

Smart Tourism Technologies – A Key to Success and Survival for Sustainable Eco-tourism Development in Dooars Region (West Bengal)

1st Ishita Chanda

Amity Institute of Travel and Tourism
Amity University
Uttar Pradesh, India.
ishita.chanda@s.amity.edu

2nd Prof (Dr) Manohar Sajnani

Amity Institute of Travel & Tourism
Amity University
Uttar Pradesh, India
msajnani@amity.edu

3rd Dr Vanessa GB Gowreesunkar

Department of Tourism
Anant National University
Gujarat, India
gvanessaa@gmail.com

Abstract— The role of information and communication technology (ICT) has become most essentials in tourism industry. However, use of ICT in Indian tourism industry is still in nascent state and as such will face difficulties to compete with their counterparts who have a sound ICT infrastructure. Indian tourism industries are facing problems with lack of various information, low resource availability, high transaction cost, and lack of infrastructure in ICT etc. Thus implementation of smart tourism practices with the help of ICT in eco-tourism destinations like Dooars are very challenging task as it is situated far away from the city and local community are not that much educated and aware for use of ICT in tourism activities. Therefore proper infrastructure and awareness are needed to overcome these challenges. ICT and smart tourism practices in Dooars region will help the tourist to identify better destination, accommodation, transportation, environment, local culture and products, community details, weather etc. Therefore, the aim of this study is to analyze the potential of using ICT as smart tourism which may help the local community to get high-quality and equal opportunity for education; professional skill development, efficient governance and administration. This study is based on a literature review, secondary data analysis and field visit observations. The results of this study will help in understanding the need and future scope for innovative technology for the development of local people, which will be helpful for the growth of sustainable ecotourism in Dooars region of West Bengal, India.

Keywords— Ecotourism, sustainable development, ICT, technologies, smart tourism, Dooars.

I. INTRODUCTION

Tourism is a social, cultural, and economic phenomenon that involves the travelling activities of a person within his or her own place or country or to a different country, which is also known as domestic travelling or outbound traveling, respectively. In terms of industry and marketing, tourism not only refers to tourist activities, but it also plays an important part in the social, cultural, and economic development of most countries. There are numerous national and international statistics available that demonstrate the influence and impact of tourism on society by providing millions of jobs to local communities, countries, and people all over the world. As a result, in order to expand the horizon of tourism activities with a view to create better employment for local communities and boost revenue creation for the nation, tourist development and management strategies must

be updated on a regular basis. In this direction tourism management systems are critical for creating the ideal tour and allowing system users to access pertinent information such as destination location, weather, transportation, accommodation, events etc. Therefore, it has been identified that using cutting-edge information and communication technology can improve the tourism industry's effectiveness and sustainability, and many countries have decided to implement smart tourism tools as a technique to adapt to the constantly changing profile of tourists [1]. In the study by Yuwen Zhang et al., their findings suggest that accessibility and interaction have an impact on smart technology, which enhances the experiences of tourists. The assessed importance of smart technologies by tourists is strongly related to their satisfaction. Smart technology has a beneficial impact on word-of-mouth recommendations, the intention to return, and the readiness to pay a higher price by tourists. As a result, tourists may get better experiences if there is better infrastructure and service facilities in tourist destinations that embrace the essential characteristics of smart technology, improving their competitiveness in the process [2]. After analysing the need for smart technologies in the tourism industry's development and sustainability, the concept of smart tourism is useful for connecting travel attractions, hotels, transportation, and other tourist spots completely to the Internet system and data integration as the core database of tourism resources, and providing a more useful method of destination tourism management and services. The interdependency of tourist destinations and residential communities' economic, sociological, cultural, and ecological well-being is often neglected in the smart development process. Similarly, in the case of eco-tourism, a deficiency in the development of smart tourism activities has also become an obstacle for the growth of eco-tourism. Many countries like Europe and Thailand around the world use smart tourism technologies to promote, develop, and raise awareness about ecosystems and sustainability through ecotourism; one such example is Malaysia, where the Malaysian government initiated a plan called "Smart Tourism 4.0," a strategy to develop the sector by utilising technological innovations. Malaysia's Smart Tourism 4.0 intends to improve tourist experiences, increase Malaysia's competitiveness, and promote ecotourism as a means of promoting sustainability [3]. Similarly, in India, many states are also following this step of smart tourism technologies for the growth and development of the tourism industry in their

region. India is the world's largest tourist hotspot, and many people from all over the world are travelling to India for a variety of reasons. As a result, information and communication technology (ICT) play an important role in almost all types of tourism in India, allowing domestic and international tourists to travel freely throughout the country. There are many examples of smart tourism in India one of them is Bhubaneswar [4]. But due to the huge amount of tourist flow in tourist areas, it has some adverse effects on the local community and the local environment as tourism creates a massive pressure on local land usage, pollution and increased stress on endangered species. Therefore, the Ministry of Tourism, Govt. of India, implements the concept of eco-tourism in their policies and strategies by collaborating with state governments so that they can sustain the tourism industry without disturbing the environment and local culture of the people. However, ecotourism goals is to help in conserving the local cultural and environmentally sustainable as well as commercially sustainable tourist destinations. Information and communication also play a critical role in Tourism industry. To promote their goods, the ecotourism sector employs communication and information technology. Tour operators in eco-tourism areas have been employing numerous ICT technologies to popularise their products and services in this technology era. The importance of information in ecotourism cannot be overstated. The successful use of ICT in the ecotourism industry aids tour operators in promoting diverse environmental products, and building positive relationships with tourists. As a result, this research is extremely important in today's competitive environment [5]. Furthermore, many ICT applications contribute to the protection of the environment by improving the performance of environmental monitoring and pollution protection systems. The use of information and communication technology (ICT) can help to minimise reliance on natural resources and hence reduce pollution caused by improper use of natural resources in tourist destinations [6]. West Bengal also implements information and communication technology in its tourism policies to promote and develop the state as a smart tourism destination. Many tourist places in West Bengal, which are situated near coastal areas, are now developing as smart eco-tourism destinations where the state government of West Bengal collaborates with local authorities and local people to come up with some plans that not only give digital access and technological benefits to the area but also take care of the employment opportunities and eco-system of the area so that due to digital access, the environment of the area doesn't get harmed. In this connection, Dooars which is famous for its wild-life sanctuaries and hilly areas as an ecotourism destination of West Bengal cannot be remained isolated for valuable use as well as application of ICT for its further development in the competitive field of tourism.

II. LITERATURE REVIEW

Internet has evolved as an important method for marketing and promotion as well as for educational or awareness purposes on a global scale to directly target travellers. Smart - tourism aims to both educate travellers with the knowledge necessary to use e-techniques and to embed IT infrastructure, these technologies also help in conserving the local culture and environment within the travel locations. Smart - tourism is growing quickly in rural zones, where the internet plays a mediating role is still in its nascent stages. ICT has assisted in broadcasting regions

according to their attractiveness as tourism destinations. As tourism industry continue to improve travel experiences around the world, smart cities offer a fantastic opportunity for the whole travel domain to contribute in the industry's future developments. They not only make people's lives better in the process, but they also give the industry the resources it needs to create significant opportunities, from creating millions of jobs to fostering good economic and cultural connections to lowering carbon footprints in the tourism destinations. Indicative of its influence on how the future of tourism will be formed, Worldwide News Wire projects that the global smart city industry will expand at a rate of 14.8 percent CAGR from roughly 410.8 billion dollars in 2020 to 820.7 billion dollars in 2025 [7].

A. *The Role of Smart Tourism Technology in the Eco-Tourism Destinations of India*

India has become a largest tourism hub. India is attracting tourists from many different nations for a variety of purposes. Nearly all forms and levels of tourism involve the use of information and communication technology in diverse activities. All of the important players in the tourism sector, such as the customer, the provider and the local community are getting immense benefit from new technologies. In addition, all of the related businesses, including hotels, transportation companies and shopping malls, have adopted numerous ICT innovations. This has made it possible for these companies to provide their clients low-cost services. ICT has evolved into a boon for routine service sector activities like tourism over time [8]. Due to e-commerce, online travel agencies (OTA) and their transactions are constantly growing despite the challenging economic climate. To maintain market share in e-business, even well-known IATA and other travel agencies, such as Thomas Cook, Make My Trip, Goibibo, etc. among others, provide online services. Web services were once used to acquire information, but today they are utilised to buy travel services directly from suppliers without the need of middlemen. In India, it will be advantageous for the travel and hotel industries to enter into strategic collaborations with e-commerce industries to use technologies to offer individualised and improved customer experiences. It will support the exploration of potential new growth areas and provide customers with a wide range of local travel options, including food trails, workshops, and bicycle tours of the cities. In order to tap into new sources of revenue, the travel industry will now include brief getaways, local camping and hiking experiences, contactless travel offers, and mobile check-ins. The government plans to open up the region to visitors from South Asian nations, which will help drive up ticket sales in India. Furthermore, the government of India has introduced electronic tourist authorizations, which are also known as e-Tourist Visas, that have resulted in a rise in the number of tourist visas issued in the nation. As of March 2021, the facility was open to residents of 171 different nations [9]. The Indian government established an ICT academy to train rural residents of tourist destinations. ICT Academy collaborates with state governments and companies to provide skills to teachers and students that are required for business and help with employment growth. This programme will provide job placements to the students [10]. The National Institute of Electronics and Information Technology (NIELIT), Gangtok has introduced a new programme called "ICT Intervention in Travel and Tourism (T & T) Industry through Capacity Building in New Age

Digital Technologies" in Sikkim under the supervision of the Ministry of Electronics and Information Technology (MeitY), Government of India, with the aim of empowering locals in tourist destinations with digital skills and an understanding of e-commerce technology. This programme will encourage local communities in tourist areas to actively engage in modern technological sectors and can increase their opportunities for livelihood by enabling their products to reach online markets, which will help the travel and tourism sector to become technologically proficient [11]. In the Global Innovation Index (GII), India grew from 48th place in 2020 to 46th overall among 50 countries. The government is heavily supporting technology business incubators (TBIs) and research parks (RPs), which would support innovative ideas until they became successful businesses Fig. 1 depicts this as well [12].

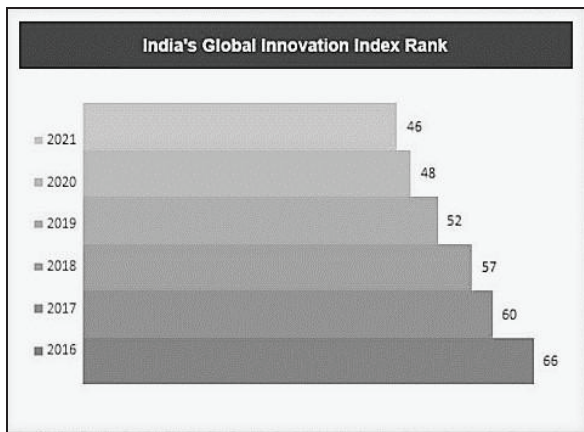


Fig. 1. India's Global Innovation Index Rank [12].

The government announced plans to build 75 scientific, technology, and innovation hubs in India by October 2021 in order to empower scheduled castes (SCs) and scheduled tribes (STs) to contribute to the socioeconomic development of the nation. The National Artificial Intelligence Strategy for India, developed by NITI Aayog, established a course for utilising artificial intelligence's (AI) potential in several industries [13]. Apart from this technological innovation in various industries in India, especially in the tourism industry, one of the most significant concerns that requires the adoption of rational and principled techniques to protect the environmentally rich places of the country where environmental-based tourism, like eco-tourism, is active in order to improve regional and local skills as an economic driving force for the development of rural communities in that tourist place. The use of ICT in eco-tourism is one of the new development methods to employ people, meet their needs, and generate income in ecotourism areas. The Government of India implements many strategies for attracting tourists, improving services for them, increasing employment in rural areas and the income of locals, as well as educating tourists about ecotourism development, developing ecotourism destinations with an emphasis on ICT as a smart tourism technology. As a result, we might define innovation as a process of integrated thought. The interactions between technology, market and the need for technology remain unconnected in few tourist destinations of India. India has a number of national-level initiatives that support ecosystems for economic empowerment through innovation. One such innovation: the E-rickshaw: electric rickshaw. These electric rickshaws came as a result of improving the design of cycle rickshaws that already existed.

They are better rickshaws since they lessen human hardship and are environmentally beneficial, leaving a low carbon impact. The Kevadia region of Gujarat is the clearest illustration of how e-rickshaws help in the development of the local community and tribal people, since becoming an environmentally friendly state in the context of tourism is one of the key objectives of the governments of India and Gujarat. It guarantees that Kevadia's tribal women have access to quality employment and opportunities. The E-rickshaws business will need to create an advanced smartphone app that lists numerous tourist attractions, locations, distances, and fixed fares. The skill development centre at Kevadia offers free driving instruction to women. At Kevadia, there is no pollution [14]. . Innovative ecotourism provides another example of Periyar Wildlife Sanctuary. The Forest Department in the area has introduced an initiative under which battery-operated auto rickshaws will prove their importance in order to make the surroundings of Kerala's Periyar Wildlife Sanctuary free of pollutants and more hospitable for tourists [15].

B. The Role of Smart Tourism Technology in the Eco-tourism Destinations of West Bengal

The West Bengal is situated in the eastern part of India and it possesses both diversity and uniqueness. Due to its unmatched geographic diversity, it draws a lot of tourists every year. The state is a tourist's delight since it is abundant in natural beauty and cultural diversity, including hilly area, tea gardens, wildlife reserves, and sea beaches. Since, West Bengal is destination to various well-known tourist places, as a result it makes a significant contribution to the Indian tourism industry. The West Bengal Tourism Development Corporation Limited (WBTDCL), a nodal agency of the Tourism Department, was established with the goals of developing and promoting tourism in the state of West Bengal. To this end, it has taken over, operate, and managed hotels, lodges, guest houses, motels, restaurants, and other hospitality establishments. It has also promoted tourist destinations of the state [16]. The government is actively encouraging homestays in a number of sites, including Kurseong, Kalimpong, and Darjeeling. In the districts of Jalpaiguri, Alipurduar, Howrah, and Hooghly, tourism centres have been established. To increase the number of tourists visiting the state, the state is concentrating on eco-tourism and tea tourism [17]. Many research and studies are there which explore how information and communication technologies (ICTs) can help nature-based small and medium tourism enterprises (SMTEs) in West Bengal address their challenges during the growth and development of the tourist area. More specifically, it focuses on the eco-lodges in West Bengal in terms of the usage of ICT facilities like internet technology and related information that are needed for the benefits and operations of the eco-lodges, and also explores how the eco-lodges expand their ICT facilities towards the development and promotion of local community-based tourism [18]. In order to implement the policy's objectives, a number of policy instruments have been described in the policy statement. These consist of: i) Regulation, accreditation, and standards for tourism, ii) Institutional structure, iii) Development of tourism infrastructure, iv) Marketing and advertising, v) Supporting research and ICT, vi) Capacity building and skill development. The Department of Tourism has established distinct guidelines to be followed by the homestay owners: 1) Each homestay establishment must adhere to the established rules and uphold the minimum

infrastructural requirements and quality standards established by the Department of Tourism. 2) Homestay owners shall respond to inquiries, requests, reservations, and complaints from visitors immediately and courteously. 3) Each homestay is required to have a web presence with detailed images of the location and amenities provided. 4) The owner must adhere to the established rules for standards of health, safety, and security in order to keep the registered homestay in a decent condition with sufficient cleanliness for visitor habitation at all times [19]. The role of ICT and its significant contribution has been observed in the study report of Purulia district which have been declared as cultural heritage by UNESCO. In the said study report of Dr. Shovan Ghosh, a structured questionnaire has been used to interviewed 400 respondents through random sampling multiple and logistic regression have been used to determine the effect of internet on tourist satisfactions. The study reveals that 55% respondents have been used internet more than 5 time in a week and 27% tourist has been searched for host travel information. Among the tourists, 35% has been spent with internet 6 – 10 hrs in a week and 54% respondents has been surfed internet at home rather than other places. The following table no. 1, has also been provided in support of above analysis on internet uses by tourist (N). Through this research in Purulia district, it was also discovered that from 2014 to 2020, more tourists were using e-tourism than ever before, which is represented in table no. 2. The study therefore promotes the idea that more accessible online financial transactions may remove the obstacle and could significantly increase e-tourism in small cities [20].

TABLE I. INTERNET USAGE BEHAVIOUR

Items	N	%
Use internet once a week	28	7
2-3 times in a week	61	15
4-5 times in a week	92	23
More than 5 times per week	219	55
Searching for host travel information	107	27
Searching for travel agent	81	20
Searching for hotel reservation	92	23
Online payment transaction	69	17
Just for sending e-mail to the hosts	35	9
Join the travel blog community	16	4
Spending with internet in a week <1 Hour	19	4
2-3 hours	56	14
4-5 hours	83	21
6-10 hours	139	35
More than 10 hours	103	26
Accessibility of internet at home	217	54
Office	44	11
Club	38	9
Public spot	73	18
Others	28	8
Internet help in trip planning		
Strongly agree	235	59
Agree	142	35
Neutral/ not sure	06	2
Disagree	10	2
Strongly Disagree	07	2
Internet usage and overall satisfaction in travel experience	343	86
Yes	57	14
No		

SOURCE : DR. SHO VAN GHOSH & MR. MALLICK [20]

TABLE II. INCREMENT OF TOURISTS USING INTERNET AND E- TOURISM

year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Tourists came without internet usage and e-tourism (%)	95	71	79	60	61	51
Tourists came with internet usage and e-tourism (%)	5	29	21	40	39	49

SOURCE : DR. SHO VAN GHOSH & MR. MALLICK [20]

C. The Role of Smart Tourism Technology in the Eco-Tourism Destinations of Dooars – West Bengal

The West Bengal government has made the decision to establish an Eco-Tourism Board in order to promote the region as a top travel destination. The Dooars in North Bengal were being developed into a significant tourism destination by the state government. The department of tourism, government of West Bengal, will also concentrate on creating homestays in the area to draw tourists, improve the local economy, and create jobs in the community. According to tourism department official, the idea has already been introduced by a number of private tour companies in the area, which we are now attempting to explore by involving locals [21]. The government has emphasised that in collaboration with panchayats, state forest departments can create detailed ecotourism development plans for these locations. According to a ministry source, "guidelines have been established to offer opportunities for local communities that reside in these areas or on the periphery so that they can earn revenue while keeping in mind the ecology of the site. Additionally, the strategy focuses the use of information technology to promote ecotourism through virtual tours. A forest official said that IT may be used to gather and compile data from ecotourism stakeholders to help in the creation of future plans. The new rules can stop accommodations from sprouting up everywhere. Waste management, sewage treatment, and disposal must be prioritised in Gorumara and Jaldapara. In order to conserve nature and wildlife, issues like noise pollution and plastic pollution need to be addressed, according to Raj Basu, a veteran of the north Bengal tourism sector [22].

To promote the tourism industry, the government has undertaken significant initiatives in well-known tourist destinations including eco-tourism of Dooars region not only for the beautification of the places but also encourage for creating ICT facilities to be developed in that area. In this direction a force are being made to create various ICT facilities for the transport, hotel booking, visit of wild life sanctuary, weather forecasting, connectivity etc. of the Dooars region.

For Instance as per the data, information collected from Department of tourism govt. of West Bengal that no.of hotels are available for the tourist in Dooars area are around 230 which include Jalpaiguri and Alipurduar district.

While on recent field trip, it has been observed that information of about 30% of these hotels are being available in the portal of different travel web sites like trip advisor, make my trip, clear trip, Goibibo hotels etc. Thus information about the location, availability, facilities etc. of the remaining 70% hotels, homestays, and tourist lodge remain unreachable to the potential domestic as well as international tourists. Further, lack of internet facility in the forest region also create hurdles in the movement of tourist. Further, due to the shortage of banks, ATM facilities and medical facilities in near forest area may also be a reason for the insufficient flow of tourist in that region. To overcome this shortages, ICT can play a very important role in that area. It may not be out of point to mention here that local community are also trying to avail modern technology for avoiding to create pollution by introducing e- rickshaw facility for tourist to visit local places. During a visit to the Dooars, tourists can explore new locations and learn

fascinating things. They can experience and visit those locations where cars are not permitted to enter by hiring an e-rickshaw (Toto) and asking the driver to take them around the neighbourhood tourist locations. This can be the best way for tourists to visit new places that are separate from the annoying crowded areas [23]. This initiative by the tourism department not only gives employment opportunities to the local people, but this step is also good for the environment of the Dooars region as it keeps the eco-system pollution free. Similarly, use of solar power systems has also been observed in different government cottages of this region.

III. METHODOLOGY

The aim of this study is to examine the need for smart tourism technologies like information and communication technology, electronic transportation services, and solar technology in the environmentally rich tourist destinations, especially in the forest and hilly areas of the Dooars region. Therefore, since it is a working paper, hence the secondary data research approach has been applied for the research. The information for this study was acquired from a variety of reliable sources, which include data from the Ministry of Tourism, Government of India, as well as the Government of West Bengal, etc., and also through an extensive review of literature relating to ICT and allied aspects, particularly those on the role of ICT in economic development. The other reliable secondary sources used in this study are journals, digital content, online government reports, and infrastructure-related data from the tourism department of the different government organizations like forest department of West Bengal, NGOs, newspapers, online tourism sites etc. A similar study was done on the basis of secondary data and literature review in the study paper on Digital Kerala: A Study of the ICT Initiatives in Kerala State by Dr. Jacob Joju and Dr. Manoj where the secondary data was collected through authentic and reliable sources. These sources include the official publications of IT industries, the Economic Review of the Govt. of Kerala, the Economic Survey of the Govt. of India etc. [24]. In this study, content analysis of personal observations of the study region has also been used, which was conducted during a recent visit to the Dooars region in the month of June'2022. In the end, all the information collected is used to identify the importance of ICT for the survival and development of sustainable eco-tourism in the study area and existing issues faced by tourists and local entrepreneurs due to the lack of ICT infrastructure and inadequate facilities for research. The reader is anticipated to gain a good understanding of the significance of smart tourism technologies as a necessary component for the development of eco-tourism and sustainable tourism and the implementation of electronic transportation services, at least in the context of the travel and tourism sector of Dooars region.

IV. FINDING AND DISCUSSION

The findings of this study demonstrate how eco-tourism and smart tourism technology together play an important role in improving visitor experience and destination loyalty, as well as being helpful for the employment of the local people of Dooars region. ICT tools were discovered to be creative for managing and distributing information for crucial decision-making. By helping to improve the understanding of the tourism product, monitoring, measuring, and evaluating it, anticipating trends, forming collaborations, and interacting with and supporting stakeholder relationships,

innovation was promoted through the use of ICT. ICT would provide new approaches to destination marketing, energy conservation systems, electric or battery vehicles, solar technology, communication systems, and local community technical skill development, which will be helpful for eco-tourism development in Dooars region. The tourism sector of the region will become more sustainable with the help of smart tourism technologies. Stakeholders in the study region may use multimedia as a way to promote the travel industry, such as Instagram, Facebook, and Trip Advisor. Second, ICT can create photo and graphic designs that tourism suppliers need to advertise their products. ICT can also be implemented in the tourist destinations in the study region as tourists have access to the internet, phone charging stations, digital displays, and information and communication technology (ICT) for reservation systems, wait list management, financial arrangements, marketing facilities, resource planning and education for locals, resource conservation, energy conservation, tourism website facilities, guest loyalty, and digital payment systems are all available in tourist destinations. However, due to a lack of banks, ATM facilities, and medical facilities in the near forest area, there may also be a reason for the insufficient flow of tourists in that region and a lack of training for skill upliftment among the many local communities of the tourist destinations of the study region, which struggle to use ICT for sustainable tourism in order to develop the place. ICT has a significant role to play in overcoming these shortages. The below mentioned conceptual model (Fig. 2) explains how ecotourism and ICT are interdependent for the development of ecotourism in the Dooars region of West Bengal.

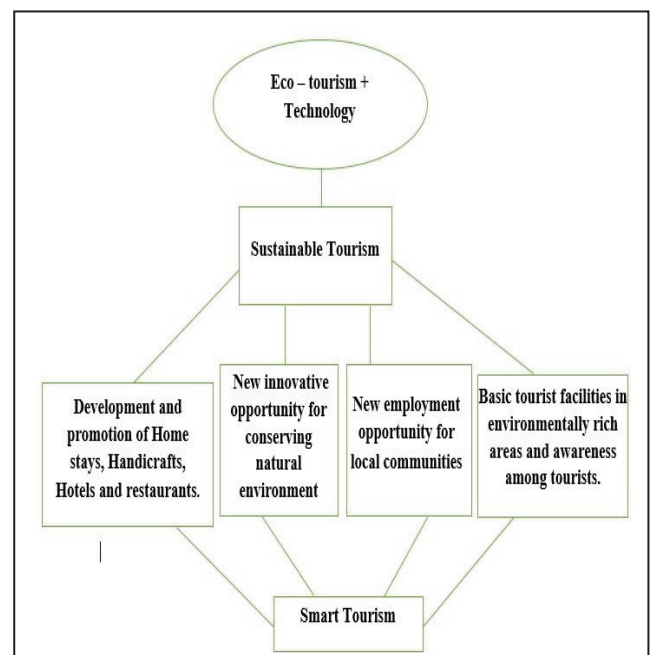


Fig. 2. An outline of the advantages of smart tourism, which combines eco-tourism and technology, for the preservation of the environment, job possibilities, basic amenities, and awareness. Source – Author.

V. CONCLUSION

As time changes and the tourism industry evolves in India, the department of tourism Govt. of India felt the need to adopt new technologies in order to provide new tourism services to tourists so that they can travel more conveniently and have a pleasant tour. Hence, the tourism department of

India encourages and implements many information and communication technologies in the form of mobile apps and different websites which are easily accessed by tourists so that they can plan their tour, get relevant information about the destination and easily book tickets for flights, trains, and they can even book cabs through these websites even start developing the states as a smart cities. However, with the development of tourism industry, the flow of tourist in destinations has also increase rapidly has start effecting the local environment, culture, wildlife of the tourist destination which raise a question about the sustainability of livelihood as well as sustainable tourism industry of the effected region. Hence, to reduce the negative impact on the tourism destinations, the tourism department will implement a policy for eco-tourism. As a result, in many tourist destinations like hill stations, coastal areas, wildlife sanctuaries, bird sanctuaries, national parks, etc., local authorities, governments at state and national level, started developing the idea of eco-tourism. So that ecotourism can help them conserve the culture, flora, fauna and environment as well as help in improving the livelihood of local people. Furthermore, while developing the eco-tourism destinations, it has been observed that they are lacking in the fields of information and communication technology like internet facilities, net banking, ATMs, and are not well equipped at medical level. Therefore, tourism development authorities in many states of India work on the ICT sector of ecotourism destinations and also work on skill development of local people in the ICT sector, so that they get more and more employment in other fields of tourism and the ICT sector of the tourism areas and develop the smart tourism destinations. As this type of development where eco-tourism development and technologies work as a team is in a very nascent stage in India, many destinations are less aware of the eco-friendly technologies like the Dooars region of West Bengal, where many tourist attractions don't have any internet facilities. Due to this, many souvenir shop owners face difficulties in selling their products as tourists want to make digital payments. Not only that, telecommunications services also face difficulty in this region as phones cannot catch signal easily, especially during bad weather. It has also been observed that the local community is also attempting to use new technology to prevent pollution by creating an e-rickshaw service for visitors to local attractions. Tourists can explore different places and experience amazing things with the help of an e-rickshaw while touring the Dooars. By renting an e-rickshaw (Toto), they can experience and visit those places where cars are not allowed to enter. Similar to this, it has been noted that some government cottages in this area use solar power systems. Hence, it has been concluded that ICT has a significant role to play in solving internet related challenges so that tourists won't face any problems while traveling or buying something for the tourist place as well as local communities who depend on small businesses related to handicrafts, food items, and souvenir shops can earn the most revenue as they can get payments by cash as well as by online payment facilities if the place is developed in terms of modern technologies and becomes a smart tourism destination. Therefore, we can say that this region has a research scope of study for identify the problems related how to increase the education level in the local community as well as make them aware for the use of smart tourism technologies like ICT, electronic technologies for the survival and sustainable development of eco-tourism. Limitation of this research is that in the present situation the

local communities and residents are not so much educated as well as aware about the utilization of ICT and other smart technologies ideas.

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