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Measuring the Sustainability of Tourism (MST) in Arab Countries: Readiness Assessment

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Keywords

Sustainable tourism;
Arab tourism;
Tourism Satellite
Accounts;
environmental impacts of
tourism.

Abstract

Tourism is a social, cultural, and economic phenomenon that depends on and affects the economy, the environment, host communities, destinations, and visitors themselves. Because of its vast range of impacts and stakeholders involved, tourism needs a comprehensive approach to development, management, and monitoring to achieve the sector's sustainability. However, one of the most significant roadblocks to achieving tourism sustainability is the complexity of measuring the level of sustainability and its progress. This paper aims to understand the current situation of measuring tourism sustainability among Arab countries assessing their readiness to implement the UNWTO Statistical Framework for Measuring the Sustainability of Tourism (UNWTO-MST). Data are collected from 14 countries, including Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Mauritania, Morocco, Oman, Palestine, Saudi Arabia, Somalia, Tunisia, and United Arab Emirates. The findings reveal a high level of awareness about the importance of sustainable tourism among tourism stakeholders as a tool for development in Arab countries. However, a few countries have developed Tourism Satellite Accounts (TSA), and no country has compiled System of Environmental-Economic Accounting (SEEA) tables so far. Indeed, the lack of these two statistical formworks represents a severe obstacle in measuring tourism sustainability through UNWTO-MST. Also, the assessment of datasets required for developing UNWTO-MST indicates a considerable gap in data availability, especially for social and environmental measures. The research suggests that Arab countries should follow a modular approach for the development of UNWTO-MST. According to the study's conclusions, a roadmap for implementing the UNWTO-MST MST in Arab countries is proposed.

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1. Introduction

Tourism has a significant impact on the lives of millions of individuals, communities, and regions. According to the UNWTO (2020a), growth in international visitor arrivals and revenues continued to outperform the global economy in 2019. For the tenth year in a row, tourism exports outpaced merchandise exports, lowering trade deficit in many countries, and helping both developed and developing economies. In the last decade, international tourism has grown at a rate of 4% per year, bringing in over US\$ 1.482 trillion in tourism receipts for destinations and US\$ 1.736 trillion in international exports, accounting for nearly 7% of global exports of goods and services, and 28% of exports if only services are considered (UNWTO, 2020a). According to the World Travel and Tourism Council (WTTC) (2020), the tourism sector's contribution to global GDP (direct, indirect, and induced) accounted for 10.3% of global GDP and 4.3% of international investments. These contributions enabled the creation of additional jobs; 1 in every 10 jobs worldwide is directly or indirectly related to the tourism sector, totaling 330 million jobs in 2019 (WTTC, 2020). This constant expansion also serves as a vital engine for job creation, particularly for women and youth. According to Vellas (2011), the bulk of jobs created in the tourist industry are for young people under the age of 25, who account for around half of all tourism occupations; and most of these jobs are for women in many tourism destinations.

In recent years, the necessity to manage tourism development in a socially and environmentally responsible and sustainable manner has become more critical (Saarinen, 2014). Stakeholders in tourism and beyond are increasingly concerned about how tourism might help or hinder efforts toward long-term sustainability (UNWTO, 2022). Indeed, stakeholders in the tourism industry are concerned about the sector's long-term sustainability, particularly in light of current challenges such as climate change and COVID-19 (Kristiana et al., 2021). Tourism is now being adversely affected by the expansion of the COVID-19 pandemic, which has halted practically all non-essential travel in the majority of countries worldwide (UNWTO, 2020b). While the tourism sector has been mostly shut down as a result of government efforts to contain and control the pandemic, it has been recognized that it may provide a unique and priceless opportunity to rethink and reset tourism in the future. As the UNWTO (2020b) argued, this current crisis may also present an extraordinary prospect to reform the industry, ensuring that it not only grows but grows better, with responsibility, sustainability, and inclusivity at its core. In addition, when planning for the tourism future, a focus on resilience and the advancement of sustainability at all levels should be prioritized .

Many scholars (i.e., Agyeiwaah et al., 2017; Lee et al., 2021) noted that there is a considerable amount of literature on tourism sustainability, but few focused on providing mechanisms and practical tools to measure the sustainability of tourism. Jackson et al. (2008) stated that leaders in the tourism industry and government officials should look for statistical answers to issues such as: is tourism putting a strain on the destination's natural resources? How much does it add to greenhouse gas emissions compared to other sectors? is it respectful of the host communities' socio-cultural authenticity?, and is it genuinely providing stakeholders with feasible and long-term socio-economic benefits? It is well known that tourism has positive and negative effects on the economy, society, and environment. Therefore, a complete analysis of the tourism sector requires the inclusion of these positive and negative

effects together; otherwise, it will be a preliminary analysis. Consequently, the need for measures to address the numerous effects of tourism has grown more urgent. Such measures would assist business executives and policymakers in establishing tourism-related policies. Kronenberg and Fuchs (2021) assumed that the necessity for statistical data to track tourism's long-term sustainability is apparent; however, existing international statistical standards for quantifying tourism are primarily economic in nature. In this context, tourism statistical frameworks have been advanced significantly in recent years, with the United Nations World Tourism Organization (UNWTO) releasing the International Recommendations for Tourism Statistics 2008 (IRTS-2008) and the Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA: RMF-2008). However, the UNWTO recognized a significant gap in identifying measurement standards for tourism that take economic, environmental, and social aspects into account and consider multiple spatial levels; local, national, regional, and global (UNWTO, 2018a). To start narrowing this statistical measurement gap, the UNWTO (2016a) launched Measuring the Sustainability of Tourism (MST) program in 2015 .

This research aims to understand the current situation of measuring the sustainability of tourism among Arab countries assessing their readiness to implement the UNWTO-MST. Indeed, Arab countries have remarkable prospects for further growth of international tourism markets interested in its unique cultural and heritage attractions, coupled with a diversified range of natural resources. In specific, this research is designed to find answers to four major questions :

- 1) what is the awareness level of the importance of sustainable tourism development among tourism stakeholders and the awareness of Tourism Satellite Accounts (TSA) and System of Environmental-Economic Accounting (SEEA) as bases for measuring tourism sustainability in Arab countries ?
- 2) What is the current implementation state of standard accounting tools to monitor tourism sustainability's economic and environmental aspects ?
- 3) what is the current situation of actions taken by Arab countries for achieving tourism sustainability?
- 4) What are the available datasets in Arab countries with reference to the development of the UNWTO-MST?

Furthermore, this study intends to propose a roadmap for developing UNWTO-MST in Arab countries based on the study findings. Arguably, this research represents the first attempt to investigate and assess the measurement of tourism sustainability in Arab countries based on the proposed UNWTO-MST statistical framework.

2. Literature Review

2.1. Sustainability of tourism

Sustainable development has been at the top of many government agendas for the past 20 years or more (Lee, 2020). Sustainability should be accepted as the way ahead to maintain ecosystems and biodiversity, control growth, and improve the quality of life of host communities. Tourism has been promoted as a means of generating revenue and providing access to markets for small and medium-sized businesses, particularly in low-income nations (Dodds & Joppe, 2005). In the late 1970s, the concept of sustainable development first emerged as an important new notion (Du Pisani, 2006)

but it got international attention with the Brundtland Commission's report in 1987 (Steurer et al., 2005). In its report, the Brundtland Commission defined sustainable development as development that satisfies the requirements of current generations without jeopardizing future generations' ability to achieve their own needs (Borowy, 2013). Today, sustainable development is a widely accepted policy that incorporates several aspects of economic, social, and environmental concerns (Ilkhanizadeh, 2021). Thus, all stakeholders in every industry should adhere to this concept in order to fulfill the economic, social, and environmental goals of sustainable development. Tourism is seen as a vehicle of sustainable development, among other sectors (Jacobs et al., 2020). The UNWTO (1998) referred to sustainable tourism development as tourism that fully considers its present and future economic, social, and environmental consequences, meeting visitors' requirements, the environment, host communities, and the industry (UNEP, 2005). Though, the concept of sustainable tourism is surrounded by controversy, conflict, and argument (Brandão et al., 2020). In this sense, Sharpley (2020) argued that despite the broad academic interest in sustainable tourism in the literature and numerous sustainable tourism initiatives from the industry perspective, the past twenty years had seen little or no evidence of progress towards sustainable tourism development. According to Albrecht (2013), this is explained by the lack of a commonly acknowledged definition leading to considerable confusion about what sustainable tourism entails, and conflicting perspectives on the term have prompted many to doubt the notion's legitimacy. Ruhanen (2008) pointed out that sustainable tourism is an attractive concept as a balanced development alternative, but it raises a number of problematic questions: What is the best way to realize the concept? What criteria are used to determine whether or not a system is sustainable? What does it mean to protect the resource base? What will future generations require?

Beyond this debate, there is a sort of a holistic and integrated approach for sustainable tourism that considers all stakeholders and resources related to the tourism activity. In this, the set of criteria or principles that outline the requirements for achieving sustainable tourism involves the following items (McMinn, 1997; Niezgodna, 2004; Dodds & Joppe, 2005; Logar, 2010; Tseng et al., 2018) :

- embrace a triple-bottom-line approach to tourism business (environmental, social, and economic).
- make use of a multi-stakeholder strategy.
- maintain the well-being and participation of the local population or host community while being ecologically conscious.
- maintain and expand relevant and reasonably compensated work opportunities for the local population.
- protect and conserve the earth's renewable resources.
- maximize positive economic benefits.
- adopt a long-term perspective.
- ensure equality in terms of jobs and income distribution.
- to be effective, the government should take a leadership position (for example, by imposing a "greater good" approach).
- ensure the highest level of tourist satisfaction while also educating tourists about environmental and social issues.

In this context, the UNWTO and the European Commission (2013) recognized five pillars for sustainable tourism as a development instrument, including 1) tourism

policy and governance, 2) economic contribution, investment, and competitiveness, 3) employment, decent jobs, and human capital, 4) poverty alleviation and social inclusion, and 5) cultural and natural environment sustainability. These pillars highlight how tourism may serve as a catalyst for economic and social development. Additionally, they should be viewed as the foundation for developing tourism that contributes to the Sustainable Development Goals (SDGs). In 2015, the United Nations' 2030 Agenda for Sustainable Development developed a new paradigm for tourism's contribution to development (Hall, 2019). Tourism is specifically referenced in three of the SDGs (UNWTO, 2018b): SDG8- "Promote sustained and inclusive economic growth, productive employment, and decent work for all", SDG12- "Ensure sustainable consumption and production patterns which promotes local culture and products", and SDG14- "Conserve oceans, seas, and marine resources for sustainable development including management of fisheries, aquaculture, and tourism". Nevertheless, according to the UNWTO (2019a), it is widely believed that tourism has the ability to contribute directly or indirectly to all 17 UN SDGs.

2.2. Measuring the sustainability of tourism

Despite the significance of tourism sustainability notion, there is no commonly agreed definition for it, nor is there a universally accepted method of measuring its implementation and growth (Torres-Delgado, 2014). Schianetz and Kavanagh (2008) claimed that tourism sustainability cannot be measured and that tourism sustainability indicators only provide signs of some change, albeit an incomplete change, for the reason that there is a mismatch between what should be and what can be measured. Following this line, Tanguay et al. (2013) argued that due to the complication of tourism sustainability, developing a mechanism for quantifying it has proven to be challenging. Notwithstanding the truth that international organizations and academia have suggested various indicator systems, some have substantial restrictions in terms of practical implementation, enabling only limited evaluations, and others are methodically appropriate but too complex to be put into action. Nonetheless, measuring tourism sustainability utilizing indicator systems has grown increasingly popular in recent years (Font et al., 2021).

In this vein, the UNWTO (2004) released a guidebook for Indicators of Sustainable Development for Tourism Destinations in 2004. This guidebook proposed a vast number of indicators, more than 700 indicators spanning over 40 key sustainability issues ranging from tourism growth control to natural resource management (i.e., water, energy), seasonality, visitors and host communities' satisfaction, cultural heritage protection, economic leakages, and global warming. Also, in 2004, the UNWTO established the International Network of Sustainable Tourism Observatories (INSTO) (UNWTO, 2016b). The network's primary goal is to promote responsible tourism management and increase the tourism industry's sustainability and resilience. The UNWTO defined 11 core issue areas that INSTO Observatories are required to measure, including seasonality, employment, economic benefits, governance, accessibility, local satisfaction, energy management, water management, Wastewater management, solid waste management, and climate actions. The INSTO Network now has 31 observatories from three regions: Europe, the Americas, and Asia. In 2013, the European Commission (2014) introduced the European Tourism Indicators System (ETIS), which is a management tool designed to track and measure tourism sustainability in European destinations. This system is based on 27 key and 40 optional variables that are grouped into four categories: (1)

destination management, (2) social and cultural impact, (3) economic value, and (4) environmental impact. Yet, given the variations in understanding of the notion of tourism sustainability as well as the lack of a clear definition, the application of these tools to tourism destinations is fraught with difficulties, as concluded by Alfaro et al. (2020). Moreover, Farinha et al. (2019) said that the ETIS does not impose any minimum standards and does not offer any certification; the monitoring findings are based on the destination's self-evaluation.

2.3. UNWTO Measuring the Sustainability of Tourism (MST) Program

In 2015, the UNWTO launched the MST program, in collaboration with the UN Statistics Division (UNSD), with an aim to improve the production and dissemination of statistical data on tourism and sustainable development (UNWTO, 2018c). The MST statistical framework proposed by the UNWTO is heavily reliant on the integration of two existing accounting frameworks, Tourism Satellite Accounts (TSA) and the System of Environmental-Economic Accounting (SEEA); both of which are compatible with the international framework for compiling measures of the economy, the System of National Accounts (SNA) (UNWTO, 2018a). According to the UNWTO (2010), the TSA provides the framework for the measurement of tourism within the framework of the SNA. As a satellite account of the SNA, the TSA uses the same concepts, definitions, and classifications of the SNA, but explicitly identifies, within the SNA framework, specific activities (tourism industries) and specific products (tourism products) so that it is possible to measure the economic importance of tourism in terms of visitor expenditures, gross value added (GVA), gross domestic product (GDP), and employment, consistently with similar measures for the overall economy. As such, it permits a comparison with other industries in terms of output, employment etc. The TSA is a set of ten main accounting tables that allow for the analysis of the economic aspects of tourism, encompassing demand, supply, impact on employment, etc. The TSA Tables 1 to 7 are currently considered as “core”. TSA-Table 6 is regarded as the “heart” of the TSA, reconciling demand and supply data found in other TSA tables (TSA-Table 4, which synthesizes data from TSA Tables 1 and 2 that relate to inbound and domestic tourism expenditure, and TSA-Table 5 which relates to the productions of tourism industries. The TSA-Table 7 presents information on employment and jobs in the tourism industries. The TSA-Table 8 provides information on tourism gross fixed capital formation of tourism industries, and the TSA-Table 9 focuses on the involvement and consumption of government for tourism. These two tables are still under development by UNWTO and pioneering countries. The TSA-Table 10 presents a limited number of non-monetary indicators that are required to assist the estimation and support the interpretation of the information presented in other TSA tables. Figure (1) shows the major linkages between the TSA tables.

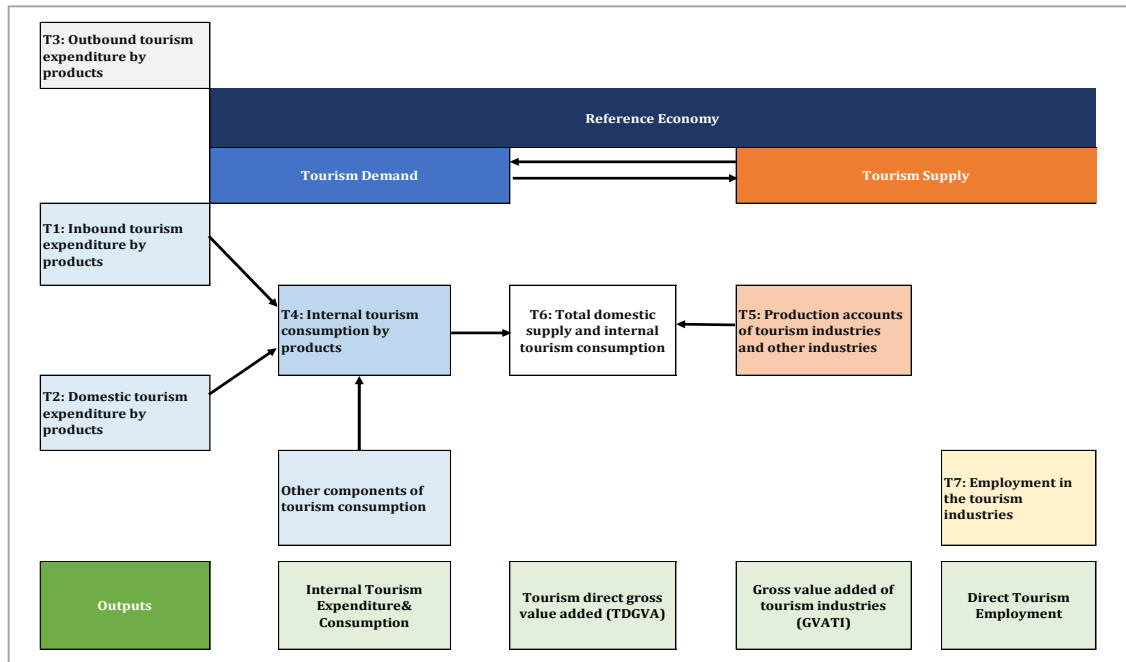


Fig. 1. Linkages between the TSA tables.

Source: Adopted from UNWTO (2010). Tourism Satellite Account: Recommended Methodological Framework 2008. Madrid: UNWTO.

The SEEA is a conceptual framework for understanding the interaction between the economy and the environment and describing stocks and environmental assets changes. The SEEA central framework integrates information on the stocks and flows of the economy and the environment. In practice, environmental-economic accounting includes compiling physical supply and use tables, functional accounts, and asset accounts for natural resources (UN, 2014). Figure 2 illustrates the interaction between the economy and the environment in SEEA.

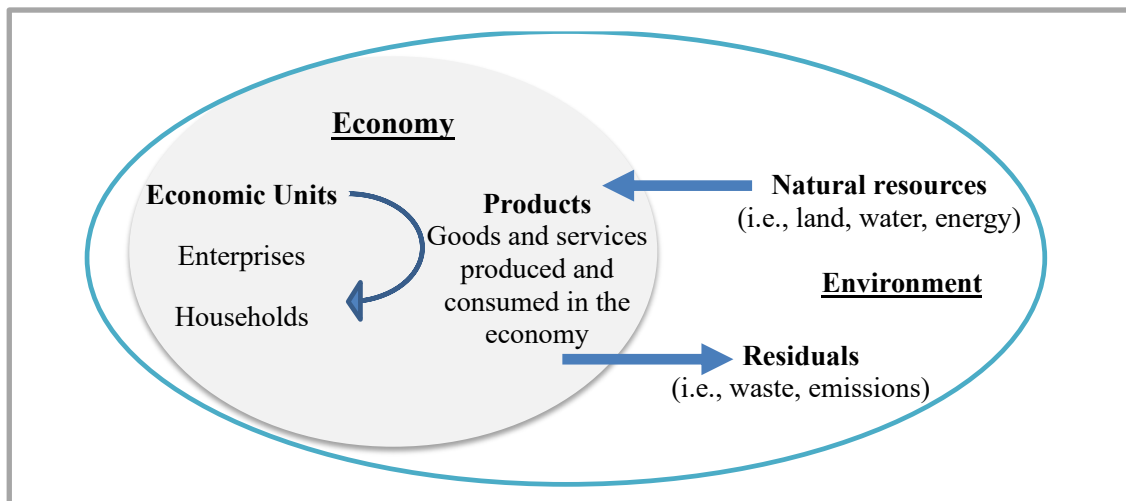


Fig. 2. Interaction between the economy and the environment in SEEA

Source: Adopted from UN (2014). System of Environmental Economic Accounting 2012. New York: UN.

The MST is an innovative initiative that aims to increase the capacity of the current tourism statistical frameworks beyond the economic aspect to measure social and

environmental dimensions as well. It seeks comparable, comprehensive, and consistent data on the effects of tourism on the economy, environment, and host societies. It also seeks to provide data at the local, sub-national, national, regional, and global levels. In particular, the MST contains three critical forms of TSA-SEEA integrations that can be utilized to improve the measurement of sustainable tourism (UNWTO, 2018c): 1) linkages between environmental flow accounts (such as energy, water, waste) and tourism, 2) produced and environmental assets accounts connected to tourism, and 3) spatial accounting for tourism based on the logic of SEEA-based accounts for land and ecosystem. The UNWTO (2018c) has drafted a set of core tables for developing a statistical framework for UNWTO-MST, as shown in tables 1, 2, and 3.

Table 1. MST core tables- tourism demand perspective

| DEMAND PERSPECTIVE | | UNIT | Total | Same-day visitors | Overnight visitors | |
|--------------------|--|-------|-------|-------------------|--------------------|-------------------------|
| | | | | | Total | by country of residence |
| 1 | Number of visitors | | | | | |
| 1.1 | Total | # | | | | |
| 1.2 | by age | # | | | | |
| 2 | Inbound arrivals | | | | | |
| 2.1 | Total | # | | | | |
| 2.2 | by mode of transport | # | | | | |
| 3 | Number of overnights | | | | | |
| 3.1 | Total | # | | | | |
| 4 | Tourism expenditure | | | | | |
| 4.1 | Total | \$ | | | | |
| 4.2 | Passenger transport | \$ | | | | |
| 4.3 | Personal | \$ | | | | |
| 4.4 | Business/professional | \$ | | | | |
| 5 | Visitor satisfaction | index | | | | |
| 6 | Attendance at events, sites and cultural assets | # | | | | |
| 6.1 | by type of event, site, asset | # | | | | |

Source: UNWTO (2018c). Statistical Framework for Measuring the Sustainability of Tourism: Consultation Draft. Madrid: UNWTO.

Table 2. MST core tables- Tourism industries


| TOURISM INDUSTRIES | TOTAL | Tourism industries | | | | | Total tourism industries | All other industries |
|----------------------------------|-------|----------------------------|-------------------------|---------------------|--|--------------------------|--------------------------|----------------------|
| | | Accommodation for visitors | Food & beverage serving | Passenger transport | Travel agencies & reservation services | Other tourism industries | | |
| A. Business demographics | | | | | | | | |
| Total number of establishments | | | | | | | | |
| Small | | | | | | | | |
| Medium | | | | | | | | |
| Large | | | | | | | | |
| B. Income | | | | | | | | |
| Total output | | | | | | | | |
| Gross value added | | | | | | | | |
| Value added ratio | | | | | | | | |
| C. Expenditure | | | | | | | | |
| Domestic visitor consumption | | | | | | | | |
| Total | | | | | | | | |
| Accommodation | | | | | | | | |
| Food & beverage | | | | | | | | |
| Air transport | | | | | | | | |
| Other transport | | | | | | | | |
| Recreation and cultural services | | | | | | | | |
| Travel agencies | | | | | | | | |
| Tourism specific goods | | | | | | | | |
| Other products | | | | | | | | |
| Inbound visitor consumption | | | | | | | | |
| Total | | | | | | | | |
| Accommodation | | | | | | | | |
| Food & beverage | | | | | | | | |
| Air transport | | | | | | | | |
| Other transport | | | | | | | | |
| Recreation and cultural services | | | | | | | | |
| Travel agencies | | | | | | | | |

| TOURISM INDUSTRIES | TOTAL | Tourism industries | | | | | | All other industries |
|--------------------------------------|-------|----------------------------|-------------------------|---------------------|--|--------------------------|--------------------------|----------------------|
| | | Accommodation for visitors | Food & beverage serving | Passenger transport | Travel agencies & reservation services | Other tourism industries | Total tourism industries | |
| Tourism specific goods | | | | | | | | |
| Other products | | | | | | | | |
| Internal visitor consumption | | | | | | | | |
| Total | | | | | | | | |
| Tourism ratio | | | | | | | | |
| D. Employment | | | | | | | | |
| Employees (total) | | | | | | | | |
| Jobs (total) | | | | | | | | |
| Male | | | | | | | | |
| Female | | | | | | | | |
| E. Environmental flows | | | | | | | | |
| Net water use | | | | | | | | |
| Own-account water abstraction | | | | | | | | |
| Wastewater generated | | | | | | | | |
| Net energy use | | | | | | | | |
| Use of energy from renewable sources | | | | | | | | |
| GHG emissions | | | | | | | | |
| Solid waste generation | | | | | | | | |
| F. Decent work | | | | | | | | |
| G. Other social indicators | | | | | | | | |
| Accessibility | | | | | | | | |
| Tier 1 | | | | | | | | |
| Tier 2 | | | | | | | | |
| Derived | | | | | | | | |

Source: UNWTO (2018c). Statistical Framework for Measuring the Sustainability of Tourism: Consultation Draft. Madrid: UNWTO.

Table 3. MST core tables- Tourism regions

| TOURISM REGIONS | Total Country | Tourism region #1* | Tourism region #2 | Tourism region #3 | Tourism region #4 | Tourism region #5 | Tourism region #6 | Tourism region #... | Non-tourism regions |
|----------------------------------|----------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| A. Tourism establishments | | | | | | | | | |
| Total | | | | | | | | | |
| Accommodation | | | | | | | | | |
| Food and beverage | | | | | | | | | |
| Passenger transport | | | | | | | | | |
| Travel agencies | | | | | | | | | |
| Other tourism industries | | | | | | | | | |
| B. Resident population | | | | | | | | | |
| Total | | | | | | | | | |
| Age groups | | | | | | | | | |
| C. Visitor movements | | | | | | | | | |
| Total | | | | | | | | | |
| Same-day | | | | | | | | | |
| Overnight | | | | | | | | | |
| Visitors / resident population | | | | | | | | | |
| D. Land cover/use | | | | | | | | | |
| Total area | | | | | | | | | |
| Forest | | | | | | | | | |
| Agricultural land | | | | | | | | | |
| Urban areas | | | | | | | | | |
| Surface water | | | | | | | | | |
| Beach / coastal areas | | | | | | | | | |
| Other areas | | | | | | | | | |
| E. Employment | | | | | | | | | |
| Total | | | | | | | | | |
| Accommodation | | | | | | | | | |

| TOURISM REGIONS | Total Country | Tourism region #1* | Tourism region #2 | Tourism region #3 | Tourism region #4 | Tourism region #5 | Tourism region #6 | Tourism region #... | Non-tourism regions |
|----------------------------------|-----------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Food and beverage | | | | | | | | | |
| Passenger transport | | | | | | | | | |
| Travel agencies | | | | | | | | | |
| Other tourism industries | | | | | | | | | |
| F. Household income | | | | | | | | | |
| Total | | | | | | | | | |
| Income distribution | | | | | | | | | |
| G. Perceptions of tourism | | | | | | | | | |
| Communities | | | | | | | | | |
| Visitors | | | | | | | | | |
| H. Health and education | | | | | | | | | |
| Life expectancy | | | | | | | | | |
| Years schooling | | | | | | | | | |
| I. Infrastructure | | | | | | | | | |
| | Tier 1 Tier 2 Derived |  | | | | | | | |

Source: UNWTO (2018c). Statistical Framework for Measuring the Sustainability of Tourism: Consultation Draft. Madrid: UNWTO.

* Tourism regions refer to sub-national tourism destinations in a country and are numbered in the table for simplification. While non-tourism regions refer to other regions in that country where tourism is of very low importance in its economy.

The abovementioned MST core tables provide indicators covering the three pillars of tourism sustainability (Figure 3). Economic indicators measure value-added, employment, tourism establishments, visitor numbers, and visitor expenditure; environmental indicators include water use, energy use, GHG emissions, solid waste, and Landcover; and social indicators measure community capacity, income distribution, decent work measures, cultural heritage, and visitor perceptions.

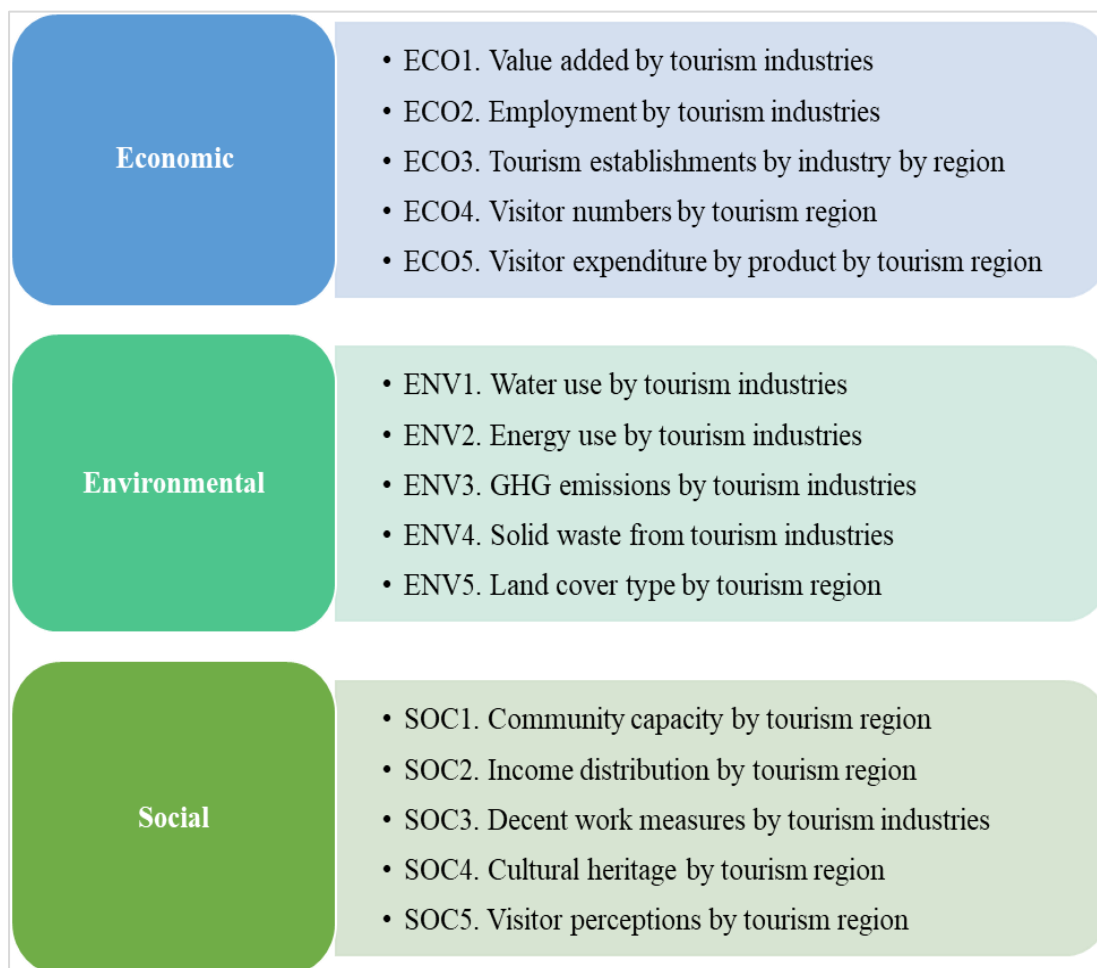


Fig. 3. MST Core Indicators

Source: Obst, C. (2021). Overview of Statistical Framework for Measuring the Sustainability of Tourism, UNWTO Asia Pacific Workshop on Measuring the Sustainability of Tourism, 14-15 December 2021.

2.4. Tourism in the Arab countries

Aside from the recent impact of the COVID-19 pandemic, international tourist arrivals and receipts increased in all world regions in 2019 (Figure 4) due to a reasonably healthy global economy, a growing middle class, technological advancements, new business models, interconnectedness, and visa facilitation WEF (2019). In 2019, the Middle East experienced the highest growth rates in foreign arrivals (8%), tourism receipts (8%), and tourism exports (9%). Additionally, it experienced above-average growth in terms of tourism's proportion of overall exports, accounting for 10.3% of total exports and 59% of service exports, respectively (UNWTO, 2020a). International tourism growth in Arab countries has been fueled by

an extraordinary increase in inbound tourism flows, particularly to Egypt, Saudi Arabia, Tunisia, Morocco, and the United Arab Emirates, as indicated in Table (4).

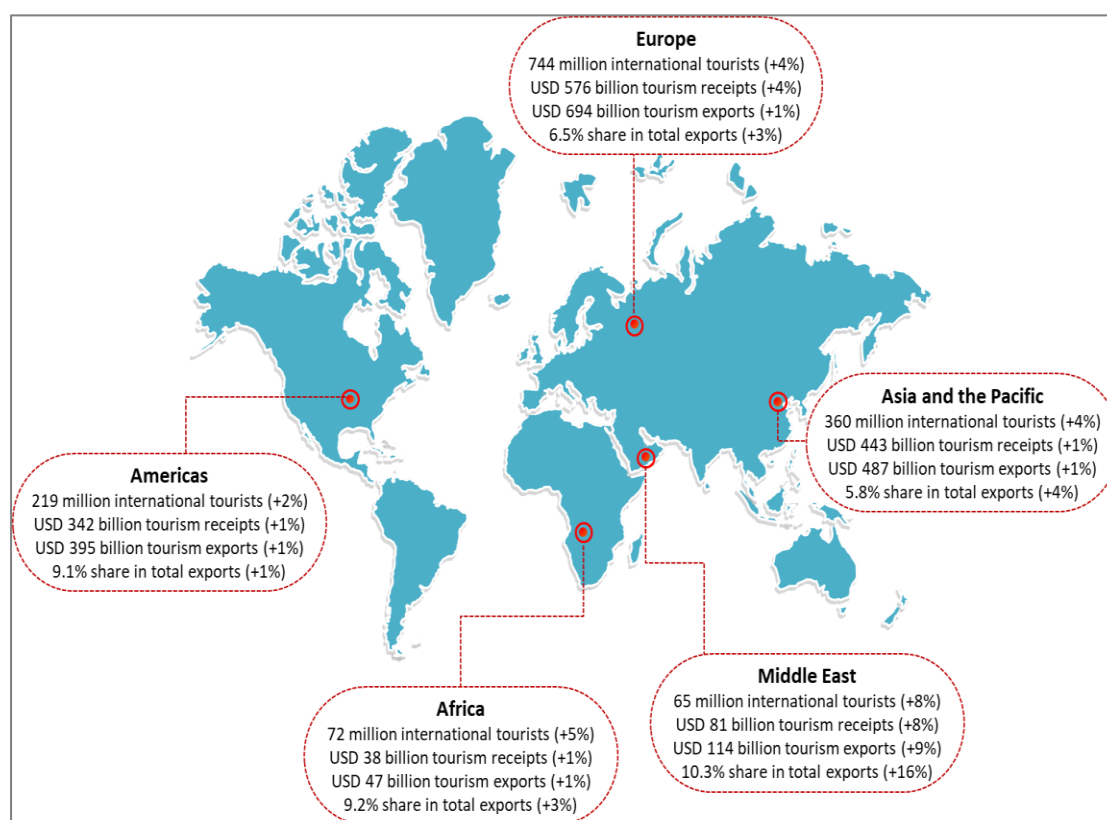


Fig. 4. International tourist arrivals and tourism receipts by world regions
 Source: UNWTO (2020c). International Tourism Highlights, 2019 Edition. Madrid: UNWTO.

The WTTC (2020) estimated the total economic impact of tourism in many Arab nations, where it exceeded 9% of GDP and total employment in 2019, by applying coefficients derived from other countries' input-output tables - when data was insufficient (Table 5). In the same vein, according to a recent study conducted by the Arab Monetary Fund (2020), tourist industry output in Arab countries climbed to US\$ 313.6 billion in 2019 from US\$ 281.5 billion in 2018, a 2.2% increase. According to that report, tourism contributed 11.4% to the Arab region's GDP in 2019. Additionally, that study proved the positive effects of tourism revenues on economic growth rates in Arab countries; a 1% rise in tourism revenues results in a 0.36% increase in economic growth rates in Arab countries.

Table 4. International Tourist arrivals and receipts in Arab countries, 2019

| Country | International Arrivals (000) | | International Tourism Receipts US\$ million | |
|--------------------------|---------------------------------|-------------|--|-------------|
| | (000) | % Change | (000) | % Change |
| Bahrain | 3,849 | -11.8% | 3,681 | -0.2% |
| Egypt | 13,026 | 14.8% | 13,030 | 12.2% |
| Jordan | 4,488 | 8.1% | 5,786 | 10.2% |
| Lebanon | 1,936 | -1.4 | 8,593 | 2.3% |
| Oman | 2,500 | 8.6% | 1,811 | 3.0% |
| Palestine | 688 | 13.5% | ----- | ----- |
| Qatar | 2,137 | 17.4% | 5,442 | -2.2% |
| Saudi Arabia | 17,526 | 14.3% | 16,382 | 19.2% |
| United Arab Emirates | 16,730 | 5.1% | 21,800 | 2.0% |
| Others | 2,222 | ----- | 4,945 | ----- |
| Total Middle East | 65,102 | 8.3% | 81,470 | 9.3% |
| Algeria | 2,371 | -10.8% | 165 | -2.4% |
| Morocco | 2,932 | 5.2% | 8,179 | 7.7% |
| Tunisia | 9,429 | 13.6% | ----- | ----- |
| Comoros | 45 | 25.6% | ----- | ----- |

Data about other Arab countries were not available.

Source: UNWTO (2020a). World Tourism Barometer, October 2020. Madrid: UNWTO.

Table 5. Macroeconomic indicators of tourism in Arab countries, 2019

| Country | Contribution to GDP | Contribution to Employment | Country | Contribution to GDP | Contribution to Employment |
|---------|---------------------|----------------------------|--------------|---------------------|----------------------------|
| Algeria | 5.7% | 6.0% | Morocco | 12.0% | 12.4% |
| Bahrain | 13.3% | 15.0% | Oman | 7.5% | 8.1% |
| Comoros | 10.1% | 10.4% | Qatar | 9.1% | 11.8% |
| Egypt | 9.3% | 9.7% | Saudi Arabia | 9.5% | 11.2% |
| Iraq | 6.4% | 6.8% | Sudan | 6.1% | 6.2% |
| Jordan | 15.8% | 17.7% | Syria | 8.6% | 8.8% |
| Kuwait | 5.3% | 6.0% | Tunisia | 13.9% | 10.8% |
| Lebanon | 18.0% | 19.2% | UAE | 11.9% | 11.1% |
| Libya | 3.1% | 3.3% | Yemen | 5.8% | 6.0% |

Data about other Arab countries were not available.

Source: WTTC (2020). WTTC (2020). Economic Impact Reports. London: WTTC.

Intra-Arab tourism flows were anticipated to be 29.6 million tourists in 2018 based on available UNWTO data (Table 6). Saudi Arabia led the Arab region in terms of tourist arrivals as well as Saudi outbound tourists visited Arab destinations, with a market share of 25% and 22%, respectively. At the same time, Kuwait (19%), the United Arab Emirates (18%), Tunisia (14%), and Egypt (10%) were the top Arab tourism destinations in 2018. As illustrated in table (6), tourism flows between GCC nations remain robust, owing to geographical proximity and travel facilitation for GCC nationals, among other considerations. Indeed, outbound Arab tourism to Arab tourism destinations is far lower than in other regions such as Europe and Asia, where intra-regional travel accounts for more than 70% of total arrivals (UNWTO, 2017). This data demonstrates the importance of tourism in Arab countries, where it has the potential to develop into a more profitable and sustainable business.

Table 6. Intra-Arab Tourism Flows, 2018

| Origin | Destination | | | | | | | | | Total |
|-----------------|------------------|------------------|------------------|----------------|----------------|------------------|------------------|------------------|------------------|-------------------|
| | Egypt | Jordan | Kuwait | Lebanon | Morocco | KSA | Tunisia | UAE | Other | |
| Algeria | 62,604 | 9,064 | 5,404 | 7,213 | 104,571 | 447,750 | 2,728,011 | 9,481 | | 3,374,098 |
| Bahrain | 31,680 | 24,624 | 231,964 | 7,956 | 4,717 | 574,350 | 852 | 127,011 | | 1,003,154 |
| Comoros | 627 | 41 | 657 | 100 | 1,602 | 3,669 | | 23,236 | | 29,932 |
| Djibouti | 2,961 | 0 | 145 | 56 | 702 | 1,822 | | 820 | | 6,506 |
| Egypt | | 48,537 | 965,490 | 92,173 | 26,961 | 799,950 | 10,920 | 623,548 | | 2,567,579 |
| Iraq | 104,805 | 171,044 | 71,146 | 211,589 | 961 | 239,790 | 3,562 | 181,726 | | 984,623 |
| Jordan | 208,283 | | 137,950 | 92,920 | 5,050 | 615,993 | 7,464 | 395,045 | | 1,462,705 |
| Kuwait | 164,532 | 86,481 | | 40,382 | 18,045 | 1,992,838 | 1,525 | 396,561 | | 2,700,364 |
| Lebanon | 120,637 | 48,682 | 132,685 | | 5,029 | 62,927 | 4,446 | 203,891 | | 578,297 |
| Libya | 410,659 | 26,920 | 2,069 | 2,711 | 3,117 | 92,044 | 1,504,018 | 2,368 | | 2,043,906 |
| Mauritania | 1,530 | 8 | 512 | 307 | 51,796 | 7,402 | | 2,660 | | 64,215 |
| Morocco | 56,581 | 7,262 | 19,039 | 9,426 | | 216,518 | | 73,916 | | 382,742 |
| Oman | 16,801 | 13,773 | 42,603 | 4,301 | 9,316 | 184,657 | 1,518 | 725,277 | | 998,246 |
| Palestine | 136,010 | 444,091 | 8,317 | | 1,584 | 11,526 | 1,850 | 49,549 | | 652,927 |
| Qatar | 4,701 | 23,585 | 130,810 | 12,256 | 8,123 | 119,287 | 1,250 | 1,823 | | 301,835 |
| KSA | 909,092 | 739,563 | 3,580,402 | 61,547 | 96,141 | | 9,046 | 2,060,562 | | 7,456,353 |
| Somalia | 2,998 | | | | 300 | 10,891 | | 7,744 | | 21,933 |
| Sudan | 459,607 | 11,740 | 20,098 | 3,611 | 2,738 | 263,596 | | 157,853 | | 919,243 |
| Syria | 65,803 | 82,376 | 202,077 | | 389 | 27,532 | 1,987 | 245,017 | | 625,181 |
| Tunisia | 48,620 | 5,927 | 17,988 | 8,970 | 54,811 | 125,936 | | 14,276 | | 276,528 |
| UAE | 65,464 | 19,051 | 112,457 | 1,770 | 21,926 | 739,404 | 1,612 | | | 961,684 |
| Yemen | 164,586 | 31,524 | 12,378 | 4,658 | 1,061 | 106,375 | 783 | | | 321,365 |
| Other Countries | | | | | | | | | 1,913,026 | 1,913,026 |
| Total | 3,038,581 | 1,794,293 | 5,694,191 | 561,946 | 418,940 | 6,644,257 | 4,278,844 | 5,302,364 | 1,913,026 | 29,646,442 |

Source: Based on UNWTO (2019b). Tourism Statistics datasets.

3. Research methods

3.1. Research design

The main objective of this paper is to assess the readiness of Arab countries to measure tourism sustainability based on the Statistical Framework for Measuring the Sustainability of Tourism (SF-MST) introduced by the UNWTO. In order to reach this research objective, Arab countries were surveyed through a structured questionnaire. The questionnaire consisted of 4 sections: 1) awareness of the importance of sustainable tourism development among tourism stakeholders and the awareness of TSA and SEEA as bases for measuring tourism sustainability in Arab countries; 2) implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability; 3) the current situation of actions taken by Arab countries for achieving tourism sustainability; and 4) the availability of datasets required for developing SF-MST.

The questions related to the assessment of the current situation of tourism sustainability actions taken by Arab countries were adopted based on the tourism sustainability pillars suggested by UNWTO and the European Commission (2013). These pillars included tourism policy and governance; economic contribution, investment, and competitiveness; employment, decent jobs, and human capital; poverty alleviation and social inclusion; and cultural and natural environment sustainability. While the questions related to the availability of datasets required for developing SF-MST were based on the MST core tables proposed by the UNWTO (2018c).

3.2. Data collection and analysis

Using a web-based survey tool, data were collected from 14 Arab countries, including Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Mauritania, Morocco, Oman, Palestine, Saudi Arabia, Somalia, Tunisia, and United Arab Emirates. Government officials in National Tourism Administrations (NTAs) and National Statistics Offices in the Arab countries were invited to participate in the survey with the assistance of Department of Transport and Tourism of the League of Arab States as well as Arab Tourism Organizations.

Given the nature of this research topic that focuses on a relatively new issue, collected data was processed and analyzed in a Microsoft Excel spreadsheet as well as SPSS Statistics software, and basic descriptive and comparative analysis was conducted. Due to the political instability in Palestine and Somalia, the author excluded them from the analysis to avoid any bias in the study results.

For the sake of presenting results with simplicity, the countries were abbreviated as follows: Algeria (ALG), Bahrain (BH), Egypt (EG), Iraq (IQ), Jordan (JO), Kuwait (KW), Mauritania (MR), Morocco (MA), Oman (OM), Saudi Arabia (SA), Tunisia (TN), and United Arab Emirates (UAE).

4. Results

Most surveyed Arab countries indicated a high level of awareness among tourism stakeholders in their countries concerning the importance of sustainable tourism development and the advantages to be gained from committing to planning and managing tourism in a sustainable manner. Yet, Iraq and Kuwait reported a low level of awareness in this regard (Table 7). As for the awareness of the TSA and SEEA as the internationally recommended statistical frameworks for measuring tourism sustainability, the mean score for all Arab countries was average, except for Iraq and Kuwait, which reported a low level of awareness, and Saudi Arabia reported a high level.

Table 7. Awareness of the importance of sustainable tourism development and its measurement

| Country | Awareness of the importance of sustainable tourism development among tourism stakeholders in the country | Awareness of the TSA and SEEA for measuring tourism sustainability in the country |
|--------------|--|---|
| ALG | High | Average |
| BH | High | Average |
| EG | High | Average |
| IQ | Low | Low |
| JO | High | Average |
| KW | Low | Low |
| MR | High | Average |
| MA | High | Average |
| OM | High | Average |
| SA | High | High |
| TN | High | Average |
| UAE | High | Average |
| Total | High (Mean= 2.67) | Average (Mean= 1.92) |

Table 8 showed the implementation status of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability in Arab countries. Six of the surveyed countries had developed TSAs and compiled at least six core tables of the standard TSA tables. These countries included Bahrain, Egypt, Jordan, Morocco, Oman, and Saudi Arabia. However, no country at present compiled SEEA tables.

Table 8. Implementation of TSA and SEEA in Arab countries

| Country | ALG | BH | EG | IQ | JO | KW | MR | MA | OM | SA | TN | UAE |
|----------------------------|-----|-----|-----|----|-----|----|----|-----|-----|-----|----|-----|
| Compilation of TSA tables | No | Yes | Yes | No | Yes | No | No | Yes | Yes | Yes | No | No |
| Compilation of SEEA tables | No | No | No | No | No | No | No | No | No | No | No | No |

Table (9) clarified the general assessment of the current situation with respect to actions taken by Arab countries for achieving tourism sustainability revealed an average level of implementation. However, the analysis demonstrated variations between countries as well as between sustainable tourism pillars. Four countries, Algeria, Jordan, Saudi Arabia, and the United Arab Emirates, had a high level of implemented actions related to sustainable tourism. While Bahrain, Egypt, Mauritania, Morocco, Oman, and Tunisia had an average level, Iraq and Kuwait recorded the lowest level of actions taken to achieve sustainability of tourism among surveyed Arab countries. As for the assessment of actions involved in each pillar, 4 out of the five sustainable tourism pillars were of an average level of implementation, including economic contribution, investment, and competitiveness (M= 2.29); employment, decent jobs, and human capital Average (M= 2.21); poverty alleviation and social inclusion (M= 2.03); cultural and natural environment sustainability (M= 1.92). In contrast, most Arab countries paid great attention to tourism policy and governance (M= 2.53). In this context, the only sub-pillar that recorded a generally low level was measuring and monitoring tourism impacts (M= 1.42).

Table (10) illustrated the availability of datasets required for developing UNWTO-MST. Generally, it was found that Arab countries had a satisfactory level of availability in terms of tourism demand indicators. More specifically, 11 out of 12 surveyed Arab countries reported that data on the number of international visitors, demographic characteristics of visitors, the average length of stay, and Tourism flows seasonality are available. Also, ten countries collected data on average expenditure per visitor. Eight countries had the spatial distribution of tourism demand indicators by destination. Seven countries compiled data on the number of visitors to archaeological sites and nature reserves. Also, six countries reported data on the number of domestic visitors and tourism expenditure breakdown by product.

For the second dataset required for developing UNWTO-MST “tourism industries and employment indicators”, the assessment indicated that nine countries had data on the number of tourism establishments by industries and by size. Eight out of the 12 surveyed countries demonstrated that they had data on tourism establishments by ownership (local - foreign - joint), six countries had data on tourism employment by gender, four countries had data on tourism employment by age groups, three countries had spatial distributions of tourism industries and employment indicators, and only one country (Jordan) had data on tourism employment by type of work (full-time, part-time). Conversely, no country produced data on decent work in tourism.

The assessment of the data availability social indicators related to tourism (the third dataset required for developing UNWTO-MST) revealed that seven countries collected data on visitor satisfaction; however, none of the surveyed Arab countries compiled data on the perception and attitude of communities towards tourism.

As for the fourth dataset required for developing UNWTO-MST “Environmental Indicators”, there is a complete absence of such data in the Arab countries. That is to say; no data is available in the Arab countries about environmental measures of tourism, including water use, energy use, GHG emissions, Wastewater, solid waste, and monetary indicators for environmental impacts (Table 10).

Table 9. Assessment results of the current situation tourism sustainability pillars in Arab countries

| Sustainability Pillars | ALG | BH | EG | IQ | JO | KW | MR | MA | OM | SA | TN | UAE | Total | Trend |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Tourism Policy and Governance | 3.00 | 2.00 | 2.67 | 1.33 | 3.00 | 1.00 | 3.00 | 3.00 | 2.33 | 3.00 | 3.00 | 3.00 | 2.53 | High |
| Tourism position in development policies and programs | 3 | 2 | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 2.67 | High |
| Tourism policy and regulatory framework | 3 | 2 | 3 | 1 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 2.50 | High |
| Tourism governance and stakeholder involvement | 3 | 2 | 2 | 1 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 2.42 | High |
| Economic Contribution, Investment, and Competitiveness | 2.50 | 2.50 | 2.00 | 1.25 | 2.75 | 1.25 | 3.00 | 2.25 | 2.50 | 2.50 | 2.25 | 2.75 | 2.29 | Average |
| Measuring tourism and its contribution to the economy | 2 | 3 | 2 | 2 | 3 | 1 | 3 | 2 | 3 | 2 | 2 | 2 | 2.25 | Average |
| Investment and the business environment | 3 | 3 | 1 | 1 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 2.33 | Average |
| Brand, marketing, and product positioning | 2 | 2 | 3 | 1 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 2.42 | High |
| Resilience, security, and risk management | 3 | 2 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 3 | 2 | 3 | 2.17 | Average |
| Employment, Decent jobs, and Human capital | 3.00 | 2.50 | 2.50 | 1.00 | 2.50 | 1.00 | 2.00 | 2.00 | 2.00 | 3.00 | 2.00 | 3.00 | 2.21 | Average |
| Human Resources planning and | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 2.17 | Average |

| Sustainability Pillars | ALG | BH | EG | IQ | JO | KW | MR | MA | OM | SA | TN | UAE | Total | Trend |
|--|-------------|----------------|----------------|-------------|-------------|-------------|----------------|----------------|----------------|-------------|----------------|-------------|----------------|----------------|
| working conditions | | | | | | | | | | | | | | |
| Skills assessment and the provision of training | 3 | 2 | 3 | 1 | 3 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 2.25 | Average |
| Poverty Alleviation and Social Inclusion | 2.67 | 2.00 | 2.33 | 1.33 | 2.67 | 1.00 | 2.67 | 2.00 | 1.67 | 2.00 | 2.00 | 2.00 | 2.03 | Average |
| Strengthening pro-poor tourism initiatives | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1.92 | Average |
| The inclusion of disadvantaged groups in the tourism sector | 3 | 2 | 3 | 2 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 2 | 2.17 | Average |
| The prevention of negative social impacts | 2 | 2 | 2 | 1 | 3 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2.00 | Average |
| Cultural and Natural Environment Sustainability | 2.33 | 1.33 | 1.67 | 1.33 | 2.00 | 1.00 | 3.00 | 2.00 | 2.33 | 2.33 | 2.00 | 1.67 | 1.92 | Average |
| Relating tourism to natural and cultural heritage | 3 | 2 | 3 | 1 | 3 | 1 | 3 | 2 | 3 | 3 | 2 | 2 | 2.33 | Average |
| Climate change actions | 3 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 1.92 | Average |
| Measuring and monitoring tourism impacts | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1.42 | Low |
| General Assessment of Sustainable Tourism Pillars | 2.67 | 2.07 | 2.20 | 1.27 | 2.60 | 1.07 | 2.73 | 2.27 | 2.20 | 2.53 | 2.27 | 2.47 | 2.20 | Average |
| | High | Average | Average | Low | High | Low | Average | Average | Average | High | Average | High | Average | |
| The assessment was based on a scale of 3 degrees, where 1 referred to the lowest degree and 3 was the highest. | | | | | | | | | | | | | | |

Table 10. The availability of datasets required for developing SF-MST in Arab countries

| | ALG | BH | EG | IQ | JO | KW | MR | MA | OM | SA | TN | UAE |
|--|-----|----|----|----|----|----|----|----|----|----|----|-----|
| Dataset 1: Tourism Demand Indicators | | | | | | | | | | | | |
| Number of international visitors | A | A | A | NA | A | A | A | A | A | A | A | A |
| Number of domestic visitors | A | A | NA | NA | A | NA | NA | A | NA | A | A | NA |
| Demographic characteristics of visitors | A | A | A | NA | A | A | A | A | A | A | A | A |
| Average length of stay | A | A | A | NA | A | A | A | A | A | A | A | A |
| Average expenditure per visitor | NA | A | A | NA | A | NA | A | A | A | A | A | A |
| Tourism expenditure by products | A | A | A | NA | NA | NA | NA | NA | A | A | A | NA |
| Visitors to archaeological sites and nature reserves | A | NA | A | NA | A | NA | A | A | A | NA | A | NA |
| Tourism flows seasonality | A | A | A | NA | A | A | A | A | A | A | A | A |
| Spatial distribution of tourism demand indicators | A | A | NA | NA | A | NA | A | A | NA | A | A | A |
| Dataset 2: Tourism Industries and Employment Indicators | | | | | | | | | | | | |
| Number of Tourism establishments by industries | A | A | A | NA | A | NA | A | A | A | A | A | NA |
| Tourism establishments by size (small - medium - large) | A | A | A | NA | A | NA | A | A | A | A | A | NA |
| Tourism establishments by ownership (local - foreign - joint) | A | NA | A | NA | A | NA | A | A | A | A | A | NA |
| Tourism employment by gender | A | A | A | NA | A | NA | NA | NA | NA | A | A | NA |
| Tourism employment by age groups | A | NA | A | NA | A | NA | NA | NA | NA | A | NA | NA |
| Tourism employment by type of work (full-time, part-time) | NA | NA | NA | NA | A | NA | NA | NA | NA | NA | NA | NA |
| Decent Work Indicators in Tourism | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Spatial distribution of tourism industries and employment indicators | NA | A | NA | NA | NA | NA | A | NA | NA | A | NA | NA |
| Dataset 3: Social Indicators | | | | | | | | | | | | |
| Visitor satisfaction | A | NA | A | NA | NA | NA | A | A | NA | A | A | A |
| Perception and attitude of communities towards tourism | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dataset 2: Environmental Indicators | | | | | | | | | | | | |
| Water use in tourism industries | NA | NA | NA | NA | NA | NA | A | NA | NA | NA | NA | NA |
| Energy use in tourism industries | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Energy use from renewable resources | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| GHG emissions from tourism industries | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Wastewater from tourism industries | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Solid waste from tourism industries | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Monetary indicators for environmental impacts | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

A: Available; NA: Not available

5. Discussions

Formulating a tourism sustainability policy is relatively simple but putting it into practice in a meaningful way is far more complex, especially when dealing with such a broad range of stakeholders as those involved in the tourism industry (Agyeiwaah et al., 2017). Furthermore, despite the significance of the tourism sustainability notion, there is no commonly agreed definition for it, nor is there a universally accepted method of measuring its implementation and growth. Recently, the UNWTO initiated the MST program intending to improve the collection, production, and dissemination of statistical data on the sustainability of tourism. This research is designed, as previously mentioned, to find answers to four major questions: 1) what is the awareness level of the importance of sustainable tourism development among tourism stakeholders and the awareness of TSA and SEEA as bases for measuring tourism sustainability in Arab countries? 2) What is the current implementation state of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability? 3) what is the current situation of actions taken by Arab countries for achieving tourism sustainability?, and 4) the availability of datasets required for developing UNWTO-MST? The following discussions provided answers to these research questions.

The findings confirmed that, in general, there is a high level of awareness about the importance of sustainable tourism among tourism stakeholders as a tool for development in Arab countries. However, the level of awareness of the TSA and SEEA as the internationally recommended statistical frameworks for measuring tourism sustainability is lower compared to the former level. This was reflected in the assessment of implementation state of standard accounting tools to monitor the economic, TSA, and environmental, SEEA, aspects of tourism sustainability where a few countries had developed TSA for measuring the economic impacts of tourism and no country compiled SEEA tables so far. Indeed, the lack of these two statistical frameworks would represent a severe obstacle in measuring tourism sustainability employing MST. According to the UNWTO (2018c), the MST statistical framework is heavily reliant on integrating two accounting frameworks, TSA and (SEEA).

The results of the assessment of actions taken by Arab countries for achieving tourism sustainability revealed that priorities were given to tourism sustainability pillars and sub-pillars as satisfactory in limited Arab countries. Thus, improvements are required. The actions that need more interventions and support from NTAs in Arab countries are: Measuring and monitoring tourism impacts.

- 1) Climate change actions.
- 2) Strengthening pro-poor tourism initiatives.
- 3) Prevention of negative social impacts.
- 4) Inclusion of disadvantaged groups in the tourism sector.
- 5) Human Resources planning and working conditions.
- 6) Resilience, security, and risk management.

Furthermore, the assessment of datasets required for developing SF-MST indicated a considerable gap in data availability, especially for social and environmental measures. This was in line with the arguments (Kronenberg & Fuchs, 2021) that most countries are interested in having data on tourism demand flows and receipts for an economic impact analysis while neglecting the other dimensions of sustainability, social and environmental dimensions.

Based on the preceding discussions, it would be difficult for Arab countries to develop UNWTO-MST statistical framework for measuring tourism suitability with such a lack of TSA and SEEA as well as limited data availability in the social and environmental impacts of tourism. The UNWTO (2021) mentioned that in developing the UNWTO-MST, a modular approach could be adopted, in which elements of the framework are implemented in accordance with priorities or particular circumstances. As a result, full-fledged SEEA accounts are not strictly necessary, although they are a great place to start when attempting to compile tourism- environmental flows such as water or energy consumption, solid waste or wastewater flow volumes, and GHGs. In this, some countries conducted UNWTO-MST pilots to measure the energy and water consumption of selected tourism industries and the CO₂ emissions, all without having implemented any of the relevant SEEA accounts. Also, the UNWTO (2021) recognized that the development of tourism statistics, in general, should be viewed as a process, and in accordance with a country's priorities, it is feasible to determine the influence of tourism on the natural environment at first. A further point to emphasize is the implementation of UNWTO-MST (as well as the implementation of any other statistical framework, e.g., TSA or SEEA). As such, the UNWTO-MST could potentially serve as an incentive for developing the TSA and SEEA tables that are most relevant to UNWTO-MST.

Given that, the current research proposed a roadmap for implementing the MST in Arab countries, including ten phases (Figure 5):

1. **Establish MST inter-Institutional platform:** because of the multidisciplinary nature of tourism, the compilation of tourism statistics and MST requires the participation of many stakeholders. The successful development of MST is based on a culture of collaboration among stakeholders, who pool their financial, human, and technical resources, knowledge, and interests intending to create a common dataset for tourism sustainability.
2. **Build technical statistical skills and capabilities:** it is an essential step to building a national team specialized in MST, ensuring the regular compilation and dissemination of MST indicators compatible with the international standards.
3. **Assign financial resources:** allocating required budgets is always a prerequisite in developing a new statistical program. This can be done through coordination with relevant government agencies such as National Statistics Offices.
4. **Study the UNWTO-MST international experiences:** recently, the UNWTO (2021) published a report showing pilots studies on MST initiated by 11 countries. It is essential to study those experiences drawing lessons to be learned. For example, tourism sustainability goals can be established (i.e., by 2030, GHGs generated by tourism to be reduced by 50%).
5. **Develop a list of tourism sustainability indicators:** this step is proposed based on the recommendation of the UNWTO to adopt a modular approach in developing MST. In this, Arab countries can cooperate to develop a regional list to measure tourism sustainability in Arab countries like the European Tourism Indicators System (ETIS).
6. **Develop advanced methods for measuring environmental pressures related to tourism:** this phase involves the calculation of environmental flows such as water use, energy use, and GHGs emissions in tourism industries. This

can be done through data using intermediate consumption data by the tourism industry sourced from the economic surveys already in place in all countries. For example, economic surveys collect data on tourism industries' expenses on fuel which can be converted to fuel consumption quantities by dividing fuel expenses over the average price per liter of fuel.

7. **Feasibility studies for developing TSA and SEEA:** the purpose of this phase is to determine whether it is feasible to compile TSA and SEEA at the national level in order to provide an informed basis to help the MST inter-Institutional platform in reaching a decision on the requirements for building such statistical frameworks. In this, it should be noted that the compilation of TSA and SEEA is not a trivial exercise and requires careful planning and close coordination from all relevant stakeholders in the country.
8. **Implementation of pilot TSA and SEEA:** this involves the pilot compilation of TSA and SEEA results to assess the results obtained. Through this step, challenging elements can be defined, such as missing or limited data sources, ad hoc assumptions, relatively poor-quality estimates of results, or irreconcilable results.
9. **Fill data gaps:** data gaps are to be addressed in the previous phase; the next thing to do is to study these gaps and look for alternatives to fill these gaps, such as improving the capacity of current data sources or developing new data sources.
10. **Develop the MST:** this step is entirely dependent on the rest of the actions mentioned above. Then integrations between TSA and SEEA would be possible to obtain datasets required for the UNWTO-MST.

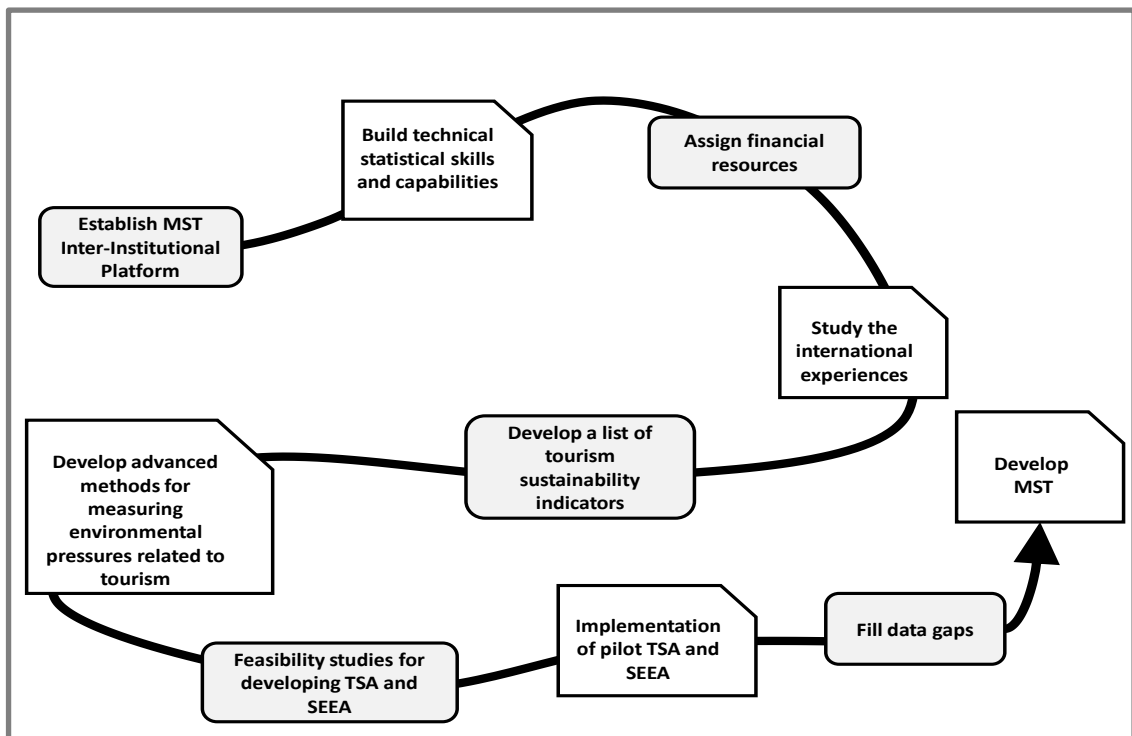


Fig. 5. Propose Roadmap for developing MST in the Arab countries

6. Conclusion

Tourism is one of the main drivers for economic development in the Arab region. Indeed, Arab countries have excellent prospects for further growth of international tourism markets interested in its unique cultural and heritage attractions, coupled with a diversified range of natural resources. In this, the desired tourism development and growth could be achieved only when sustainability took precedence. As a sector that is inextricably linked to almost all other economic sectors, tourism has substantial and far-reaching effects on all elements of sustainable development. Thus, tourism as a development tool presents significant opportunities, including the opportunities it provides for women and youth; its relative importance for developing countries, rural areas, and indigenous communities; its potential to incentivize environmental and cultural resource conservation; and its capacity to foster interaction and peace. Besides, tourism has the potential to contribute directly or indirectly to all the UN SDGs. However, one of the most significant roadblocks to achieving the sustainability of tourism is the complexity of measuring the level of sustainability and its progress in tourism destinations. Thus, the UNWTO launched the MST program aiming to improve the production and dissemination of statistical data on tourism and sustainable development. The MST statistical framework proposed by the UNWTO heavily relies on integrating two existing accounting frameworks, TSA and SEEA. This paper aims at understanding the current situation of measuring the sustainability of tourism among Arab nations. A quantitative questionnaire is designed to collect data from official statistics offices and tourism authorities in the Arab countries, reflecting a set of dimensions describing the capability to produce tourism sustainability data.

The findings empirically revealed the present condition of tourism sustainability measurement in the questioned countries. On the positive side, there is a high level about the importance of sustainable tourism among tourism stakeholders as a tool for development in Arab countries. However, a few countries have developed TSA for measuring the economic impacts of tourism, and no country has compiled SEEA tables so far. Indeed, the lack of these two statistical frameworks would represent a serious obstacle in measuring tourism sustainability through the UNWTO-MST. Also, the assessment of datasets required for developing UNWTO-MST indicated a considerable gap in data availability, especially for social and environmental measures. Considering such a situation, the current research suggested that Arab countries should follow a modular approach to develop MST. In this, a roadmap for implementing the MST in Arab countries is proposed, including ten phases: 1) Establish MST inter-Institutional platform; 2) Build technical statistical skills and capabilities; 3) Assign financial resources; 4) Study the MST international experiences; 5) Develop a list of tourism sustainability indicators; 6) Develop advanced methods for measuring environmental pressures related to tourism; 7) Feasibility studies for developing TSA and SEEA; 8) Implementation of pilot TSA and SEEA; 9) Fill data gaps; and 10) Develop the MST.

This research represents the first attempt to investigate and assess the measurement of tourism sustainability in Arab countries based on the proposed UNWTO-MST statistical framework. Moreover, this study has a fundamental contribution by suggesting practical steps to be adopted to measure tourism sustainability based on empirical assessment in Arab. While the research presented some significant findings, one of the limitations is that the quantitative survey might not be the best tool to collect the primary data for this kind of research. That means

the qualitative method employing in-depth interviews is assumed to provide more insights and information on the research topic, which deals with a relatively new issue. Based on the study's findings, future research is suggested to be conducted to focus on the individual situation for each Arab country defining special requirements needed to launch a successful MST project. Another future research area is the development of an Arab Tourism Indicators System that provides tourism sustainability indicators in the MST development path.

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قياس استدامة السياحة في الدول العربية: تقييم الجاهزية

مستخلص الدراسة

تعد السياحة ظاهرة اجتماعية وثقافية واقتصادية تعتمد على وتؤثر في الاقتصاد والبيئة والمجتمعات المضيفة والوجهات والزوار أنفسهم. وبسبب هذه المجموعة الواسعة من التأثيرات والأطراف المعنية، تحتاج السياحة إلى نهج شامل للتنمية والإدارة والرصد لتحقيق استدامة القطاع. ومع ذلك، فإن أحد أهم العوائق أمام تحقيق استدامة السياحة هو صعوبة قياس مستوى الاستدامة ومدى التقدم المحرز. يهدف هذا البحث إلى فهم الوضع الحالي لقياس استدامة السياحة بين الدول العربية وتقييم مدى جاهزيتها لتنفيذ الإطار الإحصائي لقياس استدامة السياحة المقترح من قبل منظمة السياحة العالمية (UNWTO-MST). تم جمع بيانات الدراسة من 14 دولة، وهي: الجزائر والبحرين ومصر والعراق والأردن والكويت وموريتانيا والمغرب وعمان وفلسطين والمملكة العربية السعودية والصومال وتونس والإمارات العربية المتحدة. أوضحت النتائج أن هناك مستوى عالٍ من الوعي بأهمية السياحة المستدامة بين الأطراف المعنية بالسياحة كأداة للتنمية في الدول العربية. وبالرغم من ذلك، فهناك عدد قليل من البلدان العربية قامت بتطبيق حساب السياحة الفرعي (TSA)، ولم يتم أي بلد بتجميع جداول نظام المحاسبة البيئية والاقتصادية (SEEA) حتى الآن. في الواقع، يمثل الافتقار إلى هذين الإطارين الإحصائيين عقبة خطيرة في قياس استدامة السياحة من خلال الإطار الإحصائي لمنظمة السياحة. أيضاً، تشير نتائج تقييم مجموعات البيانات المطلوبة لتطوير UNWTO-MST إلى وجود فجوة كبيرة في توافر البيانات، لا سيما فيما يتعلق بالأبعاد الاجتماعية والبيئية. يقترح البحث أنه ينبغي على الدول العربية اتباع نهج متدرج ومرحلي لتطوير UNWTO-MST. وفقاً لاستنتاجات الدراسة، تم اقتراح خارطة طريق لتنفيذ الإطار الإحصائي لقياس استدامة السياحة المقترح من قبل منظمة السياحة العالمية في الدول العربية.

الكلمات الدالة: السياحة المستدامة؛ السياحة العربية؛ حساب السياحة الفرعي؛ الآثار البيئية للسياحة.