enhancement in DS noticed could be due to various other socioeconomic activities in the region.

Another observation of the study was that the Governance and Ecodevelopment dimensions of CIS are significantly contributing towards DQ, whereas Commercial dimension of CIS was not contributing towards DQ. At the same time, it was evident that the indicators of EI and GI were directly contributing towards destination quality.

As discussed above, the relationship between DS and DQ was not found significant in the present study. The reverse relationship between DQ and DS was also found insignificant in the context of CBE destinations of Kerala.

6.9 Contributions to Theory, Practice and Society

Recognizing the importance of community's role in tourism development is one of the widely discoursed topics in the context of sustainable development as the concept of sustainable development itself is considered as a political term. In an anthropocentric development arena, it has a lot of significance in terms of its contribution for the fulfillment of the two major objectives of all political manifestos, that is, conservation and livelihood. Such intervention is proposed with the objective of making some positive changes in the sustainability and quality of the destinations.

The body of knowledge pertaining to community intervention strategies have not yet been explored as warranted, in the context of ecotourism. In other words, many unattended areas are still found in community interventions in ecotourism. The role of the community and its causal effect on destination sustainability and destination quality was attempted to be empirically tested in the present study. The study could contribute to the existing literature by identifying the various dimensions of community intervention strategies, and dimensions of destination sustainability in the context of ecotourism. The study also opened a discussion with regard to sustainability and quality and its interrelationship for a better indicator based assessment. Assessment of both sustainability as well as quality of the destinations is of utmost importance for the overall

development of the destination resulting in conservation, livelihood and tourist satisfaction. The contextual investigation based on Kerala model of ecotourism development could give a better empirical understanding about the various attributes that develop community intervention strategies and its linkages with sustainability and quality of the destination.

The study further added a new dimension by identifying the hierarchical nature of CIS and DS based on sound statistical justifications. The findings of the study supplement and refute some of the earlier studies. The role of community and its effect on destination sustainability and quality has widely been discussed and studied by various researchers. This study focused on identifying the various dimensions of CIS and DS in a PA based ecotourism setting. The community intervention in ecotourism has always been a major area of research. As the requirements and parameters of sustainability are always destination-specific, a standardized measure of CIS and DS cannot be developed. Accordingly, the scale development process which is statistically reliable and valid to measure various constructs under study in a destination specific scenario was initiated in this study. Inclusion of contextually relevant indicators was very important for ensuring the validity of the instrument. A comparative analysis of CIS across the destinations selected under study was also done to verify the identical nature of CIS for ensuring contextual validity. The study further examined the tourists' opinions on destination quality to confirm the existence of quality variable at the destinations. The study also tested the opinions of other major stakeholders at the destination with regard to community intervention in ecotourism to establish that such interventions are rightly understood by other stakeholders of ecotourism.

The study could offer significant contribution to the theory by developing a statistically sound scale validating procedure while developing the indicators pertaining to CIS and DS for ecotourism. It also incorporated both reflective and formative constructs by designing different individual models to test the possible statistically significant relationships. The justification for the selection of constructs as formative or reflective, was done based on theoretical support. Further experiments were also done to identify the best model in the context of ecotourism. The methodology of the data analysis and reporting will help future researchers in the related fields for identifying better models in their research endeavor. Since there were no such initiatives taken to evaluate community intervention in ecotourism, and destination sustainability based on indicators, the present study model can contribute a lot for indicator based evaluation studies. The study model can be replicated with minor destination specific modifications as and when required. It is pertinent to mention here that this may be one of the first attempts to evaluate CBE programme, based on destination specific indicators developed by adopting exploratory sequential method. It is pertinent to state that the focus of most of the existing literature in this area is confined to indicator development aspect only. A destination-specific indicators based contextual assessment is scant in the context of ecotourism. As a home of rare and endangered species and ecosystem, India and other developing countries, greatly require such destination specific studies and strategies to reflect the community intervention for the sustainable development of the region. This research, in this sense provides inputs for various aspects of community based ecotourism to reorient existing developmental aspirations through tourism for generations through a testable model.

6.10 Significance of the Study

The significance of the study is summarized as follows:

- This study developed and empirically tested two measurement models: one for Community Intervention Strategies (CIS) and the other for Destination Sustainability (DS). These measures are grounded in both practice and theory. These measurement instruments identified the most prevalent dimensions of CIS and DS for ecotourism, more specifically PA based ecotourism, which can be applied in similar settings.
- The existence of validated and reliable measures will help future researchers to replicate these constructs in similar or identical settings.
- The study highlighted the destination quality variables endorsed by UNWTO to test the quality aspects of the destinations under study. This is very rarely applied in the context of ecotourism studies.
- The findings of the study could further assist policy makers and practitioners to bring positive changes at the destinations through appropriate resource management strategies.
- The study paved the way for developing instruments for measuring the opinions of different stakeholders on CIS related to CBE destinations. Though there are location and occasion specific variations in strategies of community intervention as well as difference in actual and expected outcome of these interventions, the validated scale may be of immense potential in ecotourism project management.

- Future studies could help to identify how CIS helps to enhance sustainability through ecotourism related activities as the cost and benefit considerations are the measuring rods of developmental project initiation. It is also widely believed that whatever be the form of tourism, it brings more costs than benefits. Hence a proper identification of activities having direct bearing on enhancing various components of sustainability and their timely implementation may help the policy makers to frame appropriate destination specific strategies for the benefit of both guests and hosts.

6.11 Scope for Future Research

The present study opens an array of opportunities for various investigations in future with regard to CIS, DS and destination specific quality variables. All those identified limitations of the study also provide ample scope for further investigations. Since sustainability is destination specific, more focused research work needs to be done in modeling the community interventions and their capabilities to enhance sustainability and quality of destinations having similar socio-cultural, economic and ecological features.

6.12 Implications of the Study

6.12.1 Theoretical Implications

The present study goes beyond the conventional framework of enhancement sustainability which are confined to ecological enhancement. In this study, a detailed examination of enhancement sustainability is being made by identifying various sustainability dimensions like economic, socio

cultural, and political along with ecological dimension through an exploratory sequential research design where qualitative methods follow quantitative methodology. The study provides a good methodology to assess various activities and dimensions of community intervention strategies for ecotourism particularly in the context of Protected Areas (PAs). It has also designed a hierarchical order of various constructs through factor analysis and identified various dimensions of CIS and DS. The study further examined the relationship of CIS with DS by considering DQ as a mediating construct. It also examined the reverse relationship between CIS and DQ by considering DS as the mediating construct. In other words, the study tried to examine the reciprocal relationship between DS and DQ through a reverse causality model.

6.12.2 Managerial Implications: Operational and Policy level

Operational: The study throws light on various Community Intervention Strategies (CIS) in the context of ecotourism. The causal relationship between CIS and expected enhancement in sustainability was also linked and examined. This is expected to contribute towards a more proactive intervention by the community to enhance sustainability and also to improve the quality of ecotourism destinations.

The study further calls for professional orientation for community members to make their intervention more meaningful through various training and capacity building programmes. This may in turn help to make them more adaptable and employable to meet the conservation and livelihood objectives of ecotourism leading to sustainability, and also to meet the changing quality aspirations of tourists.

Policy level: As the study revealed that the CIS is not leading to enhancement in destination sustainability, the policy makers can find the reasons for the same and accordingly they can reorient and fine tune the existing framework to meet both the developmental aspirations as well as environmental and social concerns of the community.

The measurement of the outcome of the development programmes were made on the basis of indicators developed across the globe. National governments can frame country specific and destination specific indicators based on enhancement sustainability to measure the contributions of community and other stakeholders in protecting the shrinking resources for the generations to come.

Policy makers can also explore the possibility of developing destination specific indicators for destination quality which can be implemented through the support of the stakeholders for meeting the requirements of both demand as well as supply side.

In theory and practice, the nexus between quality and sustainability indicators exists. This often leads to measurement or assessment errors. So objective based indicators for both sustainability and quality should be framed and the existing lacuna in the indicators framework of UNWTO for quality and sustainability can be reworked for a better assessment.

6.13 Suggestions

Ecotourism as a growing as well as one of the most widely appreciated approaches to tourism development has a responsibility to reach the targeted groups, by fulfilling the socio economic and environmental sustainability

objectives. The mechanism that is formulated to appropriate these resources should perform its role effectively and efficiently. However, barring a few project initiatives under Grant-in-Aid programmes of the World Bank, ecotourism has not been identified in India as a tool for even economic development and environmental conservation (World Bank, 2004). This being the case, the present study and its findings are, it is hoped, will give a concrete methodology to identify the role of CBE and its intended contribution towards conservation as well as livelihood dimensions.

The study explored the CIS in ecotourism and developed a model of destination management framework for CBE destinations. Democratically initiated and institutionalized grass-root level community intervention with the support of women and marginalized sections of the destinations has been considered as a viable mechanism to balance the issues of livelihood, conservation and development. Since this study found that there is no significant enhancement in sustainability of the study area, further improvement in community representation and intervention strategies in resource appropriation are considered important.

Operational efficiency of community level intervention is the deciding factor of ecotourism success. Strength of the community is unique in nature. However, creating a professional atmosphere in managing ecotourism resources hardly exist in most of the destinations under study. Hence in order to meet the objectives of the programme, identified weaknesses have to be addressed through corrective measures and also by strengthening the intervention strategies.

Adherence to the sustainability principle in the operations of ecotourism can be initiated in the PAs, rural/village settings, other forest areas, ex situ conservation areas etc., of the country and thereby various innovative forms of Ecotourism like Rural Ecotourism, Farm ecotourism, Wetland ecotourism, Mangrove ecotourism, Coastal ecotourism, Plantation ecotourism, Nursery Ecotourism, Minor Forest Produce (MFP) ecotourism, Wilderness camps, Jungle Camping, Eco-Parks, Caving, Bamboo raft cruise, Water based activities like regulated angling etc., can be promoted as new attractions. Existing and upcoming destinations can have more inclusive form of tourism development for destination sustainability. For this purpose, the resource management framework has to be more democratic, and capacity building of local communities to use and control community held resources have to be initiated at the grass-root level. Revisiting community level organisations with trained management staff and increase in the number of local ownership of enterprises for providing tourist services and facilities, requires urgent attention of PA authorities. Tourism development with legislative and regulatory framework have to be initiated particularly at the grass-root level for benefit sharing. Mechanism for contribution of other stakeholders for community development and conservation and adhering to sustainability principles at all levels of destination activities shall be the focus of all government agencies across destinations particularly PA based ecotourism sites, where community members have only limited options for their livelihood. In a nutshell, socially inclusive, culturally sound, politically strengthened, ecologically conscious, and economically directed community based management plan is *sine qua non* for ecotourism development.

6.14 Recommendations

As Ashley, Goodwin, McNab, Scott, and Chaves (2006) have pointed out, entering into neighborhood partnerships to make the local social environment a better place to live, work and visit for all, and ability to improve the local natural environment within its areas of direct and indirect influence is considered as the bench mark for sustainable ecotourism. In order to enhance sustainability of the destinations through CIS in ecotourism destinations, the following recommendations are made based on various dimensions of sustainability:

6.14.1 For Enhancing Political Sustainability

- a) Develop a participatory planning programme that involves stakeholders from throughout the local region, including non members of the rural and indigenous communities.
- b) Establish an inter-departmental working group that combines expertise of officials of Tourism, Local Self Governance (LSG) institutions and Department of Forest and Wildlife (DFW). An interim meeting can be scheduled twice in a year to discuss issues relating to the maintenance and management of the destination.
- c) Empower communities through capacity building and training programmes and provide financial assistance to their institutions like EDC and SHGs as and when required for the maintenance and management of the destination.
- d) Design appropriate strategies to minimize political interference in policy decisions of community institutions.

6.14.2 For Enhancing Economic Sustainability

- a) Establish more viable enterprises in such regions including community based small ecolodges and enhance the stakeholder groups for further boosting of the economic operations of the region for community development.
- b) Enhance provision for special financial support particularly in the areas of protected area management and improving the resilience of the fragile areas damaged due to tourism activities.
- c) Earmark a special fund to develop ecotourism products by mobilizing resources from the department of Tourism, Irrigation, Forest and Wildlife and Local Self Governance (LSG) institutions.
- d) Introduce eco-centric marketing and promotion campaigns through travel agents and tour operators and local media under the aegis of the community institutions.
- e) Introduce quality certification mechanism for the ethnic products, on the lines of Geographical Indication of Goods (Registration and Protection) Act, 1999.
- f) Establish stronger linkages with the local economic sectors by increasing local development potential besides purchasing directly from local businesses.
- g) Recruit and train local unskilled and semi-skilled people for the jobs which were hitherto given to outsiders.
- h) Explore the ability to harness biodiversity, landscape and cultural heritage available in the area for enhancing incomes and employment opportunities.

- i) Since tourism is a relatively labour-intensive sector, traditionally dominated by micro and small enterprises with activities particularly suited for women and disadvantaged groups, explore all those entrepreneurial possibilities more vigorously.
- j) Increase the linkages with other sectors as the tourism product is a combination of different activities and inputs produced by many sectors. Enhanced spending by tourists can benefit agriculture, handicrafts, transport, energy efficiency and other services.

6.14.3 For Enhancing Socio Cultural Sustainability

- a) Introduce training (long term as well as short term) and refresher programmes for product diversification, customer handling and visitor management for the community members.
- b) Assess whether the social carrying capacity has been affected due to tourism, and if so, up to what extent and identify recovery measures through research with community support.
- c) Explore the possibility of regular social auditing with the active involvement of community members
- d) Develop an information base on best practices in ecotourism and support local research programmes on aspects of ethnic diversity and conflicts, ethical delivery of ecotourism products, and green practices.
- e) Develop a visitor information programme based on sustainability practices, and
- f) Create a niche market plan for meeting long term sustainability goals of the destinations.

6.14.4 For Enhancing Ecological Sustainability

- a) Give awareness programmes in the areas of low environmental impact, low energy use, visitor safety, and quality visitor information.
- b) Conduct an ecological carrying capacity assessment to check whether it has been affected due to tourism, and if so, up to what extent and identify recovery measures through research for long-term monitoring of tourism impacts, keeping community as the frontrunner.
- c) Implement land-use planning, zonation and regulatory techniques.
- d) Encourage more real ecotourists to the destinations and develop more ecotourism products and engage the local communities on a wider scale by ensuring fair return to them.
- e) Explore the possibility of eco-budgeting and undertake environmental auditing regularly with the active involvement of community members.
- f) Introduce Limit of Acceptable Change (LAC) across destinations to regulate visitors and maintain the resilience of the ecosystem. Adopt local specific strategy for the resilience, if required.

As one of the growing segments of tourism, ecotourism has the responsibility to meet both conservation and livelihood aspirations of the society, particularly the community concerned. Adhering to the sustainability principles regarding identification, appropriation and distribution of resources and benefits is the means of achieving these aspirations. In the anthropocentric

development arena, these responsibilities are fully vested with the *homo sapience*. So the initiatives, implementation and correction, if any required, are to be initiated, by the communities themselves without ever compromising the ability of the present well as future generations.

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Appendices

APPENDIX I - Questionnaire

This survey is conducted as a part of my Doctoral programme in Management at School of Management Studies, Cochin University of Science and Technology. The research attempts to find out how people feel about various community intervention strategies for the operationalisation of Protected Area based ecotourism in Kerala and its expected results in terms of sustainability and quality. The research is purely for academic purpose and I assure you the information collected will be kept strictly confidential and will not be used for any other purpose. This survey is administered as per the permission and guidelines of Chief Conservator of Forest, Government of Kerala.

There are six sections in the questionnaire and it will not take more than ten minutes of your time.

Thank you for your valuable time.

With warm regards,

Vinodan A

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**COMMUNITY INTERVENTION STRATEGY IDENTIFICATION
SCHEDULE**

Good day.

This destination is forms part of this research project. I would appreciate your participation in this research. Following questions may represent some of your opinion /thoughts on ecotourism and the involvement of you as a community member.

Thenmala	Periyar	Parambikulam	Waynad
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Section A

Occupational status of the region: Give the number of members of your family are engaged

Options	No. of people engaged from your family
Agriculture	
Industry	
Service business (excluding tourism)	
Tourism related	

Monthly income earned through tourism related jobs (put tick)

Less than 1000	1000-3000	3000-4000	4000-5000	5000-6000	Above 7000

Section B

Following are the statement relating to the various involvement or intervention strategies of community member pertaining to ecotourism in this destination. As an member of TEDC Put a tick mark on corresponding statements according to your agreement.

SA - Strongly Agree, A-Agree, N-Neutral, D -Disagree, SD-Strongly Disagree (put tick)

Sl.No	Activities	SA	A	N	D	SD
1.	Community insist democratic selection of its members for ecotourism through TEDC	5	4	3	2	1
2.	Community organize various capacity building programmes for meeting tourism related requirements through TEDC	5	4	3	2	1
3.	Community integrate tourism activity with other sectors like farming through TEDC	5	4	3	2	1
4.	Community members act as an intermediary between various agencies for the destination management	5	4	3	2	1
5.	Community conduct awareness programmes for members on various social as well as ecological aspects through TEDC	5	4	3	2	1
6.	Community members have framed norms for sharing ecotourism benefits through TEDC	5	4	3	2	1
7.	Community members act as an Advisor/consultant in matters relating to destination management	5	4	3	2	1
8.	Community engage its members as Watchers, guards of the destination	5	4	3	2	1
9.	Community engage its members to support environmental reporting	5	4	3	2	1
10.	Community undertake resource protection measures like pollution control, afforestation etc in the destination	5	4	3	2	1
11.	Community provide financial support for conservation of natural resources through TEDC	5	4	3	2	1
12.	Community employ its members as eco guide and interpreter	5	4	3	2	1
13.	Community engage its members for the production of local products for tourists like souvenir, food, traditional medicine etc	5	4	3	2	1
14.	Community engage its members for tourism activities/ services for visitors like trekking, bird watching etc	5	4	3	2	1
15.	Community members promote this destination by attending exhibitions	5	4	3	2	1
16.	Community members (individually and collectively) have created enterprises for souvenir, food, accommodation etc	5	4	3	2	1

Section C

Please give your answers on the following

Personal details

1. No. of Members in your family :
2. Age :
3. Sex : [M] [F]
4. Educational background : [Below Matric.], [Matric.-
HSC], [Graduate]
5. No. of members in Ecotourism :
6. Years of experience in Ecotourism : [Less than 2] [2-5] [more than 5]
7. Name :
8. Name of the TEDC :

Section D

DESTINATIONS SUSTAINABILITY IDENTIFICATION SCHEDULE

As a part of this study your participation is required to document the changes if any, at the destinations due to ecotourism

SA - Strongly Agree, A-Agree, N-Neutral, D -Disagree, SD-Strongly Disagree (put tick)

Sl.No	Sustainability themes	SA	A	N	D	SD
1.	There is an increase in tourism related employment in this destination.	5	4	3	2	1
2.	There is an Improvement in bargaining power of community members	5	4	3	2	1
3.	There is an increase in thrift and savings among community	5	4	3	2	1
4.	There is an increase in community supported enterprises	5	4	3	2	1
5.	There is an improvement in linkages among various sectors like farming	5	4	3	2	1
6.	There is a decrease in illicit activities like poaching in this destination	5	4	3	2	1
7.	There is an improvement in community participation in environmental reporting	5	4	3	2	1
8.	There is an improvement in Environmental awareness level among the community members	5	4	3	2	1
9.	There is an improvement in delivery of Environmental information by the community members to the tourist	5	4	3	2	1
10.	There is a decrease in occurrence of anti social issues i.e. Crime, incidence of vandalism in this destination	5	4	3	2	1
11.	There is an improvement in skill level of community members to host visitors	5	4	3	2	1
12.	There are reintroduction of various traditional art forms in this destination	5	4	3	2	1
13.	There is an increase in representation of community for destination management	5	4	3	2	1
14.	There is a downward shift in decision making process in this destination	5	4	3	2	1
15.	There is an improvement in community linkages with other agencies like Govt. departments, Aid agencies etc	5	4	3	2	1

Section E

DESTINATION QUALITY IDENTIFICATION SCHEDULE

Following are the statements related to quality of this destination. The respondents are expected to give their views on changes observed in quality aspects of this destination according to your agreement.

SA - Strongly Agree, A-Agree, N-Neutral, D -Disagree, SD-Strongly Disagree (put tick)

Sl.No	Quality themes	SA	A	N	D	SD
1.	The site has more authentic (local specific) products	5	4	3	2	1
2.	The site has improved Safety and security	5	4	3	2	1
3.	The site has improved Transparency in transaction	5	4	3	2	1
4.	The site has improved Health and hygienic measures	5	4	3	2	1
5.	The site has improved Accessibility	5	4	3	2	1
6.	The site has improved Human and environment relations	5	4	3	2	1

Thank you!

APPENDIX II - Questionnaire

This survey is conducted as a part of my Doctoral programme in Management at School of Management Studies, Cochin University of Science and Technology. I am conducting a research on Community Intervention Strategies in Ecotourism. The research attempts to find out how people feel about various community intervention strategies for the operationalisation of Protected Area based ecotourism in Kerala and its expected results in terms of sustainability and quality. The research is purely for academic purpose and I assure you the information collected will be kept strictly confidential and will not be used for any other purpose. This survey is administered as per the permission and guidelines of Chief Conservator of Forest, Government of Kerala.

There are two sections in the questionnaire and it will not take more than five minutes of your time.

Thank you for your valuable time.

With warm regards,

Vinodan A

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TOURIST (New Visitor) SCHEDULE ON DESTINATION QUALITY

Thenmala	Periyar	Parambikulam	Muthanga
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Good day.

This destination is forms part of my research project. As a tourist to this place I solicit your valuable comments/opinion on certain quality aspects of the destination.

Section A

Please provide details to the following questions

1. Sex : [M] [F]
2. Age :
3. Origin : [Foreign] [Domestic]
4. Educational background :
5. Have you visited other nature based/ecotourism sites: [Y] [N]
6. If yes, Where :
7. In comparison to other ecotourism sites, you have visited, Could you notice any difference in this site : [Y] [N]
8. If yes, Answer question No.9.

Section B

9. Following are the statement relating to certain quality aspects of this destinations. As a tourist to this destination Put a tick mark on corresponding statements according to your agreement.

SA - Strongly Agree, A-Agree, N-Neutral, D -Disagree, SD-Strongly Disagree

Areas of difference	SA	A	N	D
1. This site offers authentic (local specific) products	5	4	3	2
2. This site has improved Safety and security	5	4	3	2
3. This site has improved Transparency in transaction	5	4	3	2
4. This site has improved Health and hygienic measures	5	4	3	2
5. This site has improved Accessibility	5	4	3	2
6. This site has improved Human and environment relations	5	4	3	2

Name & Signature

Thank you!

FOR TOURIST (Repeated Visitor) SCHEDULE ON DESTINATION QUALITY

Thenmala	Periyar	Parambikulam	Muthanga
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Good day.

This destination is forms part of my research project. As a tourist to this place I solicit your valuable comments/opinion on certain quality aspects of the destination

Section A

1. Sex : [M] [F]
2. Age :
3. Origin :
4. Educational background : [< Metric.] [+2-Graduation] [PG &Above]
5. Have you visited this site before 2006 : Yes/No
6. If yes when :
7. Could you notice any change : [Y] [N]
8. If yes, Answer question No.9.

Section B

9. Following are the statement relating to certain quality aspects of this destinations. As a tourist to this destination Put a tick mark on corresponding statements according to your agreement.

SA - Strongly Agree, A-Agree, N-Neutral, D -Disagree, SD-Strongly Disagree

Areas of change	SA	A	N	D
1. The site offers authentic (local specific) products	5	4	3	2
2. The site has improved Safety and security	5	4	3	2
3. The site has improved Transparency in transaction	5	4	3	2
4. The site has improved Health and hygienic measures	5	4	3	2
5. The site has improved Accessibility	5	4	3	2
6. The site has improved Human and environment relations	5	4	3	2

Name & Signature

Thank you !

APPENDIX III - Questionnaire

This survey is conducted as a part of my Doctoral programme in Management at School of Management Studies, Cochin University of Science and Technology. I am conducting a research on Community Intervention Strategies in Ecotourism. The research attempts to find out how people feel about various community intervention strategies for the operationalisation of Protected Area based ecotourism in Kerala and its expected results in terms of sustainability and quality. The research is purely for academic purpose and I assure you the information collected will be kept strictly confidential and will not be used for any other purpose. This survey is administered as per the permission and guidelines of Chief Conservator of Forest, Government of Kerala.

There are two sections in the questionnaire and it will not take more than five minutes of your time.

Thank you for your valuable time.

With warm regards,

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Email: vinodan_tt@yahoo.co.in

STAKEHOLDERS SCHEDULE ON COMMUNITY INTERVTION

Good day.

This destination is forms part of my research project. As a major stakeholder of the tourism I solicit your valuable comments/opinion about the community intervention in this destination.

Section A

Please tick mark/give your response to the following

1. Name :
2. Name of the establishment :
3. Location :
4. Your Role in this destination : Tick mark the following

VSS Member	Transport	Accommodation	Shops

5. Are you aware that this destination is managed-by local community :
[Y] [N]

Section B

Following are the statement relating to the Community Intervention in ecotourism . As a major stakeholder of this destination Put a tick mark on corresponding statements according to your agreement.

SA - *Strongly Agree*, A-*Agree*, N-*Neutral*, D -*Disagree*, SD-*Strongly Disagree*

<i>Key themes</i>	<i>SA</i>	<i>A</i>	<i>N</i>	<i>D</i>	<i>SD</i>
1. Destination Community follow democratic procedure for selecting its members for ecotourism operation.	5	4	3	2	1
2. Destination Communities are involved in various capacity building programme like hospitality, self employment etc.	5	4	3	2	1
3. Community members offers quality Ecoguiding and interpretations at this destinations	5	4	3	2	1
4. Community members integrate tourism activity with other sectors like farming	5	4	3	2	1
5. Community members undertake conservation activities at the destinations	5	4	3	2	1
6. Community members organize education and awareness programmes for tourist	5	4	3	2	1
7. Community members offers diversified products for tourist wherever possible	5	4	3	2	1
8. Community members organize promotional activities i.e. exhibitions at various locations	5	4	3	2	1
9. Community members acts as an intermediary between various stakeholders	5	4	3	2	1

Thank you!

APPENDIX: IV

1. No of variables pertaining to CIS discussed with experts (25)

Sl. No	Activities	Put tick mark
1.	Democratic selection of members	
2.	Inclusion of all segments of the society like women, tribals, rehabilitated people etc.	
3.	Holding regular meetings with the participation of members.	
4.	Implement the decisions taken by its members	
5.	Follow guidelines for sharing of earnings among members	
6.	Act as an intermediary between various government agencies and local communities.	
7.	Give suggestions and recommendations to the authorities like FDA, Forest and Wild life Department etc. on important matters.	
8.	Involve in social awareness programmes i. e alcoholism, drug, poaching, smuggling to its members	
9.	Undertake promotion of natural and cultural heritage of the community	
10.	Participate in various capacity building programmes like hospitality, self employment etc.	
11.	Support community initiatives related to health and hygiene	
12.	Ensure standard wages/revenue to communities	
13.	Develop various tourism activities for visitors like trekking, bird watching etc.	
14.	Produce products for tourists like souvenirs, food, traditional medicine etc	
15.	Create various shops and establishment for souvenirs, food, accommodation etc	
16.	Provide guiding and escorting jobs	
17.	Integrate tourism activity with other sectors like farming	
18.	Diversify existing products to meet off season	
19.	Engage in conservation activities like terracing, afforestation etc	
20.	Practice reuse, reduce and recycle principle at the destination	
21.	Act as protector of the destination resources through watchers, guards etc	
22.	Support environmental reporting	
23.	Organize Environmental education and awareness programmes for community members	
24.	Organize Environmental education and awareness programmes for tourist	
25.	Provide financial support for conservation of natural resources.	

Respondents were asked to identify variables relevant to their destination

2. No of variables pertaining to DS discussed with experts (37)

Dimensions	Variables	Indicators	Put tick mark
Economic (14)	Employment	1. Increase in Tourism related employments for local community.	
		2. Increase in Women participation in employment	
		3. Improved quality of jobs	
	Income	1. Enhanced Opportunities for income from tourism in the locality	
	Bargaining power	1. Improved bargaining power of the community	
	Local entrepreneurship	1. Increased Opportunities for local ownership of enterprises	
	Leakage	1. Reduced income leakages	
		2. Reduced employment leakages	
	Linkages	1. Increase in linkage with other sectors like farming, business	
	Benefit sharing	1. Increase in income benefit	
		2. Reduced discrimination in sharing benefit	
		3. Improved social security measures	
	Thrift and Savings	1. Improved thrift and savings among community members	
	Seasonality	1. Designed Measures to address Seasonality of tourism in the destination	
Socio Cultural (7)	Migration	1. Reduced migration	
	Security	1. Reduced crime, accident of vandalism, and other anti social elements	
	Skill and awareness	1. Improved Skill level among members to host tourism services	
	Public utility	1. Improved public utility infrastructure i.e. sanitation, health etc. to local communities	
	Cultural conservation	1. Measure for Conservation of traditional activities through its reintroduction and maintenance	

		2. Opportunities for presenting art forms for visitors Enhanced	
		3. Improved awareness among communities about the economic values of cultural properties of the destination.	
Ecological (7)	Natural resource conservation	1. Improved Natural resource conservation i.e. soil, forest cover etc.	
	Nature education	1. Improved Environmental education and awareness among the community	
	Pollution	1. Introduced measures to Address pollution	
	Financing for conservation	1. Improved financial contribution by community for conservations	
	Conservation initiatives	1. Increased community participation in environmental reporting	
		2. Reduced poaching and other illicit activities at the destination	
3. Introduced low impact measures at the destination i.e. low-impact technologies, environmentally sound construction etc.			
Political (8)	Democratic Governance	1. Increase in Democratic representation of eligible communities	
		2. Increased Participation of indigenous communities	
		3. Increased Participation of women in Decision making	
		4. Downward shift in decision making	
	Transparency	1. Introduced Fair and transparent framework/ guidelines for sharing of earnings	
		2. Created Transparency in destination transactions	
	Advisor	1. Improved Advisory role of communities for planning destination activities.	
	Administrative Linkage	1. Improved Linkage with local/regional governing intuitions .	

Respondents were asked to identify variables relevant to their destination

APPENDIX: V

Analysis result of ANOVA to verify the similarities of Community Intervention Strategies across destinations under study.

Table1: Test of Homogeneity of Variances

Test of Homogeneity of Variances				
CIS	Levene Statistic	df1	df2	Sig.
1. Democratic	1.146	3	346	.331
2. Capacity	2.594	3	346	.053
3. Linkage	3.028	3	346	.030
4. Intermediary	3.093	3	346	.027
5. Awareness	1.159	3	346	.325
6. Benefit	2.269	3	346	.080
7. Support	.950	3	346	.416
8. Watchers	1.064	3	346	.364
9. Reporting	.790	3	346	.500
10. Protection	1.725	3	346	.162
11. Finance	3.162	3	346	.025
12. Guiding	.236	3	346	.871
13. Production	5.258	3	346	.001
14. Tourism service	1.663	3	346	.175
15. Promotion	2.862	3	346	.037
16. Entrepise	1.850	3	346	.138

Table 2: F Test for significance among destinations on Community intervention Strategy variance

Community Intervention Strategies	Periyar		Parambikulam		Thenmala		Waynad		F Value	P Value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Democratic	3.2197	1.1346	3.3209	1.0157	3.3023	1.1027	3.3902	1.0459	.345	.793
Capacity	3.4470	.95960	3.4776	.82002	3.3488	1.1523	3.5122	.86954	.271	.846
Linkage	3.6894	.77294	3.6940	.73809	3.5581	.90770	3.4146	.94804	1.104	.188
Intermediary	3.4394	.98273	3.5746	.82605	3.6279	.90035	3.6829	.81973	1.104	.347
Awareness	3.2045	1.0964	3.2313	.97267	3.1628	1.1112	3.3659	.99388	.319	.812
Benefit	3.3485	1.0410	3.4701	.86442	3.5581	1.0072	3.3659	.99388	.695	.555
Support	3.3561	.97396	3.2985	.95799	3.2791	1.0982	3.3902	.86250	.170	.916
Watchers	3.2500	1.0512	3.2090	.97390	3.2093	.96506	3.3171	.90662	.142	.934
Reporting	3.2197	1.0655	3.2239	.98593	3.3488	.97306	3.1707	1.0465	.246	.864
Protection	2.9924	1.0665	3.1567	.94872	3.1628	1.0675	3.2195	1.0877	.879	.452
Finance	3.6136	.84391	3.4478	.89751	3.3488	1.0665	3.3659	1.0667	1.471	.222
Guiding	3.0000	1.1722	2.8806	1.1309	3.0000	1.1270	3.0488	1.1694	.369	.775
Production	2.9545	1.1713	3.0597	1.1088	3.3256	.99333	3.5366	.89715	3.593	.014
Tourism	3.2803	1.0138	3.1940	1.1009	3.4651	.93475	3.1707	1.0465	.850	.468
Promotion	3.3485	1.0113	3.1642	1.1118	3.4651	1.0027	3.3902	.89101	1.326	.266
Enterprise	3.4167	.96537	3.4627	.96290	3.6047	.76031	3.3902	.99695	.498	.684

APPENDIX: VI

List of perceived constructs and measurements for Community members, Stakeholders and Tourist before and after Pilot study.

Construct	Measures	No. of Item for Pilot study	No of items for main study
Community Intervention Strategies			
Eco development	Engage as Watchers, Environmental reporting, Resource protection, Financial support, and Eco guiding	5	5
Governance	Democratic Selection, Capacity building, Linkage with other sectors, Advisor, Awareness programmes, Benefit sharing, Support to community work, and Intermediary	8	7
Commercial	Production of local products, Tourism activities Promotional activities, Enterprise development, and Product diversification	5	4
Destination sustainability			
Economic	Increase in tourism employment, Improvement in bargaining power, Increase in thrift and savings, Increase in community enterprises, and Improved Linkages with other sector	5	5
Political	Increase in representation of community, Downward shift in decision making, and Improved community linkages	3	3
Social/Cultural	Decrease in anti social issues, Improvement in Skill level, Reintroduction of traditional art forms, and Maintenance of cultural sites	4	3
Ecological	Decreased illicit activities, Improvement in Envntal. Reporting, Improvement in Envntal. awareness level, and Improvement Envntal. information	4	4

Destination Quality			
Destination quality	Authentic product, Safety and security, Transparency, Healthy and hygienic environment, Healthy human and environment relation, and Accessibility (Adopted from UNWTO 2007)	6	6
Tourists' Opinion on Destination Quality			
Tourists' (Repeated) Opinion	Authentic product, Safety and security, Transparency, Healthy and hygienic environment, Healthy human and environment relation, Accessibility (Adopted from UNWTO 2007)	6	6
Tourists' (New) Opinion	Authentic product, Safety and security, Transparency, Healthy and hygienic environment, Healthy human and environment relation, and Accessibility (Adopted from UNWTO 2007)	6	6
Stakeholders Opinion on CIS			
Stakeholders Opinion	Democratic procedure Capacity building programme Eco guiding and interpretation Integration of tourism with other sectors Conservation activities Education and awareness programmes Diversification products Promotional activities, and Intermediary	09	09

APPENDIX: VII

WL10-2672/2011

Office of the Principal
Chief Conservator of Forests (Wildlife),
Forest Headquarters,
Thiruvananthapuram
Dated: 14-11-2011.

From:

Principal Chief Conservator of Forests (Wildlife) &
Chief Wildlife Warden,
Thiruvananthapuram.

To:

Sri. Vinodan. A.
Nodal Officer,
Indian Institute of Tourism and Travel Management,
Parthasarathy Nagar,
Muthukur Road,
Nellore, Andrapradesh - 524004.

Sir,

Sub:- Extension of Survey period upto 31st May 2012 - regarding.

Rel:- 1. Permission Order No. WL10-2672/2011 dated
28.04.2011 of Chief Wildlife Warden, Kerala.
2. Your application dated 13.10.2011.

Please refer to the letters cited. Permission is granted to extend the period of research study upto 31st March 2012 subject to the condition laid down in the permission already given on 28.04.2011.

Yours faithfully,


**For Principal Chief Conservator of Forests (Wildlife) &
Chief Wildlife Warden, Kerala**

Copy to: Deputy Director, Periyar East, Thekkady / Periyar West,
Peerumadu / Wildlife Warden, Parambikulam / Shendurney /
Wayanad / Aralam for information and further necessary action.

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||| List of Publications |||

Recent thesis related publications

- [1] Vinodan, A and Manalel, J. (2013): Case study on Ecotourism in India. In UNEP. (2013). *Green Economy and Trade-Tourism Trends, Challenges and Opportunities*. UNEP.
- [2] Vinodan, A and Manalel, J. (2011): Local Economic Benefits of Ecotourism: A Case Study on Parambikulam Tiger Reserve in Kerala, India, *South Asian Journal of Tourism and Heritage*, 4(2): 93-109.
- [3] Vinodan A. (2011) Institutional framework of ecotourism: Special reference to Thenmala Ecotourism Project, Kerala, India. *ASEAN Journal of Hospitality and Tourism*, 12 (2), 78-92.
- [4] Manalel, J., & Vinodan, A. (2009). Ecotourism: Conservation and Livelihood. In Natarajan, P., Jayachandran, K.V., & Augustine, A. (Eds.), *Proceeding of International Conference on Biodiversity and Management (BIOCAM, 2008)*, Kochi. 413-418

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