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# Evaluating Ecotourism Growth in Palghar District, Maharashtra: Insights from a Tourist Information System Framework

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## Abstract

Tourism is recognized as one of the largest global industries, leading both governmental and private sectors to adopt various strategies for its enhancement. This sector has the potential to significantly boost local economies, creating jobs and stimulating business growth. Historically, tourism has been overlooked, but recent efforts have focused on elevating its status to benefit communities socially and economically. Effective planning and management of resources in any region require geographical information. This research specifically investigates the Palghar district, aiming to provide valuable insights for government planning and strategic decision-making. The findings are intended to benefit planners, administrators, and researchers interested in economic and social development. The study aims to develop an integrated plan for tourist attractions in Palghar, backed by specific case studies. Recent advancements in tourism development—including the creation of new tourist maps, database updates, and promotional activities—are increasingly informed by Geographic Information Systems (GIS). This paper particularly addresses the potential for ecotourism development in Palghar, emphasizing its role in empowering local communities. Ecotourism allows residents to actively participate in land development decisions, manage revenue distribution, and promote local crafts and talents, all while ensuring the preservation of their environment and cultural heritage. By focusing on these critical aspects, the research contributes to a deeper understanding of how tourism can be leveraged for sustainable community development and environmental conservation in the Palghar district, ultimately fostering a more resilient local economy.

**Key word:** Ecotourism, geographical information, economic development, local crafts.

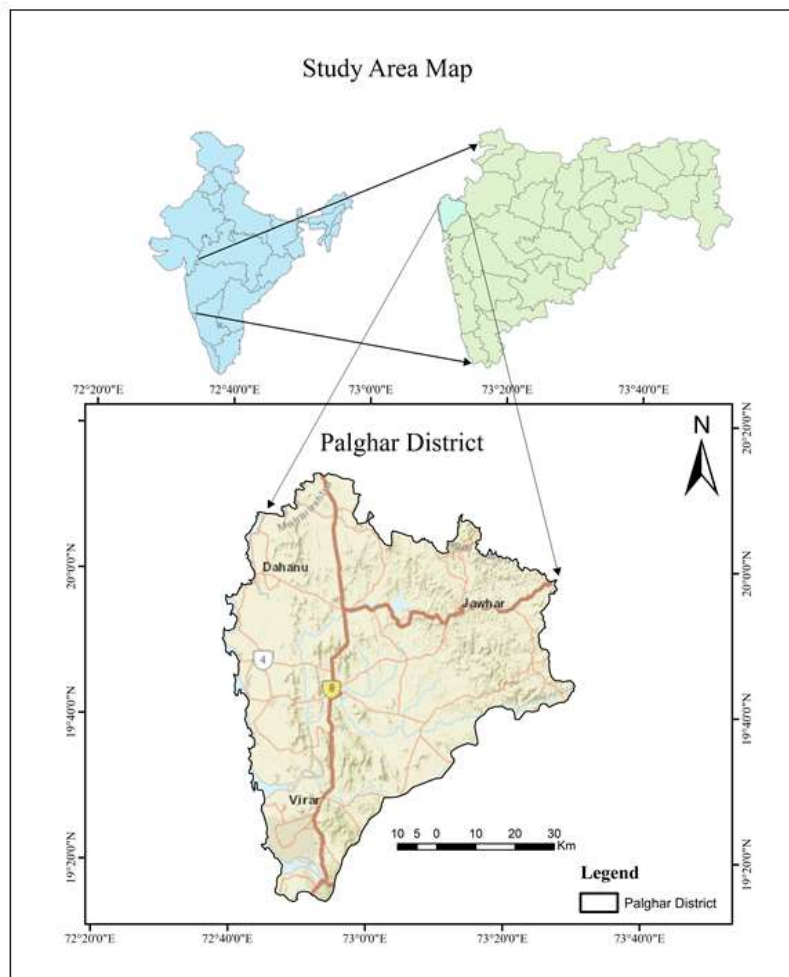
## Introduction

Ecotourism, which prioritizes nature conservation and community engagement, has emerged as a significant sustainable tourism model globally. This approach not only fosters environmental awareness but also supports socioeconomic development. Palghar district in Maharashtra, India, renowned for its rich biodiversity and cultural heritage, has emerged as a promising ecotourism destination. This research aims to assess the development of ecotourism in Palghar district, focusing on the role of a Tourist Information System (TIS) in enhancing visitor experience and promoting sustainable tourism practices. Palghar district, located on the northern fringes of Maharashtra, boasts a diverse landscape comprising pristine beaches, lush forests, and tribal villages, offering a unique blend of natural beauty and cultural heritage. The district is home to several ecotourism attractions, including the Tansa Wildlife Sanctuary, Kelve Beach, and the tribal hamlets of Dahanu and Talasari, which provide opportunities for wildlife viewing, nature walks, and cultural immersion. A Tourist Information System (TIS) plays a crucial role in ecotourism development by providing tourists with relevant and up-to-date information about tourist destinations, accommodations, transportation, and local attractions. By leveraging technology such as websites, mobile applications, and interactive kiosks, a TIS can enhance the overall tourist experience, promote responsible tourism practices, and facilitate better management of tourist flows. This research seeks to evaluate the effectiveness of the existing Tourist Information System in Palghar district in providing comprehensive information to tourists and promoting sustainable tourism practices. By analyzing tourist data, visitor feedback, and the impact of the TIS on local communities and the environment, this study aims to provide valuable insights and recommendations for enhancing ecotourism development in Palghar district and similar destinations. 'Ecotourism planning requires exploring diverse types of natural and cultural attractions along with demographic characteristics, to provide the base for designing the travel industry different from the mass tourism standard.'<sup>(1)</sup> Many experts considered that tourism is essential for sustainable regional development. It is work as poverty reduction tool mainly in developing countries.<sup>(2)</sup>

In the present study GIS will be used as a tool for the ecotourism development in Palghar district. Governments of underdeveloped and developing nations have interest in the development of tourism as a solution to grow their economic stature.

### Study Region

Palghar district is usually the tribal district of Maharashtra. The total area of the district is 5344 km<sup>2</sup> and population as per 2011 census 2990116. It lies in between 19° 17' 15" N to 20° 13' 45" N latitudes and 72° 38' 35" E to 73° 30' 25" E longitudes (Fig. 1). The Palghar district is divided into eight revenue taluks: Jawhar, Mokhada, Talasari, Palghar, Vasai, Vikamgad, Dahanu, and Wada, with the district headquarters situated in Palghar. Established on August 1, 2014, Palghar is the northwesternmost district of Maharashtra, located along the Arabian Sea coast. It lies between the Sahyadri mountain range to the east and the Arabian Sea to the west. The district shares its eastern and northeastern borders with Nashik, while the northern boundary is adjacent to the Valsad district of Gujarat and the Union Territory of Dadra and Nagar Haveli. The Arabian Sea defines its western edge, and Vasai-Virar is the only metropolitan region within the district. Palghar is recognized for its tribal areas, where agriculture is the primary occupation. Residents also gather resources such as wood, honey, medicinal herbs, and lakhs from the forests. In coastal regions, fishing is a key livelihood, alongside horticulture that includes the cultivation of sapota (chiku), betel leaf, mango, and coconut. The district boasts numerous tourist attractions, including the Jivdani Temple, Jai Vilas Palace, Mahalakshmi Temple, and various forts like Vasai, Shirgaon, Tarapur, and Arnala. Nature enthusiasts can also explore Dabhosa Waterfall, Vandri Lake, Kelva Beach, Chincholi Beach, Kalamb Beach, Dahanu Beach, Bahrot Caves, and monuments such as the Chhatrapati Shivaji Maharaj monument and Jay Sagar Dam.



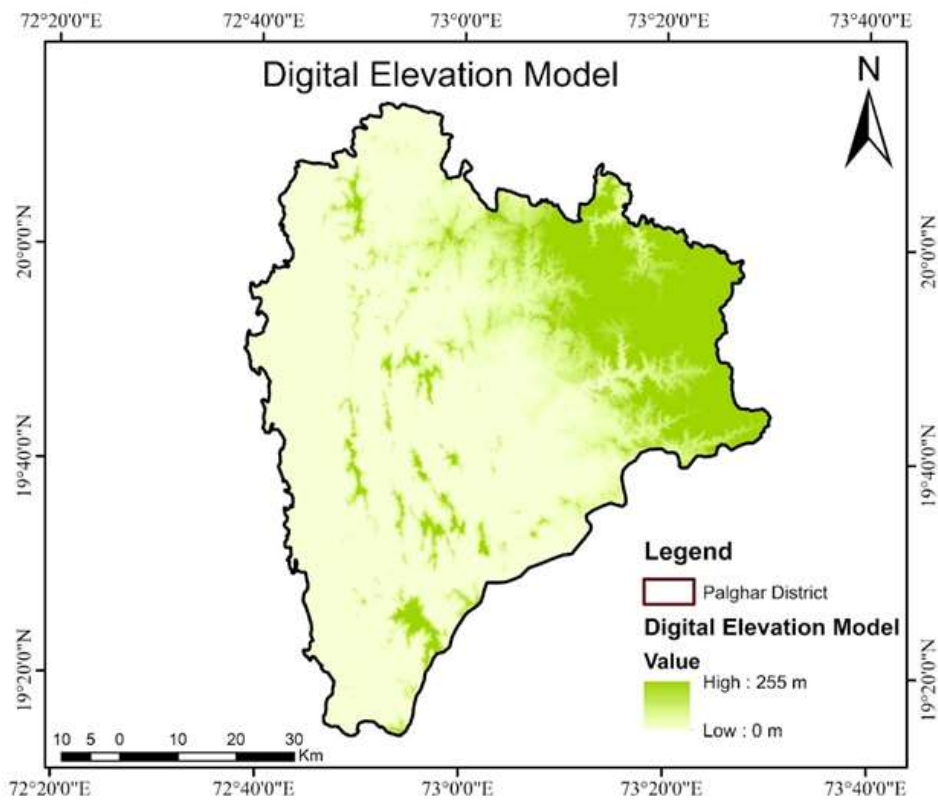
**Fig. 1**

### Objectives

The primary aim of this study is to gather information regarding the tourism facilities available in the region and to identify potential ecotourism sites, evaluating their suitability and resource management through Geographic Information Systems (GIS) techniques. Additionally, the study seeks to assess the current state of ecotourism development in Palghar district, Maharashtra. This includes identifying key ecotourism attractions, analyzing visitor demographics, and examining the existing tourism infrastructure.

**Database and Methodology**

To assess the tourism potential of the tribal region in Palghar district, the methodology for this study is organized into three distinct phases: pre-field work, field work, and post-field work. In the first phase, known as the pre-field work phase, a literature review will be conducted to gather insights from previous research found in various journals and online resources. A visit to the Maharashtra Tourism Development Corporation (MTDC) resort will provide information on annual tourist flow. Additionally, various resources such as Survey of India toposheets at a scale of 1:250,000, atlases, gazetteers, the District Census Handbook, Village and Town Directories, and tourist maps will be utilized for data collection. The study will also reference the District Resource Map of Palghar published by the Geological Society of India, government maps, Public Works Department (PWD) maps, a Digital Elevation Model, terrain slope maps, and shaded relief maps, all sourced from the Survey of India toposheets. A questionnaire will be developed for the actual field work phase, with input from a supervisor and a tourism consultant. (Fig. 2).



**Fig. 2**

During the second phase, the field work phase, extensive surveys will be conducted at both existing and newly identified tourist sites. The questionnaire will be administered during this phase, and data regarding tourist facilities, including photographs, GPS readings, and altitudinal information, will be collected. This information will be essential for evaluating the tourism potential of the tribal region. The analysis of various locations in the district will focus on factors such as scenic beauty, economic significance based on tourist visits, and the connectivity of tourism spots. As noted by various researchers, the performance of tourism is influenced by the quality of services offered and the socio-economic and cultural backgrounds of the tourists. The collected data will be organized and tabulated using statistical tools, and will be analyzed through tables, charts, maps, and diagrams as necessary.

In the third phase, known as the post-fieldwork phase, laboratory work will be conducted. This phase involves analyzing the data collected during the fieldwork and synthesizing the findings to draw meaningful conclusions. Interpretation of collected/generated data, weighted maps and computed charts, graphs and diagrams are conducive for solving the research problems. To find out the tourism clusters around the existing tourism centres multiple ring buffers were created in GIS environment. These buffers show how many different tourist spots are grouped near the tourism centre within a specific areal distance, which are supported for growth of tourism. To find out the development status of study area, we calculate the weighted scores for demographic, social and economic factors using Suryawanshi and Sawant method (2014).

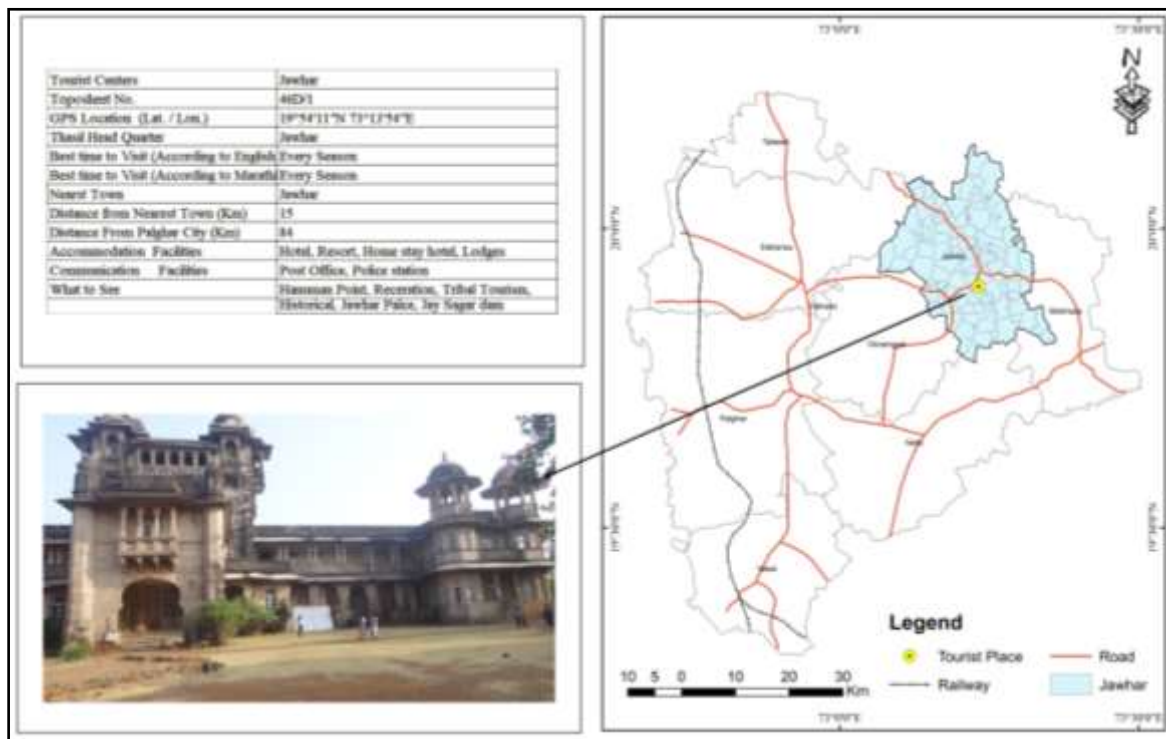
**Results and Discussions**

Exploring the tribal region of Palghar District in Maharashtra as an emerging tourist destination holds great promise for sustainable tourism development and cultural enrichment. Palghar, situated in the northern part of Maharashtra, is home to

diverse tribal communities, each with its unique traditions, art forms, and cultural heritage. The region's picturesque landscapes, including hills, forests, and coastal areas, add to its allure, making it an ideal candidate for tourism that embraces both nature and culture.

The tribal communities in Palghar have preserved their age-old customs, music, dance, and rituals, offering a rich tapestry for visitors to experience and appreciate. The potential of this region as a tourist destination lies not only in its scenic beauty but also in the opportunity to engage with and learn from the indigenous way of life. As an emerging tourist destination, Palghar District offers an opportunity for responsible tourism that emphasizes the well-being of local communities and the preservation of cultural heritage. This involves developing tourism initiatives that are inclusive, respectful of tribal traditions, and that contribute positively to the region's socio-economic growth. The use of Geographic Information System (GIS) technology can significantly enhance this development process. GIS facilitates a thorough analysis of the spatial characteristics of potential tourist sites, supporting strategic planning, infrastructure development, and the sustainable management of natural resources. In summary, the tribal region of Palghar District stands at the cusp of becoming a sought-after destination for travelers seeking an immersive and culturally rich experience. The exploration and development of this region as a tourist destination not only bring economic opportunities but also serve as a means to safeguard and celebrate the unique heritage of the tribal communities, fostering a harmonious blend of tourism and cultural preservation. Palghar district in Maharashtra is home to various tribal communities, and exploring their cultural heritage can offer unique and enriching experiences for tourists. Here are some tribal tourist places and attractions in Palghar District:

**Jawhar Warli Art:** Jawhar is renowned for its Warli tribal art, a traditional art form that adorns the walls of houses. Tourists can witness live demonstrations and even participate in workshops to learn the art. Warli painting is a traditional tribal art form that originated in the Warli region of Maharashtra, India. It is a unique and vibrant form of folk art that has gained recognition and appreciation both within India and internationally. Here are some key features and information about Warli painting. Warli painting has its roots in the Warli tribe, one of the largest tribal communities in Maharashtra. The art form dates back to as early as the 10<sup>th</sup> century and is an integral part of the tribal community's cultural and social rituals (fig. 3)



**Fig. 3**

**Jai Vilas Palace:** This palace reflects the royal history of the tribal region and provides insights into the lifestyle of the tribal kings. The palace houses a museum exhibiting tribal artifacts and sculptures.

**Dahanu:** While Udvada is more famous for its Parsi community, it is located in Dahanu and provides an opportunity to experience the diverse cultural fabric of the region. A scenic spot for nature lovers, Chikaldhara Dam offers breathtaking views and is surrounded by tribal villages.

**Tansa Wildlife Sanctuary:** Located near Shahapur, Tansa Wildlife Sanctuary is inhabited by Warli tribes. The sanctuary provides an opportunity to explore tribal lifestyles along with wildlife.





Photo plate 1: Warli tribal art

**Kelva Beach:** Kelva Beach is not only a beautiful coastal destination but also home to local Warli fishermen. Tourists can witness traditional fishing practices and enjoy the serene beach.

**Talasari Beach:** Another coastal gem, Talasari Beach, is surrounded by tribal villages. The beach provides a tranquil environment, and visitors can interact with the local tribal communities.

**Shirgaon Fort:** Shirgaon provide historical significance and offer a glimpse into the tribal history of the region. The fort has a rich history, and its origins can be traced back to the medieval period when it was constructed for defensive purposes. Many forts in the region were strategically built to safeguard against invasions. Shirgaon Fort exhibits typical fort architecture, with sturdy walls, bastions, and gateways. The design reflects the military engineering techniques of the time. Like many forts in the area, Shirgaon Fort was strategically positioned to provide a vantage point for surveillance and defense. Its elevated location offered clear views of the surrounding landscape. The fort is often surrounded by natural features such as hills, offering panoramic views of the nearby regions. The scenic surroundings add to the attraction for visitors.

Shirgaon Fort, like other forts in Maharashtra, has become a destination for heritage tourism. Tourists and history enthusiasts visit the fort to explore its architectural remnants and to learn about the historical events associated with it.



Photo plate 2: Kelva beacg

**Tansa Wildlife Sanctuary:** Tansa Wildlife Sanctuary is a protected area located in the Palghar district of Maharashtra, India. Established in 1965, this sanctuary covers a significant portion of the Tansa reservoir's catchment area and plays a crucial role in conserving the region's biodiversity. Tansa Wildlife Sanctuary is situated near the Tansa Dam, which is a major water reservoir supplying drinking water to the city of Mumbai. The sanctuary is part of the northern Western Ghats. The sanctuary is rich in biodiversity and serves as a habitat for various flora and fauna species. The area boasts a rich diversity of wildlife,

encompassing various species of mammals, birds, reptiles, and insects. Tansa Wildlife Sanctuary is characterized by moist deciduous forests. The vegetation includes a variety of trees and plants, contributing to the overall ecological balance of the region. The sanctuary is known for harboring a range of mammalian species, including leopards, deer, hyenas, wild boars, and smaller carnivores. Birdwatchers can spot numerous bird species, making it an ideal destination for bird watching. The sanctuary offers trekking opportunities and nature trails for visitors. Exploring these trails provides a chance to witness the natural beauty and observe the wildlife in its natural habitat. Tansa Wildlife Sanctuary is crucial for maintaining the ecological balance of the region. It contributes to the conservation of biodiversity and acts as a protected area for various endangered species. The sanctuary also holds educational and research significance. Researchers and conservationists may study the flora and fauna within the sanctuary to better understand the region's ecology.

**Kokner Hot Water Spring:** This hot water spring is located in Kokner village at Palgahr tehsil of Palghar district. Hot water springs in tribal villages are not uncommon, and they often hold cultural and spiritual significance for the local communities. These natural geothermal features are valued for their therapeutic properties and are sometimes associated with traditional rituals. While specific locations can vary, here are a few examples of hot water springs in tribal areas: Kokner is an emerging tourist destination, renowned for its geothermal spa featuring milky-blue waters. Rich in minerals such as silica and sulfur, the spa attracts local pilgrims who seek its relaxing and rejuvenating benefits.



Photo plate 3: Kokner hot water spring

**Khadkhat village:** Explore the history and cultural heritage of the tribal communities in Palghar district. Khadkhat village highlight traditional art forms, tarpa music, dance, and rituals specific to the tribes. Explore unique communication methods, folklore, and oral traditions. Explore the indigenous religious beliefs and practices of the tribal communities. Describe the traditional clothing, jewelry, and body adornments worn by the tribal people. Investigate the traditional food items that are part of the tribal cuisine. Explore unique cooking methods, ingredients, and recipes. Identify any tribal festivals or events centered on food. Explore the role of food in communal gatherings and celebrations. Explore the materials used and the cultural significance of architectural elements.



Photo plate 4: Tarpa music at Javhar festival Palghar

**Present Status** - Palghar district currently falls under the developing category as a tourist destination. Kelva, in particular, shows significant potential for ecotourism development. The Irrigation Department of Maharashtra and the Maharashtra Tourism Development Corporation (MTDC) are focusing on improving infrastructure facilities in Kelva. However,

substantial efforts are required to advance tourism in this region effectively. The district's diverse attractions, including pristine beaches, dense forests, and tribal villages, offered a unique experience for visitors seeking natural beauty and cultural immersion. The district had seen an increase in tourist arrivals in recent years, driven by improved accessibility and promotional efforts. However, infrastructure and amenities for tourists were still developing, with some areas lacking proper facilities for accommodation, transportation, and information dissemination. The local government and tourism authorities were actively promoting Palghar as an ecotourism destination, highlighting its rich biodiversity, cultural heritage, and sustainable tourism practices. Efforts were also being made to involve local communities in tourism activities, ensuring their participation and benefiting them economically. Overall, while Palghar district had great potential for tourism development, there was still room for improvement in terms of infrastructure, services, and sustainable tourism practices to fully realize this potential and ensure a positive impact on the local economy and environment.

**Major problems faced by tourists** – During the fieldwork, feedback and complaints from tourists were gathered. The frequency of MSRTC buses is limited, and the buses themselves are often in poor condition. Additionally, there are issues with electricity supply due to load shedding. Aside from the Irrigation Department's rest house, there are very few hotels, restaurants, or lodges available for accommodation. Furthermore, facilities such as tourist guides, parking, sewage and drainage systems, restrooms, communication services, and medical facilities are not well maintained.

**Remedies to overcome the problem** – To address the challenges facing tourism in Palghar district, several strategies can be implemented. First, enhancing infrastructure for transportation, accommodation, and basic amenities will improve the overall tourist experience and encourage longer visits. Establishing more Tourist Information Centers equipped with maps, guides, and information about local attractions and activities will help visitors navigate the area more easily. Engaging local communities in tourism planning and development is crucial to ensure they reap economic and cultural benefits from tourism activities. Additionally, increasing promotional and marketing efforts will raise awareness of Palghar as an ecotourism destination, targeting both domestic and international audiences. Sustainable tourism practices should be adopted to protect the natural environment and wildlife, ensuring that tourism does not negatively impact the ecosystem. Training and capacity-building programs for local communities and tourism stakeholders can enhance skills in hospitality, guiding, and sustainable practices. Moreover, diversifying tourism offerings to include cultural experiences, adventure tourism, and agro-tourism will provide a broader range of activities for visitors. Finally, fostering partnerships among the government, private sector, and local communities can lead to the collaborative development and management of tourism initiatives, promoting a sustainable and inclusive approach. By implementing these strategies, Palghar district can overcome its tourism challenges and realize its full potential as a vibrant and sustainable destination.

## **Conclusion**

In conclusion, Palghar district in Maharashtra possesses immense potential as an ecotourism destination, characterized by its rich biodiversity, cultural heritage, and unique attractions. Despite facing challenges such as underdeveloped infrastructure, limited tourist amenities, and the need for sustainable tourism practices, the district has shown promising growth in tourism arrivals and interest in recent years. Efforts to promote Palghar as an ecotourism destination have been underway, with a focus on community involvement, environmental conservation, and infrastructure development. The establishment of a Tourist Information System (TIS) has also played a crucial role in enhancing the visitor experience and promoting responsible tourism practices. Looking ahead, it is essential to maintain investment in infrastructure development, promote sustainable tourism practices, and involve local communities in the planning and development of tourism. Public-private partnerships can significantly enhance tourism growth in the district, ensuring that economic benefits are shared equitably and that tourism activities support environmental conservation and community development. With appropriate strategies and investments, Palghar has the potential to emerge as a model ecotourism destination, exemplifying the harmonious balance between nature, culture, and sustainable tourism practices. Achieving this vision will require collaboration, innovation, and a strong commitment to preserving the natural and cultural heritage of this beautiful district for future generations.

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