

Tourism Economy as a Driver of Sustainable Development: Pathways to a Comprehensive Green Tourism Model

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Abstract:

This research explores how tourism economies, particularly in Saudi Arabia, Dubai, and broader Gulf Cooperation Council (GCC) countries, can serve as dynamic drivers for sustainable development. It highlights the urgent need for a paradigm shift toward green tourism models that integrate environmental sustainability, economic diversification, and social inclusion. Drawing on case studies from Saudi Arabia and Dubai, the study outlines how national strategies, public-private partnerships, policy portfolios, and eco-initiatives have collectively contributed to reshaping tourism's role in the green economy. The research concludes by proposing a comprehensive framework for green tourism that prioritizes environmental conservation, responsible travel, and inclusive growth, reinforcing tourism's role as a sustainable engine for future economic development

Keywords: Tourism Economy, Sustainable Development, Green Tourism.

1. INTRODUCTION

There is growing recognition of the tourism sector's potential contribution to the green economy through more sustainable practices, climate change mitigation and ecotourism **(Reddy 2015)**. Tourism plays a pivotal role in shaping both economic growth and environmental sustainability. A dynamic relationship exists wherein tourism stimulates local incentives for environmental protection, leading to mutually reinforcing outcomes in economic development and ecological preservation. Tourists tend to choose destinations based on several factors, notably environmental quality, which is influenced by the actions and policies of local communities. When residents commit to sustainable practices, tourism based on environmental appeal can follow a stable and inclusive development path. In such a scenario, a balanced growth trajectory is achievable, where increases in both consumption and environmental quality occur over time. The preferences of tourists are crucial in determining long-term sustainability; stronger inclinations toward eco-friendly experiences are associated with higher growth rates in both economic and environmental dimensions. This underscores the importance of promoting green tourism as a strategic pathway to sustainable development. Lanza and Al said that having grown faster than world GDP since the 1950s, international tourism is today one of the most important tradable sectors, with expenditure on tourist goods and services representing some 8% of total world export receipts and 5% of world GDP. **(Lanza 2003)**

The importance of guiding various economies toward a sustainable tourism trajectory has been emphasized in numerous studies. Sustainable tourism is commonly defined as tourism that satisfies the needs of current tourists and host communities while safeguarding and enhancing future opportunities **(WTO 1998)**. Aligned with Budowski's (1976) concept of symbiosis **(Budowsky 1976)**, this approach emphasizes the responsible use and conservation of natural resources to ensure their long-term sustainability and continued ability to provide benefits for both visitors and local populations. At its core, sustainable tourism seeks to minimize the

environmental footprint of tourism activities while enhancing their positive contributions to economic growth.

The central concern is whether a tourism-based economy can attain long-term growth while ensuring the sustainable use of its natural resources. This question holds particular significance for developing countries rich in natural assets, which are increasingly having to choose between mass tourism and environmentally responsible alternatives. The existing literature does not provide a comprehensive answer, as most studies tend to examine either the link between tourism and economic growth **(Hazari 1995); (A. a. Lanza 2000); (Lanza 2003); (Brau 2007)** or the connection between tourism and environmental sustainability, without integrating both dimensions. **(Candela 2006); (Cerina 2007); (Maupertuis 2007); (Lozano 2008))**.

Most research on the relationship between tourism and economic growth is empirical in nature and generally concludes that tourism specialization tends to produce positive economic outcomes **(Hazari 1995); (Lanza 2003); (Brau 2007))**. On the theoretical side, studies often rely on dynamic trade models, suggesting that when tourism demand grows at a faster pace than global income, the resulting terms of trade effects play a key role in determining whether tourism and economic growth evolve in the same direction **(Hazari 1995)**. Furthermore, due to the relatively low elasticity of substitution in tourism demand **(Lanza 2003); (Brau 2007)**, tourism is likely to contribute positively to economic growth when international terms of trade shift in favor of tourism services **(Schubert 2011)**. Empirical research has extensively examined the impact of tourism on the economic growth of various countries during the later decades of the 20th century. Lanza et al. (2003) find that tourism can positively influence growth even in developed economies, despite the sector's comparatively lower productivity gains. Brau et al. (2007), analyzing data from 1980 to 2003, demonstrate that countries with a strong focus on tourism experienced significantly higher growth rates than others, including OECD nations, oil-exporting states, developing economies, and small countries. Similarly, Lanza and Pigliaru (2000) highlight that between 1985 and 1995, seven of the fifteen fastest-growing economies were tourism-oriented. Their

findings suggest that a country's success in specializing in tourism is more closely linked to its relative abundance of natural resources than to its overall size. Notably, a considerable portion of rapidly growing tourism economies consists of small nations, particularly island states such as Antigua and Barbuda, Cyprus, the Maldives, Mauritius, Seychelles, Singapore, and St. Kitts and Nevis. (Abdellatif 2024)

Despite the tourism sector's significant contribution to economic growth and employment, its expansion often places considerable strain on natural resources and local communities. As the world moves toward more sustainable development models, a pressing question emerges: *How can the tourism economy be transformed into a true engine of sustainable development, one that harmonizes economic advancement with environmental stewardship and social equity?* This research explores the necessary strategies, policies, and innovations required to develop a comprehensive green tourism model capable of thriving in an era of ecological urgency and socio-economic transition.

1.1 Research Objectives

- Analyze the current impact of tourism on environmental, economic, and social dimensions of sustainable development.
- Identify the challenges and limitations of conventional tourism models in achieving sustainability.
- Explore successful global and regional initiatives that integrate eco-friendly practices within the tourism sector.
- Examine policy frameworks, governance models, and stakeholder roles that support the transition toward green tourism.

2. Theoretical Framework

2.1 Tourism

Tourism is often referred to as the industry of the 20th century, a nourishment for the soul, and the oil of the 21st century. Over time, researchers have attempted to provide a comprehensive concept of tourism. These attempts date Tourism is often referred to as the industry of the 20th century, a nourishment for the soul, and the oil of the 21st century. Over

time, researchers have attempted to provide a comprehensive concept of tourism. These attempts date back to 1910, when Schullard defined tourism from an economic perspective, stating: "Tourism encompasses all economic operations directly related to the entry, stay, and movement of foreigners within or outside a particular country, city, or region" . **(Tawfiq 1997)**.

Hunziker and Krapf's foundational definition characterizes tourism as "the aggregate of phenomena and interactions resulting from the travel and temporary stay of visitors, provided these activities don't involve permanent settlement or income generation" **(Abdullah 2014)**. Regarding tourist identification, Ogilvie - recognized as a pioneer in conceptualizing the term - established that an individual qualifies as a tourist when fulfilling two key mobility criteria:

- The person is away from their usual residence for a relatively short period, not exceeding one year.
- The person spends money from sources other than those earned in the place they are visiting.

2.2 The Essence of Green Tourism

The notion of Green Tourism is connected with tourism procedures, which protect the natural and other resources and minimize the adverse effects provoked when the tourist moves from one country to another. (negative effects of the travel on ecotourism) Littlefield et al note the environmental degradation, exploitation of wildlife and animals, damage to communities including culture, and substantial emissions related to air travel. The phrase has been used to refer to eco-friendly companies.

Green tourism is included in the wider concept of Ecotourism, which is the act of a visitor visiting undistributed natural areas. Eco-tourism minimizes the negative sides of tourism as much as possible, promoting tourism to leave positive footprints, making the whole tourism industry be eco-friendly.

The concept eco-friendly tourism is a subset of eco-friendly transportation, which bears the brunt of travel activities fueled by fossil fuels that are damaging our climate. Figures show that the transport sector is responsible for 72% of carbon dioxide release in the tourism sector, while 24% of emissions come from lodgings with aviation accounting for a

staggering 55% of total emission. To reduce the carbon emissions caused by airplanes, aircraft manufacturers are working to develop more fuel-efficient engines, leading to lower carbon emissions. Additionally, some countries are attempting to impose compensatory measures on international aviation, using these compensations to fund activities aimed at reducing carbon emissions.

2.3 The Difference between Green Tourism, Ecotourism, and Eco-friendly Tourism

Green Tourism represents the earliest conceptual approach to environmental conservation in the tourism sector. Originally adopted by hotels as a marketing strategy to position themselves as environmentally conscious, many failed to implement substantive practices like water conservation, recycling systems, or sustainable product usage. This discrepancy between claims and actual practices spurred the development of more precise terms: Ecotourism and Eco-friendly Tourism. Ecotourism specifically denotes travel to natural areas that prioritizes environmental protection and enhances local community welfare. Central to this concept is wildlife preservation, with participants responsible for ensuring their visits don't disrupt the ecological integrity of these sites.

In contrast, Eco-friendly Tourism adopts a holistic approach, integrating environmental, economic, and social dimensions of tourism development. It strives to harmonize these pillars for long-term sustainability while actively involving local communities creating employment opportunities and optimizing tourism's benefits while mitigating its adverse effects. The success of sustainable tourism hinges on human awareness and action. As travelers become more informed, the implementation of eco-friendly practices improves. Tourists can contribute meaningfully by:

- Using ground transportation as much as possible to reduce their carbon footprint.
- Carrying reusable bags and using silverware instead of plastic utensils.

Eating local food instead of purchasing expensive, non-local options. This also helps tourists discover and enjoy the local cuisine of different

countries (**Mrazga 2010**)

2.4 Sustainable Development

According to Brundtland Commission (1987) Sustainable development is defined as “ the development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (**OCED s.d.**). This is the most widely accepted definition and forms the foundation of global sustainability thinking. Furthermore, Sustainable Tourism for UNWTO (United Nations World Tourism Organization) is "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities”.

3. Pathways to a Comprehensive Green Tourism : Internationales Experiences

3.1 The Kingdom of Saudi Arabia’s Experience with “Green Hajj”

By 2022, Saudi Arabia’s tourism sector had recovered to nearly 70% of its pre-COVID levels, contributing 5.3% to the national GDP an impressive growth from the baseline at the launch of Vision 2030. Since the vision’s inception in 2016, international tourist arrivals have surged from 18 million to 29.5 million, marking a 60% increase and achieving over half of the 2030 target of 55 million visitors. As part of its broader strategy to diversify the economy and reduce dependency on oil, the Kingdom aims to elevate tourism’s share of GDP to 10% by 2030, emphasizing eco-tourism as a key pillar. (**H. H. Abdellatif 2024**)

To realize this goal, Saudi Arabia is advancing multiple pathways toward green tourism:

- **Eco-Tourism Development:** The country is launching specialized eco-tourism projects designed to preserve the environment while enhancing visitor experiences.
- **Giga Projects (e.g., NEOM):** Flagship initiatives like NEOM are built around sustainability principles prioritizing environmental conservation, smart urban planning, clean energy, and advanced technologies to redefine eco-conscious urban living. NEOM rests on three pillars: a vibrant society, a thriving economy, and an ambitious nation, all aimed at

minimizing environmental impact and boosting green innovation.

- **Green Hajj Initiative:** Introduced in 2018 by the Custodian of the Two Holy Mosques Institute for Hajj and Umrah Research, this project addresses environmental challenges during pilgrimage seasons. It began with waste-sorting and recycling programs in Mina camps, encouraging pilgrims to manage their waste sustainably. The campaign, under the slogan “Hajj without Plastic,” also aims to educate pilgrims on environmental practices and expand eco-conscious behavior to all camps in Arafat.
- **Sustainability and Awareness Campaigns:** The Ministry of Hajj and Umrah, along with regional authorities, is working to embed green practices in service companies and pilgrim facilities. This includes scaling waste management systems and promoting awareness workshops focused on sanitation and environmental preservation during major religious events.
- **National Reforestation and Conservation Programs:** As part of the Vision 2030 environmental strategy, Saudi Arabia is undertaking large-scale afforestation projects and expanding protected natural areas to support biodiversity and mitigate climate change.

Through these integrated efforts, Saudi Arabia is positioning itself as a regional leader in sustainable tourism, combining environmental stewardship with socio-economic development. **(H. H. Abdellatif 2024)**

Among the key challenges encountered were the management of waste generated during the setup of camps for domestic pilgrims particularly in Arafat and delays in preparing these sites. To address these issues, several recommendations were proposed. These include exploring partnerships with specialized companies to manage public health pests in buildings and camp areas, using environmentally friendly solutions such as mosquito and fly traps. Additionally, it is advised to grant access to municipal insect control teams, resolve water leakage problems, eliminate stagnant water

within camps, and maintain high hygiene standards in kitchens. Further recommendations were also suggested to enhance overall environmental and health conditions :

- Make sure that accommodations for pilgrims in Mina and Arafat are fully set up before the beginning of Dhul Hijjah.
- Once the pilgrimage season concludes, ensure that all dismantled camp waste is transported to designated municipal disposal areas.
- Schedule waste removal in a way that does not disrupt the movement or transport plans of pilgrims.
- Limit unnecessary or excessive construction of camps in the Arafat area.
- Field service offices in Arafat should include designated rooms for collecting leftover food waste.

3.2 Developing Green Tourism in Dubai

3.2.1 Clean Energy Initiatives and Waste Management in Dubai

On the global tourism stage, Dubai maintains a strong competitive edge, ranking among the most attractive and leading destinations worldwide often outperforming major international cities. In alignment with the UAE's commitment to environmentally conscious development, the "Dubai Eco-friendly Tourism" initiative launched by the Dubai Department of Economy and Tourism has marked significant achievements. This initiative is part of broader, ongoing efforts to uphold sustainability and environmental standards across Dubai's tourism sector. In parallel, the department continues to expand and refine its strategic plans to support Dubai's continuous urban and tourism growth (**Al-Tayer 2020**). Dubai's Clean Energy Strategy 2050 sets ambitious targets to diversify its energy sources, aiming to raise the share of clean energy in the total energy mix to 7% by 2020, 25% by 2030, and 75% by 2050. The strategy is implemented through several key pathways: (**H. H. Abdellatif 2024**)

- **Infrastructure Development:**

A flagship project is the Mohammed bin Rashid Al Maktoum Solar Park, recognized as the world's largest single-site solar power facility, with a planned capacity of 5,000 megawatts by 2030.

- **Legislative Support:**

To bolster clean energy adoption, Dubai introduced regulatory measures in two phases. The first, under the "Shams Dubai" initiative, promotes the installation of rooftop solar panels by homeowners and building owners. The second phase involves cooperation with Dubai Municipality to enforce regulations that mandate the inclusion of energy-saving technologies and solar panels on all buildings by 2030.

- **Green Financing Mechanism:**

To drive innovation and investment, the "Dubai Green Fund" was created, providing up to 100 billion dirhams in funding for research and development in clean energy and its applications.

- **Sustainable Energy Mix:**

Dubai also plans to adopt a diversified and eco-friendly energy mix, following specific targets set for 2030, to ensure long-term environmental and energy sustainability. (Source: Dubai Electricity and Water Authority, 2020)

3.2.2 Waste recycling

Dubai Municipality introduced the "My City – My Environment" initiative with the goal of separating recyclable materials at the point of origin, promoting recycling practices, and cutting down household waste sent to landfills by more than 35%. This project also sets the groundwork for a long-term strategy to ensure a steady supply of recyclable materials to support the growth of a national recycling industry. The launch of this initiative came after comprehensive studies conducted by the municipality on various environmental programs, focusing on conservation, waste separation at source, and encouraging private sector participation in executing these efforts.

3.2.3 Adopting Sustainability in the Tourism Sector

The Government of Dubai has underscored the importance of implementing sustainability standards within the tourism industry as a key step toward realizing a green economy. This commitment was clearly demonstrated through initiatives such as the UAE Green Tourism

Conference and the Dubai Green Tourism Initiative. **(H. H. Abdellatif 2024)**

3.2.4 Dubai Green Tourism Initiative

In 2016, the Dubai Department of Tourism and Commerce Marketing launched the "Dubai Green Tourism Initiative" to support sustainability in the tourism industry and align with the city's goals for clean energy and environmentally friendly development **(Environment 2019)**. In collaboration with four major entities, Dubai Tourism seeks to further strengthen and advance this green tourism initiative.

- Dubai Carbon Centre of Excellence ensures stakeholders follow green practices and supports the tourism and hospitality industries in adopting eco-friendly operations.
- ESCO Association helps hotels in Dubai become more energy- and water-efficient, contributing to the city's green transformation.
- Emirates Environmental Group works to implement the Dubai Eco-friendly Tourism Initiative, pushing forward the sustainability agenda in tourism.
- Emirates Wildlife Society promotes eco-friendly practices through a public-private partnership model that supports environmental goals in the tourism sector. **(Buckley 2002)**

Together, these collaborations aim to make Dubai a model of sustainable and eco-conscious tourism. **(H. H. Abdellatif 2024)**

4. Future Directions and Recommendations

The effectiveness of sustainable tourism depends on forward-thinking strategies that harmonize environmental responsibility with economic stability and social inclusion. Key components of this approach include data-driven policymaking, the adoption of innovative technologies, active participation of local communities, and the promotion of responsible behavior among travelers all functioning together to drive transformative change within the tourism sector. **(John 2025)**

- Formulating Inclusive Green Tourism Policies, governments should implement well-defined frameworks that prioritize environmental sustainability in tourism planning and development.

- Offering Economic Incentives, financial support mechanisms such as tax incentives, grants, and subsidies should be provided to encourage tourism businesses to adopt eco-friendly practices.
- Leveraging AI and Big Data for Sustainable, tourism Management: predictive analytics can be employed to regulate tourist distribution, reduce overcrowding, and enhance the efficient use of resources.
- Adopting Smart Energy and Water Technologies, hospitality establishments can implement IoT-based systems to track and minimize energy and water usage.
- Encouraging Digital-First Tourism Practices, the use of electronic tickets, digital travel guides, and virtual experiences helps significantly reduce reliance on paper.
- Enhancing Awareness Through Educational Initiatives : governments and travel organizations should engage in awareness campaigns to inform tourists about responsible and sustainable travel behaviors.
- Rewarding Sustainable Tourist Choices : incentives such as discounts or loyalty rewards can be offered to travelers who opt for environmentally friendly accommodations or modes of transport.

5. CONCLUSION

As the global landscape evolves toward greater environmental accountability, the tourism sector must also transform into a force for sustainability and inclusive economic growth. This research demonstrates that countries like Saudi Arabia and cities like Dubai are not only embracing this transition but actively shaping models that align tourism with broader sustainable development goals. By integrating clean energy strategies, eco-friendly infrastructure, environmental education, and inclusive policy frameworks, these regions offer valuable insights into what a comprehensive green tourism model can look like. However, true success lies in fostering continuous collaboration among governments, private entities, and local communities to ensure that tourism growth enhances not compromises environmental and social well-being. Moving forward, a holistic approach that prioritizes ecological balance, cultural integrity, and

economic equity will be essential to positioning tourism as a resilient and regenerative pillar of national development.

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