

## GEOTOURISM IN ECOLOGICALLY FRAGILE ZONES OF INDIA: A SOCIAL MARKETING APPROACH

Soma SENGUPTA <sup>1</sup>, Anjan SEN <sup>2\*</sup>, Shahid JAMAL <sup>2</sup>

<sup>1</sup> University of Delhi, Department of Commerce, Kamala Nehru College, New Delhi, India; sengupta@knc.du.ac.in, dr.somasen gupta@gmail.com (S.S.)

<sup>2</sup> University of Delhi, Department of Geography, Delhi School of Economics, Delhi, India; asen@geography.du.ac.in, dr.anjansen@gmail.com (A.S.); shahidjamalkmc@gmail.com (S.J.)

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**Abstract:** The tourist destinations of India are facing a huge environmental challenge with a rising number of hotels and resorts. Influx of a huge number of tourists results in a mounting heap of filth besides the clearing of land to build such resorts. Geotourism and ecotourism is a valid solution, but is still in its infancy in our country. This study explored the applicability of social marketing approach to promote geotourism among Indian tourists. For this study, ideas were drawn from environment, technology, society (ETS) model. A survey from Delhi and National Capital Region (NCR) found less concern among people about the environmental impact of tourism. Behavioural change is needed among the targeted audience, which can be achieved through social marketing. This strategy includes designing and operating such resorts as truly green resorts, ensuring no harm to the environment, and enhancing sustainable development. Partnerships between stakeholders, such as locals, resort owners, government, and different departments like fisheries, agriculture, horticulture, government, and international funding bodies, are needed while setting up and running the resorts. This paper studies the applicability of social marketing approach to promote geotourism among tourists from India. Case Study and Primary survey. A survey from Delhi and National Capital Region (NCR) found less concern among people about the environmental impact of tourism. This strategy includes designing and operating such resorts as truly green resorts, ensuring no harm to the environment, and enhancing sustainable development. Partnerships between stakeholders, such as locals, resort owners, government, and different departments like fisheries, agriculture, horticulture, government, and international funding bodies, are needed while setting up and running the resorts. Behavioural change is needed among the targeted audience, which can be achieved through social marketing.

**Keywords:** geotourism, ecotourism, behavioural change, sustainable development, social marketing, environment-technology-society (ets) model

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### INTRODUCTION

India's land frontier is discernible by an inhospitable and unpeopled terrain, which also happen to be ecologically fragile (Jamal et al., 2025 a) – salty marshes of the Great Rann of Gujarat, Thar Desert of Rajasthan in the West (Agoramoorthy et al., 2014); colossal snow-clad Himalayas in the North, comprising the cold deserts of Ladakh and Lahaul-Spiti; dense sub-tropical jungles in the east and Northeast (Nepal, 2002; Hazarika et al., 2022) and the Deccan too has its share of ecologically sensitive zones with Western Ghats from Sahyadris in Maharashtra to Nilgiris in Kerala are UNESCO world heritage sites (Figure 1).

This varied landscape offers a vast possibility for tourism, which threatens its existence. With a surge in financial strength and exploratory arrogance of people, these ecological sensitive zones have come under immense strain (UNEP/WTO, 2004). The best strategy to preserve these regions may be to make them “no-entry” zones, but such prohibitions are not practical. Therefore, Geotourism, if implemented as per norms could be a sustainable solution to promote a healthy and symbiotic relation between human and nature (Jamal et al., 2022). Geotourism refers to the managing of tourism with protection of nature (Banerjee, 2014). Maintaining balance between necessities of tourism, ecology, and needs of indigenous communities for employment and innovative skills (Jamal & Moin, 2024). These are maintained to make income from job, and to ensure a better status of women. Geotourism flourishes in area with unique features. These include natural beauty – forests, deserts, mountains, water bodies, and coasts; or historical monuments – forts, palaces, temples, and churches (Das & Bandyopadhyay, 2013). Cultural features include festivals, folk songs and dances, and a unique pattern of habitation or farming. Besides that, basic infrastructure like roads and communication will ensure accessibility and connectivity (Wang, 2015). Undoubtedly, tourism has a great potential in India and it aids the government in grossing an enormous volume of revenue, but it has battered the ecological balance of such places.

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\* Corresponding author

Incidentally, the most popular tourist places of India like, the great deserts of Jaisalmer, and Kutch; the Himalayan hill stations like, Shimla, Almora, Manali, Nainital, Mussoorie, Darjeeling; the Nilgaris with Munnar and Ooty; and the sea resorts like, Goa, and Kovalam, are all located in marginal and ecologically fragile zones (Figure 1, 2, 3 and 4).

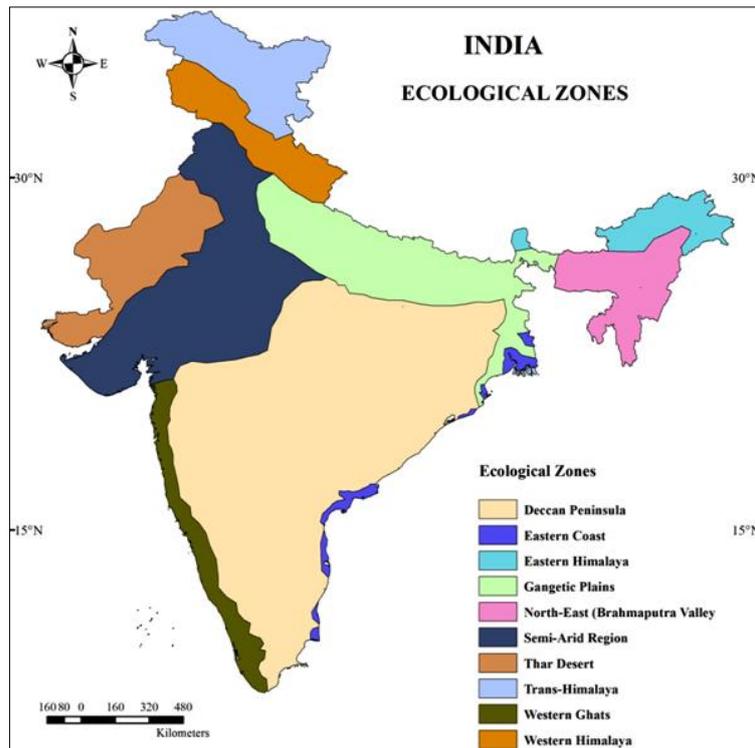


Figure 1. Different Ecological Zones of India (Source: Prepared by authors)



Figure 2. V Resort, Almora District, Uttarakhand (Heili Chana P.O.: Manan, Almora, Khari Sunar Gaon, Uttarakhand) (Source: Field survey)

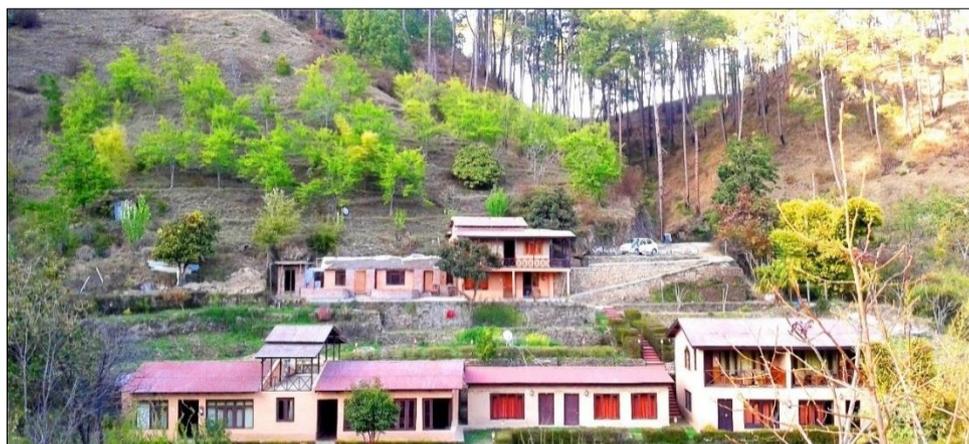


Figure 3. Shaam-e-Sarhad Village Resort, Hodka Village, Kutch District, Gujarat (Hodka, Dhordo Road, Opp Mahefeel E Rann Resort, Village Hodka, Gujarat, 370510) (Source: Field survey)

Geotourism and ecotourism concepts are catching up with the Central and State Governments, resort owners as well as the tourists of India (Ministry of Tourism, 2025). Many resorts are promoting geotourism principles (sustainable tourism principle) of operating with nominal negative impact on the indigenous environment on the one hand and providing the tourists an experience of coming close to nature (Press Information Bureau, 2024). For example, LiFE (Lifestyle for Environment) initiative to promote sustainable tourism and encourage tourists to adopt practices, such as minimal littering and avoid overconsumption of tourism resources. Maintain essential environmental processes and support biodiversity conservation and geographical heritage. Respect the indigenous communities' sociocultural sensitivity, their household structure, and ancient values, and cultural diversity and tolerance. Safeguard sustainable and lifelong economic operations by providing socioeconomic benefits to everyone, including dignified job and earning opportunities. Promote social services to locals by helping and eradicating poverty. The lodges and resorts are, nowadays, being constructed to sustain themselves by eco-friendly means, using stone and wood, solar powered lights, water harvesting, recycling garbage and sewage, organic farming and local employment (Dowling & Newsome, 2018).

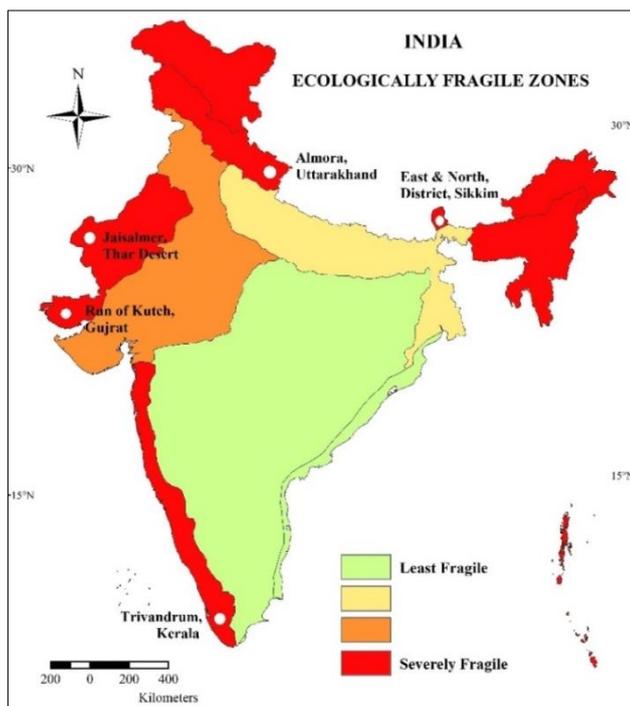


Figure 4. Resorts in Ecologically Fragile Zones of India (Source: Prepared by authors)

The Ministry of Environment, Forest and Climate Change (MoEFCC), notifies ecologically fragile zones, also called ecologically fragile areas. These areas are based on proposals of respective state governments.

The MoEFCC affirms ecologically sensitive zones around the protected areas, including wildlife sanctuaries, biosphere reserves, and national parks, to develop shock absorbers for the particular ecosystem. This includes protected areas that act as transition zones, ranging from high to low protection areas (Press Information Bureau, 2024).

Social Marketing is described as design, execution, and regulator of programmes calculated to govern the suitability of social thoughts and consideration of product pricing, planning, framing, distribution, advertisement and marketing (Kotler & Zaltman, 1971; Lane, 1997). It is the revamping of profitable marketing knowledges to programmes planned to inspire intended behaviour of target customers to enhance their individual and social welfare (Deshpande & Lee, 2013).

Social marketing faces hurdles for growth due to no coherent understanding the arena and its function in other approaches to social change (Andreasen, 2002). However, both growth and development are possible in social marketing through an increase in the market share of competing at product, brand, subject matter, intervention, and brand levels (Brown, 1986; Donovan & Owen, 1994). Producers and marketers have understood the importance of green marketing, and the marketing of green products is a herculean task (Choi et al., 2007). Green products, owing to their high prices and easy availability of cheap and efficient substitutes, have not yet gained momentum (Leonard-Barton, 1981; Oyewole, 2001). This study explored whether social marketing can be applied to make green products acceptable to the target audience.

### Conceptual framework and review of literature

The evolution of homo-sapiens on the earth has witnessed war between three important elements: environment, technology, and society (ETS) (Porter, 1998). Mother-nature has bestowed on humanity with all to produce, reproduce, and sustain mankind (Handelman & Arnold, 1999). Earth has beautiful mechanism of balance, which ensures harmony between all its elements, but humans with their continuously evolving brains play with the ecology (Sicard, 2011). In their mission to conquer the ecology, they transformed technology that endangered sustainable development and caused serious imbalances (Roorda et al., 2012). The result is global warming, disasters, ozone layer depletion, receding glaciers, and

advent of diseases. The last third of the twentieth century witnessed the rise of modern environmentalist movement (Narayan, 2001). Concerns about degradation of the physical environment have been seen globally, but reversing such degradation is not an easy task and is impossible until all stakeholders are serious about this issue (Carlson et al., 1993).

### 1. Environment, technology, society (ETS) model

For the better understanding of problems and to develop a solution to this issue (Ottman, 2002). Understanding the environment, technology, society (ETS) model is imperative to fit the concepts of social marketing and green marketing in the model. The inter-relationship between the three elements: environment, technology, and society can be represented as a triangle (Figure 5), wherein the environment decides the boundary through technology is developed to serve society (Chen et al., 2006). The sphere of human-environment interaction comprises three segments: environment, technology, and society (ETS) (Chen, 2008). The environment provides the foundation, lays down the boundaries of freedom, and indicates the direction and maximum appropriation through social labour is possible eventually (Sheth & Parvatiyar, 2003). Knowledge or technology aids natural processes, bends them to anthropogenic purposes, alters them, and extends the array of freedom. Societies are either conducive or restrictive on human-environment interaction. These three forces are the primary concern of eco-development (Lovelock et al., 2013). The application of ETS model in social marketing of green products has not been explored much by researchers, although much of research has been done in each of these areas individually (Curran & Sherbinin, 2004).

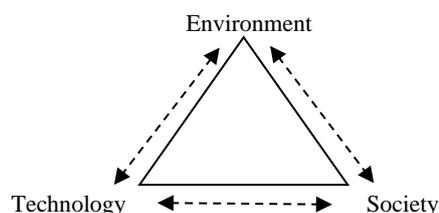


Figure 5. Environment – Technology – Society (ETS) model (Source: Prepared by authors)

### 2. Marketing and social marketing

Marketing is a social procedure in which individuals and groups acquire the essentials and fulfil their wants through offering, creating, and easily exchange valuable goods and services with others. Marketing management is an art and science of picking target markets and receiving, keeping, and increasing customers by delivering, and communicating premium customer value (Kotler, 2004). The theories of modern marketing can be stretched to utilise the marketing in following situations; market campaigns, commercial programs, and social causes. Marketing has a positive role in the propagation of social ideas, such as performing arts, health care, mass communication and transportation, and environmental development.

The four Ps (public, partnership, policy, and purse strings) are applied broadly in social marketing. Social marketing is to avoid demerit goods, promote merit goods and encourage societal wellbeing. This includes anti-tobacco campaigns, family planning movements, AIDS awareness drives, breast cancer, cervical cancer, environmental issues, blood donation camps, polio vaccination, safe driving, recycling, and say no to plastic bags. Social marketing processes and programs include six main steps; target market segmentation, problem definition, consumer analysis, marketing strategies, goal setting, and implementation and final evaluation. Social marketers promote ideas and social practices, and their aim is to change behaviour. The dimensions of social marketing include socially responsible business policies such as non-polluting units, corporate social responsibility (CSR), and green marketing.

### 3. Green marketing

Green marketing encompasses entire activities considered to produce and facilitate exchanges planned to meet human demands. Satisfaction of all these human demands happens with minimal harmful effects on the environment. Green marketing is the process of selling goods and services based on the environmental profits, such types of products and services are environmentally friendly, produced and packaged accordingly (Ward, 2012). There are five reasons for a marketer to accept green marketing such as opportunities, corporate social responsibilities (CSR), government pressure, competitive pressure, cost or profit issues, and green marketing mix (Das, 2010).

For green marketers to achieve success, they effectively and efficiently aim their customers when and where they are the most approachable to green messaging. Additionally, understanding markets' beliefs, attitudes, and purchase behaviour. Success depends on plan development, sustainable auditing, planning, and branding of creative ideas. In addition, an inclusive marketing is needed to prepare the framework of green marketing as a success. A combination of four P must market the green product supplemented with social marketing strategies (Grant, 2008). A person can buy only organic products, ride a two-wheeler to work, and recycle every available material. Nearness to a store and have a farmer market with a good location, accessible distance to the workplace is good. However extreme weather conditions, and poor local waste management can discourage green consumers. Here, comes the concept of social marketing and the psychological costs. Reducing this psychological cost by easy availability of the product, affordable price, easy to use, and disposal will increase the acceptability of the product. Marketers should know how consumers behave on three R, i.e., reduce, reuse, and recycle (Sengupta, 2010).

### 4. Significance of the study

Popularising geotourism and eco-tourism is a phenomenal task. The eco-tourist resorts demand high tariff, while the conventional tourist resorts remain reasonably priced, laden with all modern amenities. Thus, tourists prefer the latter, and

hence geotourism has failed to take-off in India. This paper explores the possibility of social marketing as an instrument of attitudinal change among the potential tourists, and make geotourism widely acceptable.

### 5. Research objectives

The main purpose of this study is to understand how a social marketing approach can be applied to make geotourism a nationwide success. Moreover, how societies ensure eco-development by applying concepts and practices of green marketing and social marketing. The objective of this study is to analysed selected eco-tourist points from diverse ecologically-fragile zones in India; to critically assess the efforts of stake-holders in encouraging geotourism and eco-tourism in particular; and to design a social marketing strategy to propagate geotourism while applying the Environment, Technology, Society (ETS) model.

### 6. Research hypothesis

The following two hypotheses were formulated and tested:

**H<sub>1</sub>:** Socio-economic variables have no significant impact on motivating people to patronize eco-tourist resorts and geo-parks.

**H<sub>2</sub>:** The users and non-users do not significantly differ to factors preventing acceptance of eco-tourist resorts and geo-parks.

## MATERIALS AND METHODS

The research design and methodology has been discussed under the following headings;

### 6.1 Sources of data

The secondary data sources comprised articles in newspapers and magazines, government acts and orders, and official websites. The primary survey involved case study of selected geotourism places or eco-tourist resorts. In addition, a survey of 250 respondents in Delhi NCR was conducted with the support of a questionnaire.

### 6.2 Sample design

Case studies: Various eco-tourist resorts, geo-parks, and authorities responsible for running such resorts and geo-parks were selected through a non-probability convenience sampling method and according to their accessibility. Entities which were selected formed a sampling unit, and they are as follows. Geotourism: Seven resorts from marginal and ecologically fragile areas such as mountains (Uttarakhand and Sikkim), deserts (Rajasthan and Kutch area of Gujarat), and forests (Kerala) were selected. Extensive interviews with concerned management and employees of resorts were conducted to gather all necessary information. Survey in Delhi and National Capital Region (NCR): A sample of 250 respondents were surveyed from the Delhi metropolitan city and its Satellite towns, such as Gurgaon, Noida, Faridabad, and Ghaziabad. A household was completed based on a sampling unit, and any person who was aware of the concept of geotourism or ecotourism was selected as respondent. The respondents were selected in such a way that they represented various education standards, income groups and age groups.

### 6.3 Data analysis

Qualitative methods of inquiry were used to analyse the eco-tourist resorts, in order to understand the efforts undertaken by them to popularize ecotourism. The data gathered from questionnaire was analysed using statistical methods of frequency distribution, mean, standard deviation, t-test and ANOVA.

## Results of Case Studies

### 1. Analysis of the seven eco-tourist resorts or geo-parks

The seven eco-resorts or geo-parks were personally visited and the management and employees were interviewed. These seven places can be categorised for analysis purposes into three groups, i.e., 'eco-tourist resorts', 'geo-parks', and 'ecotourism in the form of homestay'.

### 2. Eco-tourist resorts

Shaam-E-Sarhad Village Resort, Hodka Village, Kutch District, Gujarat; Mirvana Nature Resort and Camp, Jaisalmer District, Rajasthan; Chevron Eco Lodge, Kausani, Almora District, Uttarakhand; V Resorts Eco Retreat, Heili Chana Village, Almora District, Uttarakhand; Teen Taley Resort, Rumtek, East District, Sikkim.

Ecological and biodiversity preservation fosters sustainable use of resources and collective responsibility, which gives the eco-tourist resorts a social dimension that works as a social unit. The resorts are mostly nestled amongst nature and made of natural raw material in local architecture. The produce are all from their organic farms, poultry, fish pool or procured from nearby villages. Local people from nearby villages are employed, with minimum training in hospitality.

Positive aspects: Whether funded by government or international bodies, or are privately owned, the community-based-eco-tourism is combined with rural economies of different sectors. This has created mutually supportive connections and reduces financial loss. Visitors are provided access to natural and cultural heritage with minimal possible harm to nature. The resorts generate livelihood which supplements the agricultural economy of the region (Jamal et al., 2025b). Most of these resorts are managed by the local villagers, and each and every staff, right from the manager to the sweeper is a local villager.

Negative aspects: Such resorts lacking professionalism, and are not promoted well. Linkages with travel agents from all over India and around the world had not been created. Target audiences are not identified and targeted well. Information about the resort is only available on the web. Advertising of any other form has not been used as a tool. Difficult

accessibility, higher tariffs, green washing are other problems. Beside this, the mind-set of Indian travellers has not yet broadened enough to enjoy this type of resorts, since they have to forego certain modern amenities and pay more.

### 3. Geoparks Thenmala, Ponmudi and Kallar, Kerala

Tourism Department of Government of Kerala has taken decision to give attention to eco-tourism in the State. The aim was to develop the deteriorating forests, in the peripheries of the Sanctuary, as a adaptation zone and to control the tourism activities within the outskirts of the Sanctuary. The familiarization zones cater to soft eco-tourists. No permanent constructions should be allowed in forests for all the three eco-tourism areas.

Thenmala, Ponmudi, and Kallar are famous geoparks in the Thiruvananthapuram district of Kerala. These destinations offer a blend of natural beauty, peace, and adventure. Ponmudi is famous for its clear water, rocky river, trekking opportunities, and proximity to Meenmutty Waterfall and Golden Valley. Morning in Ponmudi is wrapped in mist, forming a magical atmosphere that unfolds with the coming of sunlight. At midday, the hills and valleys expose the other side of beauty with incredible landscapes and a sense of stillness. Ponmudi is a sanctuary for wildlife, called Peppara Wildlife Sanctuary, which provides an abundance of opportunities for natural habitats for birds, deer, and sometimes leopards. Kallar is one of the least polluted and greenest ecotourism destinations in India, which pulls travellers from across the globe (Figure 6). Kallar is a must-see for tourists travelling to Ponmudi. It is cool water and rocky riverbed attracts everyone, especially children. Kallar River is known for its clear water, boulders and rocks, and the surrounding areas are covered with slanting rocks and dense forests. Thenmala is situated on the foothills of the Western Ghats in Kerala and is India's first planned ecotourism destination. Thenmala is the best spot for all vacations as it offers butterfly safaris, jungle safaris, lush green forests, musical dancing fountains, a deep woods zone, a cheerful leisure zone, a soulful cultural zone, trekking, hiking, and night camping.



Figure 6. Kerala Forest Department, Eco Tourism, Kallar (Source: Field survey)

Positive aspects: As accommodation is not available in the forest area, the real eco-tourism takes place inside the sanctuary and only eco-tourists are encouraged, thus preventing crowding, destruction or damage by non-serious visitors. Visitors can enjoy eco-friendly products, including nature trails, elevated walkway, mountain trekking, and biking. Appropriate special activities, such as trekking, bird watching trails, photography and participatory conservation programmes, may also be part of ecotourism. This kind of use relies on local knowledge, local income, and motivate locals to have a high value on environment, resulting in conservation and promotes community-based ecotourism.

Negative aspects: Only a select audience can get the real feel of eco-tourism. Accommodation is not available near the sanctuary, and those available nearby are not eco-friendly.

### 4. Ecotourism in the form of homestay

Wongden's Cardamom Homestay, Mangan, North District, Sikkim

The concept of home-stay is gradually becoming very popular in Sikkim, and the Government of Sikkim is also promoting it, since such type of tourism has minimum negative impact on the environment. Especially, in North Sikkim which has a very difficult terrain and very few tourists flock such places; full-scale hotels and resorts cannot be run profitably. Moreover, the area is ecologically fragile and hence, tourism in mass scale is not promoted. In a homestay, minimum modern facilities are provided and hence there is lesser negative impact on the environment. Fresh food from the kitchen garden is used to prepare the meals. Family members are the staff and hence the family is able to earn.

Wongden's Cardamom Homestay, Mangan, North District, Sikkim, is a welcoming and quite attractive stopover for tourists heading to North Sikkim. Wongden's Cardamom Homestay is known for its amazing hospitality, pleasant atmosphere, and heart-stopping views of Kanchenjunga. It combines vibrant comfort with originality. Guests are treated

like God, served quality and nutritious home-cooked meals, and offered cosy rooms. From its terrace, garden, and nearness to scenic attractions, it is an ideal choice for solo, couple, group, and family travellers. Positive aspect: It gives a homely feeling to the guests. Gives an opportunity to the tourists to know about local customs, food, and lifestyle while staying with the family. Negative aspect: Not run professionally and website has not been developed properly and hence; it is very difficult to contact them. Local linkages with the travel agents are not built. They run the business only through word-of-mouth promotion by the visitors. Not promoted at all through any of the medium.

## RESULTS OF SURVEY

### 1. Information for geo-parks and eco-tourist resort

The respondents were asked to reveal the source from, which they received information about geo-parks and eco-tourist resorts. Mean, standard deviation (S.D.), and corresponding ranks are presented accordingly (Table 1). Most respondents became aware of such resorts through websites, social-networking sites, or e-mail. Hence, this source received the first rank. The next rank went to personal sources like relatives, friends, and acquaintances having experience of staying in an eco-resort. Travel agents are an important source of disseminating information about such resorts, and hence, this source ranked third. Telephone calls from resorts and newspaper advertisements are other important sources of information.

Table 1. Ranking of sources of information

Sources of information	Mean	S.D.	Ranks
Advertisements on television or radio	0.06	0.52	VII
Advertisements in newspapers	0.12	0.56	V
Websites/social-networking sites/emails	0.52	0.58	I
Relatives/friends/acquaintance	0.33	0.61	II
Direct mail	0.16	0.66	IV
Telephone call	0.08	0.64	VI
Travel agent	0.28	0.60	III

### 2. Switch to eco-tourist resort or visit geo-parks

Respondents were asked to provide their opinion on factors that motivate people to switch towards eco-tourist resorts or visit geoparks (Table 2). Respondents believed that experiences with others like friends, acquaintances, and relatives matters a lot and can motivate people to switch to eco-tourist resorts or visit geo-parks. Hence, this factor received the first rank. People who are truly concerned about environment, and convinced that such options are environment friendly, easily motivated them and hence, ranked second. Respondents believed that advertisements in different media, especially through internet, free stay vouchers, and promotions by travel agents also motivate people to visit there.

Table 2. Ranking of motivating factors

Factors	Mean	S.D.	Ranks
Advertisements of the resort	3.64	0.64	III
Experience of others	3.98	0.62	I
Concern for environment	3.92	0.67	II
Free stay vouchers for trial	3.53	0.68	IV
Renowned business house in hospitality business	3.08	0.72	VII
Exclusiveness of the resort	3.21	0.69	VI
Premium tariffs of the resort	3.02	0.58	VIII
Promoted by travel agents	3.47	0.62	V

#### a. Preventing visits to eco-tourist resorts and geo-parks

Respondents were asked to express their opinions about factors that prevent them from staying in eco-tourist resorts or visiting geo-parks (Table 3). The most important deterrent is lack of information about such resorts or they are not promoted well. In addition, they felt that either people are not concerned about the local environment or lack knowledge about the negative effects of regular tourist resorts on the environment, and secured the first three ranks. The other problem with such places is that they are in comparatively inaccessible places. In addition, the room tariffs are perceived as high with no/little modern or high-tech amenities available in such resorts.

Table 3. Ranking of preventing factors

Factors	Mean	S.D.	Ranks
High room tariffs (perceived as over-priced)	3.90	0.56	V
Lack of information/not promoted well	4.12	0.52	I
Absence of modern or high-tech amenities	3.86	0.61	VI
Unprofessionalism in such resorts, like, absence of online booking, buffet spread, etc.	3.72	0.60	VII
Located in comparatively inaccessible places	3.92	0.63	IV
Believes that such resorts are just green-washing and not truly eco-friendly	3.05	0.68	IX
Fear of the unknown, since never been to such resorts	3.56	0.68	VIII
Absence of renowned business houses in this field	2.68	0.70	X
Lack of concern for the environment or nature	3.97	0.56	II
Lack of knowledge about the negative impact of regular tourist resorts on the environment	3.94	0.58	III

### b. Popularising of eco-tourist resorts and geoparks

Respondents' opinions to prepare such an option popular are summarised (Table 4). Majority of them agreed on such resorts and places can be popular by creating greater awareness in all possible mediums and educating customers for the significance of geotourism. These two ways obtained the top two positions. They opined that room tariffs should be made reasonable. These resorts are located away from the main town, and they can be made popular by providing free pick-and-drop facilities from airports/stations. They can be made popular by providing further benefits and sales promotion initiatives (free stay for two nights). Respondents opined that such resorts should be operated professionally with online booking facilities.

Table 4. Ranking of ways to make eco-tourist resorts and geo-parks popular

Ways	Mean	S.D.	Ranks
By generating more awareness about them in all possible mediums	4.26	0.63	I
By reducing room tariffs	4.18	0.66	III
By providing additional benefits or sales promotion schemes (such as free stay for two nights)	3.96	0.62	V
By providing free pick-and-drop facilities from airports/stations	4.08	0.58	IV
By making a package deal of sightseeing and village visits	3.86	0.67	VI
By operating them professionally	3.73	0.63	VII
By having various recreational activities in the resort, to keep the guests engaged	4.34	0.67	X
By educating potential customers about the significance of geotourism	4.22	0.58	II
By having online booking facilities (interactive website) and/or offline booking (travel agents)	3.62	0.68	VIII
By proving themselves as a truly eco-friendly resort	3.34	0.66	IX
By celebrity endorsements	3.12	0.73	XI
By developing brand names in the resort business	2.98	0.69	XII

### c. Socio-economic variables on respondents' opinions on eco-tourist resort and geo-parks

An attempt was made to determine whether population factors influence people's opinions on eco-tourist resorts. Socio-economic variables of age, sex, education, marital status, income, occupation, and location were studied for factors encouraging people to visit such resorts. The following hypotheses was tested for every socioeconomic variable:

**H<sub>1</sub>:** Socio-economic variables have no significant impact on motivating people to patronize geo-parks or eco-tourist resorts

#### 1. Influence of Sex and Marital Status

The first null hypothesis was tested on the sample size of 143 males and 107 females; and 164 married and 86 single respondents. The t-values of the eight factors for the two socio economic variables were computed on the basis of mean and standard deviation (S.D.) to test the hypothesis (Table 5).

Results show no significant difference between the perceptions female and males; and perception of unmarried and married participants, toward factors inspiring people to visit geo-parks and eco-tourist resorts.

Table 5. Influence of sex and marital status on motivating factors

Factors	t-values	
	Sex	Marital Status
Advertisements of the resorts	0.63	0.58
Experience of others	0.66	0.37
Concern for environment or nature	0.48	0.44
Free stay vouchers for trial	0.23	0.34
Renowned business house in hospitality business	0.44	0.21
Exclusiveness of the resorts	0.24	0.56
Premium tariffs of the resort	0.27	0.40
Promoted by travel agents	0.52	0.72

#### 2. Influence of Age, Education, Occupation, Income, and Location on Motivating Factors

To ascertain the influence of five other socio-economic factors, including age, area of residence, income, education and occupation on the people's opinion about geo-tourism and eco-tourism, One-way Analysis of Variance (ANOVA) was conducted to test the first null hypothesis H<sub>1</sub>. F-ratio was calculated and presented in Table 6.

Table 6. Influence of other socio-economic variables on motivating factors  
\*Significant at 0.05 level of significance. \*\*Significant at 0.01 level of significance

Factors	F-Ratio				
	Age	Education	Occupation	Income	Location
Advertisements of the resorts	0.20	0.45	0.05	0.11	0.28
Experience of others	0.19	0.28	0.63	0.19	0.34
Concern for environment or nature	1.28	2.86*	0.37	4.20**	0.96
Free stay vouchers for trial	0.02	0.15	0.64	2.54	0.27
Renowned business house in hospitality business	0.22	0.21	0.27	0.15	1.01
Exclusiveness of the resorts	0.54	1.09	1.01	1.63	2.91*
Premium tariffs of the resort	3.52*	0.54	5.73**	2.78*	2.64*
Promoted by travel agents	0.13	0.18	0.04	0.11	0.14

Except the factor 'premium tariffs of the resort', noteworthy differences were not observed regarding age for other factors. F-ratio was found to be noteworthy for the factor 'concern for environment or nature' on account of education.

In terms of occupation, again for the factor 'premium tariffs of the resort', F-ratio was found to be noteworthy, with people from better occupational group showing their inclination towards the premium tariff resorts. Noteworthy difference between income were observed for factors 'concern for environment or nature' and the factor 'premium tariffs of the resort', as people belong to high income levels were more concerned of environment compared to low income levels. They felt that premium tariffs will ensure the resort is totally eco-friendly and will attract serious geo- or eco-tourists. Similarly, F-ratio for only two factors, i.e., 'exclusiveness of the resort' and 'premium tariffs of the resort' were found to be significant in terms of area of residence or location of the respondents.

The results of data analysis indicated a weak and sporadic impact of socio-economic variables on the respondents' perception on factors inspiring people to go for geo-parks and eco-tourist resorts. Only, income and area of residence were considered to have some impact on the opinion of respondents towards motivating factors.

Hence, the first hypothesis,  $H_1$  stating that there is no significant difference in people's opinions from different socio-economic features regarding geo-parks and eco-tourist resorts, is accepted.

### 3. Difference of Opinions of Users and Non-Users of Eco-tourist Resorts and Geo-parks

To test the second hypothesis,  $H_2$  stating that no significant difference in opinions of users and non-users on factors preventing people to go for eco-tourist resorts and geo-parks, both t-test and one-way ANOVA was applied for twelve factors. The results are in Table 7. The t-values and the F-ratios were significant for factors, 'high room tariffs', 'lack of information or not promoted well', 'absence of modern or high-tech amenities', 'located at comparatively inaccessible places', 'fear of unknown since never been to such resorts', 'lack of concern for environment or nature', and 'lack of knowledge about the negative impression of regular tourist resorts on environment. While the non-users considered the five of the above-mentioned factors in which differences were found, to be strong preventing factors; the users considered last two factors related to low concern and knowledge about them vis-à-vis regular resorts as the preventing factors. On the basis of these, the second hypothesis  $H_2$  is rejected. There is a noteworthy difference in the opinions of users and the non-users on factors stopping the use of eco-tourist resorts and visiting geo-parks.

Table 7. Difference of opinions of users and non-users of eco-tourist resorts and geo-parks  
\*Significant at 0.05 level of significance. \*\*Significant at 0.01 level of significance

Factors	Users N=34		Non-Users N= 216		t-value	F-Ratio
	Mean	S.D.	Mean	S.D.		
High room tariffs (perceived as over-priced)	3.65	0.58	3.93	0.63	2.43*	5.92*
Lack of information/ not promoted well	3.95	0.54	4.14	0.50	2.04*	4.15*
Absence of modern or high-tech amenities	3.59	0.63	3.89	0.56	2.85**	8.14**
Unprofessionalism in such resorts, like, absence of online booking, buffet spread, etc.	3.55	0.57	3.74	0.65	1.61	2.59
Located at comparatively inaccessible places	3.66	0.64	3.95	0.52	2.92**	8.55**
Believes that such resorts are just green-washing and not truly eco-friendly	2.97	0.66	3.06	0.71	0.69	0.48
Fear of unknown, since never been to such resorts	3.39	0.62	3.58	0.49	2.02*	4.09*
Absence of renowned business houses in this field	2.77	0.69	2.67	0.72	0.76	0.57
Lack of concern for environment or nature	4.15	0.55	3.95	0.51	2.10*	4.42*
Lack of knowledge about the negative impact of regular tourist resorts on environment	4.17	0.53	3.92	0.67	2.08*	4.30*

## DISCUSSIONS

The study helps to see the issue of popularising geotourism and ecotourism from a broader perspective, blending the elements of environment, technology and society on the one hand; and social and green marketing on the other.

### 1. Environment, technology, and society (ETS) model from marketing perspective

If the environment, technology, and society (ETS) model is discussed from the marketing perspective, then concepts of social marketing and green products have been fused into the ETS model (Figure 7). In a broader spectrum of existing environment, technology, and principles of green marketing, products can be made greener. Products are acceptable to society or a behavioural change initiated by social marketing so that society will shift to green products and thus saves the environment. Early 1960s saw the beginning of environmental concerns. Subsequently, growth in environmental challenges among youth, many formed the portion of a counter-culture, flowed briefly in the late 1960s and early 1970s.

They explored alternative lifestyles and technologies to support them. Self-help experiments were conducted in rural retreats with windmills, solar collectors, human-scale technology backing and reflecting a humane caring society. The issue of environmentally significant consumption is closely linked to population-environment relationships. The development of environmental governance to achieve sustainable development as a field investigation has stimulated excess of research into novel approaches to environmental governance. Partnerships grasp a dignified status in these, but a little evaluation of their actions. The primary analysis through empirical studies of a partnership recognised to assist the development of communities, by thought-provoking mass participation in environmental activities (Davies, 2002).

Historical view of the United Nations (UN) sustainable development programme reflects a merging of political and moral concerns and to incorporate business, and morality into a comprehensive perspective (LeVeness & Primeaux, 2004).

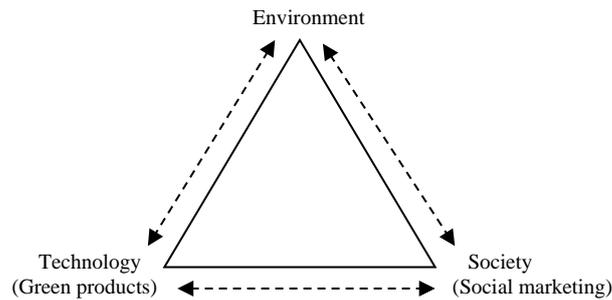


Figure 7. Integrating marketing environment, technology, and society (ETS) Model (Source: Prepared by authors)

**2. Application of environment, technology, and society (ETS) model**

The society demands newer and better options of products and services to enjoy more of everything such as comfort, convenience, entertainment, style, and taste. Humans are continuously developing technology to fulfil this demand at the verge of spoiling the environment and hence creating an imbalance among the elements of the environment. With the growth of the modern environmentalist movement, the realisation came to reverse the degradation of the environment not only technology to create green products. But also, society accepts such products, which may be a costlier option. The aim should be to make the society or institutions conducive to man-environment interaction.

Mass tourism generates revenues and employment opportunities for the local population, but it also ruins the place beyond recognition. Mounds of litter, filth, a concrete jungle of hotels, loss of vegetation, scarcity of resources, traffic congestions, and water bodies being reduced to ditches are all common sights in most tourist places in India. Moreover, sometimes people take away samples of vegetation and rock pieces, steal artefacts from tourist places (Figure 8).

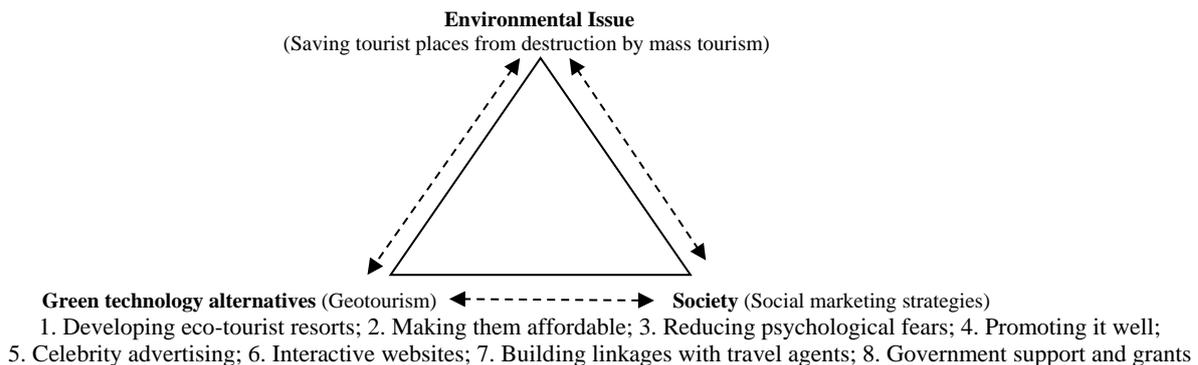


Figure 8. Environment, technology, and society (ETS) model for geotourism (Source: Prepared by authors)

The environment demands sustainable tourism, which causes no damage to the environment, and enhances the aesthetic beauty of the place. The tourism earlier stated that do not take anything but pictures, and do not leave anything but footprints. Over the years, it was realized that even taking pictures and leaving footprints should not be allowed. Taking pictures may damage a cave painting like Ajanta and Ellora, scary wild animals, and lives of locals or tribes. Leaving footprints in an ecologically fragile area may damage vegetation or surface of that area, soil erosion and associated damages. Hence, the new tourism should be: do not take anything but memories, and do not leave anything but memories. It also means not to leave any bad memories in the place of tourism owing to bad conduct and behaviour.

The technology here requires going primitive way through geotourism. The best way of geotourism is not to have any resorts in an ecologically fragile area, like Ponmudi and Thenmala in Kerala, where serious tourists only go for visit and sightseeing. No hotel or resort means, no cutting of trees or clearing vegetation from a place, no concretization, and almost no problem of sewage and garbage disposal. The second-best way of geotourism is to develop resorts with local technology, and the resources available from immediate nature. This contains solar panels for lighting and heating, no modern amenities, no sound pollution, organic farming, fishery, and poultry farming. Employing local population in water harvesting, managing sewage, and garbage disposal by converting them into manure, like vermiculture, and minimising use of water.

**3. Eco-tourist resorts or places visited by respondents**

Respondents claimed that they have been to an eco-tourist resort were further asked to mention name and location of the resorts to determine their knowledge about eco-tourist resorts or places (Figure 9 and 10). Most of the respondents mentioned a resort located either in Uttarakhand or Himachal Pradesh (61.7%). Since these two places (Uttarakhand and Himachal Pradesh) are accessible from Delhi and National Capital Region (NCR), results tilted toward these two States. Next comes Kerala, closely followed by Rajasthan and Sikkim, while Leh, Jammu & Kashmir are last.

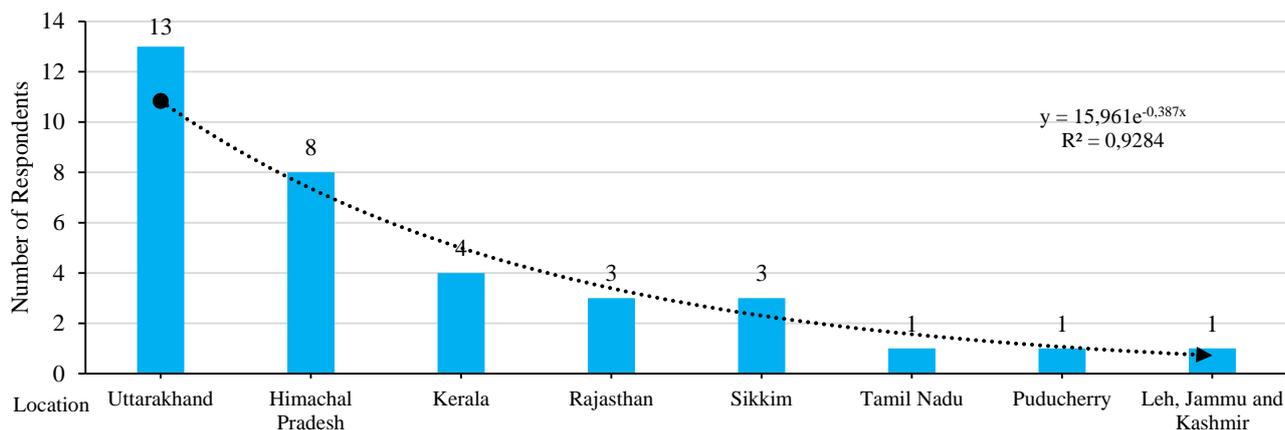


Figure 9. Location of eco-tourist resorts or places visited by respondents in number (Source: Prepared by authors)

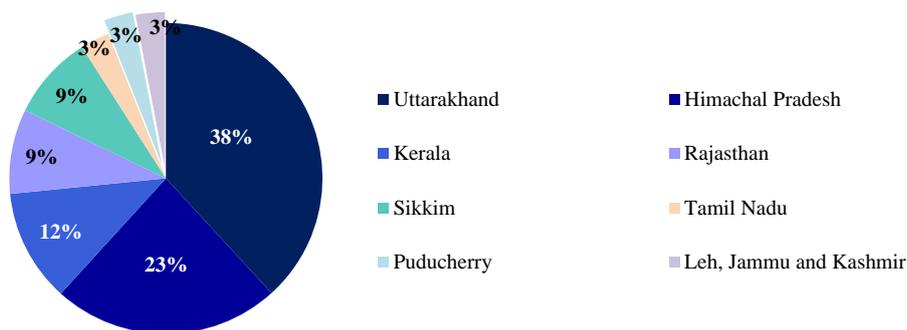


Figure 10. Location of eco-tourist resorts or places visited by respondents in percentage (Source: Prepared by authors)

**4. Charges for availing stay at an eco-tourist resort**

Accommodation at an eco-tourist resort was available on either modified American plan (MAP) or American Plan (AP), where both breakfast and dinner or all meals were included in room charges. Most of the respondents paid ₹3001 and above for a stay in such resorts (82.3%) (Figure 11 and 12). This was much higher than what a regular tourist spends for similar facilities in other hotels, although, they were not eco-friendly. Thirteen respondents (38.2%) paid in the range of ₹4001 to ₹5000 and another eight respondents (23.5%) paid more than ₹5001, which shows that stays in such resorts were expensive.

Hence, ordinary regular tourists of India, with little knowledge about such category of resorts, coupled with the high price and availability of lesser facilities, are not very keen to visit such places or resorts, and give them thumbs down.

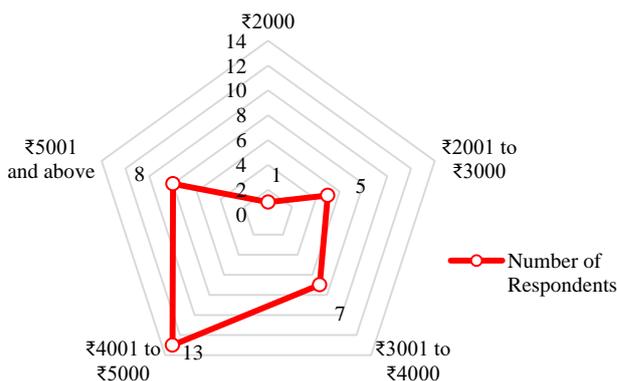


Figure 11. Charges per night (₹) and number of respondents in ranking the price of eco-tourist resort by respondents (Source: Prepared by authors)

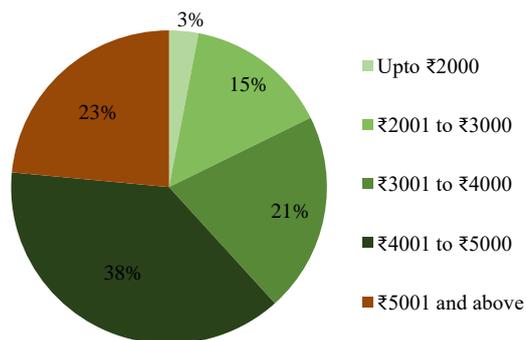


Figure 12. Charges per night (₹) and percentage of respondents in ranking the price of eco-tourist resorts by respondents (Source: Prepared by authors)

**Recommendations**

Marketing of geo-parks and eco-tourist resort is a double-edged sword. The facilities are generally basic to maintain it as an environment-friendly concept but they are usually priced on the higher side to maintain that eco-friendliness, which proves to be a deterrent for regular tourists who wishes value for their money. Here, right positioning and concept marketing is important. An integrated social marketing-mix, with a sensible blend of the four Ps (product, price, promotion and place or distribution) along with the four additional Ps specific to social marketing (i.e., public, partnership, purse-string, and policy) should be considered. The geo-parks and eco-tourist resorts should be designed and operated as a truly green resort ensuring no harm to the environment and enhancing sustainable development with local technology and

architecture. The high tariffs of such resorts or entry fee for visiting geo-parks are an important deterrent and hence, such resorts should be made affordable to target audience to ensure full occupancy. Beside that the psychological fears or costs of the target audience should be reduced. By providing free pick-and-drop facilities; designing facilities with eco-friendly alternatives to modern amenities; and educating target audience, will help in removing hesitations among such tourists.

People in India still know very little about the concept of geo-tourism and eco-tourism. The promotional campaigns should educate the target audience about the ill-effect of regular tourism on environment and the benefits of geo- and eco-tourism to the society. Besides advertising the resort and the concept in different media like, television, radio, newspaper and internet, personal selling with the help of travel agencies, and a number of sales promotion schemes to woo the tourist to at least try this concept is a good idea. Interactive websites should be created for the geo-parks and eco-tourist resort which will give all details about the resort, solve the queries of people, and ensure swift online bookings. Linkages with travel agents should be built, so that they promote the resorts to the target audience and also ensure bookings.

Gaining the support of the local population is imperative. By employing the local people in such resorts; indigenously generating raw materials to run the resort with the help of local people or procured from them, all will ensure geo- and eco-tourism as well as the larger goal of sustainable tourism. This will give a boost to the local economy and the people of that area will support such a resort. The strategy makers should also build and encourage the stakeholders to come together and be partners in the effort to promote and run geo-parks and eco-tourist resorts successfully. The stakeholders for this purpose are the local population; resort owners; government and the different departments like, fisheries, agriculture, horticulture; government and international funding bodies.

The Central and State Governments should come out with a clear-cut policy to give boost to geo- tourism and eco-tourism and should provide assistance and subsidies to such resorts. The Sikkim Government has declared the whole State eco-friendly and is putting an impetus to the development of eco-tourism whole over the State.

Donations and financial contributions from respective governments and Non-Governmental Organisations can also give a boost to eco-tourism. UNDP is already developing a number of eco-tourist resorts in different part of the country. Sikkim government is also providing assistance to such resorts.

## CONCLUSION

Geotourism as a concept is at an infancy stage in different parts of India, and many travel lovers are still unaware of them. However, a significant number of eco-tourist resorts have emerged in most of the ecologically fragile areas of India, and people are not taking them up well. The resorts are generally located away from the habitation, lack modern facilities, and are expensive to stay. Most resorts face the problem of less occupancy throughout the year and especially during the offseason. This has resulted in closing down of some resorts.

Social marketing can be used to reduce the psychological costs associated with such resorts. People can be made to understand the need and importance of such resorts, and this will bring behavioural change among the public.

Hence, this study has important implications for the stakeholders to work in cohesion to popularise geotourism in India. Through social marketing strategy, a behavioural and attitudinal change can be introduced among members of the society and the target audience so that they willingly adopt this eco-friendly tourism.

Though the task is challenging, a planned implementation of recommendations of the study can change the face of tourism in India by making it eco-friendly, yet an attractive avenue of recreation for Indian tourist.

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