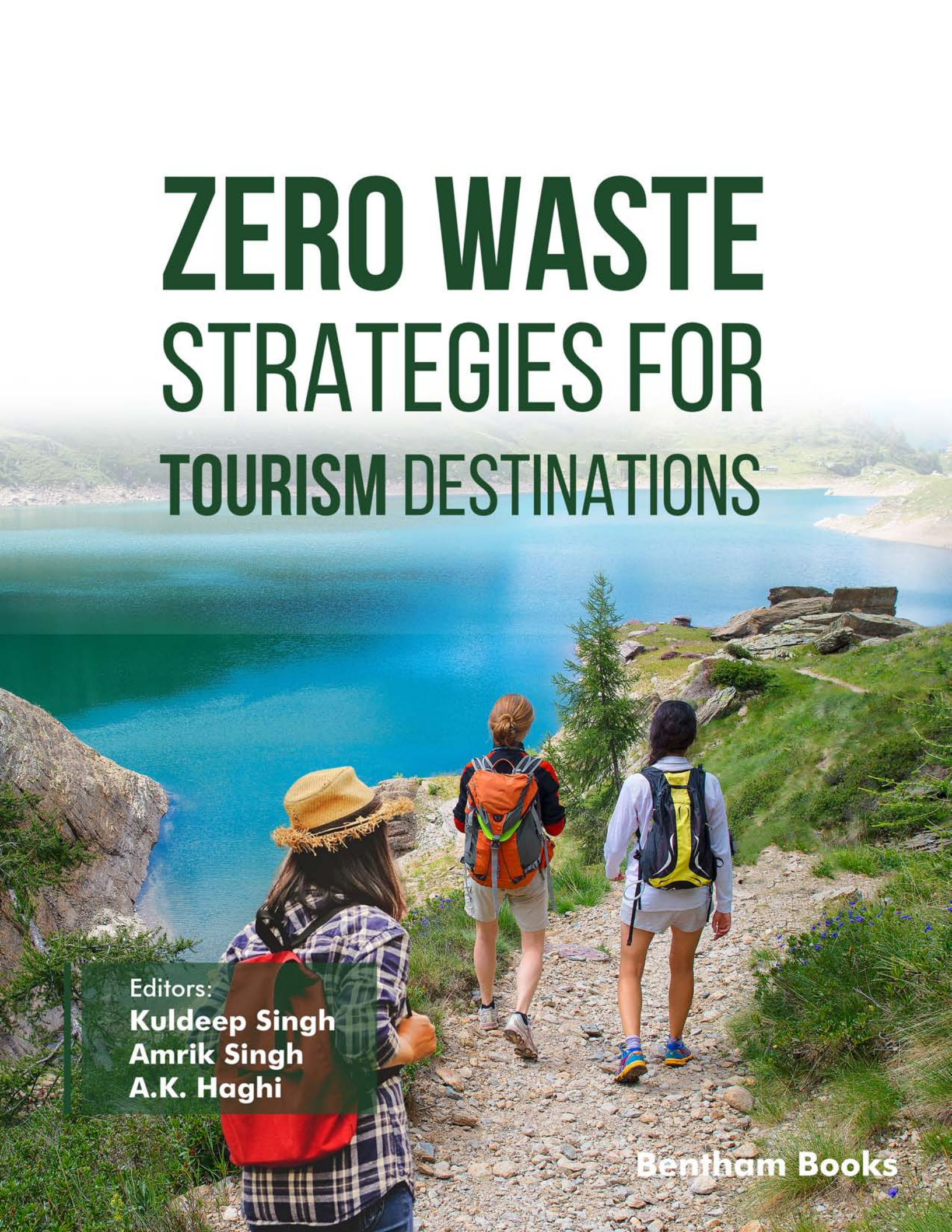


ZERO WASTE STRATEGIES FOR TOURISM DESTINATIONS

A photograph of three hikers walking away from the camera on a rocky trail. The hiker on the left wears a straw hat and a plaid shirt. The middle hiker has a red backpack. The hiker on the right has a yellow backpack. They are overlooking a large, clear blue lake with green hills in the background.

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Zero Waste Strategies for Tourism Destinations

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PREFACE

Tourism is one of the largest industries in the world, contributing significantly to the global economy and providing cultural exchange and recreation opportunities. However, it also comes with a high environmental cost, particularly in terms of waste generation. The increasing awareness of sustainability and environmental protection has necessitated a shift toward responsible tourism practices. This book, *Zero Waste Strategies for Tourism Destinations*, addresses a critical challenge faced by tourism destinations: how to minimize waste without compromising the quality of visitor experiences. This book is a comprehensive guide that combines theoretical insights and practical strategies to tackle waste management in tourism. It is designed for a diverse audience, including policymakers, destination managers, tourism professionals, researchers, and students. By highlighting actionable zero-waste solutions, the book aims to inspire tourism stakeholders to adopt sustainable practices that benefit both the environment and the industry. This book explores key aspects of zero-waste tourism, including innovative waste reduction techniques, green practices in accommodation and food services, the role of technology like AR/VR in sustainable tourism, and community-based initiatives for waste management. A sustainable future for tourism requires collaboration among various stakeholders, from local governments and businesses to tourists themselves. This book emphasizes the importance of partnerships and collective responsibility in achieving the ambitious goal of zero waste. It also sheds light on the intersection of waste management with other crucial issues such as climate change, resource efficiency, and social equity, making it a well-rounded resource for anyone seeking to understand and address these interconnected challenges. We are deeply grateful to the contributors, researchers, and industry practitioners who have shared their insights and experiences to enrich this book. Their expertise has been instrumental in making this a comprehensive resource on zero-waste strategies. Tourism destinations worldwide are at a crossroads where proactive measures today can ensure a thriving, sustainable industry for generations to come.

As we journey through this comprehensive volume, each chapter offers unique insights into the dynamic interplay between waste management strategies and tourist designation.

Chapter 1: Environmental and Sustainable Development in a Tourist Destination

Sustainable hazardous waste management in tourist places has become an important part of encouraging environmental and sustainable development. As tourism grows worldwide, the accumulation of hazardous waste, such as chemicals, plastics, and electronic trash, poses a substantial threat to ecosystems, public health, and local communities. This article investigates sustainable ways for handling hazardous waste in tourist locations, with an emphasis on incorporating zero-waste concepts into tourism activities. This study looks into innovative approaches such as trash segregation, safe disposal methods, and circular economy efforts that aim to reduce hazardous waste and improve resource recovery in tourism regions.

Chapter 2: Sustainable Hazardous Waste Management Strategies in Tourism Destinations Towards A Zero Waste Society: Controlling Environmental Pollution in Tourism

This chapter explores how a large number of tourists generates massive amounts of waste, including toxic substances such as electronic waste (e-waste), chemicals, and batteries, which have multiplied alongside tourist destinations. This article probes the pressing issues concerning sustainable hazardous waste management practices aimed at mitigating

environmental pollution, therefore, towards a circular economy in the tourism sector. It discusses the complexity involved in hazardous waste management, especially concerning local systems that fail to cope with large scales and types of waste produced by these tourists. The article continues with innovative strategies and best practices toward effective hazardous waste management, emphasizing stakeholder collaboration among governments, businesses, and local communities. It also advocates the adoption of a zero-waste society, where waste is minimized at its source and materials are continuously reused and recycled.

Chapter 3: Exploring the Innovative Use of Culinary Ingredients Focused on Reducing Kitchen Waste

This study examines different methods used by home cooks and chefs of star hotels to turn leftovers and underutilized resources into tasty and nourishing meals. Some methods that reduce waste and improve flavour profiles are fermenting vegetable trimmings, making stocks from vegetable peels, and using stale bread for croutons or bread puddings by adding flavourings to balance the aroma. Furthermore, extending the shelf life of goods using innovative preservation techniques like pickling and dehydrating helps reduce waste. This study emphasizes the potential for financial savings and environmental advantages by highlighting the significance of ingredient variety.

Chapter 4: Eco-friendly Dining Practices in the Hospitality Industry: Minimizing Waste through Regional Resources

Eco-friendly practices used by hotels to attract consumers with reference to customer loyalty and positive brand perception. This chapter seeks to show that incorporating local resources into dining operations improves sustainability in the hospitality sector and benefits the environment, benefiting both businesses and communities. Moreover, it will examine factors such as awareness, cultural norms, and personal values that influence hoteliers' attitudes regarding food waste. Additionally, it also explores the challenges faced by establishments in sourcing locally, including supply chain limitations and seasonal availability.

Chapter 5: Transforming The Cruise Industry by Navigating Environmental Challenges and Prioritizing Sustainable Sea Tourism

This chapter attempts to examine the difficult balance that exists between the cruise industry's roles in promoting economic growth and upholding high standards of life. According to an analysis of the literature published in the last 20 years, cruise companies have invested heavily in reducing their environmental impact. Several proactive and green shipping strategies are being implemented as part of these attempts to improve environmental management. Measurable gains have resulted from these initiatives, such as decreases in dangerous emissions and improvements in environmental management.

Chapter 6: Plastic and E-waste: The Nouveau Issue in Urban Nepalese Cities

This chapter explores the presence of plastic and e-waste, in addition to organic waste, in the Kathmandu valley, which underscores the importance of implementing constructive waste management measures. It is an unmanaged issue that has further exacerbated plastic pollution and systemic waste management. This stems from three main causes: dependency on plastic, mismanagement of waste, and lack of implementation of policies on waste management. Furthermore, the informal waste workers and recycling sectors also play a vital role in the ecosystem of both the primary and secondary collectors and waste processors. The Kathmandu Valley and the capital city are experiencing an alarming level of anthropogenic activities, leading to maximum pollution and waste generation.

Chapter 7: Luxury Leather Tourism: Pioneering Zero-Waste Strategies

In today's world, the purpose of tourists goes beyond just gaining cultural experiences and creating memories, and has combined with the purchase of exclusive and luxury products, particularly leather goods. The desire for authenticity, the significance of cultural identity, and the appeal of exclusivity collectively influence the psychological allure of luxury shopping among tourists. This study aims to examine the interplay between luxury shopping tourism and sustainability, proposing zero-waste strategies that balance environmental responsibility with the exclusivity of luxury leather goods among tourists. It proposes solutions like the adoption of circular economy principles, upcycling leather scraps, and innovative alternatives to reduce waste generation in the luxury leather sector.

Chapter 8: Sustainable Waste Management in Small Hotels: A Case Study of Eco-Friendly Practices in Jaipur's Hospitality Sector

This chapter analyzes Waste Segregation, Recycling Initiatives, Circular Practices, and Staff Training. Strong factor loadings for Proper Waste Segregation and Recycling Program Awareness emphasized their importance in sustainability. This study suggests that hotel management and regulatory agencies should adopt a sufficiency strategy, rather than focusing solely on efficiency, to foster a shift in attitudes among staff and visitors.

Chapter 9: Renewable Energy Paradigm: Energy Security, Environmental and Economic Implications (A Study of FCT Abuja, Nigeria)

This study examines the integration of renewable energy sources into the Federal Capital Territory (FCT) of Abuja, Nigeria, focusing on three main dimensions: energy security, environmental benefits, and economic impacts. It focuses on the role of renewable energy in enhancing energy security, diversifying Nigeria's energy mix, and reducing carbon emissions. It also evaluates the potential for job creation in the renewable energy sector, particularly in peri-urban and rural communities.

Chapter 10: Envisioning Green Resource Tourism Destinations: An Eco-Sustainable Approach

The study reveals a positive green conservation impact for tourism support and promoting sustainable tourism practices. The coverage of the paper makes a realistic attempt to uphold the potential of green resource- centric tourism practices with an optimistic trend of tourism growth in the coming years.

Chapter 11: Tech-Driven Solutions for Sustainable Waste Management in Tourism: The Road to a Zero-Waste Society

This chapter examines innovative waste management strategies specifically designed for the tourism industry, focusing on achieving a zero-waste society. It emphasizes key practices such as reducing waste generation, recycling materials, composting, and reusing resources to minimize the environmental impact caused by tourism activities. The chapter also underscores the critical role of various stakeholders, including local communities, government bodies, businesses, and tourists, in making these strategies effective. By working together, these groups can ensure that sustainable waste management becomes a core part of tourism operations. In addition, the chapter discusses the potential of smart technologies and digital tools that can assist in tracking and managing waste more efficiently.

Chapter 12: The Green Journey: Radisson Hotel and Effective Waste Management Solutions

Traditional waste disposal methods, such as sending large volumes of waste to landfills, proved inadequate and unsustainable. These outdated practices were not only environmentally harmful but also inconsistent with the Radisson Group's steadfast commitment to sustainability and its pursuit of eco-friendly operations. The collaboration between Radisson Blu and ECEPL focused on several critical objectives. These included reducing the volume of organic waste generated by the hotel, mitigating the environmental impact of waste disposal by incorporating eco-friendly practices, and modernizing operational processes across all departments to align with efficient waste management principles. To achieve these goals, the hotel invested in a fully automated KWIK Composter, an advanced Organic Waste Converter (OWC) capable of transforming organic waste into nutrient-rich organic manure.

Chapter 13: Sustainable Waste Management in Rural Destinations

The chapter highlights the importance of sustainable waste management in rural areas, highlighting its benefits for local communities' well-being, economic growth, and environmental preservation. Rural areas face challenges like inadequate infrastructure, scarce resources, and a lack of knowledge about proper garbage disposal. Sustainable waste management techniques like composting, recycling, and trash reduction are discussed, emphasizing the need for community involvement and education.

Chapter 14: Zero-Waste Accommodation: Sustainable Practices for Coastal Hotels and Resorts

This chapter focuses on zero-waste accommodation as a critical aspect of sustainable development, particularly for coastal hotels and resorts where environmental preservation is paramount. Through an extensive review of secondary data, including scholarly articles, industry reports, and case studies, the research explores the various sustainable practices adopted by coastal hotels to minimize waste. The chapter analyzes key strategies such as waste reduction, recycling, e-waste management, energy efficiency, and the use of sustainable materials, all based on documented initiatives from existing zero-waste programs.

Chapter 15: Exploring Sustainable and Eco-Tourism Destinations: A Path Towards Responsible Travel

Eco-tourism encourages responsible travel by promoting conservation efforts, reducing carbon footprints, and involving local communities in tourism activities. The paper also explores the benefits of eco-tourism, such as fostering biodiversity protection, generating revenue for conservation, and supporting sustainable livelihoods for local populations. With growing awareness of climate change and the need for environmental stewardship, eco-tourism provides a pathway for travellers to engage with nature without causing harm. By choosing sustainable destinations, tourists contribute to environmental protection, cultural preservation, and economic upliftment of the host communities.

Chapter 16: Role of Digital Green Marketing Campaigns, Tourists' Environmental Beliefs Towards Eco-Tourism Destination: A Step Towards Sustainability

This chapter investigates the efficacy of digital green marketing campaigns in influencing tourists' environmental attitudes and encouraging eco-tourism destinations through digital media, highlighting the increasingly critical role of digital platforms in driving sustainable tourism initiatives. Digital green marketing campaigns use technology to disseminate

messages about adopting eco-friendly practices and are effective at informing and influencing the practices and preferences of tourists. Such campaigns promote eco-tourism destinations but also encourage eco-conscious choices.

Chapter 17: Exploring the Situational Study of Garbage Narratives in India

This article tries to illuminate the works of various Indian authors who, through their artistic manoeuvre tries to negotiate imagery related to Garbage, waste, and filth to critique the social inequalities, environmental degradation, and the complexities of modern Indian life.

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CHAPTER 1

Environmental and Sustainable Development in a Tourist Destination

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Abstract: Sustainable hazardous waste management in tourist destinations serves as a vital element that supports both environmental protection and sustainable development. The worldwide expansion of tourism creates hazardous waste problems because it generates chemical, plastic, and electronic waste materials, which endanger ecosystems, public health, and local communities. This article examines sustainable hazardous waste management methods that tourist locations can use to implement zero-waste principles in their operational activities. A zero-waste approach prioritises waste reduction, waste reuse, and waste recycling while decreasing hazardous material generation. Tourism destinations can achieve two benefits through these principles because they help to decrease environmental damage and support sustainability goals. The research explores innovative waste management techniques through three main approaches, which include trash separation, safe waste disposal methods, and circular economy programs that aim to decrease hazardous waste while increasing resource recovery in tourist areas. The research investigates how government regulations, local community participation, and tourism operators work together to create effective hazardous waste management systems. Stakeholder partnerships play a vital role in developing sustainable tourism practices that advance the implementation of a zero-waste society vision. The findings demonstrate that tourist destinations and businesses need to establish ongoing educational programs that will help increase public awareness of responsible behavior that enhances eco-friendly choices and proper waste handling methods. Sustainable hazardous waste management functions as an essential element that protects natural environments in tourism areas. The regions can protect their natural resources and biodiversity by implementing zero-waste strategies, which enable them to achieve sustainable development.

Keywords: Circular economy, Environmental conservation, Sustainable development, Sustainable hazardous waste management, Zero waste society.

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INTRODUCTION TO ENVIRONMENTAL SUSTAINABILITY IN TOURISM

Environmental sustainability in tourism focuses on ensuring that development benefits local communities while preserving ecological integrity. It requires a balanced and integrated approach that carefully evaluates social and economic gains alongside environmental costs. By maintaining this balance, tourism development can remain viable and responsible over the long term. Effective tourism management prioritizes economic viability through job and income generation. Simultaneously, it ensures ecological integrity by conserving natural resources and cultural authenticity by respecting local traditions. Sustainable tourism attempts to minimize environmental damage (including the impact of pollution and resource utilization) such that both present and future generations can use and enjoy these destinations (Pan *et al.*, 2018a). The goal is to create a positive, long-term impact on both the local economy and the environment.

Definition of Sustainable Development

Sustainable development is a term that appeared for the first time in 1987 with the publication of *Our Common Future* (Report of the World Commission on Environment and Development) and has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Development is the process whereby the present environmental needs are met without compromising the ability of future generations to meet their own needs (Baloch *et al.*, 2023a). Fig. (1) represents the principle on which the three pillars are based.

Sustainable Economy: Making certain that tourism is a source of income to local communities without depleting them.

Social Sustainability: Focusing on themes such as cultural wholeness, fairness, and local human wellness.

Environmental Sustainability: Reducing the harmful effects on the environment caused by tourism, like pollution, habitat destruction, and carbon emissions.

Concerning tourism, the sector's activities have an extensive impact on the environment, including overexploitation of natural resources, waste production, and damage to ecosystems (Azarmi *et al.*, 2019). Thus, sustainable tourism seeks to minimize these impacts as much as possible, while at the same time helping to support local communities and protect natural and cultural resources for opportunities in the future.



Fig. (1). Interconnection of sustainable development.

Importance of Sustainability in Tourism

International tourism is one of the most dynamic and expansive industries in the world. The United Nations World Tourism Organization reports that there were an incredible 1.5 billion foreign visitors in 2019, and tourism contributed 10.4% of the world's GDP, demonstrating its enormous scope and economic significance. Although this expansion has helped many economies, it has had detrimental effects on the environment (Mejjad *et al.*, 2022). About 8% of the world's greenhouse gas emissions are attributable to tourism, mostly from air travel, transportation, and hotel and resort operations, all of which exacerbate climate change and global warming. Mass tourism frequently causes pollution, waste buildup, and overcrowding in addition to emissions. Popular tourist locations are especially susceptible to this, as large numbers of visitors place tremendous strain on the region's infrastructure, natural resources, and ecosystems (Mandić, 2020). Furthermore, tourist activities may physically harm or impair the cultural and natural heritage of places such as ancient monuments, coral reefs, or national parks, for example, through overuse, pollution, and unsustainable development. This article discusses the paradox of international tourism, pointing out the economic advantages as well as the environmental problems resulting from tourism. It concentrates on the ecological impact of tourism and, in particular, its role in generating greenhouse gases and causing local environmental damage.

The study also delves into the effects of tourism on natural and cultural heritage

CHAPTER 2

Sustainable Hazardous Waste Management Strategies in Tourism Destinations Towards A Zero Waste Society: Controlling Environmental Pollution in Tourism

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Abstract: Tourism has both positive and negative effects in terms of economic growth and employment, although the latter is facing severe environmental crises, particularly its implications involving the production of hazardous waste. As the tourist activity increases, so does its e-waste, batteries, chemicals, and other harmful substances, which in many cases regularly exceed the capacity of the local waste systems, which are notably unprepared to deal with such loads. This article focuses on what cities refer to as Sustainable Hazardous Waste Management (SHWM) in an endeavor to ensure the achievement of a zero-waste approach in touristic destinations. It lays forward an idea-based framework that was focused on prevention, reuse, recycling, sustainable systems of management, and collaboration with the stakeholders. The article accentuates the role of education in society, policy realization, and Extended Producer Responsibility (EPR) in the realization of circular economy targets. It recommends locally based infrastructure, intelligent waste supervisory systems, and green certification of tourism players. The results show that although the existing systems are limited, the future promises to be bright based on innovation, inter-industry collaboration, and policy change. An integrated and holistic waste management approach not only reduces the harm inflicted on the environment, but it also increases competitive advantages and tourist experience of localities as well. Finally, sustainable hazardous waste is a fundamental practice to protect the environment and the sustainability of tourism in the world over.

Keywords: Circular economy, Eco-friendly practices, Hazardous waste management, Sustainable tourism, Tourism sustainability, Waste reduction, Zero waste society.

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INTRODUCTION

The tourism industry helps many nations throughout the world in building up their economies, offering employment opportunities that further help to define the GDP of several countries. Activities that fall within the tourism industry range from hospitality to transportation, and such help boost economic growth as well as cultural exchange between otherwise disparate societies, though such growth comes at a great expense to the earth itself in terms of waste generation. For instance, the tourism industry produces a lot of waste, which may involve hazardous substances like e-waste electronics, batteries, chemicals, and other poisonous products. The more the tourist traffic in any given destination, the harder it is to manage waste. Destinations that attract the most visitors in the world are usually characterized by high visitor traffic and little waste management infrastructure. More tourists to the area always call for increased consumption of goods and services, hence waste proportionate to that level. Hazards from those wastes are particularly dangerous if left unmitigated to public health and the environment at large. Most local waste management systems in tourist destinations for tourists are incapable of managing the volume and type of waste tourists produce. This often-transient nature of tourism makes the environmental impacts of visitors more apparent. For instance, visitors are neither aware nor care about the local ways of waste disposal. Instead, they engage in improper waste disposal methods such as littering and dumping hazardous materials. The result is that the environmental impacts of tourism are amplified with effects such as soil and water pollution, harm to local wildlife, and destruction of natural landscapes. Thus, it is essential to manage hazardous wastes sustainably to reduce impacts on the environment and make tourism destinations viable for the long term. Effective waste management strategies guarantee the protection of ecosystems, public health, and the sustainability of the destinations. With growing environmentally responsible travel awareness, tourists select destinations that handle their hazards and wastes sustainably while relegating destinations that do not manage their waste properly to a disadvantage in competition. Further, it requires a framework for sustainability promotion in tourism that emphasizes a circular economy approach focusing on resource efficiency and waste minimization. Sustainable transitioning to a circular economy ensures the reduction of waste at the source, recycling of materials, and reusing products, with the by-product being the reduction of waste into a resource. This approach reduces environmental impacts associated with tourism activities while providing means for creating economic opportunities by innovatively creating new waste management practices. The paper attempts to discuss how effective hazardous waste management in tourism destinations can focus on promoting the concept of a zero-waste society. The article seeks to develop further understanding of the importance of sustainable hazardous waste management in the tourism sector, keeping in mind the current

practices and challenges, as well as innovative solutions. The role of collaboration on the part of the different stakeholders involved, such as local governments, businesses, and communities in sustainable tourism, will also be highlighted. The movement towards a zero-waste tourism society is not only first and foremost environmental but is also an important step to secure the profitability and sustainability of this sector of economic activity.

Sustainable Hazardous Waste Management Framework for Zero-Waste Tourism

Fig. (1) shows that the idea is in a conceptual circular flow chart aiming to attain a Zero-Waste Society in tourism destinations by managing hazardous waste in a sustainable manner (SHW). The diagram consists of the goal in the middle, namely the Zero-Waste Society, and four stretches connected to each other to support the goal: Prevention, Reuse and Recycle, Management, and Collaboration. In the Prevention section, one should realize the importance of a circular economy in order to prevent the production of waste in the first place. Reuse and Recycle also aims at promoting resource efficiency, as it promotes the use of materials instead of their disposal. The Management component deals with the requirement of sustainable systems that can manage all types of waste, especially in regions that have high traffic of tourists. Lastly, Collaboration signifies the necessity of coordinated cooperation of major stakeholders, *i.e.*, local governments, businesses, and communities, to adopt and support effective waste policies. The unification of these components gives an ongoing and strengthening loop to minimize environmental hazards and ensure sustainable tourism destinations in the future and their competitiveness.

Current Status of Hazardous Waste Management in Tourism

Hazardous waste management in tourism is nowadays characterized by various practices and policies. As mentioned above, according to the research, Acharya and Kumar (2019) claim that waste reduction, recycling, and proper disposal are all significant elements of a strategic approach to be used in appropriate cases. Moreover, Al-Qallaf and Al-Awadi (2021) suggest that other activities in coastal areas cause problems in waste management due to a lack of viable disposal options. Besides that, the growing concern related to e-waste produced by tourism-related activities makes Kumar and Sharma urge for sustainable management practices.

Fig. (2) represents the steps that are essential to handle the hazardous waste in the tourism industry, with the focus on the strategic movement of waste management through reduction, up to recycling, and proper waste disposal. It notes the significance of reducing the production of hazardous waste, especially by

CHAPTER 3

Exploring the Innovative Use of Culinary Ingredients Focused on Reducing Kitchen Waste

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Abstract: In the pursuit of sustainable culinary practices, the inventive use of food ingredients is critical to reducing kitchen waste. This study examines different methods used by home cooks and chefs of star hotels to turn leftovers and underutilized resources into tasty and nourishing meals. Some methods that reduce waste and improve flavour profiles are fermenting vegetable trimmings, making stocks from vegetable peels, and using stale bread for croutons or bread puddings by adding flavourings to balance the aroma. Furthermore, extending the shelf life of goods using innovative preservation techniques like pickling and dehydrating helps reduce waste. This study emphasizes the potential for financial savings and environmental advantages by highlighting the significance of ingredient variety. According to the research, rethinking food waste not only supports environmentally friendly methods but simultaneously encourages inventive cuisine and a culture of conscientious eating.

Keywords: Culinary innovation, Food waste, Kitchen practices, Sustainability, Ingredient versatility.

INTRODUCTION

Culinary innovation includes new and inventive concepts, methods, or procedures in the areas of cooking and food preparation (Stierand and Lynch, 2008). To improve the eating experience, these innovations may include the introduction of new ingredients, modern culinary techniques, equipment, or presentation styles. Along with developments in sustainability, health-conscious cooking, and food technology, it may also involve the creation of novel tastes, textures, or culinary pairings (Harrington and Ottenbacher, 2013). Chefs, food scientists, and the culinary industry at large are frequently the driving forces behind culinary innovations, which seek to enhance or transform conventional methods, adapt to

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market preferences, or expand the definition of what food is. Molecular gastronomy, plant-based substitutes, and the application of sophisticated cooking methods like sous vide are a few examples (Aramesh, Ghalebani, Kasaeian, Energy, & 2019, n.d)

Kitchen waste is the leftover materials, scraps, or byproducts produced in an eating area while cooking, preparing food, and consumption are referred to as kitchen waste (Li *et al.*, n.d) It encompasses a wide variety of rejected biological and conventional produce materials, including food scraps containing remaining portions of fruits, vegetables, meat, or fish, including peels, cores, stems, seeds, and bones. Kitchen scraps also include the packaging materials like containers made of plastic, cardboard, glass, and metal that are used to package or store food, and many more. Additionally, used cooking oils, like any extra oil that is left behind after frying or cooking.

Food that has gone bad or is unsafe to consume is referred to as expired or spoilt. When preparing food, paper towels or napkins are used to wipe down surfaces (Sahoo *et al.*, 2024). According to Amicarelli *et al.*, kitchen waste may be categorised into bio waste, including substances that decompose and can be recycled or utilized as animal feed, such as food leftovers and plant-based materials, and non-organic waste, like things that could need to be recycled or disposed of in landfills, such as glass bottles, metal containers, and polymer packaging (Vera Amicarelli, Aluculesei, Lagioia, Pamfilie, & Bux, 2022)

Effective Management of Kitchen Waste

Effective kitchen waste management can lessen its negative effects on the environment, and sustainable measures like composting, recycling, and minimizing food waste are essential. The issue of food waste is becoming more widespread (Sindhu, Gnansounou, Rebello, management, & 2019, n.d.-a). The Food and Agriculture Organization (FAO) estimates that every year, about one-third of the food produced worldwide is wasted. Over-preparation, poor storage, and insufficient use of ingredients are common causes for waste in restaurants. By adding to greenhouse gas emissions and depleting natural resources like energy and water, this trash has a detrimental effect on the ecosystem. (development & 2018, n.d.). One possible remedy for this issue is the use of sustainable culinary techniques. Chefs and home cooks can cut waste while preserving or improving the quality of their food by imaginatively reimagining how resources are used. Cutting-edge methods are changing the culinary scene, from fermenting vegetable waste to recycling stale bread (Wang, Science, & 2024, n.d.). The advantages of these activities for the surroundings and the economy are examined in this essay. In addition to increasing operational effectiveness, creative culinary procedures in

professional settings offer restaurants and other culinary businesses substantial financial advantages. Cost reductions, higher profitability, and a competitive advantage in the market might result from the application of innovative strategies and new technologies (Harrington & Ottenbacher, 2013).

Cost savings are one of the main financial benefits. Simplifying kitchen operations using cutting-edge tools, such as computerized inventory systems, smart appliances, or automated cooking equipment, can lower labor costs by increasing productivity and reducing the need for heavy human labor. For instance, accurate cooking equipment guarantees that food is cooked with the least amount of waste, while inventory management technologies assist in keeping track of supplies to prevent spoiling or overstocking (Mackenzie, Cheung, & Law, 2011). The increase in menu profitability has further financial advantages. Chefs can produce distinctive, in-demand menu items that fetch higher pricing by experimenting with ingredients, cooking techniques, and presentation styles through the adoption of creative practices. Restaurants may offer high-end cuisine while keeping consistent quality thanks to methods like sous vide cooking or plant-based substitutes, which increase consumer satisfaction and encourage repeat business (Hashimoto, Harashima, Yamakata, & Mori, 2016).

Further, utility expenditures can also be significantly reduced by adopting energy-efficient technologies in kitchen appliances. Modern refrigerators, stoves, and ovens are made to use less energy without sacrificing performance, which lowers the restaurant's carbon footprint and overhead expenses. Customers who care about the environment may find this to be a compelling selling feature, which would enhance the establishment's attractiveness and reputation. Additionally, cutting food waste with innovations like composting, food repurposing, or improved portion management can boost overall profit margins and drastically reduce waste disposal costs (Sal Moslehian, Warner, and Andrews, 2023). Enhancing sustainability in kitchens can also draw in eco-conscious clients, strengthening brand loyalty. In the end, implementing creative techniques in professional kitchens leads to both immediate cost savings and long-term profitability by increasing operational effectiveness and generating financial success (Noguer-Juncà & Fusté-Forné, 2024).

As environmental responsibility becomes more and more important to both customers and businesses, the culinary and hospitality sectors have seen a considerable uptick in the adoption of a sustainable culture. The industry's operations, from sourcing ingredients to controlling waste and energy use, are fundamentally changing in favor of sustainability (Jones, Hillier, & Comfort, 2016).

CHAPTER 4

Eco-friendly Dining Practices in the Hospitality Industry: Minimizing Waste through Regional Resources

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Abstract: Introduction: Food waste is a significant global issue, with approximately 1.3 billion tons generated annually (Worldwide Food Waste Data). Despite increased industry-wide attempts to address the issue, the hospitality sector—particularly hotels and restaurants—continues to make a considerable contribution.

Aim: This chapter examines the various forms of food waste generated in hotels and restaurants, and recommends best practices for reducing waste, with a focus on utilizing locally sourced goods.

Methodology: This study uses a qualitative research technique to investigate sustainable food waste reduction strategies in the hospitality industry, focusing on hotels and restaurants. Secondary data has been used to evaluate the impact of variables, including awareness, cultural norms, and personal values, on hoteliers' attitudes toward food waste by various sources.

Key Findings: Hotels that promote local sourcing tend to decrease food waste by keeping their supplies fresh and limiting storage-related losses. Cultural and personal values can influence judgments about food waste management in food service companies. Although supply chain problems, such as restricted seasonal availability and irregular distribution, make it difficult to source locally, many businesses overcome these barriers through open communication and strong connections with local farmers. Furthermore, sustainable practices have been demonstrated to increase customer loyalty and brand image, providing both environmental and financial advantages to hospitality organizations.

Keywords: Consumers, Eco-friendly, Food waste, Hospitality industry, Regional resource.

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INTRODUCTION

Food waste is one of the most severe problems in this field. The Food and Agriculture Organization (FAO) estimates that almost one-third of the food produced worldwide is wasted. A large number of foods are thrown out in the hospitality sector due to overproduction, poor storage, and customer dissatisfaction. (“Hospitality Food Waste: Challenges & Solutions | Shapiro,” n.d.). The wasted food generates methane, a powerful greenhouse gas, in addition to adding to landfill congestion. Wasted food is associated with inefficient resource use, as lots of water, energy, labor, and raw materials are used in its production that never reaches the customers (Italy & 2015, n.d.). Among its most serious issues are waste production, resource depletion, and greenhouse gases, all of which are major contributors to the world's ecological crises. The methods used in the manufacturing, serving, and intake of meals possess a significant influence on sustainability initiatives because eating is a significant portion of the hospitality industry (Elnasr, Aliane, & Agina, 2021). The environmental impact of dining habits in hotels, restaurants, and other food service businesses has come to light more and more in recent years. Since it is becoming more widely acknowledged that the industry needs to embrace sustainable practices to minimize its total environmental impact and reduce waste, the necessity for eco-friendly dining practices has increased (Gannon, Taheri, Okumus, & Giritlioglu, 2022).

The hospitality sector is starting to understand the significance of sustainable eating practices – which include cutting waste, preserving resources, and encouraging local sourcing—in response to these issues (Niva, Mäkelä, Kahma, & Kjærnes, 2014). Utilizing regional resources—purchasing food from nearby farmers, producers, and suppliers—is a promising strategy to lower transportation-related emissions, boost local economies, and lessen dependency on mass-produced, resource-intensive foods (Pettinger, 2018). In addition to lowering food miles and promoting healthier, fresher, and more sustainable food options, regional sourcing promotes menu designs that complement seasonal, locally grown foods. Careful disposal of waste using techniques like composting, trash segregation, and recycling is another aspect of sustainable practices and mealtime habits (Lorenz & Langen, 2018). Businesses in the hotel industry can lessen their environmental impact and divert garbage from landfills by using these strategies. Beyond food waste, sustainable practices also involve water conservation, energy-efficient heating and cooking methods, and environmentally friendly takeout packaging options (Pfeiffer, Speck, Sustainability, & 2017, n.d.).

Customer demand is another factor propelling the hospitality sector's emphasis on sustainability. Due to their growing awareness of environmental challenges,

modern consumers are favoring companies that exhibit a dedication to sustainability (Prothero *et al.*, 2011). Businesses that implement eco-friendly methods are benefiting from this shift in consumer preferences, which gives them a point of uniqueness in a crowded market. Thus, the idea of "minimizing waste through regional resources" is a new field of research that might offer important insights into environmentally friendly procedures in the hospitality sector (Carrete, Castaño, Felix, ..., & 2012, n.d.).

This study aims to investigate how companies may develop workable solutions that improve the environment and their bottom line by concentrating on tactics that incorporate local supply chains, cut down on food waste, and embrace circular waste management techniques.

The potential of these environmentally friendly dining methods will be examined, along with how well they reduce waste and offer practical advice for hospitality companies looking to increase operational sustainability. The study intends to add to the expanding corpus of knowledge on sustainable hospitality by looking at case studies and industry best practices and providing recommendations on the same.

Types of Waste in the Hospitality Industry: Numerous types of waste are produced by hotels on a daily basis, as shown in Table 1 below:

Table 1. Types of waste in the hospitality industry.

S. No.	Types of Waste	Pictures of Watse
1	Packaging Waste: Harmonizing Sustainability and Beauty	
2	Single-Use Plastics: A Persistent Issue	
3	Paper Waste: Handling Records and Other Things	

CHAPTER 5

Transforming the Cruise Industry by Navigating Environmental Challenges and Prioritizing Sustainable Sea Tourism

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Abstract: Over the past two decades, the cruise shipping sector, particularly in the Caribbean, has significantly contributed to global economic growth. However, this expansion has come at a high environmental cost, positioning the cruise industry as a major source of waste, marine pollution, and ecosystem degradation. This review-based chapter explores the tension between the industry's economic benefits and its environmental impact. Drawing on a comprehensive review of literature from the past 20 years, the chapter analyses the industry's evolving efforts to minimize its ecological footprint. Cruise companies have increasingly adopted green shipping practices and invested in sustainable strategies across key areas such as marketing, corporate social responsibility, environmental education, innovation, and green technology. These initiatives have led to measurable improvements, including reduced emissions and enhanced environmental management, indicating a gradual but meaningful shift toward more sustainable cruise operations.

Keywords: Cruise industry, Environmental impact, Economic growth, Marine pollution, Sustainable tourism, Waste reduction.

INTRODUCTION

Over time, there has been a notable change in the cruise transportation sector. It has evolved into a multibillion-dollar tourism and leisure industry that offers pleasurable and reasonably priced holiday choices for the typical traveller, after

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once being characterized by transoceanic journeys and private tropical getaways for the wealthy elite. According to (Wind Rose Network, 2017), the cruise business continues to expand, ship sizes and locations are also being expanded to satisfy consumer demand. Therefore, the natural beauty and grandeur of the places are essential to the rising demand. There is no doubt that environmental performance and compliance are related to the cruise sector. Nonetheless, research indicates that compared to other marine industrial sectors, the cruise line industry produces a notably greater amount of waste and pollution. On a single voyage, the industry transports thousands of people worldwide, and these individuals produce a lot of solid and hazardous waste, gray water, oily bilge water, and sewage. Regretfully, the garbage poses a threat to the delicate marine ecosystem. The surrounding flora and animals can be harmed by even the least dangerous material. Table 1 shows the Global Growth of the Cruise Industry (2018–2024).

Table 1. Global growth of the cruise industry (2018–2024) (Wind Rose Network, 2017).

Year	Cruise Passengers (Millions)
2018	21.4
2019	22.0
2020	23.2
2021	24.7
2022	25.7
2023	25.8
2024	26.0

Implementing strategies to maintain the industry's environmental sustainability is necessary due to the huge amount of waste and pollutants generated is shown in Table 2. The fundamental idea behind sustainability is that economic objectives and environmental preservation objectives don't have to be mutually exclusive or incompatible. (Florida-Caribbean Cruise Association, 2013) reports that the cruise industry has embraced innovation over the years to meet the needs of passengers. As a result, new ship designs have been introduced, new locations have been explored, on-board amenities, facilities, and services have been improved, and a wide range of shore-side activities have been offered. In order to adapt to the evolving holiday habits of modern travellers, cruise lines have also introduced various cruise themes and journey durations to their patrons.

Table 2. Typical waste output from a cruise ship per day (florida-caribbean cruise association, 2013).

Type of Waste	Daily Generation (Approximate)
Sewage (Black Water)	30,000–50,000 gallons
Gray Water	170,000 gallons
Oily Bilge Water	1,000 gallons
Solid Waste	8 tons
Hazardous Waste	0.5 tons

The world's most important international transportation system is shipping, which helps developing nations and the global economy, respectively. For example, the cruise industry has grown remarkably during the last 20 years. *“With a notable 20.5% expansion from 2013 to 2018, the cruise sector reached a record-breaking 25.8 million passengers on international ocean cruises, a 4.5% rise over the previous peak of 25.7 million in 2016. In 2018, cruise lines connected with the Florida-Caribbean Cruise Association and the Cruise Lines International Association launched six new oceangoing boats, adding over 24,000 lower beds to meet this growing demand”*. Exciting features, a more customized passenger experience, adaptable on-board technology, and media initiatives including even TV series and films all contribute to the industry's ongoing growth.

LEGAL FRAMEWORKS FOR MARITIME ENVIRONMENTAL PRESERVATION

According to (International Maritime Organization, 2017) pollution from ship operations is controlled and prevented by the 1975 International Convention for the Prevention of Pollution from Ships, as amended by the 1979 Protocol (MARPOL 75/79). Mitigating oil leaks, whether they are operational or unintentional, is its primary priority. The six annexes of MARPOL 73/78 are designed to avoid all types of pollution from cruise is shown in Table 3.

Table 3. Overview of MARPOL 73/78 annexes relevant to cruise ships (International Maritime Organization, 2017).

Annex	Type of Pollution Addressed	Description
I	Oily Water Pollution	Oil discharge prevention and control
II	Noxious Liquid Substances in Bulk	Handling of bulk toxic liquid cargo
III	Harmful Substances in Packaged Form	Packaging and handling hazardous goods
IV	Sewage	Restrictions and treatment before discharge
V	Garbage (Solid Waste & Gray Water)	Waste minimization and disposal rules
VI	Air Pollution	Limits on NO _x , SO _x , and particulate emissions

CHAPTER 6

Plastic and E-waste: The New Issue in Urban Nepalese Cities**Heemani Mukhia¹, Sapana Sharma² and Pratik Bajracharya^{3,*}**¹ *Prakriti Resources Centre, Kathmandu, Nepal*² *Scott Wilson Nepal, Kathmandu, Nepal*³ *Catalyst for Change Nepal, Kathmandu, Nepal*

Abstract: Kathmandu Valley faces a severe, unmanaged waste crisis, driven by extensive plastic and e-waste accumulation from high anthropogenic activities. This pervasive issue, stemming from plastic dependency, poor management, and lax policy enforcement, significantly exacerbates pollution. Despite this, informal waste workers are crucial to waste collection and processing. This research aimed to map plastic leakage hotspots, evaluate informal recyclers' contribution, and identify opportunities for green ventures and effective e-waste management, promoting a circular economy in Nepal. A comprehensive mixed-methods approach was used, including field surveys, interviews, focus groups, and waste audits in metropolitan areas and rivers, alongside an e-waste case study in Tokha Municipality and a comparative analysis with Pasig City, Philippines. Key findings reveal that 46% of river waste is plastic, with 77% waste difficult to recycle. Kathmandu Valley generates over 1,200 tonnes of solid waste daily and 388.8 tonnes per year of e-waste, primarily from mobile phones. Approximately 19,845 informal recyclers, mainly migrant women, are vital to waste management, but they face poor wages, health risks, and social stigma. Nepal lacks domestic e-waste processing, leading to exports and a weak value chain. Pasig City's success in incentivizing community engagement and strengthening institutional waste programs offers a valuable model. Policy recommendations include strengthening informal recycling systems with legal recognition and fair conditions, mandating producer responsibility for e-waste *via* dedicated frameworks and safe recycling facilities, and enforcing regulations on low-quality electronic imports. Furthermore, promoting source segregation with incentives, conducting national surveys, establishing centralized databases, and piloting innovative waste management projects are crucial steps toward a sustainable circular economy in urban Nepal.

Keywords: Circular economy, E-waste, Informal waste workers, Plastic, Recycling sector, Solid waste management.

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INTRODUCTION

Nepal, a landlocked and upstream country, faces significant risks due to the impact of waste generation and its mismanagement on both upstream and downstream communities. This is particularly concerning, considering Nepal's geographical vulnerability and the potential for pollution to spread through rivers and waterways. Kathmandu, the capital, is the commercial hub and produces an enormous amount of waste compared to Lalitpur and Bhaktapur cities in the Kathmandu valley. The Kathmandu Valley generates over 1,200 tonnes of solid waste daily, of which 60% comes from the Kathmandu metropolitan city alone (The Kathmandu Post, 2024). Out of the total waste generated, 18.5% is directly sent to scrap dealers, 3% is reduced at the source, 63.5% ends up in landfills, and 15% is inappropriately managed, either burnt (3%) or dumped (12%). The monetary value of recovered materials at sources in Kathmandu valley is NRs. 3700 million (Ca USD 28 M) per year (Khanal, 2022). There is a possible investment and expansive returns in the recycling sector, further catering to the circular economy in the long run. Similarly, 28,000 tonnes of electronic waste is generated by Nepal every year, and Kathmandu valley alone contributes 10,000-15,000 metric tonnes of waste (The Kathmandu Post, 2023). On average rate each person accounts for 0.9 kg of e-waste in Nepal. In 2020, 53.6 million tons (mt) of e-waste was generated and the projections indicate that e-waste generation could reach 74.7 mt (metric tonnes) by 2030 worldwide, nearly doubling the quantity in just 16 years (Forti *et al.*, 2020).

On one hand, the formal sector in this arena includes the government/state, NGOs, private and public enterprises, companies, and scrap aggregators. On the other hand, the informal sectors comprise waste pickers, cycle itinerant buyers/cycle hawkers, and scrap centers. The scrap centers and waste pickers in Kathmandu Valley are facing a multitude of challenges, including eviction threats from local authorities, and require staying on guard to protect their property. Furthermore, operational difficulties like police restrictions and health hazards make it more difficult for them to operate effectively. These challenges are significantly impacting their livelihoods and the environment. Generally, the municipality and private companies are the primary collectors of waste, whereas the waste pickers and itinerant buyers are secondary collectors. These collectors are formal and informal, respectively, given that they have the authority and are registered by the Government to collect the waste in the targeted area.

The increasing growth in plastic consumption is attributable to its user-friendly and convenient design, incorporating strength and low density at a comparatively low cost. Besides, e-waste has become an uprising issue encapsulating the inability to recycle and reuse electronic devices. Identifying electronic equipment

that becomes waste, collecting year-wise import and production data, and projecting future e-waste generation in Kathmandu, or any municipality, is crucial for making informed decisions, serving the essence of the e-waste research.

Though Nepal's Government has specific mandates on solid waste management and some local-level bans on plastic, it fails to enforce systemic waste management and reduce the effects of waste and its pollution. The mismanagement of waste has hampered human lives and the surrounding environment, with a large amount of waste being disposed of openly without any plans or process of segregation. First, conventional waste disposal is a major reason for mismanagement and the inability to collect and segregate waste at the source. Second, the recycling plants and implementation of policies for waste management have led to mismanagement of waste, and pollution directly and indirectly impacts human lives and the environment. Third, there is inadequate commitment and funds for waste management, and the Nepalese community is new to the concept of the circular economy. According to our research, Primary collectors collect directly from sources, while secondary collectors obtain waste from primary collectors, facing challenges influenced by seasonality.

There's a significant deficit in granular data, specific actionable strategies, and detailed implementation blueprints for tackling plastic pollution and e-waste. This gap hinders effective policy enforcement, stifles green economic ventures, misallocates resources, impedes technology adoption, perpetuates environmental and health hazards, marginalizes informal workers, obstructs progress measurement, and ultimately stalls Nepal's transition to a circular economy. To bridge these critical deficits, this book chapter precisely maps plastic leakage hotspots, details the quantifiable contributions of informal recyclers, and identifies specific green venture opportunities. Furthermore, it outlines actionable e-waste management strategies, extracts concrete lessons from Pasig City's model, and provides comprehensive implementation blueprints for policy recommendations. This research is uniquely comprehensive, encompassing all critical plastic hotspots, mapping, quantification, and engagement with vital informal actors and other stakeholders, while also presenting a comparative success story from Pasig City, Philippines. This research captures the essence of plastic and e-waste management and its investment to ensure a healthy environment, further encouraging a circular economy and green ventures.

BACKGROUND

The Kathmandu Valley faces a growing waste management crisis, marked by plastic, e-waste, and organic waste accumulation. This problem, driven by systemic inefficiencies, has worsened plastic pollution and environmental

Luxury Leather Tourism: Pioneering Zero-Waste Strategies

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Abstract: Background: Contemporary tourists are looking for more than a cultural experience or memories nowadays, but want to purchase exclusive and luxury products that include leather goods. The Authentic recourse, the importance of cultural identity, and the hot aspect of exclusivity are all those factors that condition the human “psychological desire” for luxury retail experience in the context of tourism.

Purpose/Objective: This paper analyses the nexus between luxury shopping tourism and sustainability, suggesting zero waste strategies to face simultaneously environmental responsibility and exclusivity of luxury leather goods in tourists' minds.

Originality/Novelty: The current study fills a knowledge void in relation to luxury leather tourism, embedded waste contribution, and the potential for zero-waste initiatives within this niche. The study contributes a new concept of sustainability-based redefined luxury to the literature and provides practical implications for researchers and practitioners in tourism services and the luxury leather-products retail business.

Proposed Strategies: It lists the causes of waste production: over-wrapping, unsold stock, and short product lifespan resulting from luxury leather tourism. To address these challenges, the paper provides solutions, such as adopting circular economy principles and upcycling leather scrap and new alternatives to reduce waste generation in luxury leather production. To eventually achieve zero waste, strategies like sustainable luxury education for consumers and minimal packaging options are also recommended.

Keywords: Circular economy, Luxury shopping tourism, Luxury leather, Sustainable luxury, Tourism industry, Zero waste strategies.

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INTRODUCTION

The increasing demand for unique, exclusive, high-end goods and experiences has contributed to the rise of “luxury shopping tourism,” a prominent trend in the realm of travel and tourism (Hung *et al.*, 2021). Paris, Milan, Dubai, and Tokyo are some of the most famous shopping destinations in the world, drawing millions of affluent tourists every year (Morrison & Maxim, 2021). People feel a profound sense of cultural prestige and importance when they buy luxury goods overseas, such as handcrafted Italian leather bags, Parisian haute couture, or Swiss watches, as they represent authenticity and exclusivity. These places are celebrated for the designer boutiques along with the cultural and architectural setup, which becomes a significant part of the shopping experience (Armitage & Roberts, 2019). The financial benefits of shopping while travelling, such as access to tax-free zones and lower prices than home markets, further add to the appeal (Dimanche, 2003). Private fashion previews and product customisations are just commercially tailored to provide luxury brands with attributes for tourists (Choi *et al.*, 2022). Emerging middle and high social classes in developing countries (India, China) have reshaped the luxury market, especially for their tourists (Hung *et al.*, 2021).

Luxury leather goods, which are one of the major divisions of the global luxury market, are at the top of the list of industries that have an advantage from the raised demand in this growing sector (Fujioka *et al.*, 2018). The scale of the leather industry, which has huge international value, has been estimated to be over \$440 billion in 2022; growing at a CAGR rate of 7.8%, it is anticipated to grow into a US\$530 billion-plus industry by 2024 (Statista Market Insights, 2024a). Increased purchasing power, better standard of living, changing fashion trends, and a rise in international travel are stage-managers for the advancement of the leather industry (Amed *et al.*, 2020). The market of luxury leather takes flight due to increased disposable incomes, the inimitable attractiveness, and the magic of leather products. The global demand for the luxury leather market is estimated by a few big companies as this sector is expected to expand on a yearly basis at a rate of 3.8%, and its revenue is projected to reach USD 79.3 billion in 2024 (Statista Market Insights, 2024b). Affluent tourists and a rise in international tourism are the driving forces behind the increasing demand for luxury leather goods, as these items are symbols of status and indicators of cultural identity for them (Kapferer & Valette-Florence, 2016).

However, there is a rising concern regarding the environmental impact of growing luxury shopping tourism for leather goods, which leaves carbon footprints, contributing significantly to global warming (Ro, 2020). High levels of consumption, waste generation, and resource utilisation are frequently associated with tourism, particularly when it is in the form of luxury tourism (Hutton &

Shafahi, 2019). Also, the luxury leather sector uses a lot of resources and causes pollution, carbon emissions, and water contamination (Hutton & Shafahi, 2019). The luxury tourism and leather industries must implement sustainable practices in order to reduce the negative effects on the environment and society, while also ensuring their appeal and longevity. Major brands and tourist attractions need to adopt sustainable practices, while responsible tourism protocols also need to cater to consumers' appetite for luxury leather shopping (Pencarelli *et al.*, 2020).

Based on this perspective, the present study takes a conceptual approach to analyze the main challenges and identify strategic zero-waste solutions for luxury leather tourism in support of sustainable development. The literature review has indicated that there are some works related to luxury tourism experience, sustainable luxury tourism, the luxury value, and online presence of exotic leather goods, *etc.*, but still lacks a nexus between zero-waste strategies (in particular byproducts utilization) and luxury leather inner tour. Addressing that gap, then, this study conceptually investigates how sustainability principles, especially circular economy and waste reduction practices, can be used to embed luxury leather tourism. By contextualising luxury leather consumption in tourism as “environmental problem and solution,” this approach provides a new dimension of thinking about the challenges of climate change relating to both waste footprints and innovative sustainable practices.

GROWTH OF TOURISM CENTRED ON LUXURY LEATHER GOODS

There has been a significant development that the world tourism sector saw an upward swing in tourism for luxury goods, particularly in leather products (Statista Market Insights, 2024b). Tourists are more likely to visit a destination that is famous for its crafts, traditions, and exclusive luxury products (Rovai, 2016). This trend shows the dynamic of respect for culture and attraction to luxury, high-end products. Buyers looking for luxury goods directly from the source have always gravitated towards destinations such as Tuscany and Paris, both of which are famous for their artisanal leather workshops and haute couture (Ferreira, 2017; Gurung *et al.*, 2022; Sonnenberg *et al.*, 2024). These acquisitions not only confirm the buyer's social status but also represent souvenirs that reflect a destination's cultural identity (Danneels & Sethi, 2011). Out of this demand has come luxury retail precincts and stores that enable tourists to search for products around the world, like the leather markets in Florence or the exclusive malls of Dubai.

It costs at the economic level. Luxury shopping tourism is a significant boon to the local economy, particularly in regions where handicrafts and high-end production have long been integral to the culture. International tourists have long

CHAPTER 8

Sustainable Waste Management in Small Hotels: A Case Study of Eco-Friendly Practices in Jaipur's Hospitality Sector

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Abstract: Purpose: The quantity of hazardous waste has increased significantly as cities are expanding rapidly, and the industries that consume large resources, such as hospitality, are expanding. This research is meant to determine how effectively small hotels in Jaipur, Rajasthan, manage trash in a manner that proves to be environmentally friendly.

Methodology: It has used a quantitative research methodology was used, and a standardized self-administered questionnaire was used, where 200 small hotels were used and they were classified into three groups, namely: Budget, Mid-Range, and Boutique. Factor analysis was used to determine what we consider most significant in the management of sustainable waste, and the chi-square test was used to determine how various classes of people dispose of their garbage.

Findings: The factor analysis showed that there were four key elements, namely Waste Segregation, Recycling Initiatives, Circular Practices, and Staff Training. The waste separation and recycling awareness have high factor loadings, which depict the importance of these. Chi-square test has revealed that the differences between the separation of trash by the hotels were significant ($p = 0.032$). Budget hotels performed poorly compared to the mid-range and the boutique hotels. It is an indication that small hotels should have stringent regulations and strive to change the behaviour of individuals to dispose of their waste in a manner that is environmentally friendly. In order to attain wider goals of environmental sustainability, the managers and policymakers of hotels should focus on staff training, the establishment of superior waste management systems, and measures that are intended to curb consumption.

Future Scope: Future studies can be conducted on the effects of teaching and policy implementation on sustainable waste practices in the long term. Comparative studies

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between different cities in India and the large hotel companies can lead us to better realize the growing popularity of sustainable practices in the industry.

Keywords: Hospitality, Sustainability, Small hotels, The circular economy, The sufficiency approach, Waste management.

INTRODUCTION

The waste levels have become the highest ever because of the high rate of industrialisation that is driven by the influx of technological improvement and the high rate of resource depletion. Waste or the discarded materials are a major problem, a major challenge to modern consumption and disposal systems. The surging volumes of the majority of the wastes can be tamed through proper management of the wastes in ways that prevent damage to the environment, society, and the economy at large. Conventionally, the process of waste management, known as flaming, flushing, or flinging, was not complicated, though not very sustainable, and thus resulted in massive environmental destruction. It is these traditions that have demonstrated the necessity of taking action now so that we can manage waste in a manner that is environmentally friendly. One of the most comprehensive, multi-level, and proactive approaches to be able to cope with these challenges is sustainable waste management. It is about generating less solid waste, recycling, consuming fewer resources, preventing pollution, and having healthier communities. The strategy is complementary to the global sustainability agenda and, in particular, the 2030 Agenda of the UN Sustainable Development Goals (SDGs), which underlines the fact that waste management is critical in achieving a number of the objectives. The significance of waste management cannot be overestimated as it is associated with many different aspects, including the economy, the environment, technology, society, and morals. It also shows how various components address the issue of resource collection and trash disposal, which makes the argument about the just and sustainable policies much more effective. Accordingly, the new idea is that the circular economy might be the way to think of it. The circular economy enhances the better management of waste in the long run by reducing or eliminating garbage. It educates about the ways of making things and systems in such a way that materials can be reused, recycled, or more effectively utilised, so that these materials do not end up with no useful life left. Putting the ideas of a circular economy into practice means managing trash in a way that cuts down on pollution, saves scarce resources, and fights climate change. Municipal Solid Waste Management (MSWM) is an example of waste management that is good for the environment. MSWM includes the development, collection, transportation, treatment, and disposal of municipal solid wastes in a way that is good for the environment. This task involves household trash, building detritus, and waste

from sanitation. Most importantly, when doing these things, you should think about how they will affect the economy, the environment, and how they will look.

The hospitality industry, particularly the cheaper hotels in the place, can do much more regarding environmentally friendly methods of waste management. Small hotels are those that have a number of fewer than 50 rooms, and they are often associated with a particular form of tourism, such as eco-tourism and rural tourism, to name a few. They would also be served by innovative waste management systems that would enable them to achieve larger sustainability goals, as they are flexible and are oriented to customised services. It is not only that sustainable waste management is good for the environment, but it will also assist people in their healthy relationship with nature. This is particularly so because with industrialisation and consumption, pollution is at its worst. A combination of sustainable waste management methods and the concepts of the circular economy, coupled with the integration into the Sustainable Development Goals (SDGs), might enable creating a more sustainable world.

STATEMENT OF PROBLEM

Much more can be done in the area of the hospitality business, particularly the smaller hotels, in relation to the waste management techniques that are environmentally friendly. Small hotels are often referred to as those with fewer than 50 rooms and are usually associated with certain forms of tourism, including eco-tourism and rural tourism. New waste management systems would benefit them because they will achieve larger sustainability objectives as they are flexible and aimed at customised services.

Sustainable waste management is not only an environmental answer; it will also create a healthy way for people to interact with nature, especially since industrialisation and consumption have made pollution worse. A sustainable future for society might be constructed by integrating sustainable waste management methods with circular economy concepts and linking them with the Sustainable Development Goals (SDGs).

A model of efficiency might promote the use of break-down packaging, whereas a model of sufficiency might question the necessity of single-use packaging altogether. This kind of thinking goes against the concept that hospitality businesses should always be growing. It fits better with the ideas of degrowth and low-impact tourism, which promote “enoughness” instead of “excess.” This is the case that requires a shift to sufficiency rather than efficiency policy in the implementation of the policy on environmental waste disposal in hotels. The study becomes self-evident at the moment when one realises that low-scale hotels in Jaipur do not have any substantial issues with turning their waste management

CHAPTER 9

Renewable Energy Paradigm: Energy Security, Environmental and Economic Implications (A Study of FCT Abuja, Nigeria)

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Abstract: The paper discusses the incorporation of renewable energy sources into the Federal Capital Territory (FCT) of Abuja, Nigeria, in three major aspects, namely, energy security, environmental benefits, and economic effects. The article is concerned with the role of renewable energy to make Nigeria more energy secure, diversified, and less carbon-intensive. It also assesses the potential of job creation in the renewable energy sector, especially in peri-urban and rural societies. The economic feasibility of decentralized energy systems is also considered in the paper, and it is pointed out that the cost can be saved both on consumer and national levels. Nevertheless, the paper not only mentions the possible challenges, including the initial cost of technology adoption, the development of infrastructure, and policy support. The analyses indicate that, although renewable energy has the potential to support energy security, environmental sustainability, and economic development, it still has its challenges, such as the need for more solid policy structures, access to more funding for renewable energy projects, and raising people's awareness of clean energy technologies. The paper supports the holistic approach to renewable energy policy that will balance energy security, environmental health, and economic development towards a sustainable energy future.

Keywords: Clean energy transition, Energy security, Environmental sustainability, Economic impact, FCT abuja, Renewable energy.

INTRODUCTION

Global policy discussions have now put renewable energy on the world agenda due to the requirement of energy security and sustainable economic growth. An alternative to the traditional fossil fuels that cause climate change and pollution, in addition to resource depletion, is renewable energy, which is developed through

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natural processes such as solar, wind, hydro, and biomass. Nigeria, the most prosperous economy in Africa, is endowed with a lot of potential for renewable energy and is still heavily depending on non-renewable sources of energy, especially in places such as Abuja.

This paper will discuss the renewable energy paradigm and how it can be applied to the Federal Capital Territory (FCT) of Abuja in relation to energy security, environmental sustainability, and economic development. Although the world is working towards renewable energy, its adoption in Nigeria has been slow. This study is geared to fill this gap by examining how renewable energy may assist in the realization of a more secure, environmentally friendly, and economically vibrant energy environment in Abuja.

Renewable Energy, Energy Technology, and Energy Security

Renewable resources are also available in large quantities in the country, and they include solar, wind, hydro, and biomass, but they have not been fully exploited (Oladipo *et al.*, 2020). As the administrative and political hub, Abuja will be well-positioned to spearhead the adoption of renewed energy, which fosters energy security and is part of the national and global sustainable objectives. According to the International Energy Agency (IEA, 2019), renewable energy refers to the energy acquired through the natural processes that are made to regenerate even faster than they are used (Harjanne and Korhonen, 2019). The renewable energy technologies convert these natural sources of energy into useful forms of energy: electricity, heat, and fuels. It has been found through research into renewables that a move toward renewable energy can reduce the effects of climate change, and studies have indicated that this potentially could cut emissions by 70 percent in developing areas (Akinleye *et al.*, 2019).

Renewable energy can also play a big role in minimizing dependence on the importation of energy and improving national security by energy diversification, as stated by Energy Security according to the International Energy Agency (IEA). (2021). The issue of energy security, which is described in a general sense as the constant supply of energy at an accessible rate, poses a concern to Nigeria. The energy infrastructure of the country is harmed by inefficiencies, which result in rampant power cuts and dependence on fuel imports. The International Energy Agency (IEA) believes that renewable energy can address energy insecurity through energy supply diversification and reliance on fluctuating fossil fuel markets IEA (2019).

Renewable energies are naturally occurring and self-renewable, and tend to have either a low or no carbon footprint (Hoffman, 2018). Renewable energies refer to energy sources, which are directly derived by nature and directly from the sun

(such as thermal, photo-chemical, and photo-electric), indirectly from the sun (such as wind, hydropower, and the photosynthetic energy stored in biomass), or out of other natural movements and processes in the environment (such as geothermal and tidal energy).

The majority of the population holds the view that renewable energy collaborates with most aspects of sustainable development. Thus, renewable energy is one of the topics of sustainable development in global policy. Other researchers have demonstrated the significance of renewable energy in the economic development of the world. As an illustration, research suggests a positive correlation between real per capita income and per capita renewable energy consumption (Esposito, 2023; Alam *et al.*, 2021) . Who examined the same relationship of OECD countries with panel data, substantiated this observation. In order to render the consumption of renewable energy sustainable and socio-economically acceptable, the following parameters of development should be considered according to (Audu, 2020) , environmental sustainability by the proper use of resources management, economic sustainability by developing infrastructures and services that provide the disadvantaged rural residents with unambiguous access to the future, social sustainability by ensuring that the advantages of creating infrastructures and services are extended to the residents of disadvantaged rural areas; and sustainability.

There is an enormous potential for renewable energy in Nigeria, particularly solar power. The geographical location of the country is such that it lies in the Sun Belt, which has a lot of potential for solar energy. Research has indicated that solar energy would be able to support a significant part of the Nigerian energy requirements with proper investments and infrastructure (IRENA, 2019). Solar and wind energy would be the most appropriate solution for the FCT Abuja, which would offer residents a decentralized energy supply that may promote energy security (Figs. 1 - 3).

Environmental Sustainability

The nature of renewable energy technologies makes them more sustainable compared to fossil fuels since they rely on the processes that continuously occur in nature. Solar, wind, and hydro power do not produce greenhouse gases in their operation and hence will play a major role in fighting climate change. As an illustration, the International Renewable Energy Agency (IRENA) states that renewable energy technologies can potentially cut global CO₂ emissions by about 70% by 2050, provided that the technologies are extensively used (United Nations Environment Programme, 2020).

Envisioning Green Resource Tourism Destinations: An Eco-Sustainable Approach

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Abstract: Background: In recent years, nurturing green resources has emerged as a crucial paradigm in tourism destinations. Hence, twenty-first-century tourism progression must be fundamentally reoriented with a focus on sustainability and eco-friendly practices.

Objectives: This study aims to evaluate the impact of green resources and public attitudes towards the contribution and growth of sustainable tourism.

Literature Review: The literature of the study encompasses green tourism marketing, resource-based tourism tools, conservation-focused travel destinations, responsible tourism programs, sustainable tourism policy frameworks, and green investment strategies.

Methodology: Both primary and secondary data sources were used in this qualitative investigation. Responses were analyzed using Likert scale metrics to interpret perceptions with the application of a non-probabilistic sampling technique.

Findings and Analysis: Respondents comprises young, educated, and majority male population belonging to lower- to middle-income sectors. Perception data analysis projects that respondents strongly agree with the attractiveness of green resources with the potential of sustainable prospects. The outcome highlights a positive relationship between green conservation initiatives and the development of sustainable tourism practices for a growing tourism economy.

Implications: This study provides a useful viewpoint on the potential for green resource-focused sustainable tourism to spur future tourism expansion. The paper

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makes a realistic attempt to uphold the necessity of strategic investments and innovative policy implementation to foster the long-term sustainability of eco-friendly tourism in the coming days.

Keywords: Development, Green, Resource, Sustainable, Tourism.

INTRODUCING THE FOOTSTEPS OF ECO-GREEN TOURISM

In the present fluctuating business ecosystem, green resource tourism or sustainable tourism emphasizes eco-friendly travel, aiming to channelize environmental gains with local community development. As much as global tourism is growing, sustainable tourism offers an alternative that preserves ecosystems, promotes biodiversity, and fosters socio-economic benefits. The emerging trend of eco-tourism ensures long-term viability and responsible tourism, taking care of natural and cultural resources. In recent years tourism business has expanded, and mass tourism is promoting a sustainable agenda focusing on environmentally responsible tourism worldwide (Carter *et al*, 2001). The generic concept encompassing diverse forms of tourism offers the very foundation of green tourism with the mission, vision, strategy, and goals towards green tourism promotion and development in developing nations. The recognizability of sustainable tourism propagates nature centric product and practices, acting as a catalytic agent for the green tourism sector. The environmental concern for preservation and protection of natural habitat mediates a socio-economic relationship with green-centric tourism, impacting livelihood and economy across the globe (Poon & A, 1993). Nevertheless, green tourism development is a dynamic process focusing on attractiveness, economic viability, and new challenges to achieve community wellbeing with holistic tourism progression. In the present era, concerns about green environmental ecology have emerged as one of the most talked-about issues in rebuilding tourism destinations. Accordingly, it also adds value, benefiting business, travellers, and the tourism industry in creating a foundation for destination tourism with environmental awareness and commitment values. Harmonizing three key components, viz., environmental, social, and economic attributes, acts as an integral element in the pathway of eco-green tourism development for long-term sustainable growth in the years ahead.

REVIEW OF LITERATURE

Impact of Green Marketing for Green Tourism Promotion: An Insight

In order to promote green tourism, green marketing plays a prime role in the advancement of the tourism business. It has been witnessed that sustainable

tourism comprises an alternative form of tourism connecting sustainable tourism and eco-tourism, and is complementary to each other. The upcoming principles, profit, and long-term positive contributions to the environment have evolved as prime strategies for green marketing businesses. This approach emphasizes cooperation between suppliers, sellers, partners, and even opponents to achieve environmentally sustainable expansion across the entire value chain (Furqan *et al.*, 2010). It also calls for the collaboration of every business activity to find the best available remedies for sustainability. The requirement of three needs, *i.e.* need of guests in a temporarily changed environment, the need for presenting the natural environment, and the need for tourism oriented through ecotourism showcases realistic collaboration with nature and tourists. Sustainable tourism has been distinguished by the International Ecotourism Society as “Sustainable tourism fulfilling the needs of tourists with the host locality” (Walker *et al.*, 1998). In contrast, ecotourism is considered responsible tourism focused on travel to natural locations that safeguard nature. Green marketing research is aiming on developing products that balance consumer demands for quality, practicality, affordable prices, and ecological impact at large. Interestingly, it aims to create a brand image that highlights both high product quality and ecological openness. This image extends to the manufacturer's achievement in environmental protection, further reinforcing their commitment to sustainability.

Linking Green Investments with Tourism Destination Growth: A Perspective

Today, the changing paradigm of tourism trends is quite visible worldwide. The global economy serves as the interconnection between business, heritage, and society, driving a collective shift toward eco-innovation to preserve our ecosystem for future generations. In present times, there has been a prominent inclination in laying the foundation for green technologies – the intricate root of green investments. The green array of eco initiatives comprising green economy initiatives, green investments in business, environmental protection, and preservation of natural habitats is quite relevant in the present tourism landscape (Dwyer *et al.*, 2003). Thus, immense importance is linked with the ecological management with appropriate identification of environmentally friendly resources for green tourism expansion in the coming days. Geographical indicators, including solar energy, wind speed, air density, and allied factors, need to be harnessed for attracting green investments. Such a supportive initiative fosters the prosperity of green hotels in ecological green centric environment for tourism development. Incidentally, it can be witnessed that green investment development project demands a reasonable amount of financial support for transforming the nation towards a ‘green-powered economy’. The green economy financing programme needs to be evaluated for investing in green technologies linked with green-assisted projects. Subsequently, in support of resource conservation and

CHAPTER 11

Tech-Driven Solutions for Sustainable Waste Management in Tourism: The Road to a Zero-Waste Society

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Abstract: Many Countries are earning more money through Tourism Industries. But at the same time, it creates a huge amount of wastage, especially in places with more traffic. This chapter addresses the challenges of waste produced by tourism. This chapter explains the traditional methods that are used to manage the waste. It also presents the technology-based solutions in order to achieve a zero-waste society. This chapter explains about how the environment gets affected due to poorly handled waste in tourist places. It mainly focuses on digital tools used for waste monitoring and collection. The chapter also focuses on the use of smart technology and digital tools in waste management. The digital tools, such as sensors, GPS-enabled fleet management systems, and data analytics platforms, are used for collecting the waste in real time. It explains how technologies such as the Internet of Things, Big Data Analytics, and mobile-based applications are used to collect and monitor the waste. Also, this chapter explains how these technologies are used in tourism places to predict the problems and improve the overall performance. This chapter has included many real-life examples which are showing how tourist places use the Internet of Things (IoT) solutions to reduce waste. This chapter also presents how data-driven decision-making can be taken using big data, prediction models, and cloud-based systems. It discusses how digital platforms and smart solutions are used for zero-waste initiatives. The chapter also discusses the challenges in implementing tech-driven waste management solutions. Finally, the chapter presents the future trends in tech-driven management for tourism.

Keywords: Environmental impact, Recycling, Stakeholder collaboration, Sustainable tourism, Waste management, Zero-waste society.

INTRODUCTION

Tourism is a large and fast-growing industry that creates a lot of job opportunities and increases the economy of the country. Though it increases the economy of the country, it also generates large amounts of waste, which pollutes the environment

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and affects the ecosystems. When a greater number of people visit the beautiful tourist places, they generate large amounts of waste, which in turn damages the environment. So, there is a need of sustainable waste management system. People should be more aware of environmental problems to protect nature. Modern technologies such as Internet of Things (Ahmed *et al.*, 2023), (Olawade *et al.*, 2024), (Noiki *et al.*, 2021), Blockchain Technologies, Big Data Analytics, and Cloud Platforms help in managing the waste effectively. These technologies manage the wastes very fast manner. These technologies help in maintaining a greener environment. It supports achieving the global goal of a zero- waste society and a tourism environment live in harmony in the future.

Overview of Waste Management Challenges in Tourism

Tourism Industries play a vital role in the economy. However, it creates a lot of environmental problems, particularly in managing the waste. Every Year, a large number of people visit the popular tourist places and create a lot of waste, like plastics, food leftovers, solid trash, and harmful materials, which pollute the environment badly. This will not be managed by the local waste management systems. The tourist sectors are facing a big challenge in managing waste. Some of the main problems are listed below:

- ***Elevated Waste Production:*** During the season, more people will visit the tourist spots. Due to this, a sudden rise in waste will be generated. Managing the waste at this time will be a very difficult task for the local systems.
- ***Insufficient Waste Management Infrastructure:*** In developing countries, in many regions, they do not have sufficient facilities for proper waste management.
- ***Single-Use Plastics and Non-Biodegradable Waste:*** Tourism depends heavily on disposable plastics. These materials remain in nature for years and pollute oceans and landscapes.
- ***Food Waste:*** Hotel industries and restaurants produce a large amount of food waste due to poor planning and poor practices followed in handling waste.
- ***Marine and Coastal Pollution:*** People visiting to Marine and Coastal places, such as seas and beaches, produce a lot of waste, which is shown in Fig. (1). These large amounts of waste contaminate the marine and aquatic environments.
- ***Awareness and Education:*** Most of the people who are visiting tourist places are unaware of local waste rules and how the environment will be affected because of their actions. This lack of knowledge, it often leads to littering and incorrect segregation of the waste.



Fig. (1). Impact of tourism on coastal waste levels.

(Image Source: <https://www.oneplanetnetwork.org/programmes/sustainable-tourism/global-tourism-plastics-initiative/tourisms-plastic-pollution-problem>)

Defining a Zero-Waste Society in the Context of Tourism

A zero-waste society mainly focuses on reducing waste and using resources effectively (Zaman & Lehmann, 2011). It supports sustainability through the reuse of materials. This will be very important, especially in tourism, where large amounts of waste will be generated by the visitors. This will create unnecessary pressure on local systems. Zero-waste efforts help in reducing the environmental harm caused by travel and hospitality services. Below are some of the practices followed by various industries.

Sustainable Practices in Hospitality

Hotels and restaurants can follow zero-waste practices by changing their daily operations to reduce the amount of waste they produce.

Education and Awareness: Education and Awareness

Teaching tourists about eco-friendly habits can greatly reduce waste. This can be done by using simple techniques like information about recycling points and motivating people to use the reusable items, which builds a culture of sustainability among visitors (Filho *et al.*, 2024).

CHAPTER 12

The Green Journey: Radisson Hotel and Effective Waste Management Solutions

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Abstract: According to Radisson Blu Hotels (2023), Radisson Blu, New Delhi, faced the increasing challenge of dealing with large amounts of organic waste caused by its daily operations. The conventional ways of disposing of waste were not only unsustainable to the environment but also contrary to the overall sustainability objective of the hotel. To solve this, the hotel partnered with Earth Care Equipment Pvt. Ltd. (2025) and installed the automated KWIK Composter system- an Organic Waste Converter (OWC), which converts organic waste to nutrient-rich compost. This system was incorporated by ensuring that the staff was well-trained, operations were realigned, and waste segregation guidelines were introduced. This meant that the hotel substantially decreased the amount of landfill to contribute, decreased greenhouse gases, and recycled compost to use in their landscaping on site, providing ecological and economic advantages. The project resulted in increased operational efficiency, savings on fertilizer and disposal, and the acknowledgment in terms of eligibility for environmental certifications like LEED and BREEAM. It also provided the door to carbon credit creation according to SDG 13 (Climate Action), which makes the hotel one of the examples of environmentally friendly hospitality. The strategy used by Radisson Blu can lead to sustainable change in the hospitality industry, integrating luxury with environmental sustainability and motivating the wider industry to adopt it.

Keywords: Eco-friendly initiatives, Organic waste, Radisson Hotel, Sustainable commitments, Waste Management.

INTRODUCTION

Like other hotels in the luxury segment chain or independent hotels, Radisson hotels have always struggled with the issue of proper waste management that is both efficient and sustainable. Conventional ways of disposing of waste, like conducting bulk waste to landfills, were not sufficient and sustainable. These obsolete traditions were not only ecologically unfriendly but were also incompa-

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tible with the unwavering effort of the Radisson Group to promote sustainability and its attempt to be environmentally friendly in its business. With the realization that they need to become more responsible and innovative in the way they handle their waste disposal, Radisson Blu, a flag hotel in New Delhi, entered into a strategic partnership with Earth Care Equipments Private Limited (ECEPL, 2025). This partnership was meant to encourage sustainability in the operations of the hotel and the urgent need to have more efficient waste management habits. As a result, in this collaboration, the hotel established a detailed set of initiatives intended to revise its waste management policies and attain long-term environmental and operational objectives. According to (ECEPL, 2025), this was the partnership between Radisson Blu and ECEPL that aimed at achieving a number of urgent objectives. These were decreasing the amount of organic waste that the hotel produces, limiting the environmental footprint of waste discarding by using environmentally friendly methods, and the introduction of the newest technologies in all areas of work to correspond to the principles of efficient waste management. In order to meet these objectives, the hotel invested in an automated KWIK Composter, which is a modern Organic Waste Converter (OWC) that is able to convert organic waste into nutrient-enriched organic manure. This innovative technology offered a long-term answer to the organic waste disposal since it transformed the waste into a valuable item which could be used in the landscaping and gardening activities in the hotel. In this way, the hotel would not only have lowered its reliance on the landfill waste disposal, but it would have also cut down its spending on transportation of the waste by a great percentage. Moreover, this project had a direct impact on the overall sustainability objectives of the Radisson Group, which is a decreased level of greenhouse gas emissions (GHG) and, hence, the contribution to global climate change mitigation (U.S Environmental Protection Agency, 2021). Radisson Blu was also a pioneering case of sustainable hospitality due to the successful implementation of the KWIK Composter. All these attempts ensured that this hotel could be considered in such high-profile environmental certifications as Leadership in Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM). The certifications are international and are used as an indicator of sustainability in building design, building construction, and operating. The gain to become eligible for such certifications also strengthened the image of the hotel and proved its uncompromising attitude toward environmental responsibility. Radisson Blu also adopted a number of supportive programs to make its sustainability program successful, in addition to installing the KWIK Composter. The training and education of staff were important, as employees in all the departments were provided with detailed information on waste segregation and waste management techniques. With the help of establishing a culture of environmental awareness

and responsibility, the hotel gave power to its staff to play a vital role in ensuring that the hotel achieved success in its waste management goals. There was also the introduction of waste segregation practices to make sure that the organic wastes and the other types of waste were completely separated, which made the process of composting easier, and therefore gave the KWIK Composter maximum efficiency. It is the combination of these efforts that provided a variety of tangible benefits to the hotel. These included extended awareness among the guests and other stakeholders, who valued the way the hotel embraced sustainability. The financial savings were also considered a major benefit as the cost of waste transportation and disposal was reduced, which contributed to the overall profitability of the hotel. In addition, the fact that the amount of waste decreased not only supported the sustainability ethos in which the hotel operated but also demonstrated that the company could incorporate environmentally friendly principles in all spheres of its activity. According to ECEPL (2025) documents, Radisson Blu has established a new benchmark of sustainable practices in the hospitality sector through its strategic endeavors and creative partnership with ECEPL. The dedication of the hotel to reduce its environmental impact and, at the same time, attain operational excellence is an example that other hotels and businesses may follow in order to embrace sustainable waste management practices. Radisson Blu has proven that sustainability and operational efficiency do not have to be mutually exclusive because of the combination of technology, education, and a progressive mindset about the future of hospitality, which is bound to make the hospitality industry more environmentally friendly.

Hotel Overview The Radisson Blu Hotel is a luxury hotel of the first grade with the first grade facilities, excellent services, and an excellent location in the quiet New Delhi suburbs. This five-star hotel incorporates advanced design, modern facilities, and personalized amenities to serve both business and leisure travelers. With modern interior furnishing and roomy bathrooms, the hotel also has 219 well-decorated rooms and suites, equipped with minibars, flat-screen TVs, free Wi-Fi, and bathrooms. Some of the available options are Suites, Business Class Rooms, Superior Rooms, and Premium Rooms. The hotel consists of the stylish lounge where guests have the choice of teas, coffees, and desserts, and an all-day dining restaurant with buffet and à la carte treats of many different cuisines. The hotel also has a stylish bar, which serves a good selection of beverages and foodstuffs. There is also a fine-dining restaurant that deals with Pan-Asian cuisine. The hotel has an event space totaling over 32,000 square feet of banquet halls and meeting rooms that are ideal for holding weddings, conferences, and business meetings. Some of the offerings include a fitness center, rooftop pool, spa, and wellness centers. It is also in a good location with the Metro Station being its immediate neighbor and connecting in a short time with the main commercial areas of Delhi and the Indira Gandhi International Airport, located

CHAPTER 13

Sustainable Waste Management In Rural Destinations

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Abstract: This chapter presents a conceptual synthesis of Sustainable Waste Management (SWM) in rural areas, examining its role in environmental preservation, community well-being, and economic growth. It analyzes key challenges such as inadequate infrastructure, resource constraints, and low awareness while evaluating practical solutions like composting, recycling, and waste reduction. The discussion emphasizes community engagement, education, and the role of public-private partnerships and policy frameworks in enhancing SWM systems. Supported by case studies, the chapter synthesizes actionable insights and proposes recommendations, including localized participation, institutional strengthening, and scalable models. By integrating theory, empirical evidence, and policy analysis, this work serves as a foundation for future research and practice in rural SWM.

Keywords: Constraints, Community, Capacity building, Economic stability, Environmental, Economic growth, Engagement, Global, Health, Integrated, Local, Management, Policy framework, Policy incentives, Rural areas, Resource, Sustainable, Scalable models, Well-being, Waste.

INTRODUCTION

Waste management is crucial for sustainable development, impacting environmental health, social well-being, and economic stability. Rural areas, with their pristine landscapes and cultural heritage, are vulnerable to waste mismanagement due to tourism, agriculture, and local industries. Challenges include limited infrastructure, geographic remoteness, and resource constraints. Tourists can increase waste volume and diversity, complicating issues. Unplanned waste disposal, open burning, and unregulated landfills pose threats to ecosystems, public health, and the local economy. Improper waste management leads to soil contamination, water pollution, and loss of biodiversity. Rural areas offer unique opportunities for innovative waste management solutions comprising

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composting, biogas generation, and recycling, aligning with global sustainability goals (Noudeng *et al.*, 2024; Taboada-González *et al.*, 2010).

This chapter explores principles, challenges, and strategies for sustainable waste management in rural areas, highlighting global success stories and the role of education, policy frameworks, and technology.

CHALLENGES IN WASTE MANAGEMENT

Waste management in rural areas is a complex issue due to geographic, economic, and social factors. The influx of tourism complicates the process, increasing waste generation and straining limited systems. The various challenges in waste management in rural areas are shown in Fig. (1). Addressing these challenges is crucial for maintaining environmental integrity, public health, and preserving rural destinations' cultural and economic value.

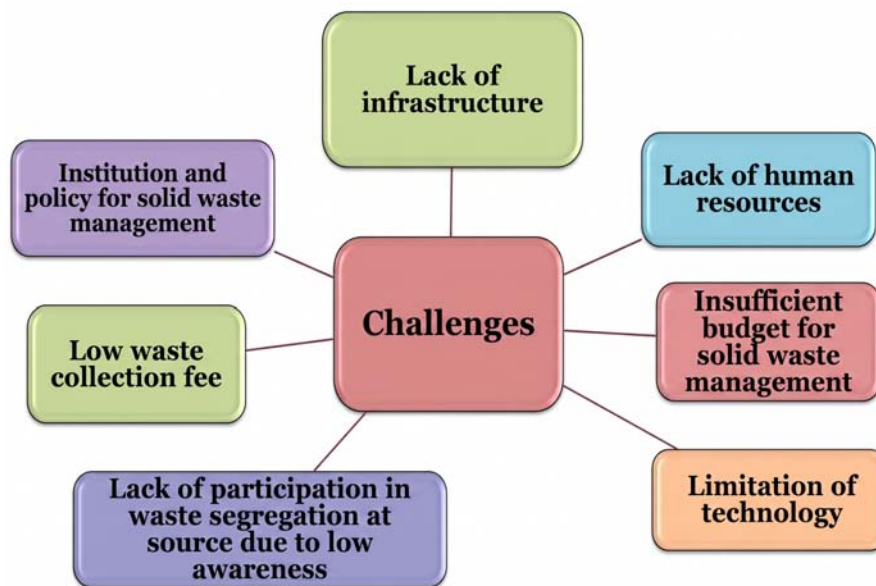


Fig. (1). Challenges in waste management in rural areas (Khosravani *et al.*, 2023).

Limited Infrastructure and Facilities

Rural areas often lack proper waste collection systems, leading to waste accumulation in open spaces or unregulated dumpsites. Lack of recycling facilities and proper disposal mechanisms discourages waste segregation and recovery efforts. Unavailable sanitary landfills and waste treatment facilities result in unsustainable practices.

Financial Constraints

Rural waste management systems face financial constraints due to insufficient local government funding, high operational costs due to rural settlements' dispersion, and reliance on irregular external grants or donations, which may not support long-term initiatives.

Geographic and Demographic Challenges

Waste collection faces challenges due to geographical and demographic factors such as remote locations, low population density in rural areas, and seasonal variations, which hinder the establishment and maintenance of waste collection services (Sawant *et al.*, 2024).

Lack of Awareness and Education

Traditional waste practices, such as open dumping, may be deeply ingrained in local communities. Low awareness of environmental impacts and the benefits of sustainable practices may hinder the adoption of effective waste management practices. Insufficient education and training programs also contribute to this issue.

Impact of Tourism on Waste Generation

Rural tourism significantly contributes to waste generation, especially non-biodegradable materials like plastics and packaging. Tourists often lack awareness or incentives to participate in local waste management systems, exacerbating disposal challenges and straining local resources (Qammar *et al.*, 2023).

Inadequate Policy and Governance

Rural areas often lack adequate policy and governance, with fragmented or outdated regulations that don't address modern waste management needs. Enforcement is often weak due to limited personnel, funding, or political will. Poor collaboration among local governments, private organizations, and community groups also hinders integrated waste management efforts.

Environmental and Ecological Risks

Open dumping and burning pose environmental risks, releasing pollutants into the air, water, and soil, disrupting ecosystems, harming wildlife, and contaminating natural habitats. Unmanaged waste sites can also lead to water contamination.

CHAPTER 14

Zero-Waste Accommodation: Sustainable Practices for Coastal Hotels and Resorts

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Abstract: This chapter discusses the issue of the increased significance of zero-waste within the hospitality industry, specifically, the coastal hotels functioning in eco-sensitive areas. The primary objectives include measuring zero-waste programs, determining sustainable waste treatment methods applied by waterfront hotels, analyzing the barriers and opportunities to implementation, and providing practice-based recommendations to the hotel administrators, policy makers, and local communities. The chapter addresses waste segregation, composting, e-waste management, and the removal of single-use plastic through secondary data in the form of scholarly literature, industry reports, and case studies. The principles of a circular economy and new technologies, such as AI-based waste monitoring and waste-to-energy technologies, speed up zero-waste processes. Taj Exotica, Andaman Islands, and Alila Diwa Goa demonstrate the effectiveness of these strategies in Indian coastal hotels. Despite the high costs of operations and lack of consistency in regulation systems, coastal hotels have the ability to be innovative, engage communities, and enhance sustainability. The chapter concludes with the step-by-step recommendations: the hotel management must place sustainability into its business models and invest in employee training and engagement with guests; the policymakers must standardize waste rules and provide financial incentives; and the local communities should recycle, local sourcing, and learn how to waste minimally. The chapter highlights how zero-waste accommodation could be an option in developing tourism in the coastal areas.

Keywords: Coastal hotels, Circular economy, Sustainable tourism, Waste management, Zero-waste accommodation.

INTRODUCTION

Sustainable Practices in the Hotel Industry

Over the past few decades, the concept of sustainability has been developing at a rapid pace, and the concept is viewed as a necessary strategic concern at almost

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any business (Hoffman, 2018). Sustainability is an increasingly significant element in the hotel sector, including in the international hotel industry, where the professionals of the industry have been integrating sustainable practices in their day-to-day practices (Jones *et al.* 2014). Nonetheless, the aspect of ambiguity that has plagued the field of sustainability still exists, and there are no specified guidelines on what constitutes sustainable actions (Arowoshegbe *et al.*, 2016).

Hospitality is known to be one of the biggest industries. It continues to be a combination of various sub-sectors. In an extensive overview of the issues of defining hospitality, Ottenbacher *et al.* (2009) note that the scope and exposure of this field remains an unresolved consensus among scholars and practitioners in the hospitality sector.

Hotel is a significant source of environmental degradation since it consumes a lot of water, power, and resources besides wastes it generates. The sector has realized this and is doing well towards sustainability. Sustainable hotel practices include energy efficiency, water conservation, keeping the amount of trash to a minimum, and making sure that the procurements being made are environmentally responsible. These policies are essential for environmental conservation and the sustenance of competitiveness and profitability (Kasim *et al.*, 2014; Mensah, 2006).

The most popular global programs, including the global Code of Ethics in tourism by the UNWTO, and other similar efforts, endorse sustainable tourism by suggesting LEED certifications and EarthCheck programs to hotels (UNWTO, 2019). Hotels such as the ITC Grand Chola in India have followed the ways and have proven that sustainability and beauty can co-exist. These actions are used to increase brand image, appeal to environmentally conscious customers, and reduce costs of operation (Jones *et al.*, 2014).

Technological advancements have also led to the industry changing towards sustainability. Solar panels, smart water systems, energy-saving appliances, and high-tech waste disposal devices are now part of the modern hotel (Chan *et al.*, 2008). Consequently, not only are the hospitality leaders complying with the regulatory requirements, but they are also leading in sustainable tourism.

Importance of Zero-Waste Initiatives in Coastal Regions

Touristic activities are also prone to environmental degradation, especially in coastal areas. Studies show that the amount of plastic waste that gets into the ocean yearly amounts to 8 million tons, and a considerable part of it is generated in the coastal areas (Jambeck *et al.*, 2015). The Hotels in such regions are the cul-

prits in this issue by disposing of waste inappropriately, using up excess resources, and being ignorant of sustainable practices.

The zero-waste programs offer the solution as they focus on reduction, reuse, and recycling. To illustrate, the Taj Exotica Resort in Goa has introduced a waste separation scheme that minimizes the contribution to landfills by 90 percent (Singh, 2019). In Kerala, resort groups have embraced composting methods of organic wastes, so that the food left over is transformed into compost containing nutrients for local farmers (Mathew, 2020).

The practices are consistent with the principles of the circular economy that aim at developing a closed-loop system of resource usage (Geissdoerfer *et al.*, 2017). Zero-waste initiatives increase the socio-economic and environmental sustainability of the coastal areas by reducing wastage, protecting the biodiversity, and working with the local communities.

Objectives and Scope of the Study

This chapter explores zero-waste strategies in coastal hotels, focusing on the following objectives:

1. To analyze the importance of zero-waste practices in the hospitality sector.
2. To identify sustainable waste management strategies adopted by coastal hotels.
3. To examine the challenges and opportunities associated with zero-waste implementation.
4. To provide actionable recommendations for hotel managers and policymakers.

The chapter uses secondary data such as academic articles, industry reports, and Indian coastal hotel case studies. These results become a part of the emerging literature on sustainable tourism and can be used as an effective tool for facilitating zero-waste practices.

LITERATURE REVIEW

Overview of Zero-Waste Concepts

The chapter uses secondary data such as academic articles, industry reports, and Indian coastal hotel case studies. These results become a part of the emerging literature on sustainable tourism and can be used as an effective tool for facilitating zero-waste practices.

The hotel industry used to be seen in the past as not being a major factor contributing to environmental degradation when compared to other sectors like

CHAPTER 15

Exploring Sustainable and Eco-Tourism Destinations: A Path Towards Responsible Travel

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Abstract: This chapter explores the principles and the meaning of sustainable eco-tourism. It places emphasis on how eco-tourism helps in conserving the environment, besides offering a meaningful travel experience that creates awareness and responsibility among the travellers. The chapter is a review of some of the fundamental principles of sustainable tourism, highlighting ecological integrity, cultural preservation, and socio-economic benefits. It points out the importance of community participation in the planning and operation of eco-tourism projects so that they can be beneficial to the locals and be environmentally friendly. Using detailed case studies of the well-known eco-tourism destinations across the world, the chapter demonstrates the successful models and pitfalls that come up during the implementation of sustainable practices. Lastly, it suggests policy suggestions that will improve the role of eco-tourism in environmental sustainability, community, and responsible travel. All in all, this chapter is an invaluable guide to the idea that eco-tourism could be a very crucial instrument of sustainable development and responsible tourism practice on the global level.

Keywords: Biodiversity, Conservation, Community empowerment, Eco-tourism, Responsible travel, Sustainability.

INTRODUCTION TO SUSTAINABLE AND ECO-TOURISM

Tourism has become a significant branch of the global economy and a means of job, revenue, and culture. The importance of sustainable and greener tourism practices has continued to increase with the expansion of the industry. Sustainable tourism is supposed to lessen the environmental impact, preserve local cultures, and support the economic development of the host societies. Eco tourism is a subdivision of sustainable tourism, a branch that dwells on responsible tourism in

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natural settings to form environmental awareness and conservation. Eco-friendly destination marketing is not only environmental friendly but also enhances the overall experience of the destination traveler, which encourages responsible behaviour and management of the destination's sustainability. Against the background of the heightened importance of sustainability in tourism, this chapter explains various eco-tourism destinations and how they can be exploited to promote responsible tourism activities that will help in harmonizing economic and environmental protection. Ultimately, sustainable tourism plays a critical role in deciding on the sustainability of the industry and how it would help to make a positive contribution to future generations.

This chapter is premised on secondary data, which utilizes the available literature, reports, and research on sustainable and eco-tourism destinations. Based on the analysis, multiple views and results of the reliable sources have been combined to give a full picture of the matter.

Definition of Sustainable and Eco-Tourism

Tourism is an empirical phenomenon, in which individuals are traveling between one place to another place to enjoy leisure, trade, business, cultural experiences, *etc.*, and also broadening experiences. It also leads to economic growth, cultural exchange, and environmental awareness. The nexus of sustainability has also been adopted in the present-day era of sustainability promotion of tourism. And it has been labeled as Eco Tourism. Sustainable tourism does not only entail the environmental issue but also has other layers, such as economic, social development, and cultural preservation as well.

Fig. (1) shows various dimensions of sustainable tourism. Sustainable tourism is devoted to lowering the negative and gloomy impact of tourism on our surroundings, culture, and basic social structure, along with the maintenance of economic benefits. It includes the strategic planning to encourage efficient use of resources, safeguarding of cultural prosperity, and economic development with sustainable growth. Eco tourism is a part of sustainable tourism focusing upon nature and environmental preservation and creating awareness through environmental education to support local social and economic development, while fostering respect for indigenous cultures (Harale & Pawar, 2024).

Sustainable tourism and ecotourism focus on approaches to enhance biodiversity, reduce ecological footprints, and promote social justice in order to balance tourism and environmental conservation. Through enabling tourists to engage in sustainable local participation and wildlife viewing, eco-tourism contributes greatly to the creation of environmental and cultural conservation awareness. According to the World Tourism Organization, sustainable tourism is

"Sustainable tourism development conserves and increases future opportunities and satisfies the demands of present visitors and host communities. It is supposed to lead to the management of all resources in a manner that conserves biological diversity, important ecological processes, cultural integrity, and life support systems, and satisfies economic, social, and aesthetic needs.

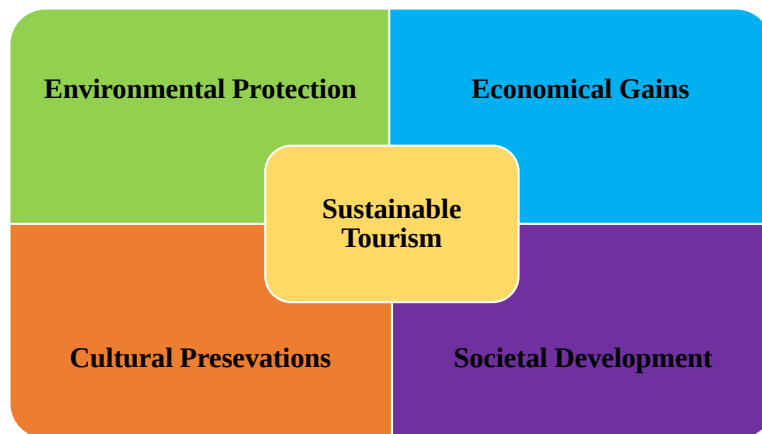


Fig. (1). Dimensions of sustainable tourism.

Source: Harale & Pawar, 2024.

Overview of the Emergence and Importance of Eco-Tourism in the Tourism Industry

By the year 2047, the Eco-tourism sector is projected to develop rapidly. It is expected to become one of the game-changing businesses in the service sector in India. By the end of the year 2047, the eco-tourism sector in India is expected to have a value of approximately \$500 billion. This sector could generate more than 10 million jobs, resulting in enhanced livelihoods of local communities (Harale & Pawar, 2024).

Eco-tourism, which reflects a move toward sustainable travel habits, has grown to be a significant part of the worldwide tourism sector. The emergence of eco-tourism is a reaction to the negative impacts of mass tourism on the environment and society. It has its basis in environmental conservation, protection, and community participation in the cultural heritage. It was the first revolutionary thought to be formalized in the 1980s and has gone on to become renowned as an alternative paradigm to strike a balance between economic growth and environmental conservation (Bac, 2014).

The operations within the natural and least disturbed environment are what make eco-tourism, and this is concerned with education, appreciation, as well as

CHAPTER 16

Role of Digital Green Marketing Campaigns, Tourists' Environmental Beliefs Towards Eco-Tourism Destination: A Step Towards Sustainability

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Abstract: In recent years, sustainable development has gained more attention, and environmental awareness is an important part of modern tourism. Based on theories related to the impact of the use of social media on environmental awareness, the study investigates “the effectiveness of digital green marketing campaigns” in shaping the environmental attitudes of tourists and leading to new eco-tourism destinations *via* digital media, underscoring the increasingly important function of online platforms in promoting awareness for sustainable tourism activities. Digital green marketing is the practice of employing technology-driven platforms to spread promotional messages on how to practice sustainable behaviours, which can influence the actions and choices of tourists. Such campaigns aren't just about promoting eco-tourism destinations; they're also about encouraging eco-conscious choices. This study examines how tourists' environmental beliefs are impacted by green marketing initiatives, thereby further resulting in sustainable behaviors. The integrated approach is used, combining the theories of environmental psychology and green marketing to explore the relationship between tourists' perception and decision-making process.

It highlights important measures influencing tourists' perceptions of eco-tourism destinations, including the credibility of green marketing messages, the utilization of interactive digital content, and the alignment of campaigns with global sustainability objectives.

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The results confirm that effective green marketing campaigns propagate better knowledge about sustainability and encourage tourist attendance at eco-times: nature-friendly initiatives. This study brings practical implications for tourism marketers, destination managers, and destination policymakers who are seeking to align with sustainable development goals. Digitalization of eco-tourism destinations would facilitate increased tourist interest, aid in nature preservation, and deliver sustainable value. This study highlights the unprecedented opportunity of utilizing digital green marketing to “contribute to a more sustainable future of tourism.

Keywords: Digital green marketing campaigns, Eco tourism destinations, Environmental awareness in tourism, Green consumer behaviour, Sustainability.

INTRODUCTION

An extensive variety of plants, fauna, and other natural features may be found in India, which is well-known for its abundant biodiversity. This led to a number of stunning sites in India that are considered pieces of natural beauty. Moreover, such areas are often marketed to the tourist industry as attractive locations for the vacationer, predominantly the ecotourist. Then again, as far as vacation planning has gone, ecotourism is gaining in popularity among travelers because they are putting greater emphasis on environmental issues (Dutha *et al.*, 2023). There are several ways to understand the concept of "eco-tourism. Ecotourism is a term that describes the travel to natural areas cautiously to protect the environment and support “the well-being of the local communities within those areas”(Shoo, R. A., & Songorwa, 2013). Ecotourism is an environment-based usage of natural resources in their natural form and with as little human interference as possible. Things which gets highlighted include the beautiful romantic landscape, pristine jungle, pristine river, and a wide variety of wildlife. Sustainable development of ecotourism depends on the careful and effective management of these resources. For multiple decades now, India has faced a persistent deterioration of its forest resources, even with a number of regulatory laws and policies governing the sustainable use of forests. The tourism sector is one of the most criticized sectors with regards to the damage it causes to the “natural environment due to its overconsumption of natural resources such as water, electricity, and raw materials for construction”. Green marketing methods might be adopted, as in recent years tourists have become conscious of the environmental problems caused by tourism, exerting pressure on businesses to adopt a more ethical approach to business (Tilikidou & Delistavrou, 2015). Arguably, the greatest wealth of eco-destinations is tourists, which also raises the biggest issue (Juvan & Dolnicar, 2014; Sultan *et al.*, 2020). Alterations in the behaviour of visitors can decrease negative effects such as rubbish accumulation, pollution, or forest fires due to careless behaviours of visitors (Han *et al.*, 2018).

Objectives of the study

- To assess how digital green marketing shapes tourist eco-conscious choices.
- To examine the digital platform's role in sustainable progressive tourism goals.

LITERATURE REVIEW

Digital Green Marketing Campaigns and Tourists' Pro-Environment Behaviour

Businesses often utilize various forms of multimedia marketing and detailed marketing communications as an integral element of an integrated marketing communication. This can directly or indirectly shape customer behaviour at every stage of the buying process (Keller, 2011; Sridhar *et al.*, 2022). Using marketing communications is part of marketing businesses to choose a special marketing channel polished for all individuals. In addition to “mass media channels such as television and radio, these marketing channels” encompass email, paid-search advertisements, and catalogues. According to the results of studies performed in various countries, the widespread practice of using internet marketing techniques to shape the eco-tourism behaviour (Taufique, 2022). To make a decision, visitors often turn to the web for help, and businesses have increasingly turned to using social media as a direct tool to market themselves and their services and use social media to influence the choices that are made (Sheng, 2019). The process of content creation for social media platforms is on a continuous high due to its ability to interact with the online community in this age of information technology. The content created by this particular user is called User-Generated Content (UGC). At an individual level, the content generated by users (UGC) facilitates better communication of opinions among travellers and makes contact easier among them to seek and share information (Sultan *et al.*, 2020). “Marketing communications frequently use a combination of verbal and non-verbal channels to convey information about the environment. These communications aim at capturing consumers' attention and guiding them towards a certain channel of conduct. Digital marketing has become a primary driver of consumer behavior, fundamentally reshaping how individuals interact with brands. Therefore, a range of stakeholders apply digital marketing to change the behaviour of human beings. “Several studies have reported that many stakeholders, including tourists, governments, the tourism sector and communities, are employing digital marketing strategies to promote environmentally friendly travel behavior, including ecotourism behavior”. Social media marketing is a grow used type of online marketing in the realm of digital marketing. “Also, social media marketing provides the ability to influence the

CHAPTER 17

Exploring the Situational Study of Garbage Narratives in India

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Abstract: The concept of 'Garbage Narratives' in India refers to scrutinizing the stories surrounding the country's waste management challenges and the broader environmental impact that garbage nemesis brought in with it. In Indian literature, the concept 'Garbage Discourse' often serves as a metaphor for the social, cultural, and political milieu, which highlights issues related to poverty, urban decay, caste discrimination, environmental neglect, and the aftermath of rapid urbanization. The famous historian Dipesh Chakroborty has argued that the garbage spaces in India are deeply tied to India's post-colonial struggle with modernity, development, and disparities that are created through the ideology of colonial legacies. Thus, this article tries to illuminate the works of various Indian authors who, through their artistic manoeuvre tries to negotiate imagery related to Garbage, waste, and filth to critique the social inequalities, environmental degradation, and the complexities of modern Indian life.

Keywords: Dipesh chakroborty, Garbage narratives, Garbage discourse, Garbage space, Indian authors.

INTRODUCTION

The concept 'Waste Aesthetics' in India reflects the creative, cultural and environmental engagement with waste or garbage materials and the aesthetics they evokes with it. The metaphorical root of waste aesthetics connotes to India's socio economic, cultural and ecological context, where the discourses of scarcity, resourcefulness and sustainability often intersects with the. Ideology of art, architecture, and public consciousness. By reusing waste products into art, craft, and functional design, the waste aesthetics tries to align with global sustainable practices and promote a circular economy within it. The renowned post-colonial critic Dipesh Chakroborty had laid emphasis upon how waste can be seen as a byproduct of capitalism, where both production and consumption cycles generate

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environmental degradation and aesthetics transformation (Chakroborty, 2021). He further elaborates how waste aesthetics in India, particularly in art, architecture or urban landscapes, become a visual and material manifestation of theoretical discourse of 'Anthropocene', thus, reflecting the environmental consequence of human activity. Another renowned author and academician Ranjan Ghosh's philosophical and interdisciplinary approach highlight a rich framework for understanding garbage narratives as stories that engage with materiality, ethics and post-colonial ecologies. Ghosh is of the view that how literary narratives critics the global system of waste production while celebrating the ethics of local resilience and creativity which makes them central to contemporary debates about sustainability, aesthetics and justice (Ghosh, 2022). The philosophical underpinnings of garbage could serve as a metaphor for societal excesses, neglect and renewal, where the symbolic features of waste could become an idle site of memory, history and possibility which equals broader post-colonial themes or ideologies. Thus, this article tries to highlight the rise of garbage literature. In India especially after post-colonial context with the rapid rise of urbanization, industrialization and in contemporary scenario the practices of eco-tourism industry which pollutes or tries to alter the very ecological landscape of India. The greatest of poet and Nobel Prize winner Rabindranath Tagore saw in nature a moral and ethical realm of peace, harmony and serenity amidst modern day lives chaos and sorrows (Ali, 1960). Through, his philosophical narratives. Rabindranath Tagore tries to imbibe educational philosophy along with deep spiritual reflections, which invites readers to rediscover their relationship with nature as a source of wisdom, beauty, and transcendence, and, not a meagre resource of exploitation (Tagore, 1916). So, though Rabindranath Tagore does not explicitly writes about pollution emanating through garbage waste, but, his emphasis on ethical responsibility towards environment clearly aligned with contemporary ecological thought and its related discourses (Tagore, 1916).

THE RISE OF GARBAGE AESTHETICS AND ITS FORM IN BOTH LITERARY AND CULTURAL CONTEXT

Originally, the term 'Garbage Aesthetics' refers to the artistic exploration of waste, discarded materials, and artificial refuse as a central theme or medium of consideration. This concept has evolved globally as a critique of consumerism, environmental degradation, and the overproduction of waste materials while also offering a form of cultural and aesthetic resistance. The various artists and environmental movements around the world use the metaphysics of garbage to challenge the throwaway culture of modern societies. By repurposing or reauthorizing trash, they question the value systems underpinning global capitalism. For example, the Brazilian artist Vik Muniz uses the discourse of garbage to create large-scale portraits by showcasing the social and environmental

implications of waste. When it comes to the question of cultural appropriation of waste, the different cultures with distinct socioeconomic realities separately engage with the epistemology of waste. As in Japan, the wabi-sabi aesthetics celebrates imperfection and transience while often finding beauty in dilapidated or broken objects. In India too, the jugaad culture transforms discarded materials into functional innovations, while the African art, particularly in Ghana, uses discarded materials like plastic or metal into various sculptures and crafts.

One of the special features of garbage aesthetics is that it often intersects with the environmental activism movement. The artist worldwide highlights how the ecological crisis, through literary works, has turned pollution and e-waste into evocative statements. As an example, how the Kenyan eco artist Cyrus Kabirce creates wearable art from e-waste to emphasize sustainability and innovation. The critics globally engage with garbage aesthetics, graffiti, installations, and sculptures made from finished or reused products. In that digital age, the garbage aesthetics extended to the virtual realm as glitch art, data dumps, and corrupted files that evoke the aesthetics of digital detritus, thus raising questions about technological obsolescence and virtual waste. When it comes to the question of cultural symbolism and identity, the garbage aesthetics often symbolize social inequalities where marginalized communities are forced to reside amid wasteful products or find livelihoods amid the recycling of waste. Thus, the literary art from these contexts often becomes a statement about systematic negligence and resilience, which cannot be fortified in the near future. The cross-cultural collaborations between artists from the global world demonstrate the universality of garbage aesthetics as a medium and message, while also critiquing the inequitable distribution of wastes environmental burden at large. The Great Western critic Zygmunt Bauman has elaborated on how the concept of waste, both in material and human manifestations, has been used as a product of modernity and globalization. Further, Bowman also critiques the systems that produce waste and the ways through which societies marginalize and displace waste by-products or garbage through resistance narratives (Bauman, 2004).

As regards 'garbage politics' in literary text, it refers to how the treatment of waste, pollution, environmental degradation, and the politics of disposal play a thematic or symbolic role within literature (Cranon, 1991). The objectivity behind garbage politics in literary narratives explores how societies handle the ontology of waste, who benefits or suffers from the garbage or decomposed narratives, and how waste management reflects broader cultural, social, or economic inequalities. However, this concept of garbage narratives is frequently tied to the issue of consumerism, environmental justice, and how these decayed or decomposed narratives shape our social and cultural understandings. The discourse of garbage became centrifugal in our dystopian or post-apocalyptic literature, which often

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