

Towards Green and Socially-Sound Recovery in Rural and Farm Sector

CASE STUDY OF TOURISM IN THE BHANDARDARA CIRCUIT IN THE WESTERN GHATS OF MAHARASHTRA



ABOUT US

Centre for Environment Education (CEE) was established in 1984 as a Centre of Excellence of the Ministry of Environment and Forests, Government of India. As a national institution, CEE's mandate is to promote environmental awareness nationwide.

CEE develops innovative programmes and educational material and builds capacity in the field of Education for Sustainable Development (ESD). It is committed to ensuring that Environmental Education (EE) leads to action for sustainable development. It undertakes field projects that demonstrate and validate the role education can play in sustainable development.

With partners including State Governments, Foundations and Corporates through CSR funding, CEE has undertaken projects in rural and urban development, waste management, biodiversity conservation, quality improvement in school education, marine conservation and others. Working with the government, CEE has made significant contributions to international negotiations in the area of ESD.

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INTRODUCTION

Maharashtra is the third largest state in India, both in area and population. It is located on the west coast of India with a 720 km long coastline along the lush green Konkan region. Nestled in the Western Ghats locally known as the Sahyadri mountain ranges, there are several hill stations and water reservoirs with semi-evergreen and deciduous forests. The Vidarbha region of Maharashtra, with its dense forests, is home to several wildlife sanctuaries and nature parks.

During 2021, the number of domestic tourist visits to various states/UTs in India was 677.63 million as compared to 610.22 million in 2020, thus registering a growth of 11.05 per cent. The top five states/UTs in terms of domestic tourist visits during 2021 were Tamil Nadu (115.34 million), Uttar Pradesh (109.71 million), Andhra Pradesh (93.28 million), Karnataka (81.33 million) and Maharashtra (43.57 million). These five states accounted for about 65.41 per cent of the total domestic tourist visits in the country. In respect of foreign tourist visits in 2021, the top five States/UTs were Punjab (0.3 million), Maharashtra (0.18 million), Delhi (0.1 million), Karnataka (0.072 million) and Kerala (0.06 million) (Ministry of Tourism, 2022).



Domestic tourist visits in 2021 (in milion)

The Government of Maharashtra has accorded Industry status to tourism vide its decision on 3rd December 2020. It estimates an annual growth of 8.5 per cent in the tourism industry and a potential target of adding Rs. 4,500 billion to the state GDP, along with the possibility of creating 6 million jobs by 2030.

CONCEPT OF ECO-TOURISM

Eco-tourism has grown in popularity as a sustainable form of travel that encourages responsible exploration of natural areas while also supporting local communities. The International Ecotourism Society defines eco-tourism as 'responsible travel to natural areas that conserves the environment, sustains the well-being of the local people and involves interpretation and education' (The International Ecotourism Society, 2020). By prioritizing sustainable travel practices, eco-tourism seeks to conserve natural environments and wildlife, as well as support the livelihoods and cultural heritage of local communities. Additionally, ecotourism provides opportunities for travellers to learn about and appreciate the natural world, often through guided tours and educational experiences.

The Government of India drafted the National Strategy for Ecotourism 2022 which is guided by the International Ecotourism Society's concept of ecotourism (Ministry of Tourism, 2022). The central government and the Maharashtra government have taken several initiatives to promote eco-tourism with the dual objectives of responsible experiences and education about nature conservation, and strengthening the livelihoods of local communities. The Ministry of Environment, Forests and Climate Change has issued the Policy for Eco-tourism in Forest and Wildlife Areas in 2020 and the Ministry of Tourism issued the National Strategy for Ecotourism in 2022. The Government of Maharashtra has published the Agro-Tourism Policy, 2020 and Adventure Tourism Policy, 2021 in line with its Tourism Policy, 2016. At the core of eco-tourism are challenges in terms of ownership of resources and local community participation in the governance and management of ecotourism. Often, local community participation is tokenistic, and only marginal benefits arising from tourism activities reach the community.

CEE has been in contact with the local communities in the Bhandardara region of the Akole block of Ahmednagar district in Maharashtra for over a decade through its environmental education activities. This landscape contains the highest peak of the northern Western Ghats in Maharashtra and a wildlife sanctuary. While a large number of tourists visit this region, there is no community-based ecotourism model/enterprise in operation. Also, the number of tourists visiting this region has increased exponentially post COVID-19 lockdown. This has put pressure on local resources and the forest ecosystem in this region. Therefore, the study was conducted to understand the existing value chain of tourist activities in this region and to assess the possibilities of green and socially-sound recovery strategies. Among many sites with heavy tourist traffic, a relatively less-crowded village and community forest at Uddawane was selected for this study in order to design and develop a community-based ecotourism initiative.

ABOUT THE STUDY AREA: BHANDARDARA CIRCUIT

This circuit is named after Bhandardara village in the Akole block of Ahmednagar district, Maharashtra. This circuit is located 160 km to the west of Ahmednagar city, 150 km from Mumbai, 180 km from Pune and 80 km from Nashik. The tourism sites and villages that are part of the circuit are Randha Falls, Waki, Warangushi, Chichondi, Shendi, Mutkhel, Koltembe, Ratanwadi, Samrad, Ghatghar, Uddawane, Panjhare, Murshet, and Guhire. This region falls within some of the highest rainfall areas in India and hosts a rich biodiversity of plants, reptiles, amphibians, birds and butterflies. The landscape is inhabited by scheduled tribal communities of *Thakar* and *Mahadev* Koli among other forest-dwelling communities. It is part of the



Kalsubai Harishchandragad Wildlife Sanctuary. The region is well-known for the cultural heritage of tribal communities including food, dance, religious customs, festivals and sacred groves which are traditionally community-conserved areas. Udadawane village in the Bhandardara circuit has a total of 241 families. The population of 1,539 comprises 750 males and 789 females (Registrar General of India, 2011). The average sex ratio of 1052 is higher than the state average of 929 and the child sex ratio is 901 which is higher when compared to the state average

of 894. However, Udadawane has a lower literacy rate as compared to the literacy rate of Maharashtra state. In 2011, the literacy rate of Udadawane village was 47.91 per cent, with a male literacy rate of 57.67 per cent and a female literacy rate of 38.90 per cent.

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APPROACH

Focussed group discussions (FGDs), in-depth interviews and mapping exercises were conducted with homestay owners in the village. To study the tourism value chain, data was collected from 116 tourists who visited the Bhandardara circuit in the year 2021 using a Google form questionnaire. The tourist sample comprised 17 female and 99 male respondents. Secondary information was collected from various published policy and programme documents of the Govt. of India and the Govt. of Maharashtra.

Reverse Fall

Map showing tourist sites in the Bhandardara circuit



STUDY CLUSTER-SPECIFIC FINDINGS

1. Trends in tourist flow to Bhandardara Circuit¹

Data received from the Forest Department, Bhandardara Circuit was analysed to elicit insights into the patterns and trends in tourism activity. Certain months have peak tourist visitation, while the summer months have negligible tourist inflow. June to August is a peak period to witness fireflies and monsoon rains. Tourist arrivals decline between September and November, with some increase in December due to school and college holidays. Tourism is at its lowest from February to May. Unfortunately, the lean tourism period is also the time that local communities need livelihood sources as there is no significant agricultural income between February and May, forcing them to migrate to nearby cities as wage labourers.

The analysis highlights the post COVID-19 lockdown spike in tourist arrivals, which is creating challenges in terms of sustainability; pressure on fragile ecosystems, natural resources like water; and generating large amounts of waste. Crowding is also creating safety issues, leading to emergencies and even the unfortunate loss of tourists' lives in July 2022 (Daily Pudhari, July 19, 2022).

2017-18		2018-19		2019-20		2020-21		2021-22		
Months	Tourist	Per cent								
	number	of yearly								
		visits								
April	0	0	850	1	609	1	0	0	474	0
May	0	0	4445	8	747	1	0	0	0	0
June	0	0	11563	20	14370	20	0	0	14786	13
July	18958	41	14729	26	15553	21	0	0	14063	13
August	11113	24	9686	17	12561	17	0	0	20567	19
September	3938	9	4911	9	5203	7	0	0	15322	14
October	2936	6	1294	2	2357	3	0	0	11433	10
November	1775	4	2697	5	3001	4	0	0	9110	8
December	3463	7	3251	6	8083	11	12576	34	10787	10
January	1994	4	1818	3	4744	7	13331	36	3849	3
February	1102	2	1300	2	4267	6	7697	21	6156	6
March	950	2	1160	2	1075	1	3803	10	3954	4
	46229	100	57704	100	72570	100	37407	100	110501	100

Tourist visitation at Bhandardara circuit, 2017-18 to 2021-22

Yearly tourist visits to Bhandardara circuit (2017-2022)



Source: Forest Department (Bhandardara Circuit), 2022

2. The nearest weather station to the Bhandardara circuit is at Ghatghar which is a 5 km distance from Udadawane. The average annual rainfall in Udadawane village is 1,342 mm. The highest rainfall is in the months of June, July, August and September. The tourist attraction points during these months are Randha, Umbrella and Nhani waterfalls.



Average rainfall and rainy days (mm) in the Ghatghar

The mean maximum temperature in the year 2021 was 31.9°C and minimum temperature was 22.1°C. The lowest mean temperature was in the month of January and the highest temperature was in the month of May.







3. Profile of tour operators at Udadawane village

There are several homestay owners in Udadawane and Shinganwadi villages. For the purpose of this study, nine homestay owners were selected. These homestay owners belong to the *thakar* tribal community and practice agriculture. They cultivate a variety of crops such as rice, wheat, finger millet, proso millet, chickpea, horse gram *(kulith or hulga)*, lentil *(masoor)*, black henbane *(khurasani)*, green peas, chilli, brinjal, and other beans. The profiles of these homestay owners are as follows:



Buvaji Thaka Gangad is a 43-year-old farmer from Village Udadawane. He has completed higher secondary education and is fluent in Thakari, Marathi, and Hindi languages. Buvaji lives in a Choumala-type house (house with an extra floor under the roof) measuring 30 X 27 feet with 7 family members. He owns 1.5 acres of farmland. Buvaji specializes in growing fruit trees like papaya, guava, and jackfruit. He is the son of President Medal winner Late Thakababa Gangad who was known for imitating the sounds of various animals and birds.

Devu Shravan Pokale is a 38-year-old farmer from Village Shinganwadi under the Udadawane gram panchayat. Devu completed his secondary education and lives in a traditional triangular-shaped house (called *Donpakhi* house) measuring 30 X 26 feet with 5 family members. He has 2.5 acres of farmland. Devu has a passion for cooking and is skilled in the *Kambad* tribal dance.

Kashinath Gangadhar Girhe is a 26-year-old farmer from Village Udadawane. Kashinath has a bachelor's education in commerce and speaks

Thakari, Marathi, and Hindi languages. He lives in a *Choumala* house measuring 25 X 28 feet with 5 family members. Kashinath cultivates 3 acres of farmland. He has good commentary skills and has the potential to become a nature guide if proper training is provided.

Maruti Kashinath Ughade is a 42-year-old farmer from Village Shinganwadi. Maruti has completed his higher secondary education and lives in a *Donpakhi* house measuring 25 X 30 feet with one family member. He owns 3 acres of land. Maruti is skilled in cooking and has excellent communication skills.

Shila Prakash Mengal is a 35-year-old farmer from Village Udadawane. Shila has completed her higher secondary education and is fluent in Thakari, Marathi, and Hindi languages. She lives in a *Donpakhi* house measuring 26 X 21 feet with 5 family members. Shila grows vegetables in her backyard and specializes in preparing various types of pickles, chutneys and wild vegetables. She can sing traditional songs.

Chandrakant Tulshiram Pokalhe is a 34-yearold homestay owner from Village Shinganwadi. He has completed his higher secondary education and knows Thakari, Marathi, Hindi, and English languages. His house type is *Donpakhi* and of size 20 X 26 feet. He has 5 family members and one acre of farmland. He does not have any tents. Chandrakant is a skilled farmer.

Govind Vitthal Girhe is a 30-year-old homestay owner from Village Udadawane. He has completed his higher secondary education and knows Thakari, Marathi, and Hindi languages. His house type is *Donpakhi* and the house size is 32 X 28 feet. He has 5 family members and 4 acres of farmland. Govind has multiple skills, including cooking, knowledge about medicinal plants, photography, and playing the piano.

Kusa Budha Madhe is a 46-year-old homestay owner from Village Udadawane. He has completed his higher secondary education. He has a *Choumala* house of size 23 X 21 feet. He has 4 family members and 4 acres of farmland. He has 12 tents. Kusa is a very experienced person, highly knowledgeable about forest biodiversity and is skilled in various aspects of farming. **Sakharam Thaka Gangad** is a 36-year-old homestay owner from Village Udadawane. He has completed his higher secondary education and knows Thakari, Marathi, and Hindi languages. His house type is *Choumala* and the house size is 30 X 25 feet. He has 5 family members and 1.5 acres of farmland. He has 15 tents that he sets up for tourists on the bank of the river. Sakharam has good networking skills and is the son of President Medal winner Late Thakababa Gangad who was known for imitating the sounds of various animals and birds.

4. Occupation of tourists

Among the 116 tourist families/groups studied, 37 per cent of the tourists have their own businesses, 25 per cent had government jobs, 17 per cent were engaged in private jobs and 11 per cent profess other occupations. Around 9 per cent of the tourists did not specify their occupation.



Occupation-wise percentage of tourists in the year 2021-22

5. Tourists' places of origin

Usually, tourists from nearby cities such as Akole, Nashik, Pune and Mumbai come to Bhandardara for tourist activities. In the studied group, 20 per cent of the tourists were from Nashik, 19 per cent from Mumbai, 18 per cent from Ahmednagar city, 17 per cent from Akole town and 14 per cent from Pune. Only a small percentage of visitors i.e. 3-5 per cent came from smaller towns like Sinnar and Sangamner.



Origin-wise percentage of tourists in the year 2021-22

6. Nature of tourist groups

While visiting tourist locations, tourists usually travel in diverse types of groups. In a sample study, around 50 per cent were families, 30 per cent were friends, 8 per cent were couples and 4 per cent were solo travellers. Only a small fraction of tourists (5 per cent) travelled in tour operator-organized tourist groups.

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Nature of tourist group-wise percentage of tourist in the year 2021-22

7. Tourist group size

While visiting tourist locations, tourists come in various forms of groups. Some tourists come along with large groups organized by tour operators or with family or solo. The data below indicates that 35 per cent of tourists prefer to travel in smaller groups of 2 to 5 people, while 27 per cent choose to travel in slightly larger groups of 6 to 10 people. Around 22 per cent of tourists opt to travel in groups of 11 to 20 individuals. These findings are important for hospitality service planning and accommodation arrangements. It is worth noting that in some cases, groups of 20 or more individuals may visit, consequently requiring operators to consider re-planning their facilities especially as a group to accommodate such larger groups effectively.



Tourist group size-wise percentage distribution of tourists in the year 2021-22

8. Purpose of tourist visits

There are various types of tourist attraction sites like religious sites, forts and valleys. Around 23 per cent came for trekking and exploring forts, 17 per cent for leisure purposes, 29 per cent for family trips, 8 per cent for study tours, 3 per cent for visiting temples, and 3 per cent for corporate meetings. Considering the diverse nature and number of groups, it is important to plan activities as per the composition of the group, gender and age. As many tourists come for a trek on forts and Sandhan Valley, there is a high potential for tour guide service, development of safety protocols and provide safety equipment for trekkers.

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Purpose of tourist visit-wise percentage distribution of tourists in year 2021-22

9. Number of Days Tourists Stayed

The number of days tourist stay at a tourist location impact upon contribution to the local economy. If a tourist is well engaged in local sightseeing and stays for a longer duration, they spend on local economic activities and benefit the local population. In the sample studied, around 72 per cent of visitors stayed for two days and one night, while 17 per cent stayed for 3 days and two nights. Only a small proportion of tourists stayed for 3 and 4 nights. Around 4 per cent of visitors made a day-only return trip to the site. This insight offers an opportunity to ensure that even a part of the 72 per cent of tourists preferring one night stay to remain in the area longer through better offerings such as themes-based activities and nature trail options.



Duration of stay-wise distribution of tourists in year 2021-22

10. Breakup of expenditure by tourists

The study attempted to understand the share of various touristic activities on various activities. It was observed that tourists spend the most money on transportation (70.9%), followed by on stay (17.3%), food (7.3%), and guide (4.3%). The expenditure on transportation can be reduced by providing efficient public transport connectivity to the cluster while expenditure on local economic activities such as accommodation, food and nature guide service can be increased by developing more engaging tourism packages so that people can stay for a longer duration.

Expenses	Food	Stay	Transport	Guide	
Total Exp. (Rs)	44095	103674	423890	25700	
Percentage (%)	7.3	17.3	70.9	4.3	

Breakup of expenditure by tourists



Travel distance, mode of transport, type of fuel and GHG emissions 11.

11.1 Mode of travel

Most tourists come by their car, with 51 per cent of the surveyed tourists preferring it. Rental cars are the second most used mode of travel and around 17 per cent of tourists travel in rental cars. The tourists in nearby cities and towns prefer motorcycles and hence around 11per cent of tourists came by twowheeler. Around 13 per cent of tourists use traveller buses to arrive at the site. The State Transport (ST) Bus is the least used mode of travel, accounting for only 1 per cent of usage. The Mix (of modes) category accounts for 5 per cent of the total usage.



Mode of travel

■ Own Car ■ Rental Car ■ Motor Cycle ■ Traveller Bus ■ ST Bus ■ Mix ■ NA



Vehicle and energy type

11.2 GHG emissions per tourist

The GHG emissions from travelling were calculated for tourists with respect to the mode of travel and distance travelled by them. India-specific GHG emission factors for various types of vehicles were used to calculate emissions per tourist. The average emission per tourist is very high for small buses (5.219 kg CO_2e) followed by diesel cars (3.449 kg CO_2e). The GHG emissions are least for tourists who travel on two-wheeler vehicles. The average emission from all types of vehicles is 2.66 kg of CO_2e per tourist.

Sr. No.	Type of Vehicle	kg CO₂e/km	No. of Vehicles	Average GHG Emissions per person
1	Two-Wheeler	0.029	15	0.713
2	CNG Small Car	0.063	22	1.305
3	Diesel Car	0.103	63	3.449
4	Small Bus	0.307	1	5.219
5	Bus	0.737	15	2.626
			Average Emission	2.6624 kg CO₂e

11.3 Year-wise CO_2 emission by tourists visiting the Bhandardara Circuit for the last five years

If the emission data is extrapolated based on various numbers of tourists who have arrived in the past five years in the Bhandardara circuit, it was observed that emissions are highest during the period directly after the pandemic-induced lockdown, even when compared to the pre-COVID years.



Year-wise total CO2e (kg) emissions due to transportation of tourists

12. Consumption of packaged food, water and beverages

To understand the amount of plastic waste generated locally through the consumption of cold drinks, mineral water and packaged snacks, data on the quantity of these eatables sold by wholesalers in this region was collected. The Moraya Enterprises in Akole town is a wholesaler of these food items which supplies packaged snacks, cold drink bottles and mineral water to 13 villages in the Bhandardara region. The distribution is not evenly spread out and 65 per cent of these products are sold in Shendi (marketplace in the cluster) and 13 per cent in Samrad. The remaining 22 per cent of products are sold in other villages in the area. The tourist locations such as Randha, Mutkhel, and Udadawane account for 2 per cent of sales, while Koltembhe, Ghatghar, Murshet, Panjhare, and Waki each account for 1 per cent of sales. Warangushi and Bhandardara each make up 5 per cent and 3 per cent of sales respectively, while Ratanwadi accounts for the remaining 3 per cent. Village-wise distribution

of products sold by Moraya Enterprises in per cent is as follows:



The profit share of wholesalers in the sale of cold drinks ranges from Rs. 0.36-3.33 while that of shopkeepers is Rs. 1.13-27.08. Mineral water, Red Bull energy drink and Mango Frooty have the highest margin for shopkeepers.

Sr.	ltems	MRP	Profit Margin	Profit Margin	Yearly Sale
No.		Prices (Rs)	Margin to	of shopkeepers	of Bottles
			Agency (Rs)	(Rs)	
1	Thums Up Big	40	1.67	5.00	31680
2	Thums Up Small	20	0.36	2.86	110880
3	Jeera Soda	20	1.67	7.50	25080
4	Jeera Masala	20	1.67	7.50	21864
5	Maza Big	40	2.08	4.58	13536
6	Sprite Big	40	2.08	4.58	55056
7	Sprite small	20	0.36	2.86	128464
8	Red Bull	125	2.08	27.08	7440
9	Mango Frooty	10	0.75	1.13	140000
10	Mango Frooty Big	100	3.33	16.67	930
	(2 lit)				
11	Maza small	20	0.67	2.33	76410
12	Maza tetra	10	0.50	1.50	146080
13	Water bottle	20	0.83	14.17	180000

Bottled Items sold by Moraya Agency in the Bhandardara Tourist Circuit

Packaged snacks packed in plastic wrappers are also consumed by tourists and and this has led to a major waste management-related challenge. The total estimated plastic waste generated through the sale of packaged snacks and bottles is approximately 18,748.4 kilograms a year considering each bottle on an average to be weighing about 20 grams.

Sr.	Balaji Chips	MRP	Margin to	Margin for	Yearly sold
	Items	Prices	Agency (Rs)	shopkeepers	Pouches (Rs)
1	Balaji Salted	5	0.27	0.50	681600
2	Balaji tomato	5	0.27	0.50	214080
3	Balaji Masala	5	0.27	0.50	94080
4	Balaji Onion	5	0.27	0.50	89664
5	Balaji Moong Dal	5	0.27	0.50	146400
6	Balaji wheel	5	0.27	0.50	376320
7	Balaji FaraliChivda	5	0.27	0.50	451200
8	Balaji Bhel	5	0.27	0.50	297600
9	Balaji ThikhiBhel	5	0.27	0.50	299520
10	Balaji mix Chips	5	0.27	0.50	40320
11	Balaji Tadka	5	0.27	0.50	241920
12	Balaji Masala Crispy	5	0.27	0.50	513984
13	Balaji tomato crisps	5	0.27	0.50	704640
15	Balaji Sing Bhujia	5	0.27	0.50	372480
14	Balaji MAGGI	10	0.50	1.00	294600

Packaged snacks sold by Moraya Agency in the Bhandardara Tourist Circuit

The plastic waste from beverage bottles and snack packets generated in a year from items sold by the Moraya Agency is 30,794.42 kg. This includes an estimated 18,748.4 kg of plastic bottles and 12,046.02 kg of wrappers of packaged snacks.

Moraya Enterprises is one of the largest suppliers (but not the only one) selling similar products in the region, hence the above estimations do not reflect the complete reality and are conservative estimates. The field observations are that these plastic wrappers are largely either burned or left near villages and at tourist sites, leading to environmental pollution. These plastic pollutants pose a significant threat to natural habitats, tourist spots, and the ecosystem as a whole. Around 56 per cent of tourists drank local water during their visit while the remaining purchased packaged drinking water. There is a monetary incentive offered to recycle water bottles and they are purchased at Rs. 10 per kilogram by local scrap shop owners.

13. Food preferences of tourists

The kinds of food tourists eat also affects the contribution to the local economy, If locallygrown food is cooked and served to tourists, it has lower GHG emissions and contributes to the local economy as well. Data was collected about the food preferences of tourists. Around 40 per cent of tourists preferred poha (beaten puffed rice) for breakfast followed by fried pakoda (31%), upama (17%), vada-paav (9%) and misal (4%).



Breakfast preferred by tourists

14. Guide service

The tour guide is a very important economic activity as well as a source of livelihood for local people. In a total tourist sample, around 24 per cent of tourists had taken the help of a guide during their visit. It is interesting to note that 35 per cent of tourists indicated that guide services were part of their package, suggesting that many tourists may opt for guided tours as a preferred option. 17 per cent of tourists indicated that they did not take the help of a guide, which could be due to a variety of reasons such as a preference for self-guided explorations or a desire to save money.



The average honorarium as paid to a guide was Rs. 750, with a minimum of Rs. 100 and a maximum of Rs. 1600 by a large group of 41 tourists.

15. Tourists' willingness to pay extra for sustainable tourism initiatives

Tourists were surveyed to understand their current experiences in terms of food and beverages, preferences for new tourism experiences based on the site's potential and their willingness to spend more on a credible ecotourism experience. The results are summarised below. Around 39 per cent of tourists expressed willingness to spend up to an additional 20 per cent for sustainable tourism, 37 per cent are willing to spend up to an additional 30 per cent, 11 per cent are willing to spend up to an additional 50 per cent and 9 per cent are willing to spend up to spend as per international norms.



Tourists' willingness pay extra for sustainable tourism initiatives



Thematic preferences for ecotourism development

41 per cent of tourists prefer all the given themes, indicating wider interest in a variety of ecotourism products. The Butterfly theme was chosen by 15 per cent of tourists. The *Ranmeva* (wild berries) or nature trail-based wild edible theme and the *Devrai* theme were given preference by 15 per cent and 9 per cent of tourists respectively. Around 8 per cent chose cultural theme-based experiencing, 4 per cent chose agriculture, and 3 per cent chose trekking and jungle tour themes.



RECOMMENDATIONS

- There is a need to create community-owned and managed ecotourism models in ecologicallysensitive areas, which are inhabited by various scheduled tribes and other traditional forestdwelling communities.
- 2. Collectivization of local tour operators is critical to creating systems necessary to promote ecotourism by way of governance, management and attracting investments towards eco-friendly infrastructure and capacity building of community members involved in tourism.
- 3. The Glasgow Declaration announced during the COP26 conference to reduce emissions suggests a plan for tourism to help achieve the goal of halving emissions by 2030 and achieving net zero by 2050. This makes it even more imperative to have an institutional approach towards developing tourism infrastructure as well as water, energy and waste management systems which are very weak at present in the case of the study site and overall circuit.
- 4. Encouraging local food products in hospitality services has many benefits on the local economy and from an ecological point of view. It not only offers healthy alternatives to packaged and processed food, but it can also reduce plastic waste and support local agro-biodiversity and the local economy. This can contribute to reducing emissions by cutting down on the transportation of packaged food products. Apart from local rice varieties, the study area has a host of locally-grown grains and legumes, such as millets, *kulith* (horse gram), and chickpeas.

Various wild vegetables and tubers make some of the most exquisite cuisines. However, care is needed to monitor the extraction of these wild edibles which are gaining popularity in recent times, thus posing a real danger to their regeneration and sustainable harvest. Similarly, fresh lime juice, buttermilk and derivative milletbased traditional drinks, raw mango and other local fruit-based drinks offer better alternatives to bottled soft drinks with health hazards. A menu development and quality control system is needed as part of a further developmental plan.

- 5. Such areas which are rich in bio-cultural diversity offer great potential for developing a range of tourism experiences to attract tourists who are interested in slow-paced, low volume and highvalue tourism. For this site, special packages identified to be developed are
 - a. Demystifying Devrai (Sacred grove)
 - b. Bond with Butterflies
 - c. Relish the Ranmeva (wild edible nature trail for the currently lean period of March to May, including wild varieties of mango (Mangifera indica), Jambhul (Syzygiumcumini), Karvand (Carissa carandas), Toran (Ziziphus rugosa), Ambgule (Elaeagnus conferta) among others.
 - d. Spirits of Masks of *Bohada* (A unique tradition of annual performing ritual)
 - e. Fireflies Friendly *Kajva Mohtsav* (Sustainable Fireflies Festival)
 - f. Tranquil Backwaters of Bhandardara



Photo : Satish Awate, CEE Photo Bank

In the true spirit of ecotourism, these activities should be carried out with utmost respect to local culture and ecology. Local cultural heritage especially needs to be presented as an organic experience and not as an on-demand performance.

- 6. Infrastructural planning needs to focus on local material and design elements to lower the carbon footprint and through recycling and greening activities, such facilities can achieve carbon neutrality. The costs towards this need to be factored in while developing rate cards for various services offered to tourists.
- 7. Governance is a key aspect in ensuring ecological as well as socio-economic sustainability in ecotourism enterprises. Longterm investments towards systems set with sustainability frameworks and capacity building are required.
- 8. Biodiversity Management Committees (BMCs) which are mandated under The Biological Diversity Act, 2002, offer a decentralised governance framework for ecotourism activities through a consultative process. BMCs also help in attracting financial support through external sources as well as through their power to levy taxes on the use of local biodiversity resources.

- 9. There is a need to create an Ecotourism Research, Training and Accreditation Institution at the state level or ideally, at a larger landscape level such as the Western Ghats.
- 10. India has successfully adopted the internationally-acclaimed 'Blue Flag' awards programme by the Foundation for Environmental Education (FEE) for beaches. Blue Flag promotes environmental education and information, environmental management and conservation, water qulity, and safety at beaches, tourism boats and marinas. Similarly, the Green Key certificate from the FEE is the leading standard for excellence in the field of environmental responsibility and sustainable operation within the tourism industry. Green Key represents a commitment by businesses that their premises adhere to the strict criteria set by the FEE. The environmental standards expected of awarded establishments are maintained through rigorous documentation and frequent audits. Green Key is available for hotels, hostels, small accommodations, campsites, holiday parks, conference centres, restaurants, and attractions. Such existing systems may be pilot tested and adapted to the local natural and cultural contexts, with capacity building and support for their implementation by communities and local authorities.

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