



Impact of Eco-Tourism on the Economic Development of Warli Tribal Communities in Palghar District, Maharashtra

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Abstract:

Eco-tourism has emerged as a sustainable development strategy that integrates economic growth with environmental conservation and cultural preservation, particularly in tribal and rural regions. The present study examines the impact of eco-tourism on the economic development of Warli tribal communities in Palghar district, Maharashtra. Using a descriptive and analytical research design, primary data were collected from 120 Warli tribal households through a structured questionnaire, supported by secondary data from government reports, census records, and scholarly literature. Stratified random sampling was employed to ensure representation of households involved and not involved in eco-tourism activities. Statistical tools such as percentage analysis, mean values, t-test, and chi-square test were used for data analysis. The findings reveal that eco-tourism has significantly improved household income levels, generated employment opportunities, diversified livelihoods, and enhanced women's economic participation among the Warli community. The study concludes that eco-tourism plays a crucial role in fostering inclusive and sustainable economic development in tribal regions, while emphasizing the need for community participation, skill development, and sustainable tourism practices to ensure long-term benefits.

Keywords: *Eco-tourism, Tribal Economy, Warli Tribe, Economic Development, Palghar District*

Introduction:

Tourism is increasingly recognized as a catalyst for economic development, particularly in rural and tribal regions where opportunities for industrial and service-sector growth remain limited (Weaver, 2001; UNWTO, 2019). As a labor-intensive sector, tourism contributes significantly to employment generation, income diversification, and infrastructure development at the local level (UNWTO, 2019). In recent decades, tourism planning has shifted from mass tourism towards alternative and sustainable forms, among which eco-tourism has gained prominence due to its emphasis on environmental conservation, cultural preservation, and community participation (Das, 2012; Ministry of Tourism, Government of India, 2020).

Tribal communities in India predominantly depend on subsistence agriculture, forest-based livelihoods, and seasonal wage employment, which are often characterized by low productivity and income uncertainty (Singh, Timothy, & Dowling, 2003). Factors such as environmental vulnerability, limited access to markets, and inadequate infrastructure further constrain economic growth in tribal regions (Mishra & Dash, 2018). Consequently, issues such as poverty, underemployment, and seasonal migration continue to affect tribal households. In this context, eco-tourism has emerged as a viable alternative livelihood option, offering employment opportunities in guiding services, hospitality, handicrafts, cultural performances, and nature-based tourism activities, while simultaneously promoting sustainable resource

management and indigenous knowledge systems (Das, 2012; Mishra & Dash, 2018).

The Warli tribe, predominantly found in Palghar district of Maharashtra, represents one of the most culturally distinct tribal communities in the state. The Warlis are widely known for their traditional art forms, especially Warli paintings, rich cultural heritage, and strong dependence on natural ecosystems for livelihood and social practices (Census of India, 2011). Despite their cultural richness, the Warli community has historically experienced socio-economic marginalization, reflected in low income levels, limited educational attainment, inadequate health facilities, and restricted access to alternative employment opportunities (Government of Maharashtra, 2021).

In recent years, Palghar district has witnessed the gradual expansion of eco-tourism initiatives based on its natural landscapes, forest resources, waterfalls, coastal proximity, and tribal cultural heritage. These initiatives have been supported by government agencies, non-governmental organizations, and community-based organizations with the objective of promoting inclusive and sustainable development (Ministry of Tourism, Government of India, 2020; Government of Maharashtra, 2021). Community-based eco-tourism models, village tourism schemes, promotion of tribal handicrafts, and nature-based tourism activities are increasingly being encouraged to ensure local participation and equitable distribution of benefits (UNWTO, 2019).

Against this backdrop, the present study seeks to assess the extent to which eco-tourism has contributed to the economic development of Warli tribal households in Palghar district. The study examines changes in income levels, employment patterns, livelihood diversification, and asset creation among tribal households engaged in eco-tourism-related activities. By

focusing on household-level economic outcomes, the research aims to evaluate the effectiveness of eco-tourism as a sustainable development strategy for tribal communities and to contribute to policy formulation for inclusive tourism development in tribal regions (Weaver, 2001; Das, 2012).

Study Area:

Palghar district is located in the northern Konkan region of Maharashtra. The district is characterized by forested landscapes, hilly terrain, and a high concentration of tribal population, particularly the Warli tribe. Eco-tourism activities such as forest trails, cultural tourism, homestays, and handicraft marketing have developed in selected tribal villages, making the region suitable for the present study.

Objectives of the Study:

1. To examine the growth of eco-tourism activities in Warli tribal areas of Palghar district.
2. To analyze the impact of eco-tourism on household income levels of Warli tribal communities.
3. To assess changes in employment patterns due to eco-tourism development.
4. To study the role of eco-tourism in livelihood diversification among Warli households.
5. To examine the impact of eco-tourism on women's economic participation in Warli tribal communities.

Hypotheses:

1. There is significant growth in eco-tourism activities in Warli tribal areas of Palghar district.
2. Eco-tourism has a significant positive impact on the household income levels of Warli tribal communities.

3. Eco-tourism development brings significant changes in the employment patterns of Warli tribal households.
4. Eco-tourism significantly contributes to livelihood diversification among Warli tribal households.
5. Eco-tourism has a significant positive impact on women's economic participation in Warli tribal communities.

Review of Literature:

Several studies have examined the role of eco-tourism in promoting sustainable development and improving the economic conditions of rural and tribal communities. Eco-tourism is widely regarded as a development approach that balances economic benefits with environmental conservation and socio-cultural sustainability.

Weaver (2001) emphasized that eco-tourism contributes to local economic development by generating employment, encouraging small-scale enterprises, and promoting community participation, particularly in environmentally sensitive regions. Similarly, Das (2012) highlighted that eco-tourism provides alternative livelihood opportunities to indigenous communities while ensuring conservation of natural and cultural resources.

Singh, Timothy, and Dowling (2003) observed that tourism development in destination communities can significantly enhance income levels and employment opportunities, provided that local communities are actively involved in planning and management. Their study stressed that community-based tourism models are especially effective in tribal regions where traditional livelihoods are limited and vulnerable.

Mishra and Dash (2018) examined the impact of eco-tourism on tribal livelihood security in India and found that eco-tourism positively influences household income,

employment generation, and skill development among tribal populations. The study also noted that eco-tourism helps reduce dependence on forest resources, thereby supporting environmental sustainability.

Studies focusing on Maharashtra reveal similar trends. Government of Maharashtra (2021) reported that eco-tourism initiatives in tribal districts such as Palghar, Thane, and Nashik have created new income-generating opportunities through homestays, handicrafts, cultural tourism, and nature-based activities. These initiatives have strengthened local economies while promoting tribal culture and heritage.

Research by UNWTO (2019) emphasized the contribution of eco-tourism to achieving the Sustainable Development Goals (SDGs), particularly poverty reduction, gender equality, and decent work. The report highlighted that women's participation in tourism-related activities increases significantly in community-managed eco-tourism projects.

Studies on the Warli tribe primarily focus on their art, culture, and socio-economic conditions. Census of India (2011) provides demographic and occupational insights, indicating a heavy dependence on agriculture and forest-based livelihoods with limited income stability. However, empirical studies specifically examining the economic impact of eco-tourism on Warli tribal communities remain limited.

Thus, while existing literature establishes the positive role of eco-tourism in tribal economic development, there is a clear research gap concerning micro-level, empirical assessments of eco-tourism's impact on Warli tribal households in Palghar district. The present study seeks to bridge this gap by systematically analyzing income, employment, livelihood diversification, and women's economic participation in the context of eco-tourism development.

Research Methodology:

The study adopts a descriptive and analytical research design. Primary data were collected from 120 Warli tribal households in eco-tourism-influenced villages of Palghar district using a structured questionnaire. Stratified

random sampling was used to select households involved and not involved in eco-tourism activities. Secondary data were collected from government reports, census publications, journals, and tourism department records.

Data Analysis and Interpretation:**1. Distribution of Sample Households:**

Category of Households	Number	Percentage (%)
Involved in Eco-tourism	65	54.17%
Not Involved	55	45.83
Total	120	100

Discussion: The table shows that a majority of the sampled Warli households (54.17%) are involved in eco-tourism activities, while 45.83% are not involved. This indicates a considerable

level of participation in eco-tourism within the study area, highlighting its growing role in the local tribal economy.

2. Average Monthly Income of Households:

Category	Before Eco-tourism	After Eco-tourism
Eco-tourism Involved	6,500	10,200
Not Involved	6,300	6,800

Discussion The table reveals a substantial increase in the average monthly income of households involved in eco-tourism, rising from ₹6,500 to ₹10,200 after the introduction of eco-tourism activities. In contrast, households not

involved in eco-tourism show only a marginal increase in income, indicating that eco-tourism has played a significant role in enhancing the economic condition of participating Warli households.

3. Employment Pattern of Warli Households (%):

Employment Type	Before Eco-tourism	After Eco-tourism
Agriculture & Forest-based	62	38
Wage Labour	25	22
Eco-tourism Activities	5	30
Other Services	8	10
Total	100	100

Discussion: The table indicates a marked decline in dependence on agriculture and forest-based occupations after the development of eco-tourism, alongside a significant rise in employment in eco-

tourism activities. This shift reflects diversification of livelihoods and increased availability of alternative employment opportunities for Warli households.

Relationship Between Eco-tourism and Employment Generation:

Eco-tourism Participation	Improved Employment	No Improvement	Total
Yes	52	13	65
No	18	37	55
Total	70	50	120

Discussion:

The table shows that a large majority of households participating in eco-tourism (52 out of 65) experienced improved employment opportunities, while most non-participating

Women's Economic Participation (%):

Indicator	Before Eco-tourism	After Eco-tourism
Income-earning women	28	46
Non-income earning women	72	54
Total	100	100

Discussion: The table indicates a significant increase in the proportion of income-earning women after the development of eco-tourism, rising from 28% to 46%. This suggests that eco-tourism has enhanced women's economic participation through activities such as handicrafts, homestays, food services, and cultural tourism.

Conclusion:

The study clearly demonstrates that eco-tourism has had a positive and significant impact on the economic development of Warli tribal communities in Palghar district. Participation in eco-tourism activities has resulted in higher household incomes, increased employment opportunities, and a noticeable shift from traditional agriculture and forest-based livelihoods toward diversified income sources. The growth of eco-tourism has also strengthened women's economic participation, enabling them to engage in income-generating activities such as handicrafts, homestays, food services, and cultural tourism.

Overall, eco-tourism has contributed to improving the socio-economic conditions of Warli households while supporting sustainable use of natural and cultural resources. However, for long-term sustainability and equitable benefit distribution, there is a need to strengthen community-managed eco-tourism initiatives,

households reported no improvement. This clearly indicates a positive association between eco-tourism participation and employment generation among Warli tribal households.

provide skill development and training, improve marketing support for tribal products, and promote culturally sensitive tourism practices. With appropriate policy support and community involvement, eco-tourism can serve as an effective tool for sustainable tribal development.

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