

The Prospects and Challenges of Developing Hydel Tourism Destinations in Kerala: A Scope for Responsible Tourism Practices

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ABSTRACT

Hydel tourism is a niche tourism product that is now a “special interest tourism” developing in any part of the world. In India, it is gaining much importance and Kerala tourism considered it as a niche tourism product. KHTC, a unit of KSEB, was registered in 1999 to promote tourism and effective exploitation of water bodies managed and controlled by KSE Board Ltd in remote places. It focuses on the efficient use of water based tourist potential in the natural surroundings of the state's hydel projects areas, as well as the preservation of the area's ecosystem. It also focuses on providing an opportunity for the public to know about hydro power plants and facilitate them with a variety of eco-friendly activities through 11 hydel tourism destinations. Currently, Kerala is facing a heavy setback because of the natural calamity flood. In this background, we would like to throw light on Hydel tourism development through responsible tourism practices. This study throws light on the hydel tourism prospects, its Implications and promotion by adopting various sustainable responsible tourism practices, which benefits the local community as well as government. The study also aims to develop a hydel tourism circuit as a best practice of responsible tourism.

Keywords: Hydel tourism; Responsible tourism practices; Prospects and challenges; Hydel tourism circuit

INTRODUCTION

At the opening of the international exhibition of hydro power and tourism in Grenoble, France, in 1925, Paul Mistral declared, "The triumph of man over nature, the ascendancy of man over the forces of the mountains." Paul, stated that unequivocally that mountain issues, notably water, will be crucial in the future "tourism" business. On how the hydro project sites will tie to tourism growth, there are always inconsistencies.

There has always been a fear that constructing hydel electric power plants in natural settings will ruin the wilderness and its landscape. It is expected that power plants and associated infrastructure will detract from the natural beauty of the area. As a result, opposition to the building of power plants in natural regions could be expected from all over the world. Despite opposition to shifts in place identity, place connection and social building of nature, the naturalness of wildness has been interrogated [1].

This study discusses the relevance of hydroelectric power plants in the expansion of tourism, as well as their interrelationships. Kerala, for instance, is an area rich in hydropower as well as prominent natural based tourism spots. Most landscapes will alter dramatically in the future as a result of the progress of renewable energy as a reaction to climate change [2]. As a result, power plant infrastructure has grown more visible in many landscapes and natural regions around the world. This could be a curse for economically important destinations, such as the tourism industry, which rely on a high degree of naturalness. This is something that should be taken into account when creating tourism policies. If, a state, "landscape has become a significant arena for the discussion on energy policy," it is critical that the debate over the relative values of energy and tourist growth, as well as the interrelationships amongst these segments, is well informed and evidence based. As a result, this research speaks some of the most pressing issues concerning sustainable development in rural and wilderness areas with substantial

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energy development potential that are also popular tourist attractions [3].

A description of the research region and comparable sites, as well as a description of the methodology employed and data processing are all included. The primary findings are discussed in light of the larger policy and planning discussion around such developments, as well as the implications for future energy and tourism development [4].

Tourist preferences for nature locations span a wide range, from admiration of wildness with little or no human interference to sites with significant infrastructure that have been significantly altered by humans. Tourist preferences in nature places can be classified based on a number of factors. Purists, neutralists and non-purists are classified by the purist scale model. According to, purists prefer to travel in a pristine environment with primitive facilities and seek solitude, whereas non purists do not notice or are disturbed by environmental change, appreciate good facilities and are not disturbed by the number of travelers. Purists are more opposed to transmission lines and wind farms than neutralists and non-purists.

Hydel tourism is a niche tourism product that is presently gaining appeal around the world as "special interest tourism." It's catching on in India and Kerala tourism saw a chance to promote it as a new tourism product. KHTC was established in 1999 as a division of KSEB to promote tourism and effective utilization of water bodies administered and controlled by KSE Board Ltd in remote areas. The main purpose of the center is to "allow optimal development of water based tourism potential in the natural surroundings of state hydel project sites while simultaneously safeguarding the environment." Around 30 hydel power stations in Kerala have a total installed capacity of 2500 MW and around ten places have been designated as hydel tourism attractions [5].

Hydel tourism concept is developed as water based tourism and activities such as boating, river rafting, kayaking and so on. Tourists from all over the world came to enjoy these facilities. Hydel tourism was born out of this need for more water based tourism. It focuses on the efficient use of water-based tourist potential in the natural surroundings of the state's hydel projects areas, as well as the preservation of the area's ecosystem. Dams have been a tourism attraction in recent years. The Kerala government is now providing the public with the opportunity to view the hydropower projects.

The prospects and problems of hydel tourism locations in Kerala are the main subject of this study on hydel tourism. This research is a brief attempt to discover local communities' involvement in the development of hydel tourism. The scope is not restricted in its attempt to find the socio economic benefits to the local inhabitants of the distant places where the hydel projects are located, by properly utilizing the environment and obsolete infrastructure without compromising its primary functions. It also emphasizes the preservation of natural surroundings where hydropower plants are located, as well as the maintenance and promotion of ecosystem. Another significant goal of the research is to determine the effects of hydel tourist development on local populations and the environment.

The study mainly aims to study the scope and potential of hydel tourism in Kerala. The study also addresses the issues and challenges of hydel tourism destinations. Also the study tries to suggest hydel tourism circuits for selected destinations. In the current scenario it evident that any further tourism development could be based on sustainable responsible tourism practices. On the basis of this tourist circuit is developed for the better execution of hydel tourism in a more responsible way [6].

The first session of the study discuss the development of the tourism in relation with hydro power plants. The development of the concept hydel tourism in Kerala in detail. Also the study discusses the confusions prevailing related to the tourism development in destinations of hydroelectric power plants.

The second session discusses the relevant literature available in the study. The third session discuss about the area of the study and methodology used in the study. The fourth session discussed the potential of hydel tourism development in India as well as Kerala, the role of local communities in hydel tourism development and also the issues and challenges faced by hydel tourism destinations in Kerala. The study also suggests a proposed model for the hydel tourism circuit. The fifth session discussed on the discussions and the final session discussed on the conclusion and future suggestions for the research.

LITERATURE REVIEW

Because hydel tourism is a relatively new concept, there is few direct research on it. Despite the fact that we may come across numerous research relating to hydropower and how it has aided tourism development.

From May 21 to October 25, 1925, the international exhibition of hydropower and tourism was held in Grenoble, France. In 1925, Grenoble hosted an international exposition on hydroelectric power and tourism. In this exhibition, Grenoble residents were credited with harnessing the pushing force of water streaming down from the Alps, particularly the industrious Aristide Berges. Grenoble also got the chance to recognize the future's emerging industries. The project was immediately backed by Leon Perrier, president of the general council of the Isere, who said "the victory of man over nature, the domination of the forces of the mountains by man." It was suggested by Paul Mistral, the mayor of Grenoble, who also said "the victory of man over nature, the domination of the forces of the mountains by man." hydroelectricity is a renewable energy source.

With the first bus journeys in the early twentieth century, tourism in the Alps began to expand. Since the 1870's, hydropower has been used to control waterfalls in the highlands. The show attracts over one million visitors in five months, making it a major event.

Tourism has substantial economic and societal repercussions, despite the fact that it is "usually perceived as a business". Different tourist profiles and changes in their spatial practices result in new symbolic and social landscape representations, transforming hydroelectric resource landscapes into contemplative and spiritual landscapes. Since the mid-twentieth

century, tourism has given hydroelectric equipment in high mountain areas new relevance, making it a potent lever for tourism growth on a scale comparable to the Pyrenees. The high mountain areas have become "a tourism resource" as a result of these amenities and scenery.

Many of these locations, particularly those with dams, are essential aspects in the territorial identification and recognition of high mountain landscapes, as well as tourism "places of attachment" that contribute in the "formation of a communal and individual identity". As a result of this reciprocal effect, high mountain hydropower facilities, which attract visitors due to both the natural environment in which they are located and the structures themselves, are also becoming a new landscape resource simply by the way they are viewed, just as natural landscapes became "a resource that was continually renewed through the eyes of the tourist".

According to, it is becoming more popular around the world and hydro plant owners and operators are seeking to meet public demand for tours of these fascinating facilities. She even mentions three websites that advertise dams and hydro plants as tourist attractions in her article. After launching in 2007, Japan began issuing interested tourists "dam trading cards," which are now available in 500 sites. Elizabeth also cites the Enguri dam in North-Western Georgia, which is located on the Enguri river. It is the largest concrete dam in the world and it was recognized as a National Monument in 2015. The dam serves as a reservoir for a 1,250 MW hydroelectric power facility.

Elizabeth Ingram mentions Landsvirkjun, Iceland's National Power Company (INPC), which boasts a burgeoning energy tourism business in the country. The corporation operates 13 hydropower units, three geothermal plants and one wind farm. Three of the 17 stations offer guided tours to the general public. The Karahnjúkar Dam and its 700 MW Fljotsdalur power station, for example, were completed in 2007 and are now fully operating. Visitors can take a guided tour of the development (which includes Europe's tallest concrete-faced rock fill dam) and the surrounding wildlife at this location. Jon Teigland didn't fail to emphasize the effects of hydropower projects on tourism. "Large projects in natural environments, such as hydropower and road developments, can be debated because of encounters with tourism and recreation interests," Changes in latent and effective demand, displacement and substitution are among the effects observed, but interaction and cumulative effects are also significant [7].

Tourism and hydroelectric developments are not always complementary. Many researchers have been conducted to determine whether hydropower development and tourism can coexist. Hydroelectric infrastructure has only a minimal impact on tourist perspectives of high naturalness sites, according to, however transmission lines have been found to have an impact on tourism growth. This means that, with careful planning and the possible undergrounding of some transmission lines, hydropower expansion and tourism development might coexist in some cases. When investigating the impact of infrastructure on experience, it's critical to consider the types and numbers of visitors who visit a certain location, as well as the types and

numbers of tourists who are sought in the context of tourism planning and marketing.

Solar energy's usage in recreational and tourism development in the Carpathians has been proven to be unfettered by objective resource, technological, operational, environmental or economic constraints. When solar energy is utilized to power buildings, electricity is generated without the usage of fossil (or nuclear) fuel, reducing the amount of fuel consumed by traditional thermal or nuclear power plants. Energy conservation through the use of renewable, environmentally friendly energy sources is a promising innovation segment in the development of tourism infrastructure and green tourism in the Carpathians, with higher visitor demand expected in the future if more investment is made. Apart from the dams and reservoirs themselves, the examples existing in this paper show that additional infrastructures, which are necessary for the execution of hydroelectric development projects, have been one of the main vectors of tourism development in mountain valleys since the early twentieth century. The majority of these infrastructures are still in use today, displaying a "durability" that the engineers of the day could not have predicted. Worksite accommodation has been transformed into mountain refuges or chalet-hotels that can accommodate a significant number of hikers and roads have become important tourism corridors. This has often resulted in a sort of high-mountain mass tourism, with such lodging providing the necessary logistical support. Infrastructures, on the other hand, have become more complex. At the same time, infrastructures have become a tool for changing perceptions of high mountain landscapes, demonstrating the intimate ties that exist between natural resource exploitation and tourism development.

As a result, sustainable development is critical to reduce negative impacts while also developing the destination. Sustainable tourism, for example, is defined by as a well-balanced triangular interaction between "host locations and their environments and peoples, tourists and the tourism sector," with no single stakeholder breaking the balance. It's an investigation into hydel tourism, its effects and consequences, as well as a long-term approach of destination development for increased growth [8].

The best ever suggested method in the current scenario to reduce the negative impact of hydel tourism development in Kerala is adopting responsible tourism practices. If the development is based on responsible tourism principles (economic responsibility, social responsibility, cultural responsibility and environmental), the wilderness and natural beauty of the dam destinations and the places selected for hydroelectric power plant development could be ensured. For that the development could consider all the social, cultural, economic as well as environmental aspects of the tourism development. The development if promoted based on Triple Bottom Line principle (TBL); it will be the best way to develop hydel tourism by eliminating all the contradictions and confusions existing in the tourism and development of hydroelectric power plants [9].

The study was conducted using the case study method. In 2019, secondary data was gathered from the Kerala Hydel Tourism

Centre (KHTC) and its website, Kerala hydel tourism, as well as the KSEB, Kerala website (Figure 1).



Figure 1: Seasonal magazine's special issue on Kerala government's second anniversary.

Additional data was gathered from a variety of publications, periodicals, newspapers and other sources. Based on a comprehensive evaluation of the literature, the researchers came up with the research questions. The researchers were able to further articulate the research questions after doing preliminary secondary data analysis. This prompted me to look for further secondary data and research in the literature. These were examined in order to assist us in answering the research questions. The following are the specifics of the research site: Kerala's hydel tourism spots. The main hydel tourism destinations in Kerala include Banasuragar dam, lower Meenmutty hydel tourism centre, Trivandrum, sun moon valley boating centre, Mennmutty, Kundala dam (Trout lagoon boating centre, Kundala), Anayirangal dam (Elephant Abode boating centre, Anayirangal), Sengulam dam (Dew valley boating centre, Sengulam), Echo point boating centre, Idukki reservoir, Kakkayam reservoir, Madupetty dam pedal boating centre, Munnar, Hydel park, Munnar (Blossom park) and cream cascade (Adyanpara hydel tourism centre) (Figure 2).

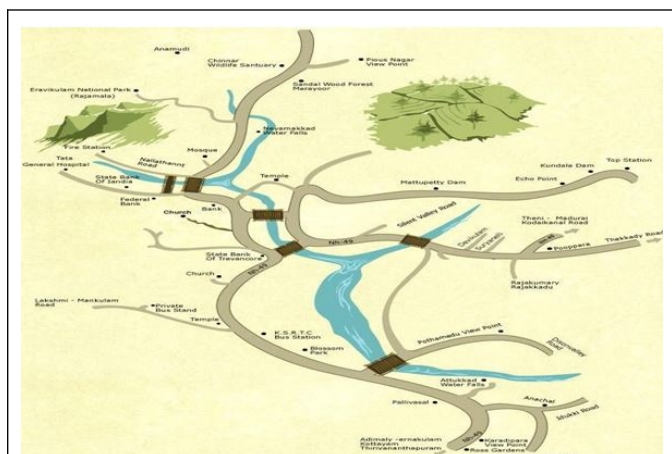


Figure 2: Munnar tourist map showing hydel tourism destinations in Munnar.

The Kerala Hydel Tourism Centre (KHTC) is the regulating organization in charge of overseeing activities and destinations for the promotion of sustainable hydel tourism in Kerala. KHTC, which is part of KSEB, is in charge of developing tourist specific locations and providing possibilities for domestic and foreign investors by utilizing existing resources. Various types of literature explore the possibilities and limitations of hydel tourism in the destinations. The hydel tourism destinations are the upcoming tourism destinations with high potential to be developed as a destination which functions based on the dimensions of sustainability by adopting responsible tourism practices. The study conducts a case study analysis of Hydel tourism destinations in Kerala [10].

RESULTS

Hydel tourism in India

Hydropower is regarded as the most cost effective and renewable energy source. Hydro electricity is the name given to the power created by water. The term "hydroelectricity" refers to electricity produced by hydropower or by harnessing the gravitational force of falling or flowing water. According to international statistics, India has a total installed hydroelectric capacity of 44,594 MW. In India, there are other small power producing plants with a total installed capacity of 4,380 MW. The National Hydro Electric Power Corporation (NHPC), Northeast Power Electric Company (NEPEC), Satluj Jal Vidyut Nigam (SJVN), THDC and NTPC hydro are some of the public sector power producers. In order to generate power the power plant requires many components include dams, reservoirs, trash rack, forebay, surge tank, penstock, spillway, prime mover, generator and draft tube. Hydroelectric installations served a variety of purposes in addition to generating hydropower. Irrigation, which is a controlled delivery of water to the plants at regular intervals as needed, is one of the purposes [11].

Production of hydroelectric electricity: The reservoirs are full enough to offer enough water for power generating during the off season as well. During the rainy season, dams and reservoirs store water in order to control the water level under all climatic situations.

Industrial and municipal In addition to the water demand for irrigation and power generation, there is an increase in the demand for water for industrial and municipal use. During the summer, these places require a lot of water, so a constant supply of water is essential. Also, as the population expands, so does the level of consumption, necessitating the construction of dams and reservoirs to store water.

Navigation: Storage reservoirs are frequently intended to ensure sufficient downstream channel flow in order to keep the stream navigable. The volume of water and the volume of traffic in the waterway must be maintained according to seasonal variations.

Dam and reservoir development, as well as water quality regulation, have a substantial impact on the free flow of water

via streams. Dams and reservoirs should maintain appropriate downstream flow in order to control the transformation of the lotic environment to the lentic ecosystem [12].

Major flood control mechanisms include flood control, dams and reservoirs. During the peak of the flood, the dams will act as water control systems, releasing a controlled and gradual amount of water. Forecasting the intake of water to the reservoir is necessary in order to prevent flooding during heavy rains. The last and most important topic to examine is recreation and tourism. Dams and reservoirs, like other manmade tourist attractions, are also manmade tourist attractions. Boating, swimming and fishing are just a few of the activities available. Also, promoting tourism in these places will create jobs for local residents and improve their economic well-being, as well as small scale entrepreneurs and environmentally sustainable site management, among other things. However, water level variations may limit recreational activities.

As previously said, hydroelectric projects assist the tourism industry in generating additional revenue, as well as job creation and small business development. This study focuses on the tourist potential of hydroelectric projects, as well as the socioeconomic benefits to the local population and the development's long term marketing strategy (Figure 3).

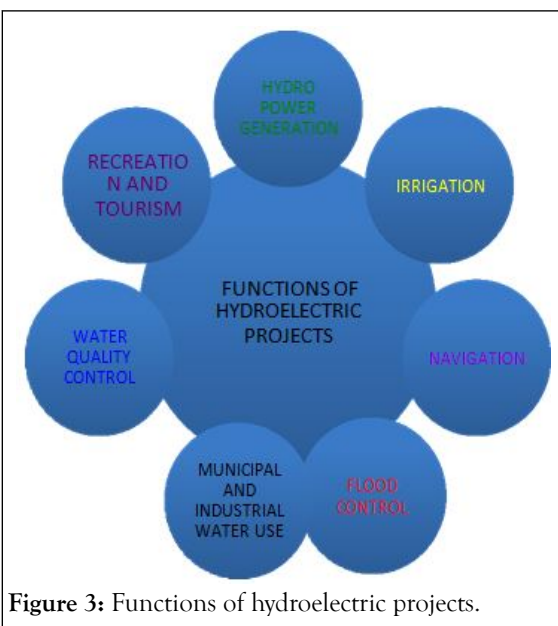


Figure 3: Functions of hydroelectric projects.

Hydel tourism in kerala

Scientific and charitable society's registration act (Act XII of 1955). The minister of electricity will serve as the society's chairman. Hydel projects, which are carefully planned and completed and promoted by the Kerala State Electricity Board (KSEB), are primary emblems of growth that have added to Kerala's pure attractiveness. It's only natural that the massive water reservoirs linked with these Hydel projects, which are nestled in the foothills of the huge mountains, are becoming the state's tourism hubs. These project locations, which are dispersed across the state, are magnificent in terms of land formation and kaleidoscopic beauty. Currently, the centre offers tourism services in Munnar, Mattupetty and Kundala, with boating activities available in all three places, as well as

maintaining a lovely park on 16 acres of land near R.A head works in Munnar [13].

The Centre also arranges for the opening of the Idukki Arch Dam for guests during festive occasions, as well as speedboat trips in the Idukki Reservoir. During the years 2004 to 2005, around 4 million tourists visited these destinations. Kakkayam reservoir, Echo Point Munnar, Kundala dam in Munnar, Anayirankal dam in Munnar, Idukki dam in Vazhathope limited to public, Thrissur-Chalakyudi in Poringalkuthu boating centre, Wayanad, Thariode, Pandijarathara, Banasurasagar boating centre, blossom park, Mattupetty [14].

Participation of local communities in hydel tourism

In every tourism activity local communities are playing a vital role. The impact of tourism in any such area will directly affect the local communities since they are the actual residents of the destinations. Here a doubt will arise whom we should consider as a local community. According to the host communities in terms of:

- Those active in tourism and those who are not involved,
- Indigenous residents and immigrants,
- Those involved in tourism and those who are not involved,
- Landlords and occupants of rental properties,
- People of all ages, both young and old,
- Employers, employees and those who are self-employed,
- Those who drive their own cars as well as those who use public transportation,
- Residents who are wealthy and others who are less well off.

There are two types of community's majority and minority. The terms "host community" and "local community" are used to categorize local communities based on their common purpose and aims. "community is self-defining in that it is founded on a sense of common purpose and goals. It could be geographical in nature or it could be a community of interest based on shared cultural and heritage values" because hydel tourism is a new niche tourism product, the host tourist relationship is essential to its development. The establishment of tourist host contact can occur through the purchase of goods and services, face-to-face information exchange, cultural exchange and other means, thus this tourist host relationship will have both positive and negative consequences. If the positive impacts are high, it is assumed that the development will be more sustainable and will help local residents socio-economically. Because hydel tourism is still in its early stages of development, it may make a greater contribution to local communities by using responsible tourism practices.

The socio-economic benefits of hydel tourism to local communities include:

- Travel and tourism generated \$ 7.6 trillion (10.2 percent of global GDP) and 292 million jobs in 2016, accounting for one out of every ten jobs worldwide. Around 30% of global service exports and 6.6 percent of total global exports were accounted for by this industry. In India, travel and tourism accounted for 5.8% of total employment and is expected to expand by 2.1 percent in the next years. The growth of hydel tourism produces both direct and indirect jobs for the local

population. The money earned through these methods is shared among the households, allowing them to better their standard of living.

- Increased employment and increased household status result in better water systems, improved road networks and dwellings made of more durable materials, among other things.
- Because tourism focuses on the local community, there are many opportunities to develop small-scale businesses (SME's). For example, kudumbasree's in Kerala are involved in a variety of small-scale businesses, which are then referred to as tourist attractions at their respective tourist destinations.
- when local people are acknowledged by outsiders for their culture, customs and natural resource wealth, their confidence grows, which leads to a desire for higher education and trading opportunities.
- As hydel tourism grows, it places a greater emphasis on the development of local communities, which increases community cohesion as people and families collaborate.

Issues and challenges of hydel tourism

Hydel tourism is new niche tourism under study and it is an upcoming tourism product, which has highest potential to contribute to the economic development of the country. Since it is new Product it faces challenges.

- Because the product is still in its early stages of development, most people will be unfamiliar with the concept. Only by properly marketing and promoting the product will it be remembered as a Unique Selling Point (USP) by the general public.
- Hydel tourism destinations are typically in close proximity to nature, particularly mountainous places and waterbeds, as well as forest areas. The majority of destinations will lack adequate transportation, making the destination inaccessible to the product market.
- The public believed that the development of hydroelectric projects would harm the environment and change animal habitats because the majority of the projects were located in forested and environmentally sensitive areas. However, promoting this type of tourism had a sustainability component, which prioritized environmental conservation.
- Accommodation is an important aspect of tourism and suitable infrastructure also helps to promote the location to the tourist market. As a result, the lack of facilities may reduce tourist visitation in that location.
- The recent floods in Kerala had a significant impact on the people of Kerala, particularly the tourist flow to the state. It cast a shadow over Kerala, portraying it as a place prone to natural disasters. The creation of new niche concepts like hydel tourism is hampered by such climate changes.
- Because it is a new concept, the product's creators were concerned about how long it would take to reach the target market. This ambiguity might make it difficult for manufacturers to promote their products. The unexpected nature of the product is also a development problem.
- It takes a long time for a potential market to embrace a new concept, especially when creating a destination. The influence of the local community, NGO's and other similar groups can

sometimes encourage growth positively and sometimes negatively.

- Any product in the development stage requires a proper distribution channel. If the product is moving in the opposite direction of market demand, it will not improve further. As a result, efficient supply is required for the product to flourish and reach the market.
- Pollution is a huge impediment to any form of development, particularly tourism development. Hydel tourism is attempting to promote an environmentally clean development with no pollution and no plastics, yet environmental activists and other NGO's may limit public access to the development.

Best practices for promoting hydel tourism in India

The greatest way to encourage hydel tourism in Kerala is to pursue sustainable development. Sustainability is defined as "growth that meets current demands without jeopardizing future generations' ability to satisfy their own needs". The sustainable development plan establishes a brand image for Kerala's hydel tourism destination. The development of hydel tourism will be aided by community based tourism, which entails the active participation of local communities. Promoting hydel locations as tourism circuits with the engagement of local communities is the best approach. The primary goal of promoting hydel tourism as a tourism destination is to portray it as a key engine of economic growth and employment creation that will benefit local communities. It also strives to improve visitor appeal in a sustainable manner by establishing world class infrastructure in the circuit destination and raising knowledge about tourism development among local people. Local communities are actively involved in promoting the region as a tourism circuit, which provides jobs. It also focuses on the development of tourist facilities in order to improve visitor satisfaction and experience (Swadesh darshan, schemes and guidelines, MOT GOI). The golden triangle (Delhi to Agra to Jaipur), the desert triangle (Jodhpur to and Jaisalmer to Bikaner), the Himachal tour circuit (Shimla to Kullu to Manali to Dalhousie to Dharmashala) and the char dham yatra in Uttarakhand are some of the major tourism circuits promoted by the ministry of tourism, government of India (Yamunotri, Gangotri, Uttarakashi, Kedranath and Badrinath). Similarly, the swadesh dharshan scheme has identified 13 thematic circuits. We may promote hydel tourism hotspots in Kerala by considering the swadesh dharshan plan rules and the construction of a hydel tourism circuit will result in a greater explosion in the growth of hydel tourism at the national level. The development of the circuits could be based on components of responsible tourism practices. Then only the development will contribute to the social, economic, cultural as well as environmental benefits to the local communities and the destination as such. Given below the destinations and proposed circuit model for hydel tourism destinations in Kerala.

Trout lagoon/kundala dam: The Kundala dam is Asia's Largest Arch dam and the lake generated by the dam allows tourists to go boating. Its 20 kilometres from Munnar on the way to the summit station. The dam's apex provides a panoramic view of the surrounding landscape. Pedal boats, Kashmiri shikara boats, row boats and other types of boats provide tourists with an

unforgettable boating experience. Tata Tea Ltd owns and operates a golf course in the area. Kundala dam has a unique experience for tourists because to the Aruvikkad waterfalls and the Sethupathi dam, which was erected in 1946. Munnar is the closest town and it is connected by road. Ernakulum and Kottayam are the nearest railway stations.

Sengulam dam/dew valley boating center: Sengulam Dam is Munnar's largest dam site and it's becoming a popular tourist destination thanks to the range of boating options available. The dew valley boating center, 15 kilometres from Munnar, offers a wide range of sports. Pedal boats, pontoon boats, speed boats and large boats can all be used to navigate this lake. It will present you with a breathtaking glimpse of nature that will last a lifetime.

The elephant adobe/ anayirangal dam: this dam is 22 kilometres from munnar and 7 kilometres from chinnakanal. Until it was designated as a hydel tourism destination, it was a little known destination. "Aanna" means elephant and "irangal" means to descend, as the name suggests. Elephants are coming down to drink water from the lake, as the name implies. The dam is surrounded by a tea carpet, which provides tourists with a breath taking view.

Munnar's hydel park: It is located 3 kilometres from Munnar. Blossom hydel park is another name for it. The Muthirampuzha river and the foggy kannan devan hill tea estates are nearby. It's part of the Sylvain hill resort complex. Tourists can participate in adventure trails, boating, nature hikes, bird viewing, roller skating and badminton, among other activities. The fresh scent of flowers entices visitors to stay for an extended period of time and the campfire facilities with music allow visitors to fully immerse themselves in the experience.

Echo point, Munnar: It is located 13 km away from Munnar. The main activities here include games corner and the boating centre. The verdant hills and evergreen trees provide opportunities for trekking and natural walks (Figure 4).

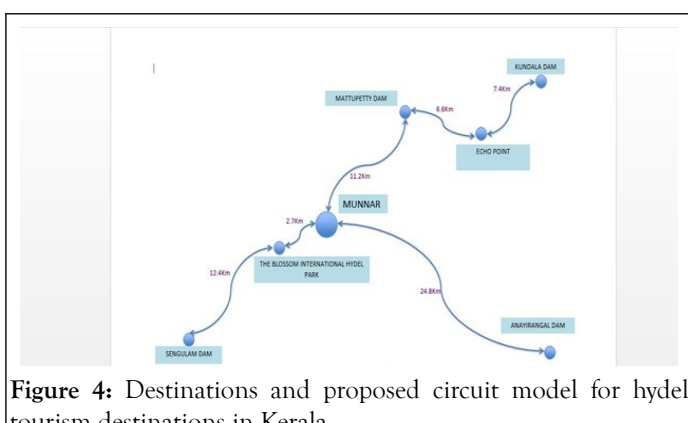


Figure 4: Destinations and proposed circuit model for hydel tourism destinations in Kerala.

DISCUSSION

Findings and Suggestions

Hydel tourism is an upcoming tourism which is promoted by KHTC (Kerala Hydel Tourism Center) under KSEB (Kerala

State Electricity Board). It has an immense potential to develop as a tourism which can contribute to the economic development and employment generation. This tourism focuses to a particular group of tourist who wish to enjoy the beauty of hydro power projects and activities associated with dams. If the government gives much importance to hydel tourism it can be brought as a successful sustainable tourism concept [15]. The findings of the study include:

- Kerala has vast potential of hydel tourism identified now with 9 hydel tourism destinations.
- The sustainable development of hydel tourism can contribute to economic development and employment generation.
- The development of this tourist improves the way of living of local communities.
- By promoting hydel tourism as community based tourism, local communities will get opportunities to enter into small scale business ventures especially it supports youth and women entrepreneurs.
- By promoting hydel tourism it gives opportunity for the public visit hydroelectric projects, which is formally restricted to public.
- The development of hydel tourism will support the preservation and conservation of the ecological surroundings of the hydroelectric projects.
- The development of hydel tourism destinations as hydel tourism circuits will attract lots of tourist from our country and abroad.

CONCLUSION

As the global tourism statistics demonstrate, the tourism business is a multidimensional and multifaceted industry that has grown from 25 million people in 1950 and 278 million in 1980, 674 million in 2000 and 1235 million in 2016. The tourist business is evolving to the point where specialty tourism products, such as wine tourism, dark tourism and pro poor tourism, are finding traction in various regions of the world, including Kerala. Similarly, hydel tourism is a new niche idea that is gaining traction as KSEB Ltd promotes it under the KHTC. Despite the fact that it is a new concept, it has a lot of potential to become a mainstream tourism product in the near future. The government can introduce new means of alternative responsible tourism strategies to maintain nature and habitat by introducing new concepts like hydel tourism. Hydel tourism can be an effective long term technique for promoting environmental preservation and conservation, as well as raising public awareness of the need of natural area conservation among the general public and local communities. Adopting environmentally friendly projects and activities at a resort increases public acceptance. Promotion of adventure activities, habitat study, natural camps, development of ecofriendly amusement parks, hydel parks, flower shows, gardens, different shows connecting to nature, public access to hydro power plants, planned construction of ecofriendly accommodation and other facilities, animal watching, safari can be organized in the area, development of hydel destinations as part of tourism circuit and so on makes hydel tourism an economically viable option. The development of hydel tourism circuits in Kerala will help to

boost economic development and provide greater possibilities for local populations and the government. A development based on the responsible tourism practices can ensure economic viability, socio cultural integrity and environmental sustainability of the hydel tourism destinations. This study will help the future researchers to study more on the changing motivation level of the tourist in relation to hydel tourism development, also help the policy makers and government to adopt and bring policies for the responsible development of hydel tourism in the entire country. It has the potential to develop as new tourism concept. This can be adopted by many countries with higher potential of hydroelectric power plants, as new tourism concept with the changing motivational level of tourists all over the world.

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