Ministry of Tourism and Wildlife

REPUBLIC OF KENYA

TOURISM RESEARCH INSTITUTE

RESEARCH. INNOVATE. GROW.

Situational Analysis on the Adoption of Sustainable best Practices,

Evaluation of the Impact of Climate Change on the Tourism Sector in Kenya, and Design Appropriate Climate Response

and

Sustainable best practices in Line with Global Benchmarks

BEST PRACTICES REPORT

Situational Analysis on the Adoption of Sustainable best Practices,

Evaluation of the Impact of Climate Change on the Tourism Sector

in Kenya, and Design Appropriate Climate Response

and

Sustainable best practices in Line with Global Benchmarks

BEST PRACTICES REPORT

JUNE 2024

Situational analysis on the adoption of sustainable best practices, evaluation of the impact of climate change on the tourism sector in kenya, and design appropriate climate response and sustainable best practices in line with global benchmarks

RFP NO. TRI/RFP/001/2022 – 2023

Prepared For:

Tourism Research Institute
P. O. BOX 42131 – 00100 NAIROBI
E-mail: ceo@tri.go.ke
Website: https://www.tri.go.ke

Prepared By:

Technical University of Mombasa Enterprises Limited (TUMEL)
P.O Box 90420 - 80100, Mombasa
Tel: 0723311542/0716772140
Email: managingdirector@tumel.co.ke
Website: https://www.tumel.co.ke

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

GLOSSARY OF TERMS

Behavioral climate adaptation:	The process of adapting to climate change through changes in individual behavior.
Business management adaptation:	The process of adapting to climate change through changes in business practices
Climate:	The average weather in a region measured on average of 35 years
Climate change adaptation:	Actions taken to reduce the vulnerability of people and ecosystems to the impacts of climate change.
Climate change mitigation:	Actions taken to reduce the amount of greenhouse gases in the atmosphere.
Climate change:	Long-term change in the average weather patterns that have come to define Earth's local, regional and global climates
Greenhouse gases emission:	Gasses that trap heat in the atmosphere. They can cause the Earth's temperature to rise, which can lead to climate change
Resilience:	The ability to withstand and recover from shocks and stresses to individuals, communities, businesses, and ecosystems
Sustainable Tourism Practices:	Measure implemented by tourism enterprises to address negative environmental, social, and cultural impacts while fostering positive economic outcomes
Technical climate adaptation:	The process of adapting to climate change through technological means.
Tourism enterprises:	These are the regulated tourism enterprises, activities and services as listed in the 9th Schedule of Tourism Act 2011.

LIST OF ABBREVIATIONS

APELL	Awareness and Preparedness for Emergencies at the Local Level
CBOs	Community-based organizations
CO_2	Carbon Dioxide
COP 25	Conference of Parties -25
CPD	Continuous Professional Development
CSR	Corporate Social Responsibility
EIA	Environmental Impact Assessment
ESMMR	Exploratory Sequential Mixed Method Research
EVs	Electrical Vehicles
FDGs	Focus Group Discussions
GDP	Gross Domestic Product
GHGs	Greenhouse gases
GSTC	Global Sustainable Tourism Council
LPG	Liquid Petroleum Gas
MWCT	Masai Wilderness Conservation Trust
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NRT	North Rangeland Trust
IPCC	Intergovernmental Panel on Climate Change
KIIs	Key Informant Interviews
SAGAs	Semi-Autonomous Government Agencies
SDGs	Sustainable Development Goals
STPs	Sustainable Tourism Practices
TBL	Triple Bottom Line
TRA	Tourism Regulatory Authority
TRI	Tourism Research Institute
UK	United Kingdom
UNEP	United Nations Environmental Program
UNFCCC	United Nations Framework Convention on Climate Change
UNWTO	United Nations World Tourism Organization
UV	Ultra-violet

ACKNOWLEDGEMENT

This study was made possible through the funding received from Tourism Fund to support the Tourism Research Institute (TRI) in undertaking Situational Analysis on Adoption of Sustainable Best Practices, Evaluate the Impact of Climate Change on the Tourism Sector in Kenya, and Design Appropriate Climate Response and Sustainable Best Practices in Line with Global Benchmarks. We sincerely acknowledge their unwavering support that made this study a reality in line with the Country's Glasgow Pledges during COP 26. The Project Implementation Committee (PIC) that consisted of the following members; Mr. Vincent O. Bwire, Mr. Edgar O. Owino, Mr. Boniface L. Mamboleo, Mr. Hesborn O. Oyendo, Ms. Lynnet K. Kamonde, Dr. Ruth K. Kimaiga, Ms. Betty W. Maranga, Ms. Doreen A. Okoyana, and Ms. Esther A. Akumu played a significant role in ensuring the quality assurance and quality control of the project at different phases. Their dedication and commitment ensured timely delivery of the project deliverables. To all we say thank you for the commendable work demonstrated throughout the project cycle period.

We acknowledge the Consultant, Technical University of Mombasa Enterprises Limited (TUMEL) for the exemplary work in the execution of the Project. Our appreciation extends to Mr. Bernard Nyakundi, Managing Director of TUMEL, and the entire administrative team for their logistical assistance and professionalism, which ensured the smooth progression of the project. We recognize the exceptional leadership of the Team Leader, Dr. Vincent O. Oeba, whose direction and guidance was pivotal to the project's success. His deep insights about the subject matter remained instrumental to the execution of the project. In addition, we extend our sincere gratitude to the following key experts who were valuable in implementation of key components of the project; Dr. Mark Nelson Yobesia, Dr. Shem Wambugu Maingi, Dr. Joseph Njoroge, Dr. Cyril

Otulo Wandera, Mr. Gerald Gichuki and Mr. Jared Lumbasi-whose specialized knowledge and insights added significant depth to this study.

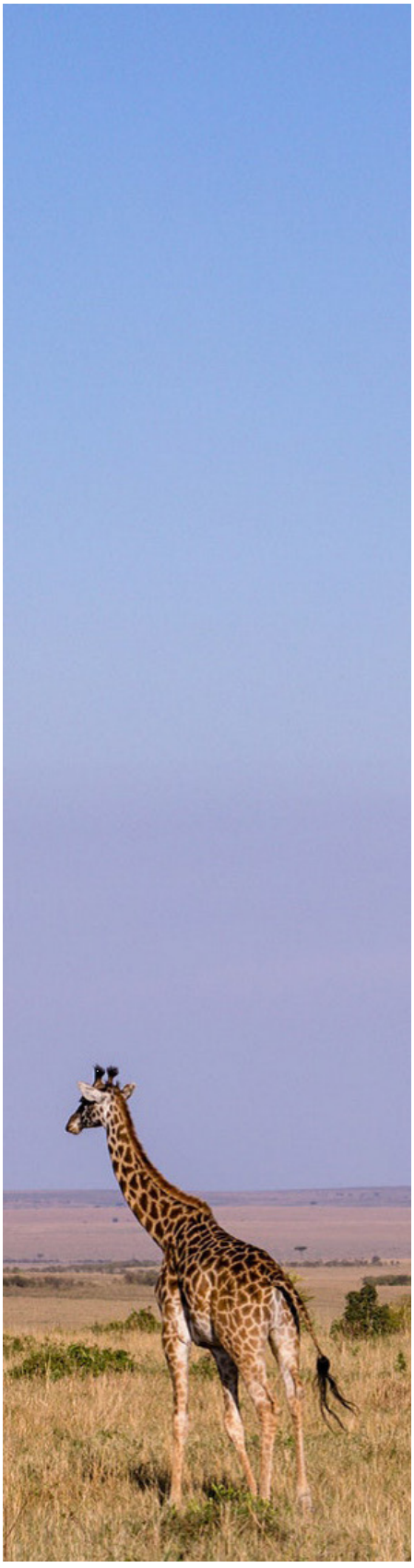
Consequently, we express our sincere gratitude to the following Research Assistants for their dedication during data collection; Angore B. Mbitha, Chepkemoi B. Cheruiyot, Collins Bulimu, Fridah D. Obare, Jackline Ondomu, Moses K. Kibet, Lenza M. Moya, Maureen M. Ogwoka, Stephen K, Mwangi, Clinton O. Onyancha, Mathew O. Nyabuto, Mwarimo S. Mashua, Salim A. Mwamgupu, Swaleh M. Kaloo, Albert J. Nyabuto, Janet M. Mwololo, Mohamed B. Adi, Sharon C. Kipsang, Doughlas W. Kahura, Francisca M. Kilonzi, William A. Otieno and Gilbert K. Ronoh. Their professional expertise played a key role in the execution of the project that yielded meaningful data for analysis, interpretation and reporting. Additionally, we appreciate the generous participation of respondents from tourism enterprises across Kenya, as well as the key informants and focus group participants, whose candid insights enriched our findings.

Finally, we appreciate the stakeholders who validated the findings of this study for wider acceptance in the Tourism Sector. Lack of mention of their names does not in any way mean their deserved contribution is not appreciated but to you all we say thank you.

Mr. Vincent O. Bwire
Chair, Project Implementation Committee.

FOREWORD

The tourism sector in Kenya plays a significant role in driving social and economic development. Specifically, it contributes 10% to the Gross Domestic Product (GDP), provides 6% of direct formal employment, and consists of 4% of the National Gross Fixed Capital Formation (NGFCF). This contribution is projected to increase, with the sector's earnings expected to grow to Ksh 430 billion in 2024 and further reach Ksh 1.024 trillion by 2028, attributed to the anticipated rise in visitor numbers from 2.4 million in 2024 to 5.7 million in 2028. The sector also contributes to safeguarding cultural heritage, climate change mitigation, and environmental preservation. This demonstrates the vibrancy of the tourism sector in enabling Kenya to achieve sustainable development goals in a changing climate.



However, the tourism sector's contribution to the economy may be jeopardized due to the impacts of climate change. The Intergovernmental Panel on Climate Change (IPCC) data shows that with the rise in global temperatures due to emissions of greenhouse gases, climate-sensitive sectors such as tourism, which largely depend on natural resources, will be severely affected. The impacts include changes in destination attractiveness, increased operational costs (e.g., heating and cooling), limited water availability, reduced food diversity, infrastructure damage, and increased incidences of vector-borne diseases. These impacts may worsen, as the tourism sector's emissions are projected to rise by 25% in 2030 compared to 2016 emission levels.

Studies have shown that the hotel industry consumes significant quantities of resources and generates substantial amounts of waste. A five-star hotel for instance has been established to consume approximately 130 Megajoules of energy per guest per night, and on average, a guest generates 0.9 kg of waste daily. Additionally, daily water consumption per guest ranges from 170 to 440 liters, significantly higher than in a residential household.

Tourism and travel transport make significant contributions to global carbon emissions, with the aviation industry alone responsible for 2% of global emissions. Other tourism-related businesses also produce greenhouse gases, resulting in the tourism sector accounting for about 5% of global Carbon Dioxide (CO_2) emissions into the atmosphere.

It is in this context that during the twenty-fifth Conference of Parties (COP 25) of the United Nations Framework Convention on Climate Change (UNFCCC), the tourism sector declared a climate crisis. Parties were urged to embrace low-carbon pathways in their tourism activities. Kenya committed to this declaration, recognizing that its tourism sector is primarily nature-based, relying on wildlife-protected areas, natural landscapes, coastal ecosystems, and resources. The tourism sector must prioritize climate-resilient sustainable practices to minimize environmental degradation and preserve natural resources for future generations. This demands that adoption of best practices in sustainable tourism is paramount to mitigate adverse impacts on the environment, society, and culture, nurturing long-term climate-resilient positive outcomes. These practices aim to strike a balance between economic benefits, social responsibility, and environmental conservation.

In view of this, Kenya aims to remain globally competitive in the tourism sector as the destination of choice. This implies that the country has to develop actions, strategies, and programs that follow global benchmarks in order to curve the country's niche in the tourism sector. The country during the twenty-sixth Conference of Parties (COP 26) of the UNFCCC that was held in Glasgow, United Kingdom (UK) in 2021, pledged by 2030 to conserve and sustainably manage the tourism sector by committing to: restrict use of vehicular transportation within all national parks and game reserves that use non-fossil renewable energy; require all hospitality and tourism enterprises to adopt renewable energy and circular economy in their operations; mobilize the ecological assets in vast protected areas that act as carbon sinks to maximize on global carbon credit facilities available in order to raise additional resources to play an active role in meeting national goals of a net carbon neutral nation; restore degraded areas in national parks and games reserves with a concerted effort om reforestation; increase marine conservation areas network; establish a framework for documentation and measuring the economic impacts of climate change on tourism sector as basis of mainstreaming practical, quantifiable and accountable required measures on climate actions by tourism actors in the entire tourism value chain; and develop and enforce minimum sustainability standards that are in line with the global benchmarks for businesses in the sector that form the basis for operations of sustainable tourism businesses with accompanying incentives and disincentives.

This study generated various deliverables including; baseline report, best practices report, incentive and disincentives framework, system of environmental-economic accounting (SEEA) for the tourism sector, stakeholders engagement report, final and closure reports in response to undertaking a situational analysis on the adoption of sustainable best practices, evaluate the impacts of climate change on the tourism sector in Kenya and design appropriate climate response and sustainable best practices in line with global benchmarks. The key findings established and recommendations provided lays a foundation on how to track and report

Kenya's progress in regard to commitments the country made during COP26.

I therefore welcome the stakeholders in Tourism Sector to take into consideration relevant findings and action areas for implementation so as to revitalize and spur growth of the tourism sector in Kenya. The Government of Kenya through the Ministry of Tourism and Wildlife remains steadfast in ensuring that right incentives and policy frameworks are place to provide required enabling environment for investment in tourism value chain.

Mr. David Gitonga
Ag. Chief Executive Officer,
Tourism Research Institute

EXECUTIVE SUMMARY

Kenya's tourism sector serves as a pivotal engine for both social and economic advancement, contributing significantly to the nation's GDP while also spearheading employment opportunities, public service provisions, and infrastructural advancements. Beyond its economic role, the industry plays a critical part in fostering social development, preserving the environment, and safeguarding cultural heritage. These multifaceted contributions underscore the imperative of adopting climate-resilient and sustainable tourism practices to ensure enduring growth and prosperity. However, the sector faces a daunting challenge in the form of climate change, which threatens its sustainability by jeopardizing tourism attractions, wildlife habitats, and local livelihoods. Thus, the adoption of best practices in climate resilience and sustainable tourism becomes paramount to mitigate adverse impacts on the environment, society, and culture, thereby nurturing long-term positive outcomes.

The primary objective of this report was to identify and prioritize climate change adaptation, mitigation, and sustainable best practices for tourism in Kenya in line with global benchmarks. The specific objectives of the report were:

(i) To assess the climate change resilience and sustainable practices currently implemented by tourism enterprises in Kenya;
(ii) To compare the climate change resilience and sustainable practices implemented by tourism enterprises in Kenya against global benchmarks;
(iii) To prioritize climate change resilience and sustainable best practices for tourism enterprises in Kenya; and
(iv) To recommend climate change resilience and sustainable best practices for Kenya's tourism sector in alignment with global benchmarks.

The theoretical and conceptual framework of this study is grounded in the Climate Change Adaptation and Mitigation in the Tourism Sector: Framework, Tools and Practices by UNEP, the Global Sustainable Tourism Council Criteria (GSTC). The UNEP Climate Change Adaptation and Mitigation report in the tourism sector provides the global benchmark on the national tourism adaptation process and practices in Kenya. It seeks to establish the adaptation capacity and implementation framework in Kenya's tourism sector. Utilizing GSTC standards as global benchmarks, sustainability practices within tourism enterprises are evaluated, focusing on four main pillars: sustainable planning and management, socio-economic impacts, cultural impacts, and environmental impacts, all of which align with the 17 Sustainable Development Goals (SDGs). Moreover, participatory decision-making engaged diverse stakeholders, including communities, enterprises, government, and NGOs, in identifying sustainable tourism and climate resilience practices, ensuring transparency, accountability, inclusivity and trust for successful implementation and long-term sustainability.

Employing an Explanatory Sequential Mixed Method Research (ESMMR) design, this study integrated quantitative and qualitative approaches to leverage their respective advantages. Quantitative data collection from 1,246 tourism enterprises via survey and qualitative insights obtained from 26 informants through key informant interviews and 24 FGDs are supplemented by document reviews on climate change and sustainable tourism. Descriptive statistics

summarize quantitative data, while content analysis examined secondary data from document reviews and content analysis synthesized qualitative data from KIIs and FGDs.

The study revealed that while some practices in the tourism sector, such as employee and guest training, engagement in conservation initiatives, and product diversification, were moderately adopted, others like tree planting and water recycling were implemented to a lesser extent, indicating a need for targeted interventions to improve long-term sustainability and resilience. Discrepancies in the adoption of climate change adaptation measures across different enterprise categories highlight specific areas for improvement, including water recycling, waste management, and environmental awareness.

Furthermore, the study emphasized the importance of prioritizing technical and behavioral adaptation measures alongside managerial and policy strategies to address climate challenges effectively. Participants discussed various waste reduction programs, including community involvement in solid waste collection and recycling initiatives. Additionally, technical strategies focused on leveraging transportation and energy technologies for enhanced efficiency, while water resource management practices advocated for the adoption of efficient water management systems in hotels.

Tourist education programs and employee sensitization activities were identified as critical drivers of attitude and behavior change, with behavioral adaptation practices such as carpooling and cycling to work seen as effective means to reduce environmental impact. Policy adaptation through government regulations and incentives, coupled with ecosystem restoration efforts, were recognized as essential components of long-term climate resilience.

Regarding climate change mitigation, variations were observed in the adoption of practices such as tree planting and engagement in conservation initiatives across different enterprise classes, with these efforts contributing to soil stabilization, flood prevention, and biodiversity conservation. The protection of fragile ecosystems and the adoption of carbon offset projects were highlighted as key strategies for emission reduction and biodiversity conservation. Moreover, the use of energy-efficient technologies and waste management practices aimed at minimizing environmental pollution were emphasized. While tourism enterprises have implemented environmentally sustainable practices to a moderate extent, gaps remain in areas such as eco-building design and environmental fleet management.

Comparison with global benchmarks reveals significant gaps in various aspects of sustainable tourism practices within the tourism sector. In terms of technical adaptation, limited adoption of renewable resources like solar and geothermal systems, coupled with inadequate waste management practices, poses environmental concerns. Additionally, historical sites are

not sufficiently protected against extreme weather events, risking cultural heritage and tourism experiences. Managerial adaptation lacks uptake of special insurance and behavior management strategies, while policy integration of climate aspects and compliance with regulations remains deficient. Research and tourism education gaps hinder evidence-based strategies and promotion of eco-friendly tourist behavior. In terms of climate mitigation,

widespread gaps exist, including inadequate wastewater recycling and inefficient transportation practices. Similarly, sustainable planning and management practices suffer from various shortcomings, affecting stakeholder engagement, employee education, and environmental conservation efforts. These gaps underscore the urgent need for comprehensive strategies to enhance sustainability within the tourism sector.

The study underscored the importance of addressing these gaps to enhance overall sustainability within the industry. The following key recommendations were drawn for implementation:
Recommendations for the Tourism Sector Players

- Implement key climate strategic actions in line with global benchmarks;
- Invest in comprehensive training programs for employees to raise awareness of sustainability practices and build capacity for sustainable practices, including climate change adaptation and mitigation strategies;
- Enhance stakeholder engagement by fostering collaboration with local communities, NGOs, and government agencies to develop sustainable tourism initiatives benefiting both the industry and the environment;
- Promote the diversification of tourism product offerings to reduce dependency on specific natural or cultural resources or destinations, thereby promoting sustainability and resilience; and
- Promote responsible tourism practices by encouraging tourism enterprises to educate guests about responsible tourism behavior and encourage participation in conservation efforts to minimize negative impacts on local ecosystems and communities.
- Recommendations to Policy Makers
- Implement regulatory frameworks that incentivize adoption of best practices in energy, waste management, and water management within the tourism industry;
- Strengthen existing policies and regulations to incentivize sustainable practices and discourage unsustainable ones within the tourism industry, including providing tax incentives for eco-friendly initiatives and enforcing environmental standards;
- Foster public-private partnerships between government entities, private sector stakeholders, and civil society organizations to implement key climate strategic actions in line with global benchmarks;
- Support research and innovation by allocating funding for research and innovation in sustainable tourism practices, including technological solutions for environmental conservation and climate resilience;
- Encourage certification programs to promote the adoption of certification programs, such as eco-labels and sustainable tourism certifications, to recognize and incentivize businesses adhering to sustainable practices; and
- Develop climate resilience strategies that incorporate climate change adaptation and mitigation strategies into national and regional tourism marketing and development plans to enhance the industry's resilience to environmental risks and uncertainties.
- Recommendations for Future Research

- Conduct baseline studies to assess the long-term effectiveness and impact of sustainable tourism initiatives on environmental conservation, socio-economic development, and community well-being;
- Compare sustainable tourism practices and policies across different geographic regions or countries to identify lessons learned and opportunities for knowledge exchange and collaboration;
- Investigate the potential of emerging technologies in enhancing the adoption of best practices within the tourism industry;
- Conduct market research to understand consumer behavior and preferences regarding sustainable tourism practices; and
- Explore the role of community-based tourism initiatives in promoting sustainable development, cultural preservation, and poverty alleviation in rural and marginalized communities.

Introduction

INTRODUCTION

1.1 Background

The tourism sector in Kenya plays a significant role in driving social and economic development. Specifically, it contributes 10% to the Gross Domestic Product (GDP), provides 6% of direct formal employment, and consists of 4% of the National Gross Fixed Capital Formation (NGFCF) (Tourism Research Institute [TRI], 2020). This contribution is projected to increase, with the sector's earnings expected to grow to Ksh 430 billion in 2024 and further reach Ksh 1.024 trillion by 2028, attributed to the anticipated rise in visitor numbers from 2.4 million in 2024 to 5.7 million in 2028 (TRI, 2023). The sector also contributes to safeguarding cultural heritage, climate change mitigation, and environmental preservation. This demonstrates the vibrancy of the tourism sector in enabling Kenya to achieve sustainable development goals in a changing climate.

However, the tourism sector's contribution to the economy may be jeopardized due to the impacts of climate change. The Intergovernmental Panel on Climate Change (IPCC) data shows that with the rise in global temperatures due to emissions of greenhouse gases, climate-sensitive sectors such as tourism, which largely depend on natural resources, will be severely affected (IPCC, 2022). The impacts include changes in destination attractiveness, increased operational costs (e.g., heating and cooling), limited water availability, reduced food diversity, infrastructure damage, and increased incidences of vector-borne diseases (IPCC, 2022; Chemeli et al., 2021; Njoroge, 2020). These impacts may worsen, as the tourism sector's emissions are projected to rise by 25% in 2030 compared to 2016 emission levels (UNWTO, 2019).

Studies have shown that the hotel industry consumes significant quantities of resources and generates substantial amounts of waste (Ristova, 2020; Verma and Chadra, 2016). A five-star hotel consumes approximately 130 Megajoules of energy per guest per night, and on average, a guest generates 0.9 kg of waste daily. Additionally, daily water consumption per guest ranges from 170 to 440 liters, significantly higher than in a residential household (Gössling et al., 2005). Tourism and travel transport make significant contributions to global carbon emissions, with the aviation industry alone responsible for 2% of global emissions. Other tourism-related businesses also produce greenhouse gases, resulting in the tourism sector accounting for about 5% of global Carbon Dioxide (CO2) emissions into the atmosphere (UNWTO, 2012).

During the twenty-fifth Conference of Parties (COP 25) of the United Nations Framework Convention on Climate Change (UNFCCC), the tourism sector declared a climate crisis. Parties were urged to embrace low-carbon pathways in their tourism activities (Scott and Gossling, 2022). Kenya committed to this declaration, recognizing that its tourism sector is primarily nature-based, relying on wildlife-protected areas, natural landscapes, coastal ecosystems, and resources. The tourism sector must prioritize climate-resilient sustainable practices to minimize environmental degradation and preserve natural resources for future generations.

The adoption of best practices in sustainable tourism is paramount to mitigate adverse impacts on the environment, society, and culture, nurturing long-term climate-resilient positive outcomes. These practices aim to strike a balance between economic benefits, social responsibility, and environmental conservation, aligning with the principles of the Triple Bottom Line (TBL) theory.

The best practices report proposes a range of measures to be implemented by tourism enterprises that have climate change mitigation, adaptation, and sustainable tourism benefits. These include protecting and preserving natural resources, ecosystems, and biodiversity. Additionally, they involve activities that promote the respect and preservation of the cultural heritage of the destination, engage in programs that contribute to the well-being of local communities by fostering economic development, respecting local cultures, and enhancing social welfare.

1.2 Rationale for a Best Practices Report

Kenya aims to remain globally competitive in the tourism sector as the destination of choice. This implies that the country has to develop actions, strategies, and programs that follow global benchmarks in order to curve the country's niche in the tourism sector. In view of this, during the twenty-sixth Conference of Parties (COP 26) of the UNFCCC that was held in Glasgow, United Kingdom (UK) in 2021, Kenya pledged by 2030 to conserve and sustainably manage the tourism sector by committing to: restrict use of vehicular transportation within all national parks and game reserves that use non-fossil renewable energy; require all hospitality and tourism enterprises to adopt renewable energy and circular economy in their operations; mobilize the ecological assets in vast protected area that act as carbon sinks to maximize on global carbon credit facilities available in order to raise additional resources to play an active role in meeting national goal of a net carbon neutral nation; restore degraded areas in national parks and games reserves with a concerted effort om reforestation; increase marine conservation areas network; establish a framework for documentation and measuring the economic impacts of climate change on tourism sector as basis of mainstreaming practical, quantifiable and accountable required measures on climate actions by tourism actors in the entire tourism value chain; and develop and enforce minimum sustainability standards that are in line with the global benchmarks for business in the sector that form the basis for operations of sustainable tourism businesses with accompanying incentives and disincentives.

It is in this context that TRI called for a consultancy to undertake a situational analysis on the adoption of sustainable best practices, evaluate the impacts of climate change on the tourism sector in Kenya and design appropriate climate response and sustainable best practices in line with global benchmarks.

The implementation of this consultancy entails the development of various deliverables including the baseline report and the best practices report. The baseline report generated information on the impacts of climate change on the tourism sector, the current adoption status of climate resilience practices, and sustainable practices by tourism enterprises.

The best practice report builds on the findings of the baseline report and feedback from countrywide stakeholders' engagements. The report identifies and prioritizes climate change adaptation, mitigation, and sustainable best practices for tourism in Kenya in line with global benchmarks.

1.3 Objectives of the best practices report

1.3.1 General Objective

To identify and prioritize climate change adaptation, mitigation, and sustainable best practices for the tourism sector in Kenya in line with global benchmarks.

1.3.2 Specific Objectives

The best practices report addresses the following specific objectives:

i. To assess the climate change resilience and sustainable practices currently implemented by tourism enterprises in Kenya;
ii. To compare the climate change resilience and sustainable practices implemented by tourism enterprises in Kenya against global benchmarks;
iii. To prioritize climate change resilience and sustainable best practices for tourism enterprises in Kenya; and
iv. To recommend climate change resilience and sustainable best practices for Kenya's tourism sector in alignment with global benchmarks.

Methodology

METHODOLOGY

2.1 Theoretical Approach

The United Nations Environmental Programs (UNEP) tools and framework for climate change as well as the Global Sustainable Tourism Council (GSTC) industry criteria formed the basis of the theoretical framework used in this report.

2.1.1 UNEP Tools and Framework for Climate Change Adaptation and Mitigation for Tourism

Building on the results of the 2nd International Conference on Climate Change and Tourism, as well as the Davos Declaration, the UNEP established tools and framework for Climate change adaptation and mitigation, (UNEP, 2008). It describes a portfolio of climate change adaptation and mitigation strategies by tourism stakeholders. The UNEP tool identifies and classifies adaptation practices into Technical, Managerial, Policy, Research, Education, and Behavioral. The UNEP tool also identifies and classifies the climate change mitigation measures by tourism enterprises into those aimed at eliminating, reducing, substituting, and offsetting carbon dioxide emissions. This document provided global benchmarks against which climate change adaptation and mitigation practices currently implemented by the tourism enterprises were compared.

2.1.2 The GSTC Industry Criteria

The GSTC industry criteria prescribe the minimal efforts that tourism enterprises must accomplish to attain sustainability. The overarching goals of the standard are to demonstrate sustainable destination management that optimizes economic benefits to host communities, enhances social impacts, and minimizes environmental impacts. GSTC standards are designed for use in destinations of all types and sizes, as well as across all tourism sub-sectors (Anis, Putra, Azhar, & Rahmadani, 2023). Anis et al. (2023) highlight that the GSTC standards and indicators align with established standards and approaches, including UNWTO target indicators, and Sustainable Development Goals (SDG).

As per the GSTC industry criteria, sustainable practices adopted by tourism enterprises are based upon four major pillars for sustainable tourism practice i.e., sustainable planning and management, managing socio-economic impacts, cultural impacts, and environmental impacts. These pillars have several criteria and indicators that map onto the 17 Sustainable Development Goals (SDGs) as illustrated in Table 2.1.

Table 2.1: GSTC Industry Criteria Mapped by the SDGs

GSTC Industry Criteria		SDGs
Sustainability Planning and Management		
•	Long-term transformative leadership	SDG 12
•	Legal compliance	SDG 16
•	Reporting and communication	SDG 12, 17
•	Staff engagement	SDG 4, 17
•	Customer experience	SDG 12
•	Promotion of sustainable tourism practices	SDG 12
•	Impact of buildings and infrastructure	SDG 11, 15
•	Compliance to land-use plans and climate regulations	SDG 11, 15
•	Information and interpretation of natural and cultural heritage	SDG 11, 12
•	Destination engagement in tourism planning and management	SDG 11, 17
Managing Socio-economic Impacts in Tourism		**SDGs**
•	Building community support	SDG 3, 4, 9
•	Local employment	SDG 8, 10
•	Local purchasing	SDG 2, 8, 12
•	Local entrepreneurs	SDG 8, 12
•	Addressing exploitation and harassment	SDG 5, 10, 16
•	Providing equal opportunity	SDG 5, 10
•	Decent work provision	SDG 1, 4, 8
•	Provision of community services	SDG 6, 11, 12
•	Improving local livelihoods	SDG 11, 12
Managing Cultural Heritage Impacts		**SDGs**
•	Cultural interactions	SDG 4, 11, 12
•	Protection of cultural heritage	SDG 11
•	Promotion, preservation, and presentation of culture and heritage	SDG 11, 12
GSTC Industry Criteria		**SDGs**
•	Cultural artifacts	SDG 11
Managing Environmental Impacts		**SDGs**
•	Conservation of resources	SDG 7, 12
•	Pollution reduction	SDG 13, 11, 3, 2
•	Biodiversity conservation	SDG 14, 15
•	Invasive species	SDG 14, 15
•	Visits to natural areas	SDG 14, 15
•	Animal welfare	SDG 14, 15
•	Wildlife harvesting and trade prevention	SDG 14, 15

The best practices report relied on the GSTC industry criteria (Table 2.1) as a global benchmark against which sustainable practices by tourism enterprises in Kenya were compared.

2.2 Conceptual Approach

Figure 2.1: presents the conceptual framework adopted by the best practice report.

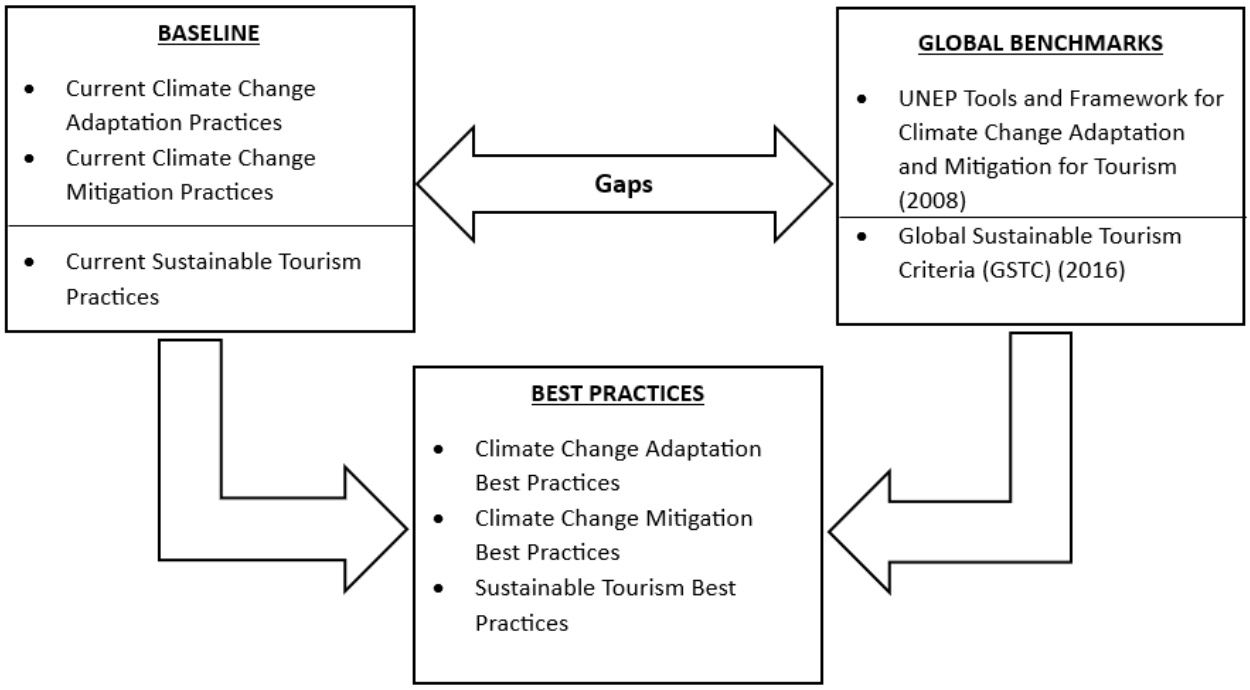


Figure 2.1 Conceptual Framework

The best practice report relied on the conceptual approach depicted in Figure 2.1 to assess climate change adaptation, mitigation, and sustainability practices among tourism enterprises in Kenya. The report compared baseline practices against two global standards: the UNEP Framework for Climate Change Adaptation and Mitigation for Tourism (2008) and the Global Sustainable Tourism Council Industry criteria (GSTC, 2016). This comparison identified gaps in implementation across adaptation, mitigation, and sustainability goals. The identified gaps were then prioritized based on their contribution to achieving these goals. This prioritization informed the development of best practices, designed to guide tourism enterprises in Kenya towards effective climate change adaptation, mitigation, and sustainability practices.

2.3 Technical Approach

2.3.1 Research Design

The report relied on results from an Explanatory Sequential Mixed Method Research (ESMMR) design, which integrated both quantitative and qualitative approaches. The quantitative aspect involved gathering numerical data and applying statistical techniques to practices adopted or implemented by the tourism enterprises in Kenya. On the other hand, the qualitative component involved collecting primary data from key informants and Focus Group Discussions (FGDs) to gain a comprehensive understanding of climate change and sustainability practices within the nation's tourism sector.

2.3.2 Data Collection Procedures

Employing a structured questionnaire, the survey collected information from a representative sample (n=1246) of tourism enterprises across Kenya, facilitating generalizations about the larger population. The study relied on trained research assistants, who visited the respondents' establishments to administer the questionnaire loaded on the KOBO Collect mobile application. The qualitative data were collected using interview guides administered by the research team to Key Informants (n=26) during scheduled visits. The selection of key informants ensured representation from crucial institutions and organizations within the tourism sector, including government agencies, private sector associations, non-governmental organizations, Community-Based Organizations (CBOs), and academia. Additionally, twenty-four (24) Focus Group Discussions (FGDs) were conducted during nationwide stakeholders' engagement (n=301). Appendix E shows a list of informants targeted for the Key Informant Interviews (KII), and Appendix F shows the tallies of the 24 FGDs conducted.

2.3.3 Data Analysis Procedures

The analysis computed descriptive statistics, including means, standard deviation, frequency, and percentage frequency, to characterize the variables. Content analysis relied on the analysis of feedback from KII and FGDs.

2.4 Ethical Considerations

The research for development of the best practices report was guided by the following ethical considerations.

(i) Informed Consent: Each participant received detailed information outlining the purpose of the survey, the data collection procedures, the potential risks and benefits of participation, and their right to withdraw at any time. Verbal consent was obtained before starting the survey, ensuring voluntary participation and awareness of rights.

(ii) Confidentiality and Anonymity: All data was anonymized, removing any personally identifiable information. Data was securely stored and accessed only by authorized personnel, ensuring participant confidentiality, and protecting their privacy.

(iii) Minimizing Harm: Survey questions were carefully worded to avoid causing distress or discomfort. Participants could skip any questions they felt uncomfortable answering. Researchers were prepared to offer support or referral to appropriate resources if needed.

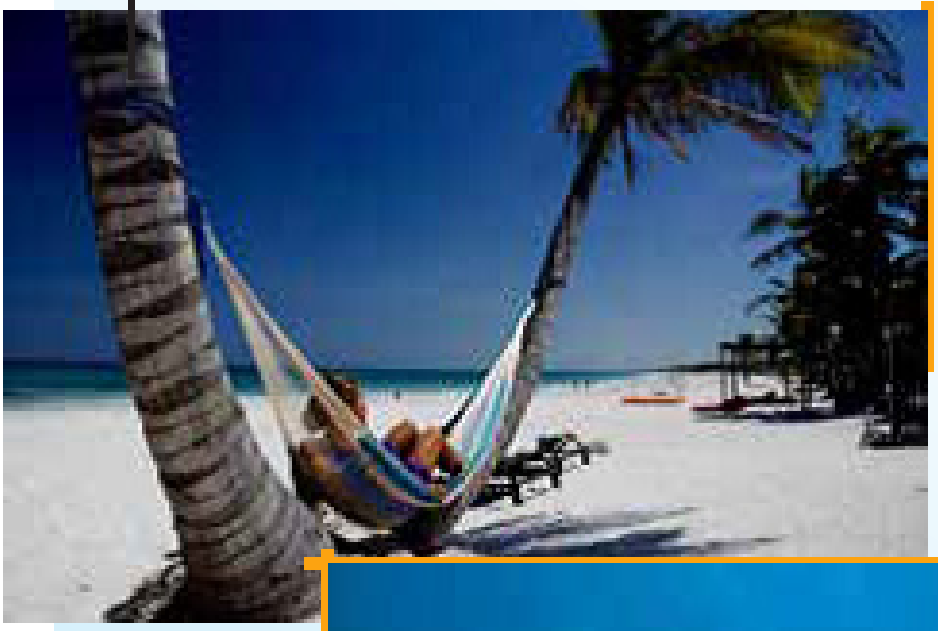
(iv) Respect for Participants: All participants were treated with respect and courtesy. Their opinions and perspectives were valued and acknowledged. Researchers maintained a non-judgmental attitude and avoided imposing personal biases during data collection.

(v) Transparency and Accountability: The study design, data collection procedures, and ethical considerations were documented and made available to participants and stakeholders upon request. Researchers were open to feedback and addressed any concerns about ethical conduct.

(vi) Cultural Sensitivity: The survey was designed and implemented with sensitivity to the cultural context of the Kenyan tourism sector. Local research assistants were involved in development and administration to ensure cultural appropriateness and understanding. Researchers avoided imposing biases or assumptions on participants' experiences and perspectives.

By adhering to these ethical principles, the study collected valuable data while ensuring the well-being and privacy of all participants. This commitment to ethical research practices fostered trust and cooperation, contributing to the study's success and its potential to promote positive change within the Kenyan tourism sector.

Findings & Discussion



FINDINGS AND DISCUSSION

3.1 Preliminary Analysis

3.1.1 Tourism Enterprises Profile

The analysis considered attributes of tourism enterprises, specifically their classification in accordance with the Tourism Act, 2011 (Class A – H). Additionally, the analysis examined the size categorization based on the number of employees, with classifications ranging from micro (1-10 employees), small (11-50 employees), medium (51–250 employees), to large (more than 251 employees). Table 3.1 presents a summary of the firmographic profile of the tourism enterprises.

Table 3. 1 Firmographic Profile of the Tourism Enterprises

Variable	Level	Frequency	Percent	Cumulative Percent
Enterprise Classification	Class-A	433	34.75	34.75
	Class-B	183	14.69	49.44
	Class-C	230	18.46	67.90
	Class-D	11	0.88	68.78
	Class-E	314	25.20	93.98
	Class-F	9	0.72	94.70
	Class-G	4	0.32	95.02
	Class-H	62	4.98	100.00

Source: Survey Data, 2023

The results in Table 3.1 reveal that slightly less than half of the enterprises were classified as category A (facilities offering accommodation to tourists) and B (restaurants), constituting the majority of tourism enterprises (49%, n = 616). A significant 25% (n = 314) of the enterprises fell into category E, comprising small businesses such as local traditional boat operators, professional safari photographers, curio vendors, tour guides, and beach operators. Class C enterprises, including safari operators, car-hire firms, travel agencies, and boat excursion providers, made up 18% of the enterprises (n = 230), while class H enterprises, consisting of tourism training institutions, represented 5% (n = 62) of the sample. Class D, F, and G accounted for 2% of the sample. The results presented in Table 3.1 indicate that the sample exhibits a diversity of enterprise categories and size in terms of number of employees, providing a representative sample for a comprehensive analysis of the climate change resilience strategies and sustainable tourism best practices adopted by tourism enterprises in Kenya. Moreover, the survey sample was drawn from tourism enterprises distributed in 29 out of the 47 counties in Kenya. Notably, the incorporation of enterprises offering diverse services, such as boat operators, safari photographers, curio vendors, tour guides, and beach operators, contributes depth to the sample. This diversity is instrumental in potentially capturing specific climate change mitigation and adaptation responses and sustainability best practices in these niche enterprises. All the key informants were in managerial positions with experience spanning 3 – 34 years (mean = 17.2, SD = 9.36).

3.2 Current Climate Change Resilient and Sustainable Practices by Tourism Enterprises in Kenya

3.2.1 Current Climate Change Adaptation Practices

The results of a baseline survey indicate a low level of adoption of climate change adaptation measures by tourism enterprises. Responses on the extent of adoption of 13 climate change mitigation practices ranged from rarely implemented practices (mean = 1.29, SD = 0.79) to those implemented only to some extent (mean = 3.04, SD = 1.32). Overall, six practices were adopted to some extent: employee and guest training, weather condition information for tourists, engagement in conservation initiatives, product, and market diversification, redirecting guests from ecologically sensitive areas, and developing impact management plans (mean=3.04, SD=1.32 – mean=2.56, SD=1.26). Conversely, tree planting, modification of the built environment, special insurance, protection against rising water levels, rainwater collection, and water recycling were implemented to a lesser extent (mean=1.5, SD=1.04 – mean=2.31, SD=1.38). Water desalination was seldom adopted (mean=1.29, SD=0.79).

The survey results for hotels (n=433) indicate varying degrees of implementation for climate change adaptation practices. Among the practices studied, the following were implemented to some extent (mean=3.09 - 2.50) on a five-point Likert scale: training and campaigns for employees and guests, product and market diversification, engagement in conservation initiatives, structural modification of built environments, informing tourists of weather conditions, developing impact management plans, and tree planting. Conversely, practices such as redirecting guests from ecologically sensitive areas, rainwater harvesting, special insurance, shielding from rising water levels, and water recycling were implemented to a lesser extent (mean=2.44 - 1.56).

For restaurants, the survey results revealed the highest level of adoption in employee and guest training, product and market diversification, and participation in conservation efforts (mean=2.96 - 2.55). Most of the other adaptation practices, including modification of buildings, impact management planning, tree planting, insurance, providing visitor information, redirecting guests, rainwater collection, and shielding against floods, were implemented to a lesser extent (mean=2.43 - 1.65). Water recycling and desalination were seldom adopted among restaurants (Mean=1.48 - 1.28).

For tour operators (n= 230), climate change adaptation practices adopted to some extent mirrored those of Class A hotels. These included training and campaigns for employees and guests, product and market diversification, engagement in conservation initiatives, structural modification of built environments, informing tourists of weather conditions, and developing impact management plans (mean=3.89 - 2.61). However, tree planting, modification of built environments, and shielding against droughts were implemented to a lesser extent (mean=1.91 – 1.60). Practices related to water management, such as recycling, rainwater collection, and water desalination, were not adopted by tour operators (mean=1.38 - 1.17).

The results of the survey support the conclusion that, overall, the extent of adoption of climate change adaptation practices by tourism enterprises in the country was low. However, the

extent of adoption of managerial and policy adaptation strategies was markedly higher than the implementation of technical and behavioral adaptation measures across the enterprises.

To complement the results from the quantitative analysis of the survey responses in the baseline study, feedback from the national FGDs and KIIs was analyzed using content analysis. The aim was to identify climate change mitigation practices adopted by tourism enterprises, classified according to the framework proposed by UNEP (2008), which groups them into managerial, technical, behavioral, research and education, and policy climate change adaptation practices.

Figure 3.1 Summarizes the categories of climate change adaptation practices discussed during the FGDs and KIIs

Figure 3. 1 Categorization of Climate Change Adaptation Practices adopted by Tourism Enterprises

3.2.1.1 Managerial Climate Change Adaptation Practices

The evidence from KIIs and FGDs supports the quantitative results from the baseline survey and indicates awareness and adoption of managerial climate change adaptation practices. These practices involve enterprises proactively reducing their environmental impact. Among these practices, the most commonly cited intervention was diversification of tourism products, aiming to reduce over-reliance on nature-based tourism products highly vulnerable to changes in climate patterns. For example, one informant advocated for product diversification as a response to climate change, stating that: ‘

> *“One essential aspect is to prioritize diversification of your product offerings. Your portfolio should be highly diverse, ensuring that if one plan encounters difficulties, you have alternative options readily available. It’s crucial not to rely solely on one strategy. Instead, understand and maintain multiple options, so you’re well-prepared to adapt as needed. This knowledge and preparedness are especially important for tour operators in the current landscape”* [P05].

Participants from the accommodation sector highlighted successful linen-reuse programs in their hotels, lodges, and camps, encouraging guests to reuse towels and bed linens. However, some questioned their effectiveness, noting the need for guest sensitization to support behavior change. Additionally, participants discussed waste recycling and reduction programs, including initiatives such as reusing plastic bottles, and using refillable toiletries. They also mentioned solid waste collection activities involving the community, providing employment opportunities for youth and women who convert collected plastics and other materials into doors, boards, and other items. Some tourism enterprises conducted staff training on collective responsibility in waste management and implemented waste disaggregation and disposal, focusing on the 3Rs (reduce, reuse, recycle), with some wastes used as organic fertilizers for gardening.

3.2.1.2 Technical Climate Change Adaptation Practices

The results of the qualitative analysis highlighted technical climate change adaptation strategies focused on leveraging technology for energy efficiency. Discussions emphasized energy conservation and efficiency practices undertaken by tourism enterprises to enhance their climate change resilience. Commonly cited initiatives included:

i. Use of energy-efficient equipment like improved cookstoves;
ii. Use of solar energy, such as solar panels and solar freezers;
iii. Installation of automatic switches and light sensors;
iv. Raising awareness among employees to switch off lights during the day and when not in use; and
v. Use organic fuels like briquettes made from coconut husks.

The qualitative findings indicate that tourism enterprises, especially classes A and B, were increasingly investing in energy-efficient technologies and building infrastructure for renewable energy, aiming to reduce operational costs, as one FGD participant noted.

> ‘*‘We’ve gone ahead now to put automatic switches where when there is no human activity, lights go off. Light sensors, yes. Like now, if you’re walking in the corridor, the lights switch on as you move, and they switch off as you leave the area. So, we are saving on energy”* [FGD02]

The motivation for adopting energy conservation practices is captured by a key informant in the following excerpt:

> *“… So, one of the things that is coming clearly is that the cost of doing business has gone up. For example, when we were having a meeting with Kenya Power it was evident that the electricity bills are really high, some paying as much as Ksh 5 million per month, especially to big hotels 4 and 5 star, resulting to an average of Ksh 2 million per month. This is due to running so many fans, ACs and other electrical appliances to moderate the temperature, especially during hot seasons and cold seasons.”*

Mentions were also made of promoting sustainable transportation, such as considering the use of higher capacity vehicles in parks instead of smaller ones and exploring fuel-efficient transportation.

The second important group of practices in the technical adaptation domain focused on water resource management. Here, the interviews and group discussions highlighted various practices including advocating for the construction of water pans in dry areas to store rainwater for community use during drought periods, conservation efforts targeting water towers and catchment areas, and adopting efficient water management practices in hotels, such as employing low-flow shower heads and recycling greywater. Collectively, these measures aim to bolster water conservation, drought resilience, and sustainable water management practices within the tourism sector as mentioned by a participant in a focus group discussion:

"In our efforts for efficient water management in hotels, we focus on two key aspects. Firstly, we consider the frequency of changing linens. Secondly, we pay close attention to the type of shower heads we utilize. It's essential that these shower heads are low-flow to minimize water usage. Additionally, we look at options like automatic shut-off mechanisms, where water stops flowing once hands are removed from the sensor" [FGD02].

It is noteworthy that the baseline survey revealed a significantly low level of adoption of rainwater collection as an adaptation practice (Mean = 1.76, SD = 1.27) on a five-point Likert scale. This underscores the importance of sensitizing tourism enterprises to upscale their use of water harvesting and storage technologies. Doing so can help them save costs associated with water bills and build resilience for their businesses during prolonged droughts linked to climate change and climate variability.

In line with the baseline survey, feedback from FGDs and KIIs indicated limited consideration of green building design as a technical climate change adaptation practice. However, a few new hotel establishments reported embracing green buildings as a means to adapt to climate change impacts. These facilities relied on eco-friendly construction materials such as Makuti thatch to regulate temperatures, reducing the need for air conditioning equipment. This practice is gaining momentum, especially in hotel establishments in wildlife-protected areas, where other materials like bamboo and wood are being utilized.

3.2.1.3 Research and Education Practices

In this class of adaptation, the most significant mentions by key informants and FGD participants were of tourist education and awareness programs, and employee sensitization activities aimed at attitude and behavior change. The results reflect the findings from the baseline survey, which also emphasized the importance of employee training, visitor sensitization, and tourist information. The education practices aim not only to enhance the capacity of staff to deliver responsible tourism experiences but also to empower visitors to make informed choices and engage in sustainable behaviors during their travels.

3.2.1.4 Behavioral Adaptation Practices

Behavioral adaptation focuses on changing individual behaviors to reduce their environmental footprint. Discussions highlighted interventions such as carpooling and encouraging staff to cycle to work, although evidence suggested that these practices had not yet gained wide traction among the enterprises.

3.2.1.5 Policy Climate Change Adaptation Practices

Discussions on policy adaptation highlighted government regulations and incentives to encourage climate action, as well as the extent of private sector enterprise compliance with these regulations. Ecosystem and heritage conservation were singled out as key components of policy adaptation measures. The FGDs and KIIs pointed out ecosystem restoration and environmental conservation practices undertaken by the public sector, tourism enterprises and other non-state agencies, echoing the quantitative results of the baseline survey. These efforts largely centered on the rehabilitation of degraded landscapes, such as marine ecosystems,

nature parks, game reserves, conservancies, and settled areas, among others. Specific activities included supporting community tree nursery projects, tree planting in degraded areas, afforestation and reforestation, rehabilitation of coral reefs, mangrove restoration, planting of seagrass, promoting smart agriculture, and proper landscape and resource planning.

On heritage conservation, reported efforts included gazettement or designation of nature and heritage sites, with the objective of establishing frameworks for their protection, conservation, and sustainable use in tourism activities by county governments as can be seen from the following excerpt:

> *"We have successfully gazetted several of our nature and heritage sites, designating them as County Heritage. The objective of this gazetting is to establish a framework for protecting, conserving, and promoting sustainable tourism use of these sites".* [P04]

Compliance with government policies and regulations was identified as a crucial factor in enhancing adaptation to climate change. This includes adherence to regulations enforced by central government agencies such as the National Environment Management Authority (NEMA) and the Tourism Regulatory Authority (TRA), as well as regulations set by county governments. However, FGD participants highlighted challenges in compliance with these laws and regulations. These challenges include the multiplicity of licenses, complex licensing procedures, inadequate coordination between enforcing authorities, and a lack of incentives and disincentives for climate change adaptation.

3.2.2 Current Climate Change Mitigation Practices

The baseline survey results revealed variations in the extent of adoption of tree planting and engagement in conservation initiatives by tourism enterprises across different classes. Among hotels (Class A, n = 433), the results indicate that tree planting (mean = 2.50, SD = 1.41) and engagement in conservation activities (mean = 2.82, SD = 1.31) were adopted «to some extent» on a five-point Likert scale. For restaurants (Class B, n = 183), tree planting was adopted to a lesser extent (mean = 2.26, SD = 1.37), while conservation activities were implemented to some extent (mean = 2.55, SD = 1.32). For tour operators (Class C, n = 230), there was the lowest rate of adoption of tree planting (mean = 1.91, SD = 1.23).

Furthermore, content analysis of the comments from FGD groups and key informants highlighted the following climate change mitigation practices implemented by the tourism sector: tree planting through afforestation and reforestation initiatives to restore degraded landscapes; protection of fragile ecosystems and watersheds that are key touristic destinations; investment in carbon offset projects; use of renewable energy throughout the tourism value chain; education, awareness, research, and capacity building; waste management to reduce emissions; and use of electric cars and pooled transport for vehicular transportation in national parks and game reserves.

3.2.2.1 Tree Planting

In the KIIs and group discussions, tree planting emerged as one of the practices undertaken by tourism enterprises for climate change mitigation. Afforestation and reforestation in degraded landscapes were discussed. Views from the interviewees and FGD participants suggested that enterprises were involved in tree planting primarily for their carbon sequestration role, as evidenced by the following excerpt on the benefits of mangrove planting:

> *"We collaborate with the community in mangrove restoration because mangroves are known to absorb 10 times more greenhouse gases than terrestrial plants. This initiative serves as a mitigation measure, and our partnership with the community strengthens its effectiveness "* [FGD07]

Other participants established tree nurseries and distributed seedlings to communities as a means of empowering and encouraging local communities to engage in environmental conservation efforts and benefit from tree planting initiatives. Informants also suggested that tree planting aids in soil stabilization, flood prevention, and biodiversity conservation, thereby enhancing ecosystem resilience and promoting sustainable livelihoods for communities. The following excerpt serves as an illustration of this motivation:

> *"We establish nurseries for indigenous trees and distribute them to communities surrounding national parks, enabling them to access seedlings at no cost. Subsequently, we launch tree planting campaigns to further this cause."* [FGD04]

Although the baseline survey results revealed a low extent of adoption of tree planting across the tourism industry, feedback from the FGDs and KIIs showcased some successful afforestation projects. For instance, SKAL International, a tourism association, exceeded its 10,000-mangrove planting target by planting 15,000. By surpassing its goal, SKAL International's tree-planting initiative demonstrates the potential of proactive climate change mitigation and effective collaboration in the tourism sector's environmental initiatives.

3.2.2.2 Protection of Fragile Ecosystems and Watersheds

The protection of fragile ecosystems in national parks, game reserves, wetlands, conservancies, and rangelands not only contribute to emission reduction but also improves biodiversity and promotes the supply of ecosystem services, enhancing resilience to climate change. The protected and restored sites are expected to increase the number of tourist visits, generating more revenue for the sector.

Evidence from qualitative feedback confirmed that communities were engaged in forest conservation activities supported by tourism enterprises as part of community extension or corporate social responsibility programs. For example, the Coastal Forest Conservation Unit, a global organization, was piloting an ecotourism project at Kaya-kinondo-Mijikenda aimed at conserving the Kaya Forest for cultural and traditional rites. This project aims to develop an additional touristic destination for income generation and employment creation for locals.

Informants and participants highlighted additional activities undertaken by tourism enterprises to protect fragile ecosystems and watersheds. These include managing invasive species, controlling wildfires, regulating grazing in forest lands and conservancies, and engaging in apiculture and other non-timber income-generating activities.

3.2.2.3 Investment in Carbon Offset Projects

Carbon offset projects create a connection between emission reduction and tourism, promoting biodiversity conservation, and generating entrepreneurial activities for resilience. The stakeholder engagements discussed carbon offset projects that are contributing to the enhancement of tourism and climate action, as illustrated by the following two projects:

The Northern Rangeland Trust (NRT) involves 45 community conservancies to enhance people's lives, build peace, and conserve the environment. The project covers counties in northern and Coastal Kenya, including Laikipia, Baringo, Isiolo, Marsabit, Samburu, and Tana River. The Northern Kenya Rangeland Carbon Project under the NRT is the world's largest soil carbon removal project to date and the first project generating carbon credits reliant on modified livestock grazing practices. FGD Participants noted that the project has resulted in multiple benefits, including sustainable tourism, job creation, economic diversification, support for education, better conservancy management for grazing, and sustainable rangeland management.

Mikoko Pamoja (Mangrove Conservation for Community Benefit) is a blue carbon offset project spanning Kwale and Lamu Counties. It aims to conserve and restore degraded mangrove ecosystems through community participation, including policing illegal harvesting and planting seedlings to prevent deforestation and degradation. Additionally, it fosters the long-term socio-economic development of local communities through sustainable income-generating activities like beekeeping and ecotourism. The following excerpt presents the views of two participants on the climate change mitigation and community benefits of the Mikoko Pamoja project:

> *"We actually work with the local community in restoration of mangroves because they are known to absorb 10 times more greenhouse gases than other terrestrial plants…the project provides market for the local communities through purchasing the Mangrove seedlings and planting the seedlings in areas where we need to restore …"* [FGD07]

3.2.2.4 Use of Renewable Energy Sources

The study unveiled several practices currently undertaken by the tourism sector, which require promotion and incentivization to achieve the intended objectives of emission reduction and climate change adaptation. Insights from FGDs and KIIs reveal that tourism enterprises have embraced various practices aimed at utilizing energy-efficient technologies, such as solar energy, and alternative fuels like briquettes and LPG, to minimize energy consumption. This is illustrated by the following quote from one participant: «We are using alternative sources of energy e.g., Briquettes made from Biomass and coconut husks…" [FGD07]

3.2.2.5 Vehicular Transportation in National Parks and Game Reserves

Insights from FGDs and KIIs indicated a shift towards restricting fossil fuel vehicular transportation within all national parks and game reserves to reduce greenhouse gas emissions. The FGD participants revealed that few tourism enterprises are already using non-fossil fuel-powered vehicular transportation, albeit at limited levels. Other participants reported encouraging pooled transport, biking, trails for walking, and trekking safaris to reduce their carbon footprints. These demonstrate the level of consciousness that the tourism enterprises are committed to reducing emissions through transportation systems, as can be evidenced in the following excerpt:

> *"…. We have the Masai Wilderness Conservation Trust (MWCT) which is already using rechargeable electric vehicles covering 500 km per single full charge …" FGD01 and "…. We have electric vehicles and reducing on fuel consumption by cutting on fossil fuel …"* [FGD01]

3.2.2.6 Waste Management

Informant interviews and FGDs captured views on practices implemented by tourism enterprises to reduce, reuse, and recycle their waste. Practices identified include the use of recyclable and reusable packaging material, treatment of solid and liquid waste, composting of biodegradable waste, incineration, reducing food waste, waste separation at the source, and training of staff on collective responsibility regarding waste management. The following quote illustrates a representative enterprise waste management cycle as captured in an FGD:

> *"… I take a scenario our property is actually placed near a conservancy or maybe lodges that are not connected actually to a Municipal or a County sewer system… for that case, we have the bio-digesters where wastes are processed. We then make organic fertilizers that we actually use in our farms. We are doing that actually in our lodges. So that we don't discharge the waste that can destroying the ecosystem"* [FGD12]

The discussions highlighted success stories regarding waste reduction by tourism enterprises. Mentions emphasized the sector's efforts to reduce material use and solid waste generation, particularly by discouraging or discontinuing single-use plastic items, which emerged as the second most cited environmental management practice. A participant exemplified this with the quote:

> *"We have taken steps to mitigate environmental impact by discontinuing the use of single-use plastic bottles across all national parks, reserves, and hotels. Instead, we have implemented alternative methods for serving water."* [FGD02].

3.2.2.7 Education, Awareness, Research and Capacity Building

Key informants suggested that having knowledge and skills in climate change mitigation remains crucial for identifying suitable practices for emission reduction. The results of the qualitative study confirmed that most tourism enterprises had prioritized awareness creation, training, environmental education programs, continuous engagement with local communities,

and encouraging food suppliers to embrace green procurement. Specifically, some tourism enterprises held annual sensitization meetings with stakeholders to educate them about the impacts of climate change, the significance of tree planting, and the dangers of deforestation. This finding corroborates the baseline survey's indication of a moderate level of implementation of training and sensitization as mitigation and adaptation measures. The following excerpt demonstrates the motivation for awareness of climate mitigation:

> *"The main area where our department and school are looking at is through sensitization of students, because we all know that for example, tree cover is very important as an area of mitigating climate change issues. So, tree planting has been a major issue for our school where every activity that takes place, there is a tree planting exercise and also encouraging the students to plant trees in their homes."* [P012]

Group participants mentioned efforts on environmental education programs targeting local communities and schools. Furthermore, training programs on best practices and women's empowerment initiatives were being implemented to equip communities with the knowledge and skills needed to effectively address climate change challenges. During the FGD, a participant stated:

> *"What we are doing as an organization is encouraging farmers to practice regenerative agriculture and use organic manure instead of fertilizers. We also encourage people to plant indigenous tree instead of eucalyptus."* [FGD03]

The informant interviews highlighted tourism research conducted by public and private sector stakeholders on climate change for knowledge generation. This research provides empirical evidence to support policy formulation and guidelines for strengthening the tourism sector to mitigate against climate change. For example, ensuring the integration of climate change topics into Continuous Professional Development (CPD) sessions continues to enhance professionals' understanding of climate change impacts and fosters proactive measures within the tourism sector. As highlighted in a key informant interview, a participant stated:

> *"What we have managed to do so far, is we normally have a lot of CPD sessions, and during these CPD sessions, climate change is one of our agenda. For instance, I recall last year we were in our CPD session we took them through the climate change declaration and managed to break it down to what it should be for the tourism business. Because the people will see all this, but they are not able to see how directly they are affected or in any way how directly they contributed."* [P024]

3.2.3 Current Sustainable Tourism Practices

3.2.3.1 Environmental Sustainability Practices

The results of the baseline study confirm that, on average, tourism enterprises have implemented environmentally sustainable practices to a moderate extent (n=1,426). These practices include monitoring energy use, monitoring environmental pollution, implementing efficient water management systems, using energy-efficient appliances, creating environmental awareness, and adopting eco-building designs (mean = 2.69, SD = 1.33 – mean = 3.09, SD

= 1.33). However, the implementation of recycling materials (mean = 2.19, SD = 1.37) and environmental fleet management (mean = 2.41, SD = 1.38) by tourism enterprises was only to a limited extent.

Qualitative feedback from KIIs and FGDs supports the survey findings, highlighting energy management as the primary sustainable practice (53% of mentions, total number of references = 273), followed closely by waste management (52%). However, eco-building design adoption was low (43%), and environmental fleet management was mentioned in only 36% of the discussions, revealing a gap in the adoption of ergonomic architecture and eco-friendly transportation practices by tourism enterprises. Surprisingly, recycling materials showed the lowest adoption (29%), indicating possible barriers to effective recycling programs by tourism enterprises. Additionally, water management practices exhibit low adoption rates across the tourism sector, evidenced by mentions in only 22% of key informant and FGD discussions.

The results from surveyed hotels (Class A, n = 433) revealed the highest extent of implementation in energy-efficient appliances (mean = 3.35, SD = 1.19). This was followed by efficient water systems (mean = 3.29, SD = 1.23) and energy monitoring (mean = 3.28, SD = 1.29). However, recycling materials (mean = 2.19, SD = 1.32) and fleet management (mean = 1.93, SD = 1.28) were the least implemented, scoring «to a limited extent» on the five-point Likert scale. For restaurants (Class B, n = 183), efficient water management, energy-efficient appliances, and energy monitoring were highly implemented, while recycling materials and fleet management were least implemented.

Among tour operators (Class C, n = 230), fleet management ranked highest (mean = 3.17, SD =1.21), scoring «to a moderate extent» on the Likert scale, whereas environmental awareness, efficient water management, eco-building design, and materials recycling were limited in implementation (mean = 2.49, SD =1.35 - Mean = 2.11, SD = 1.33). Among small-scale operators including tour guides and curio vendors (n = 314), moderate adoption was observed in monitoring environmental

pollution and creating environmental awareness, while the use of efficient energy appliances and materials recycling were the least adopted practices.

3.2.3.2 Water Management Practices

An assessment of water management practices in hotel establishments unveiled disparities in adoption rates among various technologies/interventions. For hotels (n=433), practices involving employee participation, such as minimizing water loss during duties, were most prevalent (85%), followed by linen reuse programs (77%) and water pressure reduction technologies (57%). About half of the hotels (49%) implemented leak control measures. However, the least adopted practices included intelligent irrigation systems (4%) and greywater recycling for irrigation (7%). Notably, less than 20% of hotels had invested in sensor-based water taps or efficient dishwashing machines.

For restaurants (n=183), the majority engaged employees in water conservation (86%), while half had adopted technologies for water pressure reduction and low-flush toilets. Approximately 30-20% of restaurants implemented leak detection mechanisms and rainwater harvesting to save water. However, less than 20% of restaurants utilized sensor-based taps, and efficient dishwashers, or had implemented linen reuse, greywater recycling, and intelligent irrigation systems.

Although many enterprises, especially those in urban areas are reliant on water service providers, KIIs and FGDs highlighted a diversity of alterative water sources. Strategies for water sourcing included rain harvesting, wastewater recycling, protecting catchment areas, and implementing reservoir-based storage systems. Examples cited installations of rainwater collection systems and dam construction for water capture and storage, enabling reuse in organic farming and other activities, especially during dry periods, as noted in the following quotes:

‘‘We have got rainwater harvesting and also recycling of wastewater. It is said that in some countries, in some major airports, there is a place where they totally use recycled water for cleaning even the other items’’ [FGD06].

> *“We’re also doing a lot of water reservoir-based initiatives where we tap all the water during the rainy seasons and reuse it during the dry seasons for our organic planting and other activities. I think all this with time is going to be beneficial”* [FGD08].

FGD results highlight water management practices among tourism enterprises, as expressed by a hotelier:

> *“In our efforts for efficient water management in hotels, we focus on two key aspects. Firstly, we consider the frequency of changing linens. Secondly, we pay close attention to the type of shower heads we utilize. It’s essential that these shower heads are low-flow to minimize water usage. Additionally, we look at options like automatic shut-off mechanisms, where water stops flowing once hands are removed from the sensor”* [FGD02].

FGD participants highlighted the use of water-saving cisterns, shower heads, and motion-sensing taps. Recycling and water saving measures were also mentioned as can be evidenced in the following excerpt:

> *“We have employed the three R’s - reduce, reuse, and recycle - in our water management approach. Firstly, we reduce the amount of water we use. Secondly, we reuse water that has been used, such as in the kitchen, redirecting it to washrooms. Similarly, water used in pools can also be repurposed for other purposes. Lastly, we recycle water to minimize waste. Moreover, we are initiating plans to address water obstruction, spillage, and overuse through automation”.* [FGD06_2]

Figure 3.2 shows the prevalence of specific water management practices mentioned by key informants in the baseline study.

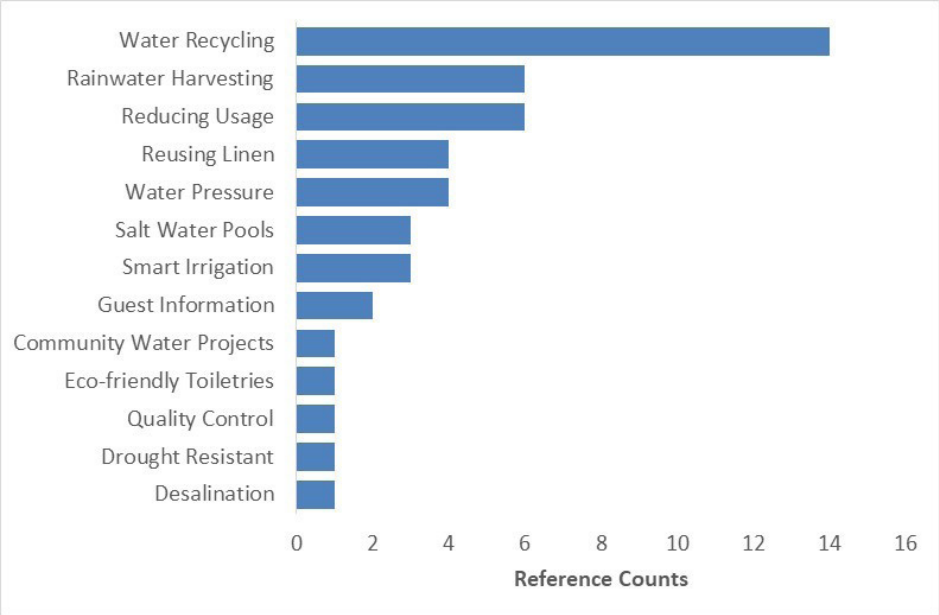


Figure 3.2 Water Management Practices Implemented by Tourism Enterprises.

3.2.3.3 Energy Management Practices

The baseline survey considered two energy management practices: the extent to which enterprises were monitoring their energy use and their use of energy-saving appliances. Overall, the results indicated that, on average, all surveyed tourism enterprises (n=1,246) had implemented the energy management practices to 'a moderate extent' (mean=2.99, SD=1.14). However, the results suggest comparable extents of implementation of energy practices between hotels (mean=3.31, SD=1.07) and restaurants (mean=3.23, SD=1.11) (t_ ((614))=0.84,p=0.40ns).

Key informant interviews and FGDs provided insights into specific energy management practices implemented by the tourism enterprises. Figure 3.3 highlights a tally of the energy management practices cited in the discussions:

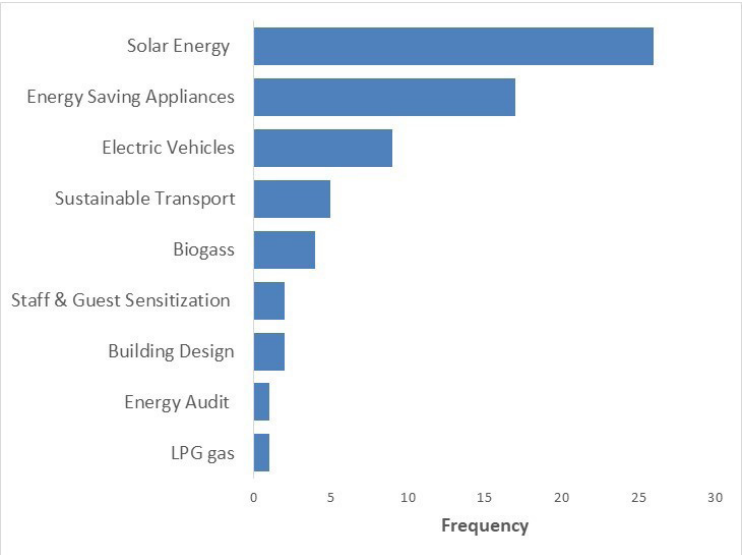


Figure 3.3 Energy Management Practices implemented by tourism enterprises in Kenya

Figure 3.3 suggests that, by proportion of mentions during the FGDs and KIIs discussions, most enterprises recognized the adoption of green energy solutions such as solar. For instance, a lodge in Masai Mara had its entire fleet of safari vehicles powered by solar energy, showcasing the adoption of renewable energy sources. Another facility mentioned efforts to transition from conventional electricity supply, as evidenced in the following quote:

> *"We have incorporated solar panels alongside our conventional electricity supply. Initially, our reliance on electricity outweighed our use of solar energy. However, we've shifted our focus towards greater utilization of solar power. Similarly, many establishments around us now prioritize solar energy over traditional fossil fuels. This transition reflects a broader trend towards embracing renewable energy sources, particularly solar power, for sustainable operations"* [FGD03_2]

Furthermore, the results revealed efforts within the industry to promote sustainable transportation options, such as electric bikes and electric vehicles, aimed at minimizing emissions. There was specific mention of the adoption of electric vehicles (EVs) as a strategic approach to reduce reliance on fossil fuels and decrease fuel consumption. Additionally, steps are being taken to reduce dependence on fossil fuels by incorporating alternative energy sources such as LPG gas and briquettes derived from organic materials.

In terms of energy use, discussions during the KIIs and FGDs focused on leveraging energy-efficient technologies to reduce consumption. Hotel and lodge operators specifically mentioned efforts to transition to energy-saving bulbs and the use of automatic switches and sensors to regulate lighting. Additionally, some enterprises had invested in upgrading to energy-efficient appliances and equipment, such as refrigerators, air conditioners, and water heaters, which they argued contribute to reducing energy consumption. Finally, several establishments emphasized the importance of educating both customers and employees on energy conservation practices, encouraging them to minimize energy usage during their stay or in their work activities.

3.2.3.4 Waste Management Practices

Here, the best practice report outlines the waste management practices adopted by hotels, restaurants, and tour operators:

The hotels implement various waste management practices, with the most common being guest and staff education on waste prevention (15%), using local waste management services (16%), employing non-disposable crockery (13%), environmentally friendly detergents (13%), and reusable soap dispensers (10%). However, certain practices, such as food donation (5%), are less common. Notably, only a small percentage of enterprises use sewage plants (4%), while a significant portion resorts to landfills or dumping sites (4%). A minority have invested in advanced waste management technologies like biogas plants (1%).

For restaurants, the most prevalent practices included engaging local waste management service providers (17%), followed by the use of non-disposable crockery (16%), environmentally friendly detergents (16%), and educating guests and staff on waste prevention (15%). However,

recycling waste and using biogas were less common, implemented by less than 1% and 3% of the restaurants respectively.

For tour operators, the most prevalent practices included educating guests and staff on waste prevention (35%) and utilizing local waste management service providers (28%). However, there was a notable absence of certain practices, such as using biogas plants, sewage plants, or donating leftover foods, all of which were reported at less than 1% frequency.

Feedback from KIIs and FGDs revealed a variety of common waste management practices in tourism enterprises. Figure 3.4 depicts the prevalence of these practices in a tree map diagram:

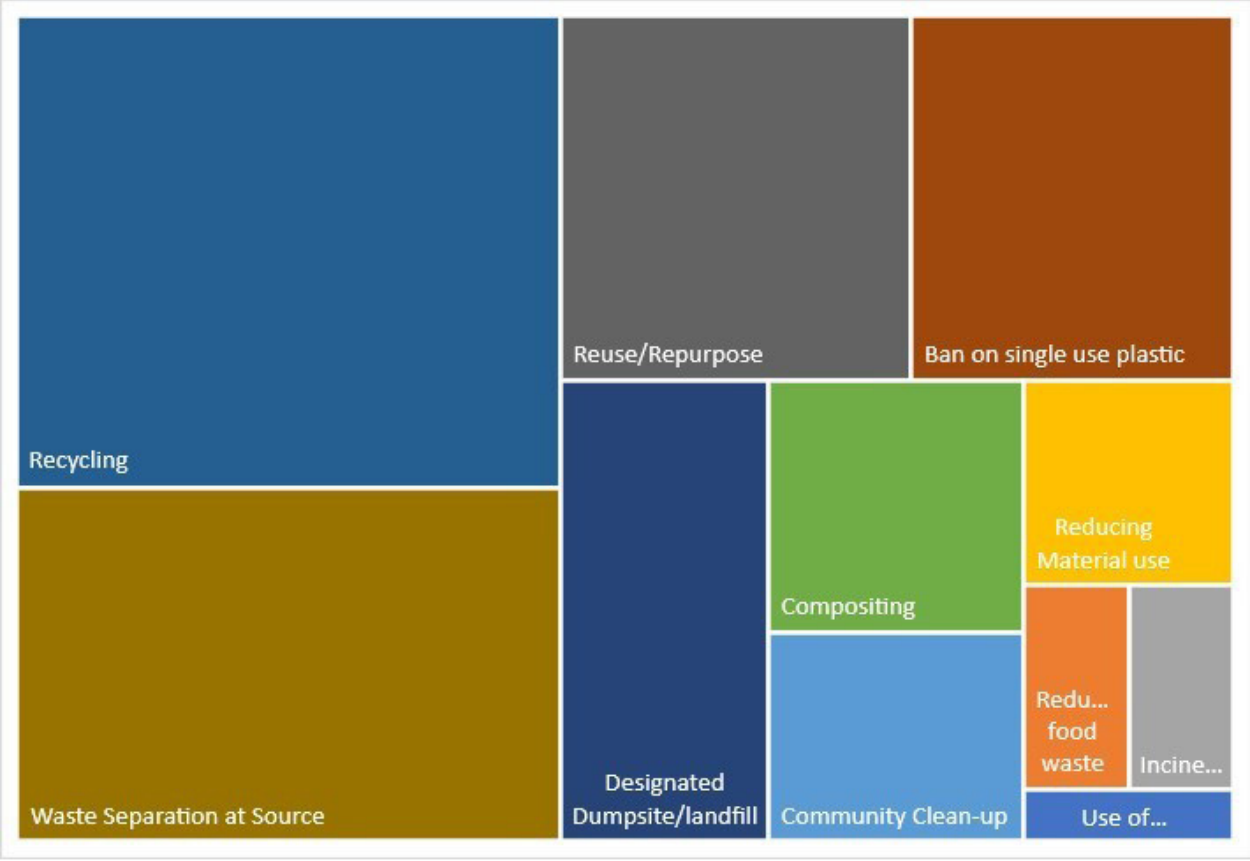


Figure 3.4 Tree-map Diagram Waste Management Practices Discussed in KIIs and FGDs

The FGDs and KIIs emphasized waste reduction strategies, including banning single-use plastics, reducing material usage, and minimizing food waste. Participants highlighted the successful implementation of such strategies, citing the ban on single-use plastics and promotion of recyclable bottles in wildlife protected areas as best practices. The results confirmed that many enterprises, including hotels, lodges, and attractions, actively worked towards eliminating single-use plastics from their premises after the successful implementation of the plastic ban in parks. The enterprises have declared themselves as ‘‘no plastic areas’’ or ‘‘single-use plastic-free zones’’, and encourage the use of reusable water bottles instead.

Under reuse strategies, discussions focused on the importance of waste separation at the source to encourage individuals and organizations to sort waste materials before disposal, enabling the recycling of waste into usable products. Specific practices mentioned included providing bins designated for various waste types, such as recyclables and organic waste. However, participants in the FGDs criticized poor waste handling at designated dumpsites/ landfills, which did not consider waste segregation practices, thus negating the benefits of waste separation. Although most participants and key informants agreed that the extent of waste recycling by tourism enterprises was still poor, initiatives for solid waste recycling were noted. Recycling practices included shredding plastics to reduce environmental impact, reusing plastic water bottles, and recycling soaps used in guest rooms. Some establishments offered training programs on recycling plastics, showcasing innovative approaches such as transforming plastics into ornaments.

From the discussions, it emerged that most tourism enterprises relied designated public dumping sites/landfill for waste disposal. Other noted waste disposal practices including incineration, community clean-up exercises, and use of exhauster services. The following excerpt captures the waste management cycle for a representative tourism enterprise, as gleaned from the KIIs and FGDs:

> *“Now, turning to the issue of kitchen waste management, we have implemented measures to train our staff who handle waste. We ensure proper segregation, distinguishing between biodegradable and non-biodegradable waste, as well as assigning specific areas for disposal within our facility”*

3.2.3.5 Economic Sustainable Tourism Practices

An analysis of 1246 Kenyan tourism enterprises revealed a moderate extent integration of economic tourism sustainability practices. Positive efforts exist in areas like sourcing from sustainable suppliers (mean = 3.12, SD = 1.27), minimizing paper-based marketing (mean = 3.12, SD = 1.29), monitoring energy use (mean = 3.09, SD = 1.33), implementing efficient water management system (mean = 2.96, SD = 1.32), and use of energy efficient appliances (mean = 2.90, SD = 1.30) which all scored to a moderate extent. Practices with the lowest scores included environmentally friendly fleet management (mean = 2.41, SD = 1.38) and recycling materials (mean = 2.19, SD = 1.37).

From the KIIs and FGDs the results showed that purchasing from sustainable suppliers, with a relatively even split (56%), indicated that there was a significant effort towards sourcing products and services from suppliers who adhered to sustainable practices, contributing to supply chain sustainability and responsible consumption. Minimizing Paper-Based Marketing was moderately adopted to a high extent (54%), indicating a moderate recognition of the environmental impact of paper consumption and a shift towards digital marketing channels for reducing ecological footprint.

Further analysis of economic sustainable tourism practices across various enterprise classes (A: n=433, B: n=183, C: n=230, E: n=314) revealed moderate implementation. Practices like purchasing from sustainable suppliers, minimizing paper marketing, and monitoring energy use consistently scored highest across classes (means ranged from 2.87 to 3.29). However, environmental fleet management scored the lowest in all classes (means ranged from 1.93 to 2.1). Interestingly, Class C prioritized fleet management (mean = 3.17) compared to recycling (mean = 2.11), while Class E showed the opposite trend (recycling: mean = 2.10, fleet management: mean = 2.69). Overall, the study suggests a need for improvement in some areas, particularly environmental fleet management, for a more comprehensive approach to economic sustainability in tourism.

Likewise, it was established that poverty among local communities can hinder their participation in tourism-related activities and diminish their interest in contributing to the success of the tourism sector. By implementing livelihood adaptation strategies, such as providing employment opportunities and income-generating activities, tourism enterprises aim to alleviate poverty,

thereby fostering community engagement, enhancing local well-being, and ultimately supporting the sustainability of the tourism sector. This is buttressed by the following excerpts:

> *"We need to tackle poverty because it significantly impacts tourism. One of the major challenges we face is poverty among local communities, as it affects their willingness to engage in sustainable activities. People are often reluctant to participate in such activities until they have enough money to meet their basic needs, such as food and shelter. Therefore, addressing poverty is crucial for fostering community involvement in tourism and ensuring its sustainability".* [FGD10].

The other initiatives for livelihood improvement include launching ecotourism projects in culturally significant areas like the Kaya-kinondo Forest, aimed at both conserving local heritage and providing income-generating opportunities for residents. Additionally, tourism facilities are developed, like Bandas and lodges, with a focus on community involvement in their operation and management. Economic diversification efforts, such as training community members to work in these spaces, are emphasized to adapt to changing norms like climate change. Furthermore, as evidenced in the following quote from FGD, income generated from tourism activities, including cultural performances and artisanal sales, are reinvested into community initiatives, contributing to both economic empowerment and climate change mitigation efforts.

"We feature Maasai dancers as a tourist attraction, along with local women selling ornaments and other crafts, and men bringing goats for sale. A significant portion of our customer base consists of tourists, many of whom visit as an extension of their trip to Nairobi National Park".[FGD11]

Furthermore, purchasing from sustainable suppliers shows that there is a significant effort towards sourcing products and services from suppliers who adhere to sustainable practices, contributing to supply chain sustainability and responsible consumption. Other economic activities promoted include drought crop resistance varieties and animal husbandry practices such as Gala goats for interbreeding with local breeds aimed at enhancing livelihoods through agriculture. Short-term crops are favored due to climate change-induced short rains, with the agricultural department supplying suitable varieties. In forested areas, climate-smart agriculture involves horticulture, such as planting French beans, potatoes, and onions, facilitated by irrigation methods like drip and overhead irrigation. Moreover, land use diversification, transitioning from livestock ranching to wildlife conservancies, supports livelihoods while aligning with wildlife conservation efforts.

3.2.3.6 Social Sustainability Practices

The results of the baseline study revealed variation in the level of adoption of social sustainability practices by tourism enterprises in the country. On average, tourism enterprises (n=1,426) have implemented socially sustainable practices to a moderate extent. These practices include implementing anti-sexual harassment policies, providing continuous education and professional development for employees, creating environmental awareness, and budgeting for CSR activities (mean = 2.65, SD = 1.29 – mean = 3.65, SD = 1.28). However, the implementation of anti-sexual harassment policies (mean = 2.19, SD = 1.37) by tourism enterprises was notably high, scoring "to a considerable" extent on the five-point Likert scale.

The results among surveyed hotels (Class A, n = 433) showed the highest implementation of anti-sexual harassment policies (mean = 3.78, SD = 1.19), indicating widespread recognition of the importance of creating safe and respectful work environments within the tourism sector. This practice was followed by employees' continuous education and professional development (mean = 3.35, SD = 1.28) and budgeting for CSR activities (mean = 2.74, SD = 1.38). Environmental awareness (mean = 2.66, SD = 1.263) was least implemented. For restaurants (Class B, n = 183), implementation of the anti-sexual harassment policies, Employees' continuous education and professional development, environmental awareness and Budgeting for CSR activities were highly implemented

Among tour operators (Class C, n = 230), implementing anti-sexual harassment policies, employees' continuous education and professional development, and budgeting for CSR activities ranked highest (mean = 2.47, SD =1.18 - mean = 3.59, SD =1.21), scoring «to a moderate extent» on the Likert scale, whereas environmental awareness was limited in implementation (mean = 2.49, SD =1.35). Among tour guides and curio vendors (Class E, n = 314), moderate adoption was observed in implementing anti-sexual harassment policies,

which ranked the highest (mean = 3.17, SD =1.21), while budgeting for CSR activities was the least adopted practice.

The qualitative feedback from the KIIs and FGDs aligns with survey findings, emphasizing the high adoption rate (71%) of Anti-Sexual Harassment Policies as a crucial social sustainability best practice. Additionally, Employees' Continuous Education and Professional Development showed a moderate adoption rate (57%), indicating a commitment to enhancing skills and knowledge vital for sector sustainability and innovation. However, creation of environmental awareness had a lower adoption rate (43%), suggesting opportunities for improving educational initiatives. With only a minority (40%) allocating resources to corporate social responsibility initiatives, there's potential for enhancing contributions to local communities and environments.

Respondents' feedback from FGDs emphasized the adoption of social sustainability measures by tourism enterprises, primarily centered on awareness creation and education initiatives. These efforts encompass environmental education programs targeting local communities and schools, annual sensitization meetings with tourism stakeholders, continuous engagement on sustainability issues with communities and stakeholders, and implementation of training programs and women empowerment initiatives.

The analysis of KII and FGD feedback categorized social sustainability practices into three sub-themes: practices for tourists, the host community, and employees. Economic sustainability practices, including those targeting suppliers, formed another theme. Figure 3.5 depicts the frequency of mentions of these social sustainability practices from the KII and FGD data.

Figure 3.5 Hierarchy Diagram- Social Sustainability Practices implemented by the tourism enterprises

Social sustainability practices targeting host communities implemented by tourism enterprises reflect a multifaceted approach aimed at fostering community development, empowerment, and collaboration. Across various focus group discussions (FGDs) and key informant interviews (KIIs), several initiatives emerged, demonstrating efforts by tourism players to positively impact the lives of host communities.

One notable practice involves the provision of employment opportunities to local residents, thereby contributing to economic empowerment. It emerged from the interviews that tourism enterprises are not only creating jobs but also offering financial support through leases to local communities and direct financing of community projects. Additionally, corporate social responsibility (CSR) programs, including lunch programs, bursaries, and medical assistance, further demonstrate a commitment to addressing social needs within host communities, as highlighted in the following excerpt:

> *"Tourism players are significantly contributing to employment opportunities within local communities. Moreover, they provide direct financial support through leasing arrangements with local group ranches. Additionally, many hoteliers in the region offer CSR programs, including lunch initiatives. Furthermore, they provide bursaries and medical assistance to support the well-being of community members."* [FGD01_2]

Moreover, feedback from FGDs and KIIs confirms that tourism enterprises actively support education and healthcare access for host communities. Initiatives include sponsoring vulnerable children, supporting local schools and dispensaries, and providing workshops on environmental conservation and permaculture farming. Investing in education and healthcare infrastructure contributes to long-term community development. Additionally, partnerships with local communities involve projects like borehole construction and capacity-building, fostering ownership and empowerment among residents as evidenced in the following quote:

> *"We also dig boreholes to provide water for the community's animals. Additionally, during droughts, we implement a zero-grazing policy, allowing the community to bring their livestock to graze without conflict with landowners. This practice helps alleviate tensions and ensures access to grazing areas during dry seasons".* [FDG05_2]

Cultural preservation and support for traditional practices were prominent aspects of social sustainability efforts. Tourism enterprises were observed sponsoring cultural events and festivals, showcasing local talent, and promoting community-based tourism initiatives. These endeavors contribute to preserving cultural heritage, fostering community pride, and generating economic opportunities.

The FGD provided some evidence of social sustainability initiatives aimed at both tourists and employees, albeit limited. Regarding human resources practices, discussions highlighted training, employee welfare, and employment policies benefiting the host community. Firstly, emphasis was placed on staff training in sustainable practices, with a focus on continuous education and retraining to ensure effective implementation. Hotels were noted for prioritizing staff development to instill cultural changes and ensure smooth operations.

The study also noted a commitment to community engagement in employment opportunities. Some hotels, like in Diani, prioritize hiring from local communities, providing jobs, and contributing to local economic development. Additionally, there are capacity-building initiatives aimed at empowering local artisans, with hotels offering in-house training programs to enhance their skills and employability. A count of sustainability practices mentioned by the KIIs and FGD participants demonstrated the importance of engaging with the guests in promoting sustainability.

Some sustainability practices aimed at tourists include using green blogs on websites to raise awareness about sustainability and climate change issues. These blogs educate visitors and promote environmentally friendly behaviors. Efforts are also made to educate clients about climate change impact through slogans and messages displayed at tourist sites, fostering immediate awareness. Moreover, resorts establish information centers to educate tourists about sustainability and local ecosystems. For instance, a marine information center was established along the south coast of Kenya to inform tourists about marine ecosystems. Similarly, in the Mara, an information center was created to educate visitors about the entire Mara Ecosystem. These centers serve as educational hubs, providing valuable insights into local biodiversity and conservation efforts.

Furthermore, there is a focus on creating awareness among tourists about responsible practices when visiting natural parks and reserves. This includes educating them on best practices to minimize their environmental impact, such as respecting wildlife and ecosystems. By promoting conscious and positive actions, these initiatives aim to encourage tourists to actively contribute to environmental conservation efforts during their visits. Overall, some of the identified social sustainability practices contribute to enhancing resilience to climate change.

3.3 A Comparison of Climate Change Resilience and Sustainable Tourism Practices Against Global Benchmarks

The best practice report compared the baseline climate change mitigation and adaptation practices, as well as the sustainable tourism practices implemented by tourism enterprises, against global benchmarks to identify gaps in implementation. Baseline climate change mitigation and adaptation practices were benchmarked against the UNEP tools and framework for climate change adaptation and mitigation for tourism (UNEP, 2008), which outline minimum adaptation and mitigation standards for the tourism industry. On the other hand, baseline sustainable tourism practices were compared against the GSTC industry criteria (2016).

3.3.1 Comparison of Climate Change Adaptation Practices Against Global Benchmarks

Table 3.2 provides a comparison of baseline climate change adaptation practices against a global standard (UNEP, 2008). The comparison utilizes the UNEP (2008) criteria to categorize the baseline adaptation practices into six categories: technical, managerial, policy, research, tourism education and behavioral adaptation. This classification aided in mapping the current practices against the global benchmark for easy comparison and identification of implementation gaps.

Table 3. 2 Comparison of Current Climate Change Adaptation Practices Against a Global Benchmark

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Technical Adaptation	• Rainwater harvesting; • Water conservation practices- recycling, motion sensor, low-pressure taps • Digging trenches for flood control • Creating water pans in range lands areas, Energy-efficient and saving techniques (buildings, technical instruments, heating-cooling) • Constructing gabions; • Coral restoration • Engineering roads for flood resilience	• Ergonomic architectural design and decor • Rainwater collection and water recycling systems • Shielding techniques against sea and beach through tree planting • Energy-efficient practices in buildings, technical instruments, heating-cooling Waste management: separate collection, waste reduction, recycling • Utilization of renewable resources such as solar and geothermal systems • Water recycling and conservation in water-intensive contexts • Conservation and protection of historical sites against extreme weather events • Implementation of green office concepts • Access to early warning systems and collaboration with meteorological services • Installation of freshening points and shelters against extreme weather events	• Fewer structural modifications of built • environments; • Low Desalination of salt water • Few ergonomic architectural design and decor • Lack of implementation of shielding techniques against sea and beach (tree) planting scheme • Poor waste management (separate collection, reduce waste and recycling) • Low adoption of renewable resources (solar and geothermal systems) • Lack of intensive conservation and protection against extreme weather events on historical sites (extraordinary heatwaves, precipitation) • Low adoption of green office concept • Lack of Enabled access to early warning systems and collaboration with meteorological services • Lack of shielding techniques: e.g., Installation of freshening points, Providing shelters against extreme weather events

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Managerial Adaptation	• Product and market diversification; • Managing invasive species • Environmental Impact Assessments (EIA); • Support alternative livelihood activities for host community;	• Risk management • Climatic and environmental factors in decision-making • Preparedness for extreme events (disaster- climate local strategies) • Diversification product and market, substitute products and services, regional diversification in business operations • Informing tourists especially of the current weather conditions; • Stimulating sectoral collaboration against the negative impacts	• Low adoption of special insurance • Inadequate management plans; • Low adoption of sustainable transport means; • Inadequate capacity building and training • programs for tourism employees; • Lack of Awareness and Preparedness for • Emergencies at the Local Level (APELL); • Low adoption of behavior management strategies in the sector.
		• Implementation of Awareness and Preparedness for Emergencies at the Local Level (APELL) • Developing of behavior management strategies	
Policy	• Streamlining regulation policies; • Gazette or designating nature and heritage sites	• Integrating climate aspect into the concept of regional development strategies; • Corporate social responsibility; • Activity according to the law and other exogenous regulatory environment; • Fitting to the new conditions of the insurance sector (force majeure events); • Activities according to the law-and-order exogenous regulatory environment; • Integrating climate aspect into the concept of regional development strategies;	• Low Implementation of Corporate social • responsibility; • Non-compliance with legal and regulatory requirements; • Rigid system of insurance to fit the new conditions of the insurance sector (force majeure events); • Lack of Integration of climate aspect into the concept of regional development strategies; • Absence of alignment between the legal and financial support systems to aid regional operational procedures.

Theme	Current Practices	Global Benchmarks	Best practice Gaps
		• Mapping the legal and finance subversion system assistance to the regional rendering operations; • Coordinating political lobby Mapping the legal and finance sub-version system assistance to the regional rendering operations	• Lack of coordination of climate change advocacy activities
Research	• Promoting indigenous knowledge systems; • Monitoring impacts of climate change • Monitoring weather patterns	• Assess awareness of business and tourist knowledge gaps • Research on best practices • Monitoring impact of climate change	• No research on climate change adaptation best practices • Non assessment awareness of climate change among tourism stakeholders • Lack of awareness to tourism stakeholders
Tourism Education	• Training and campaigns for employees and guests • Engaging in conservation activities • Community education and awareness	• Promoting time concept of soft responsible tourism; • Providing eco-alternatives • Promoting an attitude codex to service providers (water, waste management and other environmental aspects)	• Low Promotion of eco-friendly tourist behavior on tourism resources. • Lack of tourism destination Management organizations technical supporting climate-guidance; • Few Campaigns and education training about new technologies, adaptation measures; • Absence of encouragement for collaboration. • Non-promotion of best practice.
		• Tourism destination Management organizations' technical supporting climate guidance; Campaign, education training about new technologies, adaptation measures; • Inspiring the tourists and the staff to environmentally conscious behavior; • Stimulating collaboration; • promoting best practices.	

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Behavioral	• Receding; • Cultivating drought-resistant crops, • Relocating infrastructure to higher grounds; • Reuse of linen	• Redirecting guests away from impact areas • Up-to-date information about UV protection • Special insurance (force majeur events) • Suggesting and organizing optional programs, particularly indoor substitute options • Priority for local products, and resources in case of procurement • Developing behavior management strategies • Behavior management techniques for adaptation	• Guests are not directed away from impact areas • Lack of Up-to-date information about UV-protection • Lack of special insurance (force majeur events) • Lack of Suggestions and organizing optional programs, particularly indoor substitute options • Low use of local supply chain and products • Non-development of behavior management strategies • Lack of behavior management techniques for adaptation

3.3.2 Comparison of Climate Change Mitigation Practices Against Global Benchmarks

The best practice report compared the current climate change mitigation practices by tourism enterprises against the global benchmark (UNEP, 2008). The comparison categorized mitigation practices into four groups (Offsetting, Elimination, Reduction, and Substitution practices) following the UNEP (2008) criteria for ease of analysis and gap identification. Table 3.3 presents a tabulation of the identified gaps in climate change mitigation practices.

Table 3. 3 Comparison of Current Climate Change Mitigation Practices Against Global Benchmark

Climate change mitigation practices			
Theme	**Current Practices**	**Global Benchmarks**	**Best practice Gaps**
Eliminate	• Ban of single-use plastics • Waste management through recycling and composting • Building of resource centers for providing relevant information and learning purposes • Stakeholder engagement • Training for skill development • Introducing climate change education in schools • Creating awareness on the impacts of destructive economic activities • Education Awareness and capacity building	• Recycle waste • Rethink the choice of destinations • Avoid promoting long-haul destinations • Travel less and stay longer • Minimize air travel • Restructure the source market	• Poor adoption of wastewater recycling • Uninformed destination choice • Promotion of long-haul destinations • Travel more and stay shorter • Increased air travel • Non-restructured source market
Reduce	• Embracing energy-efficient practices and renewable energy sources • Implementing energy-efficient technologies • Regenerative agriculture to reduce forest destruction • Conservation and protection of catchment areas • Restoration and monitoring of mangroves • Focusing on conservation and restoration efforts, including habitat restoration and capacity building • Prevention of bushfires through fire breaks and legislation • Partnering with corporations for conservation efforts • Protecting of fragile ecosystems • Vehicular transportation • Establishing tree nurseries	• Maintain a young transportation fleet • Achieve an average load factor • Reduce operating empty weight • Choose more efficient routes • Adjust the bonus program to include carbon footing • Low carbon emission fleet • Renew infrastructure • Establish environmental management systems • Enhance efficiency in energy use • Reduce use of materials • Local procurement • Communicate green action • Support low-carbon holiday • Reward sustainable tourism practices	• Use of old transportation fleet • Use of inefficient routes • Lack of bonus program to include carbon footing • Use of high carbon emission fleet • Use of old infrastructure • Low adoption of environmental management systems • Low Local procurement • Non-communication of green action • Lack of Support of low carbon holiday

Theme	Current Practices	Global Benchmarks	Best practice Gaps
	• Alternative water serving methods • Building of resource centers for providing relevant information and learning purposes • Stakeholder engagement • Training for skill development • Introducing climate change education in schools • Creating awareness on the impacts of destructive economic activities • Education Awareness and capacity building	• Certification of sustainable tourism enterprises	
Substitute	• Use of solar energy instead of fossil fuels • Introduction of green energy • Use of biodegradable packaging materials • Use of renewable energy resources • Building of resource centers for providing relevant information and learning purposes • Stakeholder engagement • Training for skill development • Introducing climate change education in schools • Creating awareness of the impacts of destructive economic activities • Education Awareness and capacity building	• Ergonomic design of built environment • Use of renewable energy sources • Provide low carbon public transport	• Low adoption of ergonomic design of built environment • Low adoption of renewable energy sources • Lack of low carbon public transport

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Offsetting	• Planting of trees • Investment in carbon offsets programs • Afforestation and reforestation • Building of resource centers for providing relevant information and learning purposes • Stakeholder engagement • Training for skill development • Introducing climate change education in schools • Creating awareness of the impacts of destructive economic activities • Education Awareness and capacity building	• Recycle waste (can also be classified here depending on the method of recycling) • Adjust bonus program to include carbon footing (if the carbon footprint is offset by other means) • Communicate green action (if it involves carbon offsetting initiatives) • Reward sustainable tourism practices (if it includes carbon offsetting incentives)	• No adjustment of the bonus program to include carbon footing (if the carbon footprint is offset by other means) • Lack of Communication of green action (if it involves carbon offsetting initiatives)

3.3.3 Comparison of Sustainable Tourism Practices against Global Benchmark

Table 3.4 compares baseline sustainable tourism practices with a global standard (GSTC, 2016). The comparison uses GSTC industry criteria, which categorizes sustainable tourism practices into four pillars: sustainable planning and management, socio-economic impacts, cultural impacts, and environmental impacts. These criteria outline minimum practices for tourism enterprises to achieve sustainability, aligning with global sustainable development goals. Utilizing the GSTC standard to classify sustainable tourism practices into these pillars facilitated mapping current practices against the global benchmark for ease of comparison and identification of implementation gaps.

Table 3.4 Comparison of Current Sustainable Tourism Practices Against Global Benchmark

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Sustainable Planning and Management	Purchasing from Sustainable suppliers	B3. Giving priority to local and fair-trade suppliers D1. Purchasing policies favor environmentally sustainable suppliers and products	• Lack of Audits of sources of supply of goods and services are not done. • The proportion of goods and services purchased from locals is not measured • A documented environmental purchasing policy is not in place
	Giving feedback to stakeholders	A3. Communicating sustainability policy, actions, and performance to stakeholders	• Lack of Regular reports on sustainability policy, actions, and performance. • Inadequate Communications for stakeholder support
	Employee continuous education and professional development	A4. Staff are engaged with the development and implementation of the Sustainability Management System	• Lack of staff education in Sustainability Management systems
	Implementing anti-sexual harassment policies	B5. Implementing policies against commercial, sexual or any other form of exploitation or harassment of women, children and other vulnerable groups	• Inadequate implementation of documented policy against exploitation and harassment of vulnerable groups • Inaction in communicating and implementing anti-sexual harassment policy
	Employee welfare	B7. Labor rights are respected and a safe and secure working environment is provided. Employees are paid a living wage.	• Lack of compliance with international labor standards and regulations • Wage levels are not monitored based on government guidelines in the tourism sector • Inadequate monitoring of employee welfare
	Providing employment opportunities and diversifying income-generating opportunities for locals	B2. Local residents are given equal opportunities for employment and advancement.	• Minimal training is offered for local residents to enhance employment opportunities • The proportion of locals employed in the tourism sector is not monitored
	Engaging guests in promoting sustainability e.g., through information centers	A9. Providing information about the nature, culture, and appropriate behavior	• Information is not provided to guests about appropriate behavior

Theme	Current Practices	Global Benchmarks	Best practice Gaps
	Green blogs on websites	A3. Communicating sustainability policy, actions, and performance to stakeholders	• Sustainability actions are not reported in external and internal communication
Managing Social Economic Impacts	Provision of social amenities and direct financing of community projects e.g., healthcare, education and food security	B1. Organizations actively support initiatives for local infrastructure and social community development	• Local communities are not engaged in identifying needs and opportunities for support • The benefits and impacts of tourism to communities are not measured and evaluated
	Modifying Community & Tourist behavior Practices	A5. Customer satisfaction including sustainability is monitored and corrective action is taken	• There is no system of monitoring tourist and community feedback and corrective actions
	Budgeting for CSR activities	B8. Providing activities that support provision of basic services to the community	• Lack of finances for CSR • Monitoring the impact of CSR programs
	Continuous engagement with stakeholders	A10. Stakeholder involvement in Sustainable tourism planning & management	• Lack of Collaboration between TEs and local communities, NGOs, Government and other local bodies
	Enhancing community livelihoods through agriculture	B9. Tourism activities should not adversely affect local access to livelihoods including land use.	• Inadequate access to means of livelihood in decisions about tourism development and wildlife conservation
	Provision of financial support through leases to local commu-nities	B4. Supporting local entrepreneurs in the development and sale of sustainable products and services	• Lack of financial support to local tourism entrepreneurs
Managing Cultural Heritage Impacts	Conserving and supporting local heritage	C2. The protection, preservation, and enhancement of local heritage properties and sites	• Lack of support for cultural heritage conservation and for locals to access the heritage sites
	Showcasing and promoting community-based tourism initiatives and local talents	C3. Presenting culture and heritage such that it incorporates authentic cultural elements in its operations, design, cuisine, or shops C3. Respecting intellectual property rights of local communities	• Local copyrights and Intellectual rights of local communities are not observed and necessary permissions are not obtained • Views of the local community are not sought in presenting and promoting local heritage

Theme	Current Practices	Global Benchmarks	Best practice Gaps
Managing Environmental Impacts	Eco-building Designs	A7. Planning, siting, design, and construction of buildings and infrastructure to comply with laws relating to protecting sensitive areas A2. Legal compliance	• Lack of compliance with laws relating to land use and treatment of sensitive areas
	Biodiversity Conservation	D3. Support and contribution to biodiversity conservation	• Lack of awareness of natural/ cultural protected areas and areas of high biodiversity value • Lack of monetary support for conservation
	Use of Energy Efficient Appliances	D1.3 Energy consumption measurement and steps taken to minimize consumption.	• Inadequate use of energy appliances that minimize energy use • Total energy used is not monitored and managed
	Renewable energy usage	D1.3 Increase the use of renewable energy	• Renewable sources in the tourism sector are not promoted, monitored, and managed
	Implementing Efficient Water Management Practices	D1.4 Water sourcing should be sustainable and not adversely affect environmental flows	• Water use per tourist, per night, per source is not monitored and managed • Water risk is not assessed and documented
	Waste handling, management, and disposal	D2.3 Wastewater is efficiently treated and reused or released safely D2.4 Solid waste is measured and actions are taken to reduce/reuse/ recycle	• Wastewater is not suitably disposed • Solid waste is not measured, monitored, reported and documented • Training on waste handling, management, and disposal is not done
	Creation of Environmental Awareness	A3. Communicating sustainability policy, actions, and performance to stakeholders	• Lack of Environmental stewardship . Lack of Support for environmental initiatives by stakeholders
	Environmental Fleet Management	D2.2 Seek to reduce transportation requirements and encourage the use of cleaner and more resource-efficient alternatives D2.1 Seek to reduce greenhouse gas emissions from all sources	• Lack of alternative transport in PAs • Local suppliers are not favored in tourism transport use • Carbon footprint per tourist is not measured, monitored, reported, and documented in the tourism sector.
	Monitoring Environmental Pollution	D2.6 Implement practices to minimize pollution from noise, light, air, water, soil, or ozone-depleting substances	• The sources of pollution are not reviewed, monitored, documented, reported, and managed. • Actions are not taken to minimize pollution

3.4 Prioritization of Climate Change Resilience and Sustainable Tourism Practices

The comparisons of baseline climate change adaptation, mitigation, and sustainable tourism practices by tourism enterprises against global benchmarks highlighted implementation gaps. Based on these gaps, the best practice report prioritized climate resilience and sustainability practices for tourism enterprises, considering their effectiveness in promoting sustainability and achieving climate change adaptation and mitigation objectives. Figure 3.6 illustrates this relationship through a Venn diagram, identifying priority practices in the intersection.

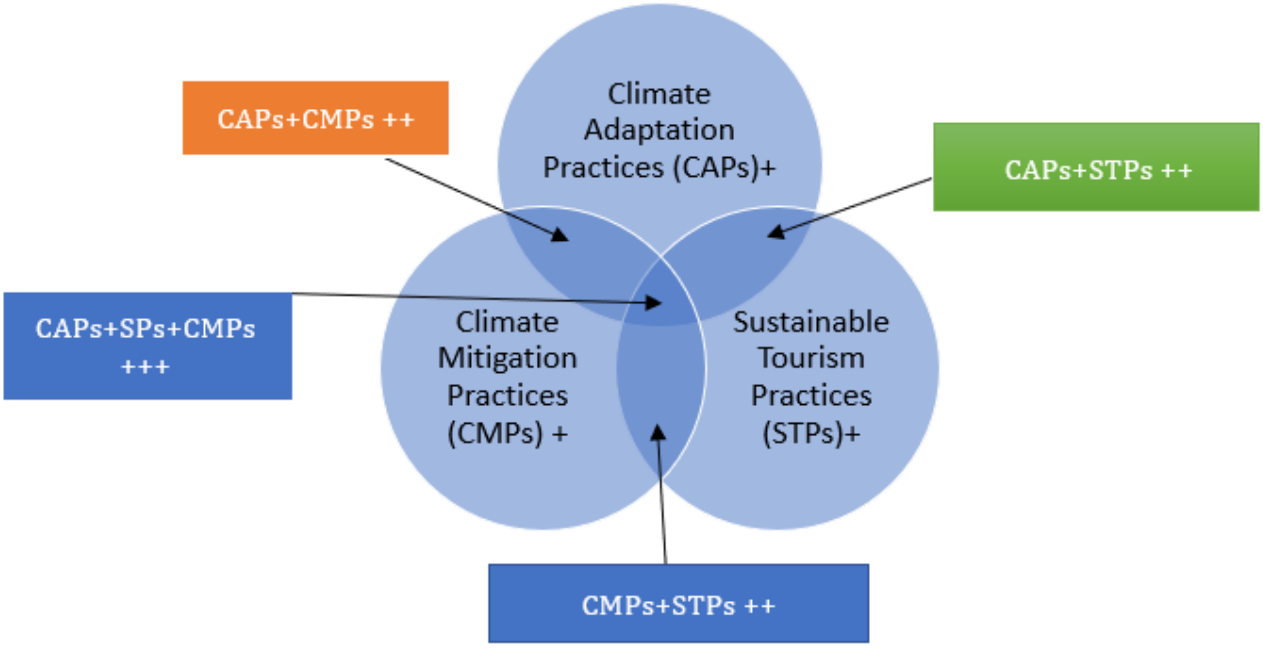


Figure 3.6 Venn diagram showing conceptual flow and nexus for identification and prioritization of climate adaptation,mitigation, and sustainable tourism practices

KEY

CAPs+CMPs (++): These are the practices that have climate change adaptation and mitigation benefits denoted as **++**

CAPs+STPs (++): These are the practices that have climate adaptation and sustainable tourism benefits denoted as **(++)**.

CMPs+STPs (++): These are the practices that have climate mitigation and sustainable tourism benefits denoted as **++**

CAPs+STPs+CMPs (+++): These are the practices that have climate adaptation, sustainable

Table 3.5 provides the prioritized practices for climate change adaptation, mitigation, and sustainable tourism. The identification and prioritization of the best practices are based on the double and triple benefits in regard to enhancing the resilience of the tourism enterprises, contributing to emission reduction and sustainable tourism to position Kenya as a tourist destination.

Table 3.5 Identification of Priority Best Practices for Climate Adaptation, Mitigation, and Sustainable Tourism

Priority Practices	Climate Adaptation and Climate Mitigation Practices (CAPs+CMPs)	Climate Adaptation and Sustainable Tourism Practices (ADPs+STPs)	Climate Adaptation, Climate Mitigation, and Sustainable Tourism Practices (CAPs+MPs+STPs)
Water conservation	++	++	+++
Energy Conservation and Efficiency	++	++	+++
Ecosystem Restoration and Environmental Conservation	++	++	+++
Product Market Diversification	++	++	+++
Change on Product Use and Shifting to Open Air Spaces	++	++	+++
Waste Management	++	++	+++
Shift to Green Buildings	++	++	+++
Capacity Building, Training and Research	++	++	+++
Compliance to Government Policies and Regulations	++	++	+++
Protection of Fragile Ecosystems and Watersheds	++	++	+++
Investment in Carbon Offset Projects	++	++	+++
Use of Vehicular Transportation System	++	++	+++
Social Sustainability		++	
Economic Sustainability	++	++	+++
Environmental Sustainability	++	++	+++

3.5 Design for Climate Action Towards Resilience and Emission Reduction

The identification of priority best practices for climate change adaptation, emission reduction, and enhancing resilience in sustainable tourism has led to the development of key strategic climate actions aimed at positioning Kenya as a premier tourist destination. Implementing these climate actions in each priority area will not only bolster the resilience of the tourism sector but also contribute to overall emission reduction and economic growth in the country.

Table 3.6 outlines key strategic climate actions identified for implementation in each priority area. These actions necessitate investment and appropriate incentive mechanisms for various actors across the tourism value chain.

Table 3.6 Priority Practices and Key Strategic Action for Climate Change Resilience and Sustainable Tourism

Priority Best Practices for Climate Change Adaptation, Mitigation and Sustainable Tourism	Key Strategic Actions in line with Global Benchmarks	Responsible
Water conservation	• Re-using linen • Reduction in pressure of water • Rainwater harvesting • Installation of water dispensers instead of use of single bottles • Desalination • Tap water sensors • Leak detection and controls • Low flush toilets • Employee involvement • Intelligent irrigation system • Water filtration for swimming pools • Shower-head water saving system • Water-efficient dishwashers • Re-use of grey water for irrigation • Promoting behavioral practices such as informing customers to turn off tap when brushing their teeth, using the shower water sparingly, turning off the shower when soaping, distinguishing between small and large buttons when flushing the toilet. • Growing of trees around the water pans to conserve water and create micro climate for sustainable supply of water	• Tourism Enterprises • Association of Tourism • Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs) • Development Partners

Priority Best Practices for Climate Change Adaptation, Mitigation and Sustainable Tourism	Key Strategic Actions in line with Global Benchmarks	Responsible
Energy Conservation and Efficiency	• Adoption of green energy solutions such as solar panels and biogas. • Embracing energy-efficient practices and renewable energy sources • Use of energy saving electrical appliances • Implementing energy-efficient technologies such as energy-saving stoves and eco-friendly power sources • Installation of automatic switches/light sensors • Awareness creation • Promotion of alternative sources of energy • Monitoring energy use	**Tourism Enterprises** • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs). • Ministry of Energy and Petroleum. • Development Partners
Ecosystem Restoration and Environmental Conservation	• Support on tree nursery establishment • Tree growing. • Promotion of afforestation and reforestation programs. • Control of invasive species. • Regenerative agriculture to reduce forest destruction. • Conservation and protection of catchment areas. • Restoration and monitoring of mangroves. • Focusing on conservation and restoration efforts, including habitat restoration and capacity building. • Prevention of bushfires through fire breaks and legislation. • Promote implementation of REDD+. • Partnering with corporations for conservation efforts.	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs) • Development Partners
Product Market Diversification	• Promotion of tourism product development and diversification. • Branding and linkage of tourism products.	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs) • Development Partners

Priority Best Practices for Climate Change Adaptation, Mitigation and Sustainable Tourism	Key Strategic Actions in line with Global Benchmarks	Responsible
Change on Product Use and Shifting to Open Air Spaces	• Promoting green spaces • Shift to renewable and biodegradable products • Shift to green buildings • Promote green technologies	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs). • Ministry of Lands, Public Works, Housing and Urban Development. • Development Partners
Waste Management	• Encourage 3Rs. • Ban of single-use plastics. • Use of biodegradable packaging materials. • Waste management through recycling and composting. • Use of recyclable energy and reusable energy. • Treatment of solid and liquid waste. • compositing of biodegradable waste. • Incineration. • Reducing food waste. • Waste separation at source. • Training of staff on collective responsibility in regard to waste management.	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies (SAGAs) • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs) • Development Partners
Research	• Capacity needs assessment. • Undertake trainings on climate action and sustainable tourism. • Research on climate action and sustainable tourism. • Raise the level of awareness on promotion of eco-friendly tourist behavior. • Informing tourists of weather conditions to enhance safety, risk management and customer service. • Promoting collaboration among stakeholders.	• Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies • Ministry of Environment, Climate Change and Forestry and its State Agencies • Ministry of Education. • Development Partners
Compliance to Government Policies and Regulations	• Comply on all climate action policies and regulations. • Implement the NCCAPs. • Implementing anti-sexual harassment policies.	• Tourism Enterprises • Association of Tourism Enterprises • Development Partners

Priority Best Practices for Climate Change Adaptation, Mitigation and Sustainable Tourism	Key Strategic Actions in line with Global Benchmarks	Responsible
Protection of Fragile Ecosystems and Watersheds	• Scaling up Nature Based Solutions (NBS) • Attain 30% tree cover • Protect water catchment areas • Built early warning systems • Invest on interventions to achieve land degradation neutrality	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies • Ministry of Environment, Climate Change and Forestry and its State Agencies • Development Partners
Investment of Carbon Offset Projects	• Design sustainable carbon project on degraded parks, conservancies, parks and other land-based ecosystem. • Promote sustainable benefit sharing mechanisms • Promote transparency and accountability	• Tourism Enterprises • Association of Tourism Enterprises • Ministry of Tourism and Wildlife and its State Agencies • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs) • Development Partners
Use of Vehicular Transportation System	• Build infrastructure to support vehicular transportation systems. • Increases accessibility of electric vehicles • Encourage use of non-motorized transport facilities. • Capacity building and skills development	• Tourism Enterprises. • Association of Tourism Enterprises. • Ministry of Tourism and Wildlife and its State Agencies (SAGAs). • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs). • Ministry of Roads and Transport. • Development Partners.
Social Sustainability	• Building of resource centers for providing relevant information and learning purposes; • Stakeholder engagement; • Training for skill development; • Introducing climate change education in schools; • Creating awareness on the impacts of destructive economic activities.	• Tourism Enterprises. • Association of Tourism Enterprises. • Ministry of Tourism and Wildlife and its State Agencies (SAGAs). • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs). • Development Partners
Economic Sustainability	• Promote sustainable Supply Chain Management. • Diversification of tourism products	• Tourism Enterprises. • Association of Tourism Enterprises. • Ministry of Tourism and Wildlife and its State Agencies (SAGAs). • Ministry of Environment, Climate Change and Forestry and its State Agencies (SAGAs). • Ministry of National Treasury and Economic Planning • Development Partners.

Priority Best Practices for Climate Change Adaptation, Mitigation and Sustainable Tourism	Key Strategic Actions in line with Global Benchmarks	Responsible
Environmental Sustainability	• Implement efficient water and energy management systems. • Implement efficient waste management systems. • Monitoring and reporting on environmental pollution. • Minimize paper-based marketing. • Creation of environmental awareness	• Tourism Enterprises. • Association of Tourism Enterprises. • Ministry of Tourism and Wildlife and its State Agencies (SAGAs). • Ministry of National Treasury and Economic Planning • Development Partners.

Summary of Findings

4.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Climate change poses a significant threat to the sustainability of the tourism sector. It impacts key elements such as tourist attractions, wildlife habitats, and local livelihoods. To address this challenge effectively, tourism enterprises must align with global benchmarks and best practices in sustainable tourism. Standards such as the Global Sustainable Tourism Council Criteria and the UNEP tool and framework for climate change adaptation and mitigation for tourism provide a robust basis for evaluating climate resilience and sustainable practices for tourism enterprises.

The best practice report analyzed and identified strategies and practices that promote climate action and sustainability in the tourism industry, benchmarked against global standards. It aims to foster innovation and the adoption of new technologies, processes, and approaches that enhance climate resilience and sustainability within the sector.

4.1 Summary of Key Findings

The findings of this report are structured into four broad areas: climate change adaptation practices, climate change mitigation practices, sustainable tourism practices, and prioritization of best practices for climate change adaptation, mitigation, and sustainable tourism. The findings from each of these components are summarized in the following subsections.

4.1.1 Current Climate Change Adaptation Practices

The climate change adaptation practices implemented by the tourism sector include the following:

- Water conservation practices;
- Energy conservation and efficiency practices;
- Product and market diversification;
- Change of product use;
- Ecosystem restoration and environmental conservation practices;
- Shifting to use of open-air spaces;
- Waste management practices;
- Shifting to use of green buildings;
- Change to sustainable transport systems within the parks and game reserves;
- Promotion of alternative climate resilient livelihood options;
- Investment on carbon offset projects;
- Capacity building and trainings;
- Compliance with government policies and regulations; and
- Research on climate resilient options.

These practices were compared with global benchmarks and established that the tourism sector in Kenya is striving towards the set standards to position the country as tourism destination.

4.1.2 Climate Change Mitigation Practices

The mitigation best practices implemented by the tourism sector included the following:

- Tree planting and growing by embracing afforestation and reforestation initiatives to

restore degraded landscapes;

- Protection of fragile ecosystems and watersheds that are key touristic destinations;
- Investment of carbon offset projects;
- Use of renewable energy in the entire tourism value chain;
- Education, awareness, research and capacity building;
- Waste management to reduce emissions; and
- Use of electric cars and pooled transport (Vehicular transportation in national parks and game reserves).

These practices were compared against the global best practices.

4.1.3 Sustainable Tourism Practices

The assessment of sustainable tourism best practices was based on social, economic, and environmental sustainability. Social sustainability addressed three key aspects: practices targeting tourists, the host community, and those aimed at employees. It was evident that regarding social sustainability, one notable practice involved providing employment opportunities to local residents, thereby contributing to economic empowerment. Interviews revealed that tourism enterprises are not only creating jobs but also offering financial support through leases to local communities and direct financing of community projects. Additionally, corporate social responsibility (CSR) programs, including lunch programs, bursaries, and medical assistance, further demonstrated a commitment to addressing social needs within host communities.

In terms of economic sustainability, tourism enterprises aim to alleviate poverty and foster community engagement by implementing livelihood adaptation strategies such as providing employment opportunities and income-generating activities. This approach enhances local well-being and ultimately supports the sustainability of the tourism sector.

The environmental sustainability best practices encompassed various aspects including energy management, water management, biodiversity conservation, waste management, and architectural design. Energy management practices focused on reducing energy consumption and promoting the use of renewable sources. Water management practices aimed to minimize water usage and promote efficient water recycling and reuse. Biodiversity conservation practices aimed to protect and restore natural habitats and ecosystems. Waste management practices involved reducing waste generation, promoting recycling, and proper disposal methods. Lastly, architecture design emphasized the use of sustainable materials and construction techniques to minimize environmental impact and enhance energy efficiency.

4.1.4 Summary of Findings on prioritized best practices for adaption to climate change, mitigation and sustainable tourism

The following emerged as the best practices for promotion and adoption. These practices have both adaption, mitigation and sustainable tourism benefits.

- Water conservation practices;
- Energy conservation and efficiency;
- Ecosystem restoration and environmental conservation;
- Product market diversification;

- Change on product use and shifting to open air spaces;
- Waste management;
- Capacity building, training and research;
- Compliance to government policies and regulations;
- Protection of fragile ecosystems and watersheds;
- Investment of carbon offset projects;
- Use of vehicular transportation system;
- Social sustainability;
- Economic sustainability; and
- Environmental sustainability.

4.2 Conclusion

In conclusion, the study underscores the urgent need to prioritize and expand climate change mitigation and adaptation measures within Kenya's tourism industry to enhance sustainability and resilience in the face of ongoing environmental challenges. Analysis of the adoption of these practices across different enterprise classes reveals notable disparities, underscoring the importance of tailored strategies to address specific priorities and challenges within each category. Moreover, targeted investments in infrastructure and risk management, such as structural modifications for Class E and specialized insurance for Class C, are deemed essential. Initiatives like employee and guest training in Class A and conservation engagement in Class C highlight the importance of awareness and stakeholder involvement. Additionally, prioritizing product diversification in Class B indicates potential for innovation and collaboration to bolster resilience. Overall, these insights offer a roadmap for aligning tourism practices with global sustainability standards and fostering climate resilience across diverse enterprise types.

The study highlights the tourism sector's strong commitment to creating safe work environments and fostering employee development for social sustainability. However, there's room to improve environmental awareness and allocate more resources to corporate social responsibility initiatives for community well-being. In economic sustainability, efforts toward sustainable sourcing and transparency are commendable, yet minimizing paper-based marketing needs attention. For environmental sustainability, while energy use and pollution monitoring are prioritized, enhancing waste recycling, eco-friendly fleet management, and adopting green building designs are opportunities for improvement. Strengthening waste management, transitioning to sustainable transportation, and embracing green building principles can further reduce environmental impact and promote sustainable tourism in Kenya.

Overall, fostering collaboration and knowledge-sharing among different enterprise types is crucial for advancing sustainability endeavors in Kenya's tourism sector. Aligning local practices with global standards involves prioritizing Sustainable Tourism Practices and promoting collaboration among different enterprise categories. By addressing implementation gaps and prioritizing these practices, Kenya can ensure the long-term viability and resilience of its tourism industry. Additionally, improving waste management strategies presents a critical

opportunity to enhance resource efficiency and overall success in the sector. By prioritizing the implementation of these measures, stakeholders can mitigate environmental impacts, promote resilience, and contribute to the sector's long-term sustainability.

4.3 Recommendations

4.3.1 Recommendations for the Tourism Sector Players

- Implement key climate strategic actions in line with global benchmarks.
- Invest in comprehensive training programs for employees to raise awareness of sustainability practices and build capacity for sustainable practices, including climate change adaptation and mitigation strategies.
- Enhance stakeholder engagement by fostering collaboration with local communities, NGOs, and government agencies to develop sustainable tourism initiatives benefiting both the industry and the environment.
- Promote the diversification of tourism product offerings to reduce dependency on specific natural or cultural resources or destinations, thereby promoting sustainability and resilience.
- Promote responsible tourism practices by encouraging tourism enterprises to educate guests about responsible tourism behavior and encourage participation in conservation efforts to minimize negative impacts on local ecosystems and communities

4.3.2 Recommendations to Policy Makers

- Implement regulatory frameworks that incentivize adoption of best practices in energy, waste management, and water management within the tourism industry.
- Strengthen existing policies and regulations to incentivize sustainable practices and discourage unsustainable ones within the tourism industry, including providing tax incentives for eco-friendly initiatives and enforcing environmental standards.
- Foster public-private partnerships between government entities, private sector stakeholders, and civil society organizations to implement key climate strategic actions in line with global benchmarks.
- Support research and innovation by allocating funding for research and innovation in sustainable tourism practices, including technological solutions for environmental conservation and climate resilience.
- Encourage certification programs to promote the adoption of certification programs, such as eco-labels and sustainable tourism certifications, to recognize and incentivize businesses adhering to sustainable practices.
- Develop climate resilience strategies that incorporate climate change adaptation and mitigation strategies into national and regional tourism marketing and development plans to enhance the industry's resilience to environmental risks and uncertainties

4.3.3 Recommendations for Future Research

- Conduct baseline studies to assess the long-term effectiveness and impact of sustainable tourism initiatives on environmental conservation, socio-economic development, and community well-being.
- Compare sustainable tourism practices and policies across different geographic regions or countries to identify lessons learned and opportunities for knowledge exchange and collaboration.
- Investigate the potential of emerging technologies in enhancing the adoption of best practices within the tourism industry.
- Conduct market research to understand consumer behavior and preferences regarding sustainable tourism practices.
- Explore the role of community-based tourism initiatives in promoting sustainable development, cultural preservation, and poverty alleviation in rural and marginalized communities.

REFERENCES

Anis, A., Putra, H. S., Azhar, Z., & Rahmadani, T. (2023, June). Global Sustainable Tourism Council Criteria (GSTC) Approach in Sustainable Tourism Planning. In Ninth Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2022) (pp. 182-189). Atlantis Press

Chemeli, A., Njoroge, J. M., & Agufana, P. B. (2021). Climate change and immovable cultural heritage in Kenya: impact and response strategies. In Handbook of Climate Change Management: Research, Leadership, Transformation (pp. 3843-3864).Cham:Springer International Publishing.

Gössling, S., Peeters, P., Ceron, J. P., Dubois, G., Patterson, T., & Richardson, R. B. (2005). The eco-efficiency of tourism. Ecological economics, 54(4), 417-434.

Global Sustainable Tourism Council (2016). GSTC Industry Criteria. Accessed from, https://www.gstcouncil.org/gstc-criteria/IPCC.(2022).ClimateChange2022:Impacts,Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth

Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S.

Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S.Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge

University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp. DOI: 10.1017/9781009325844.

Njoroge, J. M., Ratter, B. M., Atieno, L., & Mugabe, I. M. (2020). Employing the enhanced Regional Tourism Sustainable Adaptation

Framework with a case study of climate change vulnerability in Mombasa, Kenya. Tourism and Hospitality Research, 20(1), 56-71.

Ristova, C. (2020). The environmental impact of hotels: the future is green. Brains, Socio International scientific refereed online journal with impact factor, 66, 245-251.

Scott, D., & Gössling, S. (2022). A review of research into tourism and climate change-Launching the annals of tourism research curated collection on tourism and climate change. Annals of Tourism Research, 95, 103409.

Tourism Research Institute (TRI) (2020) Kenya Annual Tourism Sector Performance Report 2020. Tourism Research Institute.Nairobi.

Tourism Research Institute (TRI) (2023) Kenya Annual Tourism Sector Performance Report 2022. Tourism Research Institute. Nairobi.

UNEP, (2008) Climate Change Adaptation and Mitigation in the Tourism Sector: Frameworks, Tools and Practices, United Nations

Environmental Programme. Retrieved from: https://wedocs.unep.org/ bitstream/ handle /20.500.11822/9681/Climate_Change_adaptation_mitigationpdf?sequence=3&amp%3BisAllowed=

UNWTO, (2012). UNWTOTourism Highlights 2012 Edition, https://www.e-unwto.org/doi/book/10.18111/9789284414666

UNWTO. (2019). Baseline Report on the Integration of Sustainable Consumption and Production Patterns into Tourism Policies.

Madrid: UNWTO. DOI: https://doi.org/10.18111/9789284420605.Verma, V. K., & Chandra, B. (2018). Sustainability and customers' hotel choice behavior: a choice based conjoint analysis approach. Environment, development and sustainability, 20, 1347-1363

APPENDIX 1: KEY INFORMANTS PROFILE

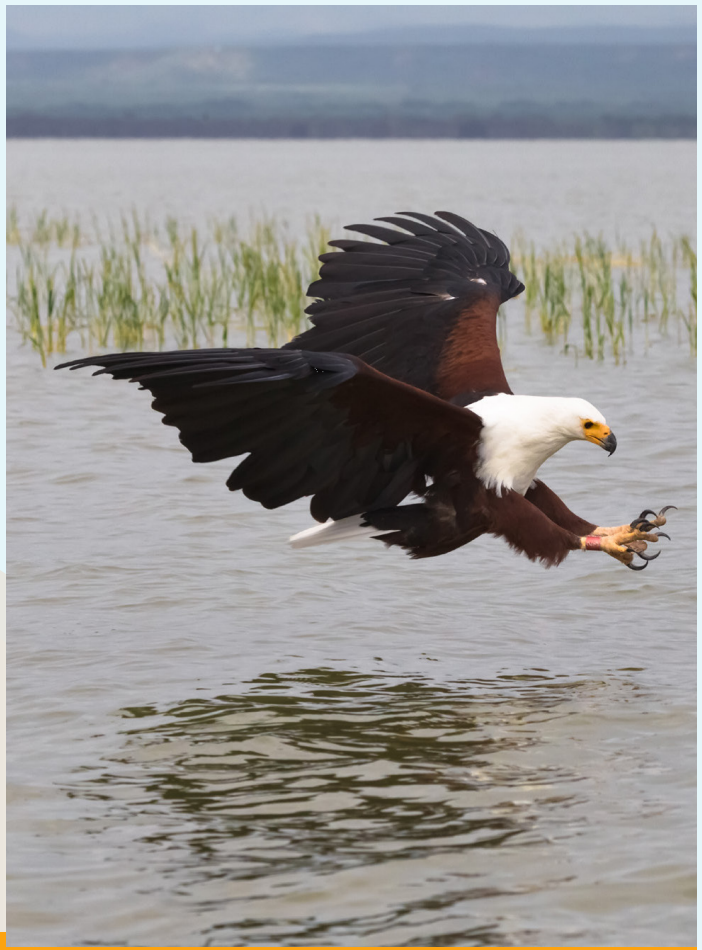
ID	Gender	Position	Experience (years)	Educational Qualification	Mandate
P01	Male	County Tourism Director	10	Masters	County Government - Tourism
P02	Male	Sustainability Auditor	5	Masters Degree-Environmental Sciences	Sustainable tourism Advocacy
P03	Female	Director	12	PhD	Climate Research
P04	Male	County Tourism Director	24	Masters Degree-Tourism	County Government - Tourism
P05	Male	Chief Executive Officer	32	Masters	Tourism Trade Organization
P06	Male	Manager	10	Masters	Civil Aviation
P07	Male	Chairman	34	Degree	Regional Tourism Association
P08	Male	Chief Executive Officer	12	Bachelors Degree	Regional Tourism Association
P09	Male	Chairman	30	Diploma - Professional Training	Tourism Trade Organization
P010	Male	County Tourism Director	15	Masters	County Government - Tourism
P011	Male	Hotel Manager	32	Diploma - Hotel Management	Hospitality
P012	Female	Snr. Lecturer	19	PhD	Tourism and Hospitality Training
P013	Male	Front Office Manager	16	Diploma - Hotel Management	Hospitality
P014	Male	Chairman	16	Degree	Regional Tourism Association
P015	Male	Head- Research & Projects	7	Masters	Sustainability Consultancy
P016	Female	Travel Director	19	Advanced Diploma	Travel and Tours Service Provider
P017	Male	County Tourism Director	9	Diploma-Tourism	County Government - Tourism
P018	Male	Chief Executive Officer	26	Masters	Tourism Research
P019	Male	Director	26	Masters	Tourism & Hospitality Training
P020	Female	Director	3	Masters	Tours and Travel Services
P021	Female	Chief Executive Officer	25	Masters	Tourism Trade Organization
P022	Male	Chief Executive Officer	7	Masters	Tourism Trade Organization
P023	Male	Chief Executive Officer	10	Bachelor's Degree	Community Based Tourism Organization

ID	Gender	Position	Experience (years)	Educational Qualification	Mandate
P024	Male	Chairman	13	Masters	Tourism Professional Association

Source: Research Data, 2024

APPENDIX B: PROFILE OF FOCUS GROUP DISCUSSION PARTICIPANTS

ID	Location	Number of Participants
FGD01	Amboseli	10
FGD01_2	Amboseli	10
FGD01_3	Amboseli	6
FDG02	Eldoret	13
FGD02_2	Eldoret	14
FGD02_3	Eldoret	13
FGD03	Kakamega	30
FGD03_2	Kakamega	30
FGD03_3	Kakamega	22
FGD04	Kilifi	10
FGD04_2	Kilifi	13
FGD04_3	Kilifi	5
FGD05	Kirinyaga	10
FGD05_2	Kirinyaga	10
FGD05_3	Kirinyaga	15
FGD06	Kisumu	20
FGD06_2	Kisumu	20
FGD06_3	Kisumu	15
FGD07	Kwale	4
FGD07_2	Kwale	8
FGD07_3	Kwale	9
FGD08	Laikipia	10
FGD08_2	Laikipia	8
FGD08_3	Laikipia	4
FGD09	Narok	4
FGD09_2	Narok	4
FGD09_3	Narok	6
FGD10	Voi	6
FGD10_2	Voi	7
FGD10_3	Voi	6
FGD11	Virtual- Conservancies	16
FGD11_2	Virtual- Conservancies	16
FGD11_3	Virtual- Conservancies	16
FGD12	Nakuru	22
FGD12_2	Nakuru	22
FGD12_3	Nakuru	23



Ministry of Tourism and Wildlife

REPUBLIC OF KENYA

TOURISM RESEARCH INSTITUTE

RESEARCH. INNOVATE. GROW.