Sustainability Issues of Aqua Tourism in Kerala

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Abstract

Tourism is interlinked with the natural environment and generates a lot of employment opportunities. The rapid growth of tourism industries has led to the destruction of nature because in most cases, tourism industry concentrates only on economic viability. The development of the tourism industry should balance with ecology, society, culture, and economy for their sustainability. The quality of nature is essential for tourism. The negative impact of tourism development can gradually destroy natural environmental resources on which it depends. In this paper, the authors describe the effects of tourism on natural resources, environmental pollution, and recent issues associated with Kerala tourism with specific reference of coastal areas.

Keywords: Natural Tourism, Ecotourism, Sustainable Tourism, Adventure Tourism, Environmental Degradation, Livelihood

1. Introduction

Environmental pollution has been in the world since the beginning of civilisation. Pollution levels are correlated with patterns of human consumption and human-nature interaction. The environmental issues are not only distressing the industrialised countries, but its negative impact spreads and affects the whole world. Environmental issues are problems that affect air, water, and soil due to massive anthropological activities on the earth. The

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foreign substances formed as a result of any human activity that potentially damages the environment are contributors to environmental issues. Some of the major environmental issues are global warming, erratic rainfall, deterioration of water quality and reduction of groundwater level, deforestation, coastal erosion, and, loss of biodiversity and ecosystem.

Most of the studies argue that though the developed nations are the highest pollution producers, they are less distressed, as they are more aware of the environmental issues and maintain preventive measures. One might argue that due to lack of awareness, developing and underdeveloped countries are most vulnerable to environmental problems. Environmental problems often arise from a lack of understanding of the ecosystem and the ecological environment, and the impact of the massive use of natural resources. The United Nations has emphasised the importance of global environmental protection and has accelerated the process of spreading awareness and the need for environmental education for a sustainable future. Environmental education encourages the building of a sense of connection with the natural world, encourages conservation of natural resources and the ecosystem, and promotes sustainable development.

2. Need for the Study

In our competitive world, it has become a trend to adopt the fastest initiatives for vast economic growth, without any concern about the future generation. Unfortunately, the Tourism industry that is based on the natural environment propels economic growth without any concern for the next generation. Tourism studies needs to develop a sense of ethical responsibility to curb the adverse effects of tourism to protect nature and to promote and achieve sustainable development. Sustainable tourism is an alternative that could act as a link connecting aesthetics and pleasure of travel with sustainablity.

2.1 Ocean ecosystem

Ocean ecosystems are the largest of the Earth's aquatic ecosystems. Oceans are essential for the overall wellbeing of both marine and terrestrial ecosystem (Kadam et al., 2017). But the ocean ecosystem

is being degraded and polluted by various anthropogenic activities as all effluents are dumped in the ocean. Oceans have been used for waste disposal, including the disposal of chemical and industrial wastes, medical wastes, radioactive wastes, sewage sludge for many years. This pollution seriously affects the whole ecosystem. Oceans have an essential part in human existence. Fish and other marine organisms have an important role in maintaining food security of many countries. While the fisheries sector provides livelihood to billions of people, a recent report says that numerous fish stocks in the Indian marine region have significantly declined due to marine disruptions over the last few years (Karnad, 2017).

2.2 Coastal zones of India

In recent years, shoreline retreat, beach erosion, and degradation of dunes have become a global issue. India has a long coastline of about 7,517 km, with many developing cities based on the coastal line (ISRO, 2012). Coastal zones of India are highly dynamic and are notified by economic activities such as fisheries, seaweed mariculture, pearl oyster culture, tourism and recreation and so forth (Natarajan, 2012). The excessive interaction and rapid urbanisation along with plastic waste disposal and sand mining are having a detrimental impact on the development of the coastal region which is necessary for the upliftment of the poor and vulnerable living in the most fragile zones (Manickam, 2017). The construction of hotels and recreational facilities for the sake of tourism promotion without considering the needs and demands of the local residents affects the livelihood of regional people and also destroy the natural resources (Matsuoka & Kelly, 1988). Towner (2018) noted that the involvement of local stakeholder groups is essential for the sustainable development of a tourism destination. In contrast to a sustyainable model, the coastal zones of India are under increasing pressure due to over-exploitation of natural resources, unsustainable tourism development and discharge of waste effluents, municipal sewage, and oil spills (Natarajan, 2012).

2.3 Coastal tourism

Tourism, one of the fastest growing sectors, has significant environmental, socioeconomic effects, both positive and negative. Tourism is based on the idea that people from different regions

with diverse cultural and linguistic background, assemble at a place to enjoy the natural beauty of a place and acquire knowledge about the region they are visiting. Therefore, coastal tourism takes place along the shorelines, including the sea, and any other water source adjacent to the same. In Kerala, coastal tourism projects are always interlinked with backwaters as these are adjacent to Kerala coasts. While the improper management of tourism paves the way for environmental degradation, one of the positive aspects of tourism is economic development. Environmental degradation often destroys the beauty of a natural destination, which, in turn, forces tourists to reject the degraded lands. So tourism has its own seeds of destruction and, therefore, tourism can kill tourism (Glasson et al., 1995). Coastal and marine environments attract millions of tourists every year and are a mainstay of the economy for many coastal communities (Hall, 2001). While coastal resources are increasingly threatened due to the tourism-related pressures on coastal zones include urbanisation and industrial developments, water pollution, loss of mangroves, as well as overuse of freshwater and marine resources (Hoegh-Guldberg et al., 2015).

2.4 Canyoneering and Ecotourism

Canyoneering is not a new form of adventure tourism. For Kerala, it is now an emerging are of recreation in Wayanad (Indian Express, 2017). This recreational activity used to be popularly enjoyed in the Himalayan regions. The Western Ghats provide unlimited canyoneering opportunities to learn about the regional flora and fauna. It is considered as one of complex form of adventure tourism. As the participants cannot enjoy the canyon activity overnight, canyoneering is an adventure sport that combines hiking, wading, and swimming, jumping, sliding, scrambling, down-climbing, and rappelling— often over waterfalls (Bangalore Adventure School, 2017).

Though they are exploring the unfamiliar tourism regions, canyoneering is comparatively highly expensive and the organisers do not often belong to the local region (Adventure Nation, 2017). These profit oriented tourisms' adversely affect the aesthetics and well-being of canyon regions. This, in turn, raises the question of sustainable development of tourism in these regions. Hence

canyoneering comes under adventure-natural-tourism but not the ecotourism category.

3. Objectives

1. To find out the various factors affecting the aquatic ecosystem
2. Analyse the positive and negative impacts on coastal tourism
3. Develop awareness model to minimise the negative impact of coastal tourism on the environment
4. To find out the need for aquatic ecotourism in Kerala

4. Methodology

This paper is based on secondary data sources that include literature review collected from different journals, articles, and newspaper reports. The literature review discusses the basic concepts of environment and tourism. The methodology is useful in identifying the positive as well as negative impacts of aquatic tourism.

5. Literature Review

Tourism has become one of the most important economic industries in the world. Most of the countries are encouraging tourism for their economic development (Glasson, 1995). Developing countries are embracing ecotourism for economic and environmental conservation strategies (Kiper, 2013). The strength of tourism is the natural environment and resources. According to the World Travel and Tourism Council (WTTC), Kerala is the most sought-after and trusted tourism brand in India. The divergence of the natural environment of Kerala has the potential to attract tourists from worldwide.

Tourism is directly associated with the natural environment and culture for the economic progression. Hence, it is considered an interdisciplinary approach and practice. Primarily, nature is the marketing substance in tourism – it deals with 'preservation of

nature, protection of species, and their habitats' (Pillai, 2010). The quality of the natural environment is essential in tourism. The relationship between tourism and nature is interrelated and complex. It involves many activities that have adverse effects such as the massive construction of infrastructure with a single dimension of the economy. These negative impacts of tourism development can gradually destroy environmental resources on which it depends (Sunlu, 2003).

Mowforth and Munt (1998) suggest an eco-friendly approach to tourism as a more sustainable way. The protection of natural resources is essential for the sustainability of tourism. This, however, can be achieved by practices and principles of ecotourism (Honey, 1999). Ecotourism is a form of sustainable tourism. Limited negative environmental impact and increased economical conservation is the core of sustainability. Hence, sustainable tourism should balance the ecological and economic system of the host region. According to Drumm and Moore (2005), for the successful attainment of ecotourism and sustainable benefits, each local area must implement a planning framework to guide and manage the tourism activity in the region.

In terms of the United Nations World Tourism Organization (UNWTO, 2001), the idea of sustainable tourism development is achieved when "the tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future". Ecotourism can be said as being "responsible travel to natural areas that conserves the environment and improves the well-being of local people and involves interpretation and education" (TIES, 2015). A case in point is Kerala. Kerala is well-known for its beautiful beaches, estuaries, backwaters, mountain ranges, forests that support natural tourism, but the current scenario of tourism in Kerala is alarming. Private and foreign investments in the tourism sector have not considered the local needs and demands, which, incidentally is essential for sustainable tourism.

Economy, society, and ecology are the three dimensions of sustainable tourism, but the tourism agents concentrate exclusively on the economic dimension and does not consider the other dimensions, whereas the others can be achieved through the

implementation of ecotourism. The domination of foreign and non-local investor targeting only on economic growth (Mowforth & Munt, 1998) adds to the concern.

Tourism provides a plenty of natural enjoyment and knowledge about the culture and history. The natural beauty of a region attracts more tourists (Vijayakumar, 1995). Drumm and Moore (2005) differentiate ecotourism from nature tourism by explaining that not all travel to natural areas is ecotourism. Nature tourism, as opposed to ecotourism, does not have considerations for mitigating environmental issues and respect for local people and culture. Instead of all these, they are a profitable industry and tourists prefer them due to lack of awareness of the possible harmful effects.

The construction of huge hotels and resorts in the seashore line targeting the economically upper-class tourists by providing exclusive visual ambience is on the rise. This has made the shore inaccessible to the local people including fisherfolk and other tourists (Hawaii, 2014). These practices not only block the view of marine to the public but also affect the ecology in a significant manner. The issue of garbage is important here. They expel the garbage directly into the marine environment. The garbage never settles in a single oceanic region and the pollutants spread over the ocean and severely affect the ocean ecosystem (Nammalwar, 2008). Kerala's coastline, running parallel to the fine brackish water (ISRO, 2012) spreads for about 580 kms with a high density of population. The region faces the above-said issues. Most of the studies argue that it is the time to take preventive measures to eliminate this concern. They assert that the department of tourism development and local administration should consider the wellbeing of local people and nature. There could be several reasons why the awareness or any assertive action are not being implemented or are being sustainable. Scholars argue that for a successful paradigm of ecotourism, the ecologists need a greater understanding of business considerations; that is necessary to ensure the sustainability (Drumm & Moore, 2005).

Kadam (2017) argued that employing members from fisherfolk society as the intermediaries of marine pollution awareness among beach visitors can lead to a better intervention. As they are the

people who know their region, they have more time to monitor the region than others. In addition, since they are directly depending on the sea for their livelihood, there can be an emotional connect associated with that. The local people can represent their location and work as tour guides. It is a known fact that visitors develop perceptions about a location from the interpretation of tour guides (Modlin et al., 2011). Public participation and support are needed for environmental policymakers to frame the marine environment measures (Gelcich et al., 2014) and make it sustainable.

6. Ecotourism through Homestay Tourism

As ecotourism benefits the local people and natural conservation, it is an ideal component of a sustainable development strategy where natural resources can be utilised as tourism attractions without causing harm to the natural area (Drumm & Moore, 2005). Unlike luxurious expensive hotels, accommodation facilities in the local people's home provide them with the experience of a lifestyle shared by people who are from the region, offer personalised service and lively social interactions with hosts. This provides an opportunity for the guests to enjoy and understand the local culture and also makes them a part of the guests' lifestyle. This practice is economically viable for the guest and the host. Hatton (1999) observed in his studies that homestays are providing a real cultural experience to the guests, which cannot be perhaps provided by the luxurious hotels and resorts.

For a prolonged time, the tourism industry has been dominated by large multi-national-companies and has exploited the environment. This rapid exploitation has affected the local community compelling them to migrate. Uncontrolled tourism development has made native people more vulnerable to diseases, the biodiversity more susceptible to damages. According to the recent census records, the native population in the Andaman Islands has declined due to the dominance of the tourism industry (Agoramoorthy & Sivaperuman, 2014). But the homestay programme has encouraged the local people to tie-up with the Tourism Department as it has empowered the local community to earn benefits directly. Understanding the potential of economic and environmental conservation through homestay tourism,

environmentalists and policymakers have recommended it. As homestays have been administered by the local people, they have shown their concern for sustainability and have promoted natural environmental awareness and cultural education.

To achieve the socio-economic wellbeing of rural parts of India, environmentalists proposed the implementation of homestay tourism programmes. For promoting homestay tourism, many states decided to relax luxury and sales tax from homestay organisers. Moreover, as an incentive, they were charged with a nominal domestic fee for water and electricity (Outlook magazine, 2008). In India, luxurious hotels were heavily taxed both by the State and Central Governments. Meanwhile, the local municipal corporations also levy taxes separately. These hotel industrialists charge enormous for accommodation and other services. But as homestays are balancing the environmental equilibrium, they are considered as sustainable practices of tourism and are typically freed from luxurious taxation.

Homestay programmes are being promoted worldwide by various travel agencies but *Airbnb* from San Francisco is exclusively focusing on homestay hospitality worldwide. They are working as mediators for connecting the guest-host, all over the world using information on the website, mobile applications, and working offices in major cities (Airbnb, 2017).

As a form of encouraging homestay programmes, the Indian Ministry of Tourism incorporated "Incredible India Bed & Breakfast/Homestay Establishments" with Tourism Department for providing a comfortable tourism facility by minimising the expenses for hosts and curbing environmental degradation, while retaining the economic benefit for the regional people (Ministry of Tourism, Government of India, 2017). The basic idea of establishing "Incredible India Bed & Breakfast/Homestay Establishments" is to provide a clean and affordable place for foreign and domestic tourists to stay with an Indian family and enjoy the fervour of Indian culture and cuisine (Kannanthanam, 2018).

A study report by Paul and Smitha (2014) argued that Alappuzha is blessed with backwaters, houseboat tourism, beaches, ethnic culture and numerous well-connected canals. However, Alappuzha

tourism is affected due to the lack of accommodation facilities for visitors. This urgent requirement can be handled without harming the ecosystem through homestays. This enhances tourist arrivals and revenue generation by facilitating local economic development.

Major benefits of homestay programmes are:

Host and host region

  i. Local people are directly providing the accommodation facility to the tourists in their own homes and this can minimise the construction of huge recreational centres by destroying the environment.

 ii. Compared to staying in a hotel, a homestay may result in a lower carbon footprint.

iii. As the local community is involved directly, it opens the possibility for employment opportunities. It can be used for mitigating unemployment problems.

 iv. Business opportunities are being provided to regional people, instead of large business tycoons. Hence homestay could be seen as a viable tool for economic accumulation. This takes into consideration the environment, economy, and wellbeing of social status.

  v. This process facilitates direct access without the intervention of mediators.

Benefits for the Guest

  i. Savings on lodging costs. As compared to hotels and lodges, homestays are economically moderate.

 ii. Host themselves work as a *tourist guide*. Visitors get reliable information about the destination; the information shared often expanding beyond the guidebooks.

iii. Provides a deeper understanding and analysis of the everyday life of the locals.

 iv. Most of hosts arrange the homestay for the tourists in their own living house. This provides the tourists to enjoy the

homeliness, safety, and experience of local culture, including cuisine and culture.

v.   As tourists stay with the regional people, the visitors get a chance to buy original crafts from the region without any mediators.

7. Direct Environmental Impacts

7. 1 Water quality

Water is a key factor for all living organism, therefore, the maintenance of water quality is important for the sustainability of life. Kerala offers a variety of water tourism. The backwaters not only allow for the passage of water but also act as a bio-corridor for the survival of aquatic flora and fauna. Vijayakumar (1995) in his research work argued that the aquatic natural environment of Kerala is more attractive for foreign tourists than any other factors.

The tourism industry exploits water resources extensively for construction of large-scale accommodation facilities and releases waste that contaminates water. For achieving vast economic growth, less concern is given for nature and environment. The construction of huge hotels and other infrastructure takes place at the cost of destroying the abundant forestlands, hill regions, and fertile land area. This has an impact on climate change that results in a drastic change in rainfall rate, glacier condition, sea water level variation and high depletion of groundwater level which affects the ecosystem.

The aquatic ecosystem is being degraded by various anthropogenic activities. Most of the anthropogenic pollution ends up in the ocean. The marines are the most polluted region in the earth, as all effluents are dumped in the ocean (Mishra et al., 2017). The aquifers are most vulnerable to contamination from various anthropogenic activities. Humans are increasingly dependent on aquatic environments for entertainment, livelihood security, and as a platform for the exchange of goods in a globalised world. The increasing exploitation of aquatic environments poses a number of challenges, including the concerns pertaining to biodiversity conservation and sustainable use of renewable resources (Halpern et al., 2007). The unstructured development of tourism has

negatively affected the natural environment which is incidentally the base for the tourism industry. While the plastic wastes along the shorelines increases as the number of tourists increases (Agoramoorthy & Sivaperuman, 2014), solid waste and littering can degrade the physical appearance of the water and shoreline and cause the death of marine animals (UNEP, 1997). This, in turn, will affect the tourism of the place: the spoiled region will be rejected by tourists (Glasson et al., 1995). Beaches, seashores and backwaters are landscape specifications of Kerala and they generate a great deal of waste disposal. Aquatic debris, in particular, the accumulation of plastic debris, has been identified as a global problem as a result of tourism. A report in *The Times of India* (2018) stated that oceans are one of the biggest silent victims of pollution. Oceans across the world are choked with plastic waste that kills marine life, affects industries, including fisheries, which is the lifeline of several communities. The report concluded by blaming the unsustainable practices as the major reason. Although the government has taken numerous initiatives to reduce water pollution, they were struck because of no follow-up and lack of proper awareness among the tourists for not using the plastic materials. Kerala's Fisheries Minister, Mercykutty Amma, has inaugurated the *Suchitwa Sagaram* (Clean Sea) in 2017 with the mission to prohibit plastic waste disposal into the sea. On the inauguration day, the fisher folk collected 25 tonnes of plastic from the sea – exhibiting how the extent to which the ocean is filled with plastic waste (The Hindu, 2017).

Tourism contributes heavily to water pollution through discharge of the huge amount of sewage effluents from hotels and lodges. These sewage effluents are dumped into the rivers, backwaters, lakes, and oceans. Similar to large ships polluting the ocean, the small houseboats are polluting most of lakes and backwaters. The houseboats are a popular leisure choice for many Kerala tourists but they dump a lot of waste into the ocean through the backwaters. The eco-friendly *kettuvallam* operators are also not following the environmental ethics that is leading to environmental degradation. Increasingly improper disposal of waste material, sanitation, solid waste, and littering by houseboats are degrading the environment and visual appearance of the destination. The booming houseboat tourism of Kerala is providing economic

benefits, while the water access for regional people is being severely threatened. In the backwater area of Alappuzha, the entire way of life is intimately associated with the backwaters. Improper management of tourism affects the ecosystem. The livelihood of the people depends on the quality of water. Houseboats leak diesel and other pollutants directly into waterways. These petrochemicals disrupt the ecosystems. Hence, sustainability is questioned.

Most of the tourism business agents are using the term *'ecotourism'* as a business tagline, without following even the basic principles, while tourists are also unaware of it and unintentionally become a part of the environmental degradation process as well (TIES, 2015). On the other hand, nature tourism operators have typically carried out their initiatives with an incomplete understanding of conservation issues and consequently have operated in an unsustainable fashion (Drumm & Moore, 2005). A healthy environment is important for the sustainability of the tourism industry. Rapid constructions with lack of waste management plans, deforestation, and maximum utilisation of resources severely affect the aesthetic value and quality of natural environment that raises the need for aquatic sustainable tourism (Vijayakumar, 1995). As natural resources are vital for tourism, Kerala backwaters should be preserved in a sustainable manner (Joseph et al., 2017).

7.2 Soil quality

The soil is the base of all living organisms and ecosystem. It is necessary for the sustainability of humankind. Soil and water co-exist; hence soil quality maintenance is imperative. The improper waste management leads to environmental, economic, and social impacts. Soil conservation is preventing of soil from fertility loss caused by over usage, littering, acidification, and other unsustainable methods of anthropological activities. Soil quality is desirable for the healthy maintenance of the flora and fauna, and the aesthetics of the environment of a region. Massive tourism activities allow for the degradation of land (TIES, 2015). Plastic consumption is a significant problem for the environment, soil, and human health (UNEP, 2018).

7.3 Careless and negligence activity of stakeholders and tourists

Pressure for economic development without consideration of environment and local people disturb the ecosystem and sustainability. Tourism industry competitors with multiple unsustainable developmental activities exploit the benefits from the environment that irreparably damages the environment. According to Drumm and Moore (2005), the term *ecotourism* has been powerfully abused by big tourism operators to attract conservation conscious travellers that might have negatively impacted the environmental and social situations. According to TIES (2015), each region should develop its own principles, guidelines and certification procedures for ecotourism based on the materials available internationally; only then it will be beneficial for the local people.

The present generations' greed and overexploitation negatively affect the resources for the future generations. It is necessary to implement that the road towards development should not allow any factors that adversely affect the environment. The sustainable development programme is friendly to the ecosystem in all respects and has the capacity to adjust the abrupt changes of the present and the future. Thus, sustainable development programme has a balanced perspective of valuing economic development and environmental protection.

7.4 Waste management practices and Kerala water tourism

With the rapid tourism development, water pollution has become a serious problem in Kerala. The unsustainable tourism overexploits the land and water resources. These have detrimental effects on people and often force the local population to migrate. Waste disposal leads to contamination and diseases often leading to loss of work.

Scholars have recommended that the environmental ignorance can be mitigated by proper *awareness* programmes and by follow-up efforts to attain sustainable aqua-ecotourism in Kerala. The tourism industry in Kerala is contributing a lot to water pollution. Joseph et al. (2017) demonstrated that *kettuvallam* to *super*-luxurious owners are not concerned about environmental management and are unaware of the need for sustainable environmental management.

Houseboats are an integral part of Kerala tourism but houseboat tourism affects the environmental system quite significantly (Chandy & Rajesh, 2017).

Developing a sustainable ecotourism industry is a way to protect an area through tourism (Drumm & Moore, 2005). The three dimensions of sustainability (economy, society, and ecology) intersect only in ecotourism (Eriksson, 2003). The conceptual model of tourism by Eriksson (2003) clearly differentiates ecotourism and natural tourism.
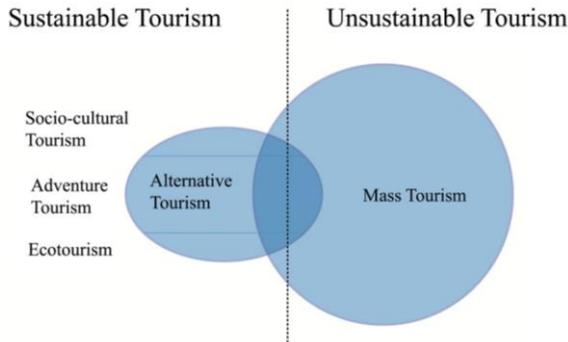

Fig 1 Conceptual Model of Tourism (Eriksson, 2003)

According to Eriksson (2003), Figure1 explains that ecotourism is an alternative form of tourism from mass tourism. Conceptually, alternative tourism is sub-divided into several parts:

i.   Socio-cultural tourism

ii. Adventure tourism

iii. Ecotourism

Ecotourism includes the responsibility of the travellers towards nature and wellbeing of local people as well as the promotion of environmental education. Drumm and Moore (2005) explain that natural tourism is not just a travel to natural areas for enjoyment without an understanding of environmental education and awareness.

Honey (2008) defines nature, wildlife, and adventure tourism as follows:

Nature tourism involves travel to natural areas enjoy nature. It usually involves moderate and safe forms of exercise such as hiking, biking, sailing and camping. Wildlife tourism involves travel to observe animals, birds, and fish in their natural habitats. Adventure tourism is nature tourism with: physical skill and endurance and involves a degree of risk taking.
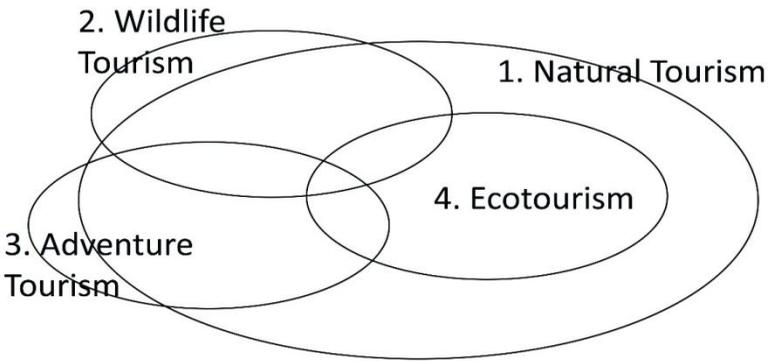

Fig 2 Ecotourism and Tourisms (Hill & Gale, 2009)

Hill & Gale (2009), demonstrates in Figure 2 that

i. Nature tourism includes Wildlife tourism, Adventure Tourism and Ecotourism

ii. Wildlife tourism interacts with wildlife. This may include elements of Adventure Tourism and Ecotourism. Sometimes Wildlife tourism involves artificial settings.

iii. Adventure tourism is based on adventure activities; it may occur in Natural and Wildlife tourism.

iv. Ecotourism is purely based on Natural tourism and it involves education and conservation.

Wildlife tourism, Adventure tourism, and Ecotourism overlap, but both Wildlife tourism and Adventure tourism come out of the scope of Natural tourism. Ecotourism only practices sustainable development.

8. Conclusion

From the literature survey, the authors tried to arrive at a conclusion that the existence of the whole world is based on the diversity of the natural environment and ecosystem. Although the authors' area of study is limited by aquatic tourism destinations of Kerala, being a part of the whole ecosystem, the findings are generalised to the whole world. For the rapid economic development, the natural resources were exploited and the hazardous by-products were disposed of in an unsafe manner that severely affected the ecosystem. An ecosystem which is well-connected became distressed.

A tourism industry that is based on the natural environment becomes vulnerable due to unsustainable practices of development. However, tourism also has the potential for economic recreation with less capital expenditure. Various conceptual frameworks by Eriksson (2003), Drumm and Moore (2005), Hill and Gale (2009), all focus on 'ecology, society and economy' as three dimensions of sustainability and indicate that it is in ecotourism that the three dimensions intersect. Therefore, well-planned management of tourism with the awareness of the concept of environment and local people can pave the way for economic sustainability. A portion of economy attained from using nature should be deposited for environmental conservation activities, which is the best practice for sustainable development.

Environmentalism stimulates the necessity and responsibility of humans to respect and protect the natural environment in each and every anthropogenic activities. The authors also found out that the lack of proper environmental awareness leads to problems. Environmental education should be integrated with tourism programmes that should begin from the tourism operators, employees, stakeholders and include the tourists. Environmental tourism provides an opportunity to understand environmental issues and the need for environmental conservation. Ecotourism takes the visitors directly to the field; educates the need for environmental preservation along with local people and culture, leading to the wellbeing of local people. Most of the environmental researchers mentioned that the development of the tourism

industry should go parallel with concerns pertaining to ecology, society, culture, and economy for sustainability. But in most cases, the tourism industry concentrates only on economic dimension and never concern with the other dimensions that cause environmental degradation that leads to a loss of local identity. The quality of nature is essential in tourism. The negative impact of tourism development can gradually destroy natural environmental resources on which it depends. Hence, in order to make tourism development in Kerala sustainable, an integrated strategy is essential that can make the tourism industry an effective way that nurtures both the conservation of natural environment and economy.

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