

4 Beyond Sun and Sand

How the Algarve Region is Pioneering Innovative Sustainable Practices in Tourism

Paulo Martins and Antonia Correia

1 Introduction

Sustainability is an essential concept in our modern world that requires examining current practices and implementing creative and sustainable solutions to foster significant societal change. Sustainable practices have become increasingly important, with organisations focusing on reducing their environmental impact and promoting social responsibility. It has been suggested in recent research by Vizcaino-Suarez and Diaz-Carrion (2018) that the tourism industry is closely interconnected and shaped by power dynamics among nations, organisations and social groups. As a result of these power dynamics, the tourism sector must continuously evolve through innovative and creative ideas, especially regarding sustainability and innovation.

Sustainability in tourism primarily focuses on environmental preservation efforts, which involve the effective management of resources to enhance the economic and social aspects of the industry (Aslan & Rahman, 2018). As a result, Gössling et al. (2012) argue that sustainable tourism practices should promote biodiversity while protecting natural resources by reducing tourism's environmental impact and supporting conservation efforts. Gökalp and Gökmen's (2019) study recognises that natural resources and economic sustainability are interrelated, and that small and medium-sized business can significantly contribute to sustainable tourism. Thus, energy-efficient smart city planning has become vital to the sustainable green tourism industry and contributes to economic sustainability (Lu et al., 2021). In addition, Dredge and Jenkins (2007) suggest that sustainable tourism practices should balance the needs of tourists and residents in urban areas by establishing policies and regulations that encourage sustainable development, creating a link between sustainable economies, infrastructure and planning. Therefore, it is crucial to assess beach quality and understand tourist priorities to advance sustainable coastal tourism, such as in the Algarve region (Correia & Crouch, 2003; Lukoseviciute & Panagopoulos, 2021).

The Algarve region of Portugal has gained worldwide recognition for its magnificent beaches, picturesque natural parks, and significant historical landmarks, establishing itself as a top-rated tourist destination worldwide (Correia & Crouch, 2003). As a result, the region is vital to the country's tourism industry's sustainability.

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Sustainability is one of the top priorities of a region born in the sixties with a model of tourism development where more is better. Several actions have been undertaken to mitigate past mistakes to recover the Algarve and ensure a sustainable destination. Sustainability is also one of the most researched topics in the Algarve, covering several perspectives. Bienvenido-Huertas et al. (2020) suggest that most Algarve hotels adopt sustainable practices, but energy and water deserve more research. Farinha et al. (2019) frame the sustainability indicators in tourism to monitor sustainable practices. Furthermore, Carvalho and Fernandes (2023) assessed the region's current state of sustainable tourism, suggesting that seasonality, limited public transportation and limited local involvement inhibit the region's sustainable development. The University of Algarve (2021) released a sustainability report covering all Sustainable Development Goals of Agenda 2030 to promote and stimulate sustainable practices aligned with the Sustainable Development Goals (United Nations, 2015).

Therefore, the region of Algarve in Portugal has made noteworthy endeavours by incorporating sustainable and innovative approaches into the tourism industry, encompassing diverse aspects such as natural resources use and management, economy, urban planning, safety and monitoring. This book chapter aims to highlight some of the best sustainable practices of the region, considering a sustainable model based on three axes. By sharing those best practices, we aim to inspire other regions to adopt those practices and divulge their best ones, as sustainability is also learning by doing.

2 The Concept of Sustainability

Sustainability is a complex and multi-faceted concept that involves three inter-dependent and tripartite pillars: the *environment*, the *economy* and *social* equity. These pillars are crucial for achieving sustainable development, which is development that meets the present needs while safeguarding the ability of future generations to meet their own needs (Murphy, 2012). According to the Aalborg Charter, policymakers must integrate environmental protection with people's fundamental social needs, including healthcare, employment and housing programmes (ES-CTC, 1994). This integration ensures that sustainability is not just focused on environmental protection but also prioritises the well-being of society. Also, the European Union's Sustainable Development Strategy emphasises the integration of economic, social and environmental considerations to ensure coherence and mutual reinforcement (Council of European Union, 2006). This integration is critical to ensuring that economic growth is sustainable, socially responsible and environmentally friendly. Therefore, policymakers, researchers and stakeholders must balance environmental protection, economic growth and social fairness to achieve sustainable development. In this section, we examine the importance of sustainability from a three-way perspective:

Environment: A key pillar of sustainability, the environment consists of all natural resources and systems that sustain life on earth. Ecosystems, biodiversity and natural resources such as air, water and soil are all vital to achieving environmental

sustainability. It is possible to incorporate tourism with the environment using environmentally appropriate planning and practices (Wu et al., 2021). While Harris et al. (2012) emphasise that the environment and tourism are separate concepts, they can both promote sustainable development at various levels, from businesses to national policies. As a result, businesses and governments are crucial to promoting environmental sustainability (Yasmeen et al., 2020). Farinha et al. (2019) emphasise that companies should engage with stakeholders and seek expert consultation to identify sustainable indicators that can assist in tracking and promoting sustainable development in the Algarve region to decrease their carbon footprint. The authors reinforce that policymakers, stakeholders and companies can collaborate to balance economic and environmental conservation, ensuring the preservation of the region's natural resources for future generations.

Economy: A system's economy is the second pillar of sustainability, including the production, distribution and consumption of goods and services. It is crucial to create an economic system that supports sustainable development, promotes social equity and minimises environmental impact (Collins, 2001). This is particularly relevant in the context of tourism, which influences the economy and the environment. Pulido-Fernández et al. (2015) suggest that sustainable tourism can play a role in reducing resource costs and creating market differentiation. However, sustainability measures can reduce profitability and hinder competitiveness. This perception has posed a substantial challenge in promoting sustainable economic growth and tourism yield (Northcote & Macbeth, 2006). The Algarve region has successfully addressed this by adopting sustainable business practices, investing in infrastructure and implementing policies to support sustainable economic growth. By doing so, the region has promoted economic sustainability while minimising the impact on the environment and helping to create a balance between economic growth and environmental protection, which is crucial for achieving sustainable development (Bienvenido-Huertas et al., 2020). Therefore, sustainable economic growth is an essential component of sustainability. The relationship between sustainability, economy and tourism is complex and requires careful consideration of various factors. The Algarve region's successful adoption of sustainable business practices and policies is an excellent example of how economic sustainability can be achieved while protecting the environment.

Social: Social sustainability is the third pillar and a fundamental principle of sustainability that focuses on promoting the well-being of people and communities by ensuring access to critical essentials, including healthcare, education and employment, while also advocating for fairness and equal opportunities in society. According to the research of Roca-Puig (2019), reciprocity and trust between companies and society are essential to social sustainability. Santos and Moreira (2022) suggest that stakeholder engagement and communication are important for improving the social sustainability and overall sustainability performance of companies in the Algarve, as tourism plays a significant role in the region's social development. This highlights the importance of tourism and corporate social responsibility in tourism as positive factors for improving the lives of residents. As a result, Franzoni (2015) emphasises tourism's importance for sustainable economic growth and employment.

Given the significance of the three interdependent pillars of sustainability and the role of tourism in the Algarve in fostering sustainable and innovative practices across various areas – such as natural resources use and management, economy, urban planning – seafont redevelopment, safety, social, and monitoring – the proposed best practices address all three components of the triad, and the examples cited may pertain to more than one of these pillars.

3 Natural Resources Use and Management

Although the Algarve region is widely recognised for its attractive beaches, white sand, pleasant climate and vibrant culture, it faces significant challenges in the sustainable management of its natural resources, particularly water management. Given the Mediterranean climate and dependence on tourism, there is an urgent need to adopt sustainable practices such as water conservation, wastewater treatment and efficient irrigation systems to reduce the environmental impact while ensuring the availability of water for local communities and the tourism industry (Rodrigues & Antunes, 2021). Sustainable water management practices are essential to maintaining the quality of water resources and reducing the tourism industry's carbon footprint.

Golf, as highlighted by Videira et al. (2006), is an industry that effectively addresses its impact on the environment and sustainability performance indicators by prioritising waste and water management practices. Sustainable practices in golf course management include using recycled water, reducing chemical inputs and adopting energy-efficient technologies (Gonzalez-Perez et al., 2023).

In this vein of resource management, **urban water consumption** is also an example of good practice, and includes water metering, leak detection and conservation campaigns. Such practices reduce water usage, ensure equitable distribution and promote sustainable urban development (Moreira da Silva et al., 2022; Smith, 2022).

In addition to water management, **sustainable agricultural practices** are essential for the Algarve's natural resource sustainability. Agrotourism is a promising way to promote sustainable agricultural practices while providing economic opportunities for local communities. The **cultivation of the Algarve carob**, also known as “black gold”, is a prime example of a sustainable agricultural practice that can help promote the region's natural resource sustainability. The Algarve carob is a versatile crop used in various industries, including food, cosmetics and biofuels. Furthermore, the carob tree is well adapted to the Algarve's climate and requires little water, making it a sustainable crop for the region (Correia & Pestana, 2018). Born and developed in Algarve, “Carob World” and “Gran Carob” are two notable examples of innovation and sustainability in the carob industry. Carob World is a cooperative that promotes sustainable and responsible production of carob products, offering high-quality items such as carob powder, flour and syrup while promoting sustainable agricultural practices. Gran Carob, on the other hand, has developed a range of innovative and sustainable carob products, including chips and snacks.

Adopting sustainable practices in these areas ensures a prosperous future while preserving the region's natural resources for future generations.

4 **Economy and Social Equity**

Tourism is an economic and social phenomenon due to its ability to stimulate regional development (Franzidis, 2018). The Algarve economy heavily relies on the tourism industry, which provides employment opportunities and generates income for its people. Managing tourism sustainably could positively impact the environment, society and economy. Therefore, implementing sustainable tourism practices, such as the Region Intelligent Algarve (RIA) project that encompasses SMART tourism, is crucial for the region's economic growth while minimising negative environmental and societal impacts. The main objective of this project is to enhance the partner entities' capabilities in achieving a **Smart Region Algarve** through collaboration with the region's stakeholders and focusing on regional competitiveness and innovation in the digital economy. The project also establishes a governance model led by the partnership to ensure its viability and sustainability, with an action plan for implementing the RIA Platform, Smart Tourism Destination and Smart Mobility solutions. The project also aims to create institutional cooperation dynamics and share best practices while identifying and disseminating national and international best practices and lessons learned that can be replicated in the region. The Algarve Regional Coordination and Development Commission (CCDR Algarve) coordinates the RIA project with the University of Algarve, the Algarve Tourism Region (RTA) and the Algarve Intermunicipal Community (AMAL). Therefore, adopting sustainable tourism practices can boost the significance of such initiatives, enabling the region to appeal to travellers who prioritise eco-friendly and socially responsible travel. This can enhance the region's reputation and lead to an influx of tourists.

The region's heavy reliance on tourism makes it susceptible to **seasonality's** negative impacts. Algarve is known for its seasonality, with a significant influx of tourists during the summer months and a decline in the off-season. This seasonal fluctuation can have negative economic impacts, as many businesses rely on tourism for their livelihoods, leading to potential job losses and economic instability in the off-season. As a result, promoting year-round tourism, so that local businesses and communities can benefit from tourism revenue throughout the year rather than only during peak tourist season, is vital for the region's sustainability. This can help create additional stable and sustainable economic growth for the region, ultimately leading to job creation, economic stability, and the preservation of the region's unique culture. However, tourism also poses some environmental challenges, such as desertification, which can significantly impact agriculture, biodiversity and other industries, leading to negative implications for tourism. Therefore, it is essential to implement initiatives like "**Project 365 Algarve**", launched by RTA, which promotes sustainable land use practices and responsible tourism, minimising negative impacts on the environment and ensuring the long-term sustainability of the region's economy. The initiative seeks to diversify the region's

tourism offerings throughout the year, encouraging visitors to explore Algarve's natural, cultural and gastronomic attractions during the off-season. Therefore, this project strives to establish a more robust, forward-thinking and sustainable tourism sector by promoting eco-friendly practices and environmental responsibility. The objective is to reduce the adverse effects of tourism on the environment while safeguarding the region's natural resources and enhancing the cultural experience of visitors (Correia et al., 2022).

To reinforce the connection between social sustainability, tourism and employment, the study "*O Capital Humano na Hotelaria e Empreendimentos Turísticos do Algarve*" (Human Capital in Tourism and Hospitality Companies in the Algarve) conducted by Associação dos Hotéis e Empreendimentos Turísticos do Algarve (AHETA), Knowledge to Innovate Professions in Tourism (KIPT) Co-Lab, and the University of Algarve (2022), highlighted that the human resource needs of surveyed companies are expected to increase from current levels by 45%, ranging from 4,484 to 7,906, by the end of 2023. These findings emphasize the shortage of the labour market in the Algarve, and the relevance of increased research and action plans in this direction. The main activity of KIPT Colab is to promote and value professions in tourism and hospitality, to sustain tourism competitiveness and sustainability. Therefore, it is vital to understand that sustainable practices considering environmental and economic growth can only be realised by deepening our understanding of social reality. Thus, businesses and governments must invest in social infrastructure, foster inclusive economic growth, and establish policies that support social equality. By promoting social sustainability, we can build strong and resilient communities and achieve sustainable development that fulfils present needs while preserving future generations' ability to meet them.

In summary, the region's economy and sustainability are intermingled. Therefore, it is essential to implement innovative initiatives to promote sustainable tourism practices and environmental stewardship to create a more diverse, innovative and sustainable future for the Algarve economy.

5 Urban Planning – Seafront Redevelopment

In Algarve, seafront redevelopment plays a significant role in urban planning, especially as the seafront is a major attraction for tourists. However, to ensure the sustainability of these projects, it is essential to consider environmental, social and economic factors. Sustainable practices, such as using eco-friendly construction materials and preserving natural habitats, should be prioritised. General urban planning should also be integrated into these projects, considering traffic flow, pedestrian access and public transportation. Community engagement and participation are critical for success, and measures like beach cleanups, waste reduction and sustainable transportation options should be implemented to minimise negative impacts. Tourism is another crucial consideration, with seafront areas as major tourist destinations. Designing attractive public spaces, providing amenities and ensuring waterfront accessibility are critical factors in meeting tourists' needs.

However, balancing tourism demands with preserving the local culture and heritage is equally important. One example of a sustainable seafront redevelopment project with walkways is the **Praia de Quarteira project in Algarve**, completed in 2019. This project was designed to provide visitors with a more enjoyable and sustainable experience while preserving the natural environment and promoting local economic development (Freitas & Dias, 2019).

The seafront redevelopment project in Quarteira involved a series of sustainable initiatives to enhance the visitor experience while minimising negative impacts on the environment and local community. One of the project's main features was the construction of a wooden walkway that spans the entire seafront, providing a safe and accessible route for pedestrians and cyclists. The walkway was made from sustainably sourced wood and was designed to blend in harmoniously with the natural surroundings.

In addition to the walkway, the project included the installation of solar-powered lighting strategically placed to minimise light effluence and avoid disturbing the natural habitats of local fauna. To manage waste, recycling bins were installed along the walkway, and a waste management plan was implemented, which included regular cleaning and garbage collection.

Another critical aspect of the project was its focus on promoting local economic development by creating public spaces for events and festivals, supporting small businesses and showcasing the local cultural heritage. These initiatives aimed to enhance the visitor experience and benefit the local community. As a result, the Praia de Quarteira seafront redevelopment project is an excellent example of how innovation, sustainability and urban planning can be combined to create a more attractive, sustainable and enjoyable destination for tourists and locals. According to Baloch et al. (2023) by prioritising environmental, social and economic factors, seafront development balances meeting visitors' needs and preserving the natural environment and local community. As a result, the new seafront walkway has become a popular and sustainable destination that provides an enjoyable experience for everyone.

6 Safety

The COVID-19 pandemic significantly impacted tourism in the Algarve, as in many other destinations worldwide. Safety and sustainability have become even more critical concerns for the tourism industry in the region.

To ensure the safety of travellers during the COVID-19 pandemic, several measures were implemented in the tourism industry in Algarve and Portugal. These measures included mandatory mask-wearing in public spaces, social distancing guidelines, frequent disinfection of high-touch surfaces, and capacity restrictions in indoor spaces. Additionally, the tourism industry has adopted new safety protocols such as contactless check-ins and increased use of technology to reduce person-to-person interactions.

Turismo de Portugal launched the **safe and clean seal** to promote sustainability in the sector in 2020. This seal is awarded to tourism businesses and destinations

implementing rigorous health and safety protocols such as increased sanitation and hygiene measures, physical distancing and staff training on COVID-19 prevention.

For several reasons, the safe and clean seal is an important safety measure in the tourism industry in Algarve and Portugal. Firstly, it reassures travellers that tourism businesses and destinations are taking their health and safety seriously, which can increase their confidence and encourage them to travel again. This is particularly important in the current climate, where travellers may be hesitant to travel due to the risks posed by COVID-19 (Orîndaru et al., 2021).

Secondly, by implementing rigorous health and safety protocols, tourism businesses and destinations can demonstrate their commitment to protecting the health and well-being of residents and workers. This is essential for building trust between the tourism industry and local communities. As a result, local communities are more likely to support tourism development in their area, which can have positive economic impacts.

Thirdly, the safe and clean seal can help to standardise health and safety protocols across the tourism industry in Algarve and Portugal. Thus, it ensures that all businesses and destinations follow best practices and can help prevent the spread of COVID-19 and other infectious diseases.

However, it is essential to note that the safe and clean seal does not guarantee safety, and travellers should still take precautions to protect themselves and others while traveling in Algarve and Portugal. This includes following local guidelines and regulations, practicing good hygiene, wearing masks and practicing physical distancing. Furthermore, its implementation reassures travellers, helps build trust between the tourism industry and local communities, and standardises health and safety protocols (Santos & Moreira, 2021). Despite this, travellers must remain cautious and take measures to ensure their safety and the safety of those around them. By doing so, not only can they help to reduce the spread of COVID-19, but they can also contribute to the sustainable growth of the regional and national tourism industry.

7 **Monitoring**

As one of the world's major industries, tourism significantly benefits from an international tourism observatory that gathers and analyses tourism-related data. By providing information, the observatory facilitates informed decision-making for sustainable tourism development, encourages collaboration and networking among countries, organisations and stakeholders, and drives innovation and research to address emerging challenges and opportunities (Ignarra et al., 2014). To support these efforts, the United Nations World Tourism Organization (UNWTO, 2021) launched the **International Network of Sustainable Tourism Observatories (INSTO)**, a global network of observatories that brings together stakeholders across the globe to share knowledge, best practices and innovations related to sustainable tourism.

One of the strengths of INSTO is its focus on data-driven decision-making, as the observatories collect and analyse data on a range of sustainability indicators such as energy efficiency, waste management and biodiversity conservation.

This data can help inform policy decisions, guide actions toward more sustainable practices, and measure progress toward sustainability goals. Observatories use a similar methodology to ensure that data is comparable across different destinations, which can facilitate benchmarking and knowledge sharing. In addition to data collection and analysis, the international network plays a significant role in capacity building by providing training and technical assistance to destinations to help them develop and implement sustainable tourism policies and practices. Moreover, according to UNWTO (2021), the INSTO's collaborative approach is another strength, as networking brings together a broader range of stakeholders, such as governments, non-governmental organisations, tourism industry professionals and academic institutions, to share knowledge and best practices. This collaboration can foster innovation, facilitate knowledge sharing and promote the development of more effective and sustainable policies and tourism practices.

Using a data-driven and collaborative approach, this network can inform policy decisions and guide actions toward sustainable tourism practices. Thus, such a network promotes innovation, facilitates knowledge sharing and advances sustainable tourism development worldwide.

8 Conclusions

In summary, sustainable innovation in tourism has brought about positive changes in the Algarve region's natural resources, economy, urban planning, safety and monitoring. Implementing sustainable practices has reduced environmental degradation and preserved the region's natural resources, including water, energy and biodiversity. By adopting sustainable tourism practices, the Algarve region has protected and preserved its natural assets, which benefits the environment and attracts tourists who seek eco-friendly destinations. Furthermore, sustainable tourism practices have helped the region's economic expansion by creating employment, amplifying local businesses and increasing tourist outflows. Such initiatives have proved to be a significant driving force for the sustainable development of the tourism industry in the region. Incorporating sustainable practices into their operations can result in financial gains for businesses and enhance their reputation by showcasing their dedication to social and environmental responsibility. This can eventually translate into improved brand awareness and customer loyalty, increasing brand recognition and loyalty.

Sustainable tourism practices are also linked to urban planning, which has led to eco-friendly infrastructure development, such as coastal development. These developments made it possible to reduce carbon emissions and improve the overall environmental quality in the region. Moreover, by investing in sustainable infrastructure, the Algarve region has demonstrated its commitment to building a sustainable and safer future for its residents and visitors. Initiatives such as the safe and clean seal have played a vital role in elevating Portugal and Algarve's standing as a trustworthy tourist destination, catering to the demands of safety-conscious travellers. Initiatives such as an international observatory provide a platform for sharing knowledge, best practices and experiences, enabling identifying common

challenges and solutions. By working together, stakeholders and policymakers can promote and monitor sustainable tourism development and ensure the long-term viability of the tourism industry while safeguarding the environment and well-being of local communities. Adopting sustainable tourism practices has brought benefits to the Algarve region. However, it is crucial to continue implementing sustainable practices and to ensure that the region's natural resources and cultural heritage are protected for future generations. By doing so, Algarve can continue to attract tourists, create new job opportunities and enhance its reputation as a sustainable and responsible tourism destination.

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