



Charting a Sustainable Future: Tourism and SDGs in Goa

Dr. Prashant Vithal Kadam^{1*}, Ms. Rekha Lamani², Ms. Sunita Gurav³

^{1*}Professor, Editor-in-Chief, GoaTV24, Mapusa-Bardez-Goa

²Asst. Prof. in Economics, Fr. Agnel College of Arts & Commerce, Pilar-Goa.

³Lecturer, SG Patil PU College, Belgaum, Karnataka

***Corresponding Author:** Dr. Prashant Vithal Kadam

* Professor, Editor-in-Chief, GoaTV24, Mapusa-Bardez-Goa

Citation: Dr. Prashant Vithal Kadam, et.al (2024) Charting a Sustainable Future: Tourism and SDGs in Goa, *Educational Administration: Theory and Practice*, 30(11) 2319-2326

Doi: 10.53555/kuey.v30i11.10418

ARTICLE INFO

ABSTRACT

Tourism is a global powerhouse, rapidly expanding and serving as a critical engine for economic growth, job creation, and cultural exchange. It's a key player in achieving the United Nations Sustainable Development Goals (SDGs), with the 2030 Agenda for Sustainable Development significantly influencing tourism theory, practice, and policy worldwide. Goa, a world-famous tourist hotspot, is perfectly positioned to champion sustainable development. It can achieve this by harmonizing economic growth with social inclusion and environmental conservation. This paper delves into how tourism in Goa contributes to specific SDGs: SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production). The study critically assesses the shortcomings in Goa's current sustainable tourism policies. Using a blend of primary (case studies) and secondary data, it spotlights successful initiatives such as sustainable tourism practices, eco-tourism projects, and community-based tourism programs. However, it also identifies significant hurdles like resource exploitation, over-tourism, and environmental degradation that could impede SDG progress. The paper concludes with practical recommendations to tackle these challenges. These include improved resource management, encouraging off-season tourism, and boosting local community engagement. By aligning tourism strategies with the SDGs, this research offers valuable insights for policymakers and tourism professionals in Goa and other similar destinations aiming for a more sustainable future.

Keywords: Travel industry, Global Development Targets, coastal state, Eco-Tourism, Prosperity and Ecological Stewardship.

1. Introduction

The United Nations' Sustainable Development Goals (SDGs), introduced in 2015, lays a comprehensive framework for addressing global challenges such as poverty and hunger eradication, climate change and inclusive growth by 2030. The 17 interconnected SDGs' objective has been to create a balanced approach to economic development, social inclusion, and environmental sustainability, serving as a universal blueprint for achieving a better and more sustainable future for all. Within this framework, tourism has been recognized as a key driver of progress, offering opportunities to directly and indirectly contributing to multiple SDGs through its economic, social, and environmental dimensions.

Tourism's relevance has been highlighted in number of SDGs like SDG 8 (Decent Work and Economic Growth), which emphasizes the potential of sustainable tourism to create jobs and promote local culture and products. SDG 12 (Responsible Consumption and Production) which underscores the need for sustainable tourism practices that minimize environmental impacts, enhance resource efficiency, and foster cultural preservation. Additionally, SDG 14 (Life below Water) recognizes the role of coastal and marine tourism in ensuring the conservation of marine resources while supporting local livelihoods. Beyond these direct linkages, tourism contributes to broader goals such as SDG 1 (No Poverty) by generating income and employment in regions, SDG 5 (Gender Equality) by empowering women through workforce participation,

and SDG 11 (Sustainable Cities and Communities) by promoting sustainable urban development and heritage preservation. The industry also plays a role in SDG 13 (Climate Action) by encouraging environmentally friendly practices and raising awareness of climate challenges among tourists and businesses.

However, tourism's relevance to the SDGs is not without complexities. The rapid expansion of the industry has often led to unsustainable practices, including over-tourism, habitat destruction, and carbon emissions, which undermine its potential contributions to sustainability. These challenges necessitate a paradigm shift toward more responsible and inclusive tourism models that align with the SDGs, ensuring that the benefits of tourism are equitably distributed while minimizing its negative impacts. As one of the fastest-growing global industries, tourism presents significant opportunities to catalyse progress toward achieving the SDGs. Its capacity to generate economic growth, support community development, and foster cross-cultural understanding positions it as a powerful tool for sustainable development. To harness this potential, government, businesses, and communities must adopt innovative policies, leverage technology, and prioritize stakeholder collaboration to create a tourism industry that is not only economically viable but also socially equitable and environmentally sustainable.

Goa, a globally renowned tourism destination, offers a unique blend of natural beauty, cultural heritage, and vibrant social fabric, making it an ideal case study for examining tourism's role in achieving the SDGs. The state's economy is heavily dependent on tourism, which contributes significantly to employment, local business growth, and foreign exchange earnings. With its pristine beaches, historic sites, and diverse ecosystems, Goa attracts millions of domestic and international tourists annually.

However, the rapid growth of the tourism industry in Goa has brought about several challenges, including over-tourism, environmental degradation, cultural commodification, and uneven economic benefits. Issues such as unregulated construction strain on natural resources, and waste management have raised concerns about the long-term sustainability of the sector. Furthermore, marginalized communities often remain excluded from the economic benefits of tourism, exacerbating socio-economic inequalities. These dynamics underscore the need for a balanced approach that leverages tourism as a tool for sustainable development while addressing its adverse impacts.

2. Review of Literature

Berbeka Krzysztof, Aleziak Wieslaw & Berbeka Jadwiga (2024) studied Sustainable development goals of Agenda 2030 in the declarations and aims of international tourism organisations. The study analysed the inclusion of Agenda 2030's SDGs in the declarations, aims, and reports of international tourism organizations. Using content analysis of 72,500 organizations listed by the Union of International Associations, the study found that 90% reference SDGs in their declarations, though over half link SDGs to their own aims. No significant correlation was found between declared goals and organizational type.

Boluk A. Karla & Rasoolimanesh S. Mostafa (2022) introduced a special issue exploring the tourism industry's responsibilities towards the UN Sustainable Development Goals (SDGs). Their work aimed to balance the economic, environmental, and socio-cultural benefits and costs of tourism development. The core objective was to identify best practices to deepen our understanding of how tourism and hospitality advance the SDGs, rather than detailing specific research findings from their own study.

Binney, Leonie, Ong & Faith (2021) explored tourism volunteering's contribution to Sustainable Development Goals (SDGs), examining both host volunteering and volunteer tourism. Using the UN Volunteers framework, their study highlighted challenges in measuring and reporting this impact. They found that while both forms contribute, volunteer tourism offers greater potential for advancing SDGs. The researchers proposed six recommendations to enhance the recognition and research of tourism volunteering's vital role in sustainable development.

Fauzi Ashraf Muhammad (2023) studied sustainable tourism and sustainable development goals (SDGs): a state of art review of past, present and future trends. This study reviewed the role of sustainable tourism in advancing the SDGs using a bibliometric analysis of 479 journal publications from the Web of Science database. The study analysed past influential works (citation analysis), current knowledge structures (co-citation analysis), and future trends (keyword co-occurrence). Key findings identified significant thematic clusters, with theoretical and managerial implications discussed for the tourism and hospitality industry.

Khizara, Usman, Hafiz Muhammad, Younas, Aurangzaib, & Others (2023) conducted a systematic literature review (SLR) of 88 empirical studies to assess tourism's role in advancing the UN Sustainable Development Goals (SDGs). Their study categorized findings into descriptive profiling, literature synthesis, and knowledge gaps, highlighting theme-based limitations. They proposed research questions to further the discussion on sustainable tourism's SDG contributions, emphasizing the underutilization of SLRs in this field.

Noronha Ligia (2009) explored sustainable production–consumption systems in Goa's coastal tourism. The study argued that sustainable tourism must prioritize the well-being of host communities and ecosystem health, particularly concerning land and water resources. This approach aims to meet tourist expectations and industry economic demands while respecting the local environment.

Scheyvens and Hughes (2019) investigated tourism's potential to contribute to SDG 1, which aims to end poverty, using initiatives in Fiji as a case study. They asserted that effective poverty alleviation necessitates

sustained, collaborative efforts, aligned with government strategies and community-based interventions. Key examples include integrating emergency response systems, supporting local agriculture, and involving local communities in planning processes. This ensures equitable benefits from tourism and promotes long-term, comprehensive development.

Wani, Loganathan, and Mujalli (2024) explored the impact of Sustainable Development Goals (SDGs) on tourism growth in G-7 countries. Their research found that economic growth and emissions positively influence tourism in the long run, while ecological footprint, human development, and unemployment have negative effects. In the short run, both economic growth and unemployment negatively impact tourism development. The study emphasizes the need for environmentally friendly practices to ensure sustainable tourism

3. Objectives of the Study

1. To understand how tourism helps achieve the UN's global sustainability goals.
2. To examine current tourism practices in Goa and see how they relate to the SDGs.
3. To suggest ways to make tourism in Goa more sustainable.

4. Research Questions

1. How can the contribution of tourism (C_T) be quantified and correlated with the achievement of specific UN Sustainable Development Goals (SDG_i)?

$$C_T \leftrightarrow SDG_i$$

2. What is the set of key sustainable tourism practices (P_{ST}) observed and implemented within the geographic domain of Goa (G)?

$$P_{ST} = \{p_1, p_2, \dots, p_n\} \text{ where } p_j \in \text{Practices in } G$$

3. Given the set of existing tourism practices in Goa (P_G), what is the set of gaps ($G_{\text{sustainability}}$) between P_G and the optimal sustainable tourism practices required for SDG achievement?

$$G_{\text{sustainability}} = \{\text{Optimal Sustainable Practices}\} \setminus P_G$$

4. What is the optimal set of strategies (S) and policy recommendations (R) that, when applied to Goa's tourism sector (T_G), will maximize its contribution (C) towards the achievement of the SDGs?

$$S, R \rightarrow \max(C(T_G)) \text{ for SDG achievement}$$

Mathematical Model of Tourism Policies Aligned With Select SDGs

Let:

- P = Set of tourism policies (P_1, P_2, \dots, P_n)
- TE = Economic impact of tourism
- TS = Social impact of tourism
- $TEnv$ = Environmental impact of tourism
- S_i = Achievement level of SDG i (where $i \in \{1, 2, 3, 4, 5, 8, 12, 13\}$)

$$: S_i = f_i(TE, TS, TEnv)$$

The impacts ($TE, TS, TEnv$) are direct functions of the implemented policies: $TE = g_E(P)$ $TS = g_S(P)$ $TEnv = g_{Env}(P)$

The objective is to **maximize** $\sum S_i$ subject to resource constraints and policy feasibility, by optimizing the composition and implementation of P . This model implies that effective tourism policies directly contribute to economic, social, and environmental outcomes, which in turn drive SDG achievement. For instance, policies promoting community-based tourism (P_j) would positively impact TE (local income), TS (empowerment), and indirectly contribute to S_1, S_5, S_8 . Policies for waste management (P_k) would improve $TEnv$ and contribute to S_{12}, S_{13} .

5. Research Methodology

This study utilized a mix of primary and secondary data. For primary data, researchers conducted interviews at two distinct eco-tourism locations in Goa. These sites were the Bondla Wildlife Sanctuary and NV Eco Agro Tourism Pvt Ltd (NV Eco Farm). The Secondary data was gathered from a variety of sources. This included a comprehensive review of books, journal articles, newspapers, and relevant websites. The combination of these data types allowed for a thorough examination of the research topic.

6. Theoretical framework

Tourism, as a rapidly expanding global sector, significantly impacts local economies, social dynamics, and environmental conservation, presenting both opportunities and challenges for achieving the United Nations Sustainable Development Goals (SDGs). In Goa, a vibrant tourist destination rich in culture, history, and

natural beauty, tourism plays a crucial role in the region's sustainable development. The industry contributes a substantial 16.43% to the state's GDP and employs approximately 35% of its population, as per the Economic Survey 2023-24.

This direct economic contribution supports SDG 8 (Decent Work and Economic Growth) by creating numerous job opportunities, fostering entrepreneurship, and stimulating local businesses, thereby reducing poverty. By supporting local livelihoods and fostering community-based tourism initiatives, it directly addresses SDG 1 (No Poverty) and indirectly contributes to SD2 (Zero Hunger) by stimulating local food production for tourist consumption. Furthermore, the sector's focus on quality service and visitor well-being aligns with aspects of SDG 3 (Good Health and Well-being). Investment in skills development for the tourism workforce, including local communities, contributes to SDG 4 (Quality Education). Tourism, particularly through the empowerment of women in various roles, advances SDG 5 (Gender Equality). Environmentally, responsible tourism practices in Goa are vital for SDG 12 (Responsible Consumption and Production), promoting sustainable resource management. Efforts to mitigate tourism's carbon footprint and protect coastal ecosystems are crucial for SDG 13 (Climate Action) and SDG 14 (Life Below Water), ensuring the preservation of Goa's vital marine resources for future generations.

6.1 Aligning of SDGs with Goa Tourism Policies

SDG 1: No Poverty

Goa's tourism policy can align with SDG 1: No Poverty by prioritizing inclusive growth and direct benefits for local communities. This involves promoting community-based tourism initiatives that create direct employment and entrepreneurial opportunities for Goans, especially in rural areas. By supporting local handicraft production, food supply chains, and guide services, the policy can ensure revenue trickles down to marginalized groups. Furthermore, fair wage practices and skill development programs within the tourism sector can empower low-income households, reducing their vulnerability and fostering economic self-reliance across the state.

Goa's tourism policy can align with SDG 1 (No Poverty) by prioritizing inclusive growth for local communities. This involves promoting community-based tourism and homestays, ensuring economic benefits directly reach residents, particularly those in rural areas. Skilling initiatives for local youth and women in hospitality can lead to decent employment and improved livelihoods, reducing vulnerability to poverty. Furthermore, encouraging the sourcing of goods and services for the tourism sector from local micro, small, and medium enterprises (MSMEs) can create a ripple effect, stimulating the local economy and empowering marginalized groups. Policy focus on fair wages and stable employment within the tourism sector also directly contributes to poverty eradication.

SDG 2: Zero Hunger Goa's tourism policy can align with SDG 2 (Zero Hunger) by promoting local food systems. This involves encouraging tourists to consume locally grown produce and seafood, supporting Goan farmers and fishermen. Initiatives like agro-tourism and farm stays can directly connect visitors to agricultural practices, boosting demand for local food. Reducing food waste within the hospitality sector also plays a crucial role. By strengthening the link between tourism and local food production, the policy can enhance food security for communities, reduce reliance on external supply chains, and contribute to sustainable livelihoods for agricultural workers.

SDG 3: Good Health and Well-being Goa's tourism policy aligns with SDG 3 (Good Health and Well-being) by prioritizing tourist and local safety through regulations, promoting cleanliness, and supporting health infrastructure. It actively fosters wellness tourism, emphasizing Ayurveda, yoga, and other holistic practices to enhance physical and mental well-being. Furthermore, the policy encourages eco-friendly activities and responsible tourism, contributing to a healthier environment, which in turn positively impacts public health and quality of life for both visitors and residents.

SDG 4: Quality Education Goa's tourism policy can align with SDG 4 (Quality Education) by investing in vocational training and skill development programs for its local population. This would equip individuals with the necessary expertise for hospitality, tour guiding, and eco-tourism, enhancing their employment opportunities and contributing to a higher quality of service. Furthermore, promoting educational tourism, where visitors learn about Goan culture and environment, can foster global citizenship and sustainable awareness. Integrating sustainability principles into tourism curricula at all levels would ensure a future workforce capable of implementing responsible tourism practices, benefiting both the industry and local communities.

SDG 5: Gender Equality

Tourism offers significant potential to promote gender equality, particularly in Goa's hospitality and service sectors, which employ a large number of women. Women working in tourism-related industries can gain financial independence, access training and leadership opportunities, and improve their social status. Additionally, tourism's role in promoting cultural and social exchanges can challenge traditional gender norms and empower women in local communities.

SDG 8: Decent Work and Economic Growth

Tourism has a direct link to decent work and economic growth in Goa. As one of the primary sources of income for the state, the sector supports a wide range of jobs across various industries, from hospitality and transportation to retail and entertainment. This creates opportunities for skill development, entrepreneurship, and economic diversification.

SDG 12: Responsible Consumption and Production

Eco-tourism, sustainable travel practices, and local food consumption can promote environmentally friendly behaviours. Additionally, tourism provides an incentive for the preservation of natural and cultural resources, contributing to sustainable management practices.

SDG 13: Climate Action

Eco-tourism initiatives encourage conservation of natural resources, while green hotels adopt energy-efficient technologies and waste management systems. The government and tourism stakeholders are increasingly emphasizing climate-resilient infrastructure to protect Goa's coastal ecosystems from climate change effects. Furthermore, tourism can be a key player in raising awareness about climate change and encouraging sustainable practices among both tourists and the local population.

SDG 14: Life below Water

Goa's coastal and marine ecosystems are central to its tourism appeal, especially with its pristine beaches, coral reefs, and rich marine biodiversity. Tourism can play a crucial role in conserving marine environments through initiatives like eco-tourism, coral restoration projects, and marine biodiversity conservation.

However, mass tourism, unchecked coastal development, and pollution from tourism-related activities pose significant threats to Goa's marine life. Ensuring that tourism contributes to the protection of life below water requires robust environmental policies, sustainable management of coastal areas, and active involvement of the tourism sector in marine conservation efforts.

6.2. Analysing the Gaps in the Sustainable Development practices of Goa's Tourism Policies

Despite progressive policies aimed at sustainable tourism, significant gaps persist in Goa's implementation, hindering its full alignment with the SDGs. A primary concern is the over-tourism phenomenon, particularly in coastal areas, which frequently exceeds the environmental carrying capacity, leading to strain on waste management, water resources, and infrastructure. While policies might acknowledge sustainable practices, the effective enforcement of regulations, especially concerning Coastal Regulation Zone (CRZ) norms and illegal constructions, remains a challenge. There's often a disconnect between the stated goals of environmental preservation and the ground reality of unchecked development. Furthermore, the distribution of tourism benefits often skews towards large-scale operators rather than genuinely empowering local communities, impacting SDG 1 (No Poverty) and SDG 8 (Decent Work). Lastly, a lack of comprehensive monitoring and evaluation frameworks makes it difficult to assess the true environmental and social impacts of tourism, hindering adaptive management and proactive measures essential for achieving SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 14 (Life Below Water). The following point gives a snap shot of the gaps in tourism policies and sustainable development Goals (SDGs)

1. Lack of Alignment with SDGs: While Goa has policies aimed at promoting tourism, many are not explicitly aligned with the UN SDGs. For instance, there is insufficient emphasis on SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action) in the context of resource usage and carbon footprints in tourism activities.
2. Fragmented Policy Implementation: Tourism-related policies in Goa often operate in silos. There is a lack of integration between departments like tourism, environment, and local governance, which hinders coordinated action towards achieving the SDGs.
3. Over-tourism and Environmental Degradation: Popular beaches and hotspots like Calangute, Baga, and Anjuna face issues of overcrowding, littering, and ecosystem disruption. This undermines SDG 14 (Life Below Water) by polluting marine ecosystems and SDG 15 (Life on Land) by disturbing coastal biodiversity.
4. Weak Waste Management Systems: Despite efforts to introduce sustainable waste practices, Goa struggles with the management of plastic waste and non-biodegradable litter generated by tourists. This poses challenges for achieving SDG 11 (Sustainable Cities and Communities).
5. Inadequate Climate Resilience Measures: Goa's tourism policies do not sufficiently address climate vulnerabilities such as rising sea levels and coastal erosion, impacting long-term sustainability (SDG 13).
6. Unequal Distribution of Tourism Benefits: While tourism contributes significantly to Goa's economy, the benefits are not evenly distributed. Local communities, especially in rural areas, are often excluded from tourism revenues, hindering progress on SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities).
7. Limited Community Participation: Policies have not adequately empowered local stakeholders to participate in sustainable tourism planning, which is vital for achieving SDG 8 (Decent Work and Economic Growth) and SDG 16 (Peace, Justice, and Strong Institutions).

8. Loss of Cultural Heritage: Goa's cultural sites, traditional festivals, and heritage locations are increasingly exploited to cater to mass tourism, leading to a dilution of authentic local experiences. This threatens SDG 11 (Sustainable Cities and Communities).

9. Insufficient Funding for Sustainability Initiatives: Limited financial allocations for sustainable tourism projects restrict Goa's ability to innovate and implement green infrastructure and practices.

10. Weak Monitoring and Evaluation Mechanisms: There is a lack of robust mechanisms to assess the effectiveness of sustainable tourism policies and their alignment with SDG targets. Data gaps further complicate evidence-based policymaking.

11. Limited Adoption of Eco-friendly Tourism Practices: Goa has been slow to adopt green certifications and sustainable tourism accreditation for businesses and accommodations, which are essential for promoting SDG 12 (Responsible Consumption and Production).

7. Case Studies- Goa's Eco Tourism Centres

Goa, known for its beaches and vibrant culture also offers a number of eco-tourism centres that showcase its rich biodiversity and promote sustainable development.

7.1 Bondla Wildlife Sanctuary

Located in Ponda, North Goa, Bondla Wildlife Sanctuary is a popular eco-tourism destination known for its moist deciduous forests, diverse flora like Matti and Rosewood, and rich fauna including Gaur, Sambhar deer, and various bird species. The sanctuary is crucial for conserving Goa's biodiversity, protecting endangered species, operating breeding programs, and serving as a vital Western Ghats wildlife corridor, while also promoting ecological awareness.

Bondla implements several initiatives, including habitat restoration, wildlife rescue, and conservation breeding. Ecological impact of tourism is rigorously managed through strict visitor guidelines, limiting access to sensitive areas, prohibiting littering, and conducting regular carrying capacity assessments. The sanctuary promotes sustainable practices (SDG 12) by limiting daily visitors, utilizing solar energy, and enforcing a "leave no trace" policy with comprehensive waste segregation, on-site composting, and regular audits to minimize environmental footprint.

7.2 NV Eco Agro Tourism Pvt Ltd (NV Eco farm)

NV Eco Agro Tourism Pvt Ltd, located in Kirlapal - Dabal, South Goa, is a unique integration of agriculture, horticulture, and tourism, offering adventure sports, bird watching, and an astral garden. The farm cultivates traditional Goan crops like coconut, arecanut, cashew, and various spices such as pepper and nutmeg, processing and selling some produce directly to visitors.

The farm significantly contributes to several SDGs. For SDG 3 (Good Health and Well-Being), they promote wellness through farm-to-table meals, yoga, and organic produce, educating visitors and supplying local markets. In terms of SDG 4 (Quality Education), they conduct workshops on organic farming, biodiversity, and sustainable living for visitors, schools, and local farmers, offering hands-on learning experiences. SDG 8 (Decent Work and Economic Growth) is addressed by involving local communities in farming, guiding, and handicraft sales, providing steady employment and boosting local artisans' earnings. Their commitment to SDG 12 (Responsible Consumption and Production) is evident through organic farming, energy-efficient systems like solar panels and rainwater harvesting, strict no-plastic policies, and extensive composting. Finally, SDG 17 (Partnerships for the Goals) is highlighted by collaborations with local NGOs, government agencies, and other eco-tourism operators for knowledge sharing and conservation projects. Challenges include managing peak season tourism without over-stressing resources and balancing farming with eco-tourism demands. Regular audits are crucial for measuring environmental and community impacts.

8. Challenges for Sustainable Tourism

- ✓ Many workers in the tourism sector remain in informal sector, low-paying jobs with limited job security and benefits.
- ✓ Over-reliance on seasonal tourism and international arrivals poses economic vulnerabilities in the state.
- ✓ Goa faces issues related to over-tourism, particularly in coastal areas, leading to overuse of natural resources, poor waste management, and strain on infrastructure.
- ✓ Tourism's carbon footprint in Goa remains significant, with high energy consumption and increased vehicular emissions from tourist activities. Coastal erosion, exacerbated by climate change, threatens the long-term sustainability of beach tourism.
- ✓ Marine pollution, including plastic waste and untreated sewage, continues to harm marine biodiversity. Casinos in Goa especially on the Mandovi river and coastal areas has led to marine pollution through wastewater discharge, solid waste being dumped in the river, fuel and oil spills as well noise pollution. The mangrove boardwalk on the Ourem creek, Patto, Panjim which was an initiative by the state is now in a precarious condition. The boardwalk which attracted many tourists as well as local people to its

environment and biodiversity promotion as now turned into an old broken boardwalk posing danger to people.

- ✓ Coral reefs are found in Grande Island, Bat Island and St. George Island in Goa. Coral reef degradation has been another ongoing concern. Overfishing, climate change, pollution and unregulated tourism are the most likely threats to coral reefs.
- ✓ Encroachment and deforestation for tourism infrastructure pose risks to Goa's terrestrial ecosystems.
- ✓ Urban areas in Goa face challenges of congestion, inadequate waste management, and loss of cultural identity due to over-commercialization.

9. Recommendations

- ✓ Integrate SDGs into State Tourism Policy: Explicitly align tourism development plans with specific SDG targets to create a roadmap for sustainable growth.
- ✓ Strengthen Environmental Protections: Enhance waste management systems, promote renewable energy in the tourism sector, and implement coastal regulation measures.
- ✓ Promote Community-based Tourism: Empower local communities by involving them in decision-making processes and providing training for sustainable tourism initiatives.
- ✓ Foster Green Certification: Introduce incentives for tourism operators to adopt sustainable practices and obtain eco-certifications.
- ✓ Invest in Monitoring and Data Systems: Develop data-driven tools to measure the impact of tourism on SDGs and ensure continuous monitoring and evaluation.
- ✓ Diversify Tourism Offerings: Shift focus from mass tourism to niche areas like heritage tourism, wellness tourism, and eco-tourism and also diversify it to reduce seasonality.
- ✓ Invest in skill development programs for local workers, focusing on high-value tourism niches like wellness and adventure tourism.
- ✓ Expand the use of renewable energy in the tourism sector.
- ✓ Encourage carbon offset programs for tourists and businesses.
- ✓ Develop climate-resilient tourism infrastructure.
- ✓ Strengthen enforcement of marine protection laws.
- ✓ Promote agro-tourism to showcase Goa's agricultural heritage and reduce pressure on

Tourism holds immense potential for achieving UN Sustainable Development Goals, particularly in Goa, a popular destination. While the state demonstrates progress in sustainable resource use and eco-tourism, significant gaps persist in waste management, overcrowding, and infrastructure strain. To bridge these, a multi-faceted approach is essential, involving stronger policy frameworks, enhanced stakeholder collaboration, and robust community participation. Key recommendations include implementing stricter waste protocols, promoting responsible tourism education, and diversifying offerings to alleviate ecological pressure. By addressing these challenges, Goa can position itself as a global leader in sustainable tourism, ensuring long-term viability and community well-being.

11. References

1. Binney, L. O. (2021, May 05). The sustainable development goals: the contribution of tourism Volunteering. *Journal of Sustainable Tourism*.
2. Baum, T. (2018) Sustainable human resource management as a driver in tourism policy and planning: A serious sin of omission? *Journal of Sustainable Tourism*, 26(6), 873-889.
3. Hafiz Muhammad Usman Khizara, A. Y. (2023, October 06). The progression of sustainable development goals in tourism: A systematic literature review of past achievements and future promises. *Journal of Innovation & Knowledge*.
4. Hughes, R. S. (2019, January 03). Can tourism help to "end poverty in all its forms everywhere"? The challenge of tourism addressing SDG1. *Journal of Sustainable Tourism*.
5. Hamaguchi, Y. (2024). Environmental and tourism policies for the decarbonization of the tourism sector. In *Sustainable tourism: Frameworks, practices, and innovative solutions* (pp. 231–256).
6. Mohammad Jibrán Gul Wani, N. L. (2024). The impact of sustainable development goals (SDGs) on tourism growth. Empirical evidence from G-7 countries. *Cogent Social Sciences*, 10 (1).
7. Satish, A. T. (2023). The Growth of Tourism & its Impact on the Economy of Goa. *International Journal of Novel Research and Development*, 8 (11).
8. Suresh, J., & Senthilnathan (2014) Relationship between tourism and economic growth in Sri Lanka. In Vijayakumar (d.), *The 7th chapter of a book entitled "Economic Issues in Sri Lanka"* (pp. 115–132).
9. Tan, C.H. & Lee, N. (2022) Investigating the impact of international tourist arrivals on economic growth under environmental hazards in Malaysia. *International Association of Computer Science and Information Technology Press (IACSIT)*.

10. Walker, T. B., & Lee, T. J. (2022) Contributions to sustainable tourism in small islands: An analysis of the ittàslow movement. In Island tourism sustainability and resiliency (pp. 54–74). Outledge.
11. Zoritsa Urošević, M. R. (2018). *Tourism and the Sustainable Development Goals-Journey 2030*. World Tourism Organization (UNWTO) and United Nations Development Programme.

Webliography

1. <https://www.nvecofarm.com>
2. <https://goa-tourism.com>
3. <https://forest.goa.gov.in>
4. <https://goa-tourism.org.in>
5. <https://goabudget.gov.in>
6. <https://www.unwto.org>
7. <https://www.goa.gov.in>
8. <https://www.researchgate.net>
9. <https://www.dpse.goa.gov.in>
10. <https://www.navindtimes.in>
11. <https://www.heraldgoa.in>