

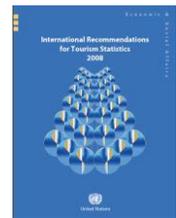
Saudi Arabia

Environmental measures for tourism based on the TSA when you don't have environmental accounts (SEEA)

UNWTO Working Group of Experts on MEASURING THE SUSTAINABILITY OF TOURISM
 Second meeting - Madrid, Spain, 24 – 25 Oct. 2018

Background

- The UNWTO emphasizes that estimating the links between tourism and the environment at the level of the national economy is recommended to be of a high priority.
- Undoubtedly, one of the wide-ranging benefits of the TSA analysis is the use of ad hoc extensions which provide further understandings of the various other aspects of tourism in destinations. The TSA's extensions are formulated in order to analyze tourism performance beyond its regional or national economic importance. **Environmental Impacts module of the TSA is required.**
- A number of research papers have used the TSA approach as a conceptual measurement framework to quantify the environmental effects of tourism such as energy use and greenhouse gases attributed to tourism as a productive activity.



Background

- Statistics Canada explored the possibility of linking the TSA and Environment Satellite Accounts (ESAs) as a means of estimating the tourism share of energy use and GHG emissions for two industries, air transportation, and food and beverage services. That has been done by applying tourism GDP ratios to the total energy use and GHG emissions for these two industries to obtain the portion attributable to tourism.
- Many other countries also attempt to measure environmental impacts of tourism based on different methodologies.
- Most of those attempts focused on measuring GHG emissions, however no studies have been conducted to date on the basis of using the TSA approach for measuring water use ascribed to tourism.

So far, the picture is still incomplete regarding tourism effects on environment.

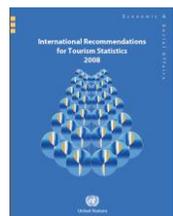


3

Background

8.40. The existence of both the Tourism Satellite Account and the system of environmental and economic accounts (SEEA) allows a country where both international recommendations are being developed to estimate the links between tourism and the environment at the level of the national economy. This could be done in two ways:

- a) Incorporating tourism as a specific set of industries and of consumers within the hybrid flow accounts of the environmental accounts;
- b) “Greening” the tourism GDP that is derived from the Tourism Satellite Account, taking into consideration the cost of the degradation of the environment and the use of the natural capital by tourism; expenditures that prevent degradation could also be taken into consideration as a further adjustment.



4

The KSA initiative on Measuring Environmental Pressures of Tourism

An important question needs an answer:

How can a country estimate environmental effects of tourism based on the TSA when it does not have environmental accounts?

- This question pushed the Saudi Commission for Tourism & National Heritage to put efforts into adoption of a method based on the TSA approach in order to provide estimates on the environmental impacts of tourism based on the TSA approach.
- Although KSA has not yet built environmental accounts, we were able to partially examine some environmental impacts of tourism base on this adopted method.



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5

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Again, once a country or a region has a TSA and environmental accounting, it is possible to investigate the links between them to measure the environmental-economic performance of tourism since they are both satellites to one accounting system; the SNA. The challenge occurs when there is an absence of environmental accounts or a lack of data in general as in the case of Saudi Arabia.

The adopted method is based on the following five analytical steps.

(1) Identifying relevant measures:

- Average water use (L/person/night)
- Average fuel (diesel) use (L/person/night)
- Average electricity use (kWh/person/night)
- CO2 emissions attributed to domestic tourism demand on land transport industry.



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6

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(2) Identifying data sources:

- Tourism Demand Surveys
- Tourism Establishments Survey
- Secondary data from governmental agencies (e.g. GaStat).

(3) Calculations:

- Estimating water and energy use attributable to tourism demand:
Through intermediate consumption data from accommodation establishments, we can get the average guest use of energy and water by dividing the expenses on energy and water by the unit price.
- Estimating CO2 emissions:
To obtain the quantities of CO2 emitted per ton fuel combusted in land domestic tourist trips, we depended on conversion factors for CO2 reported by the Intergovernmental Panel on Climate Change.

The detailed methodology and results are as follows:



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7

Pilot 1 Environmental Measures For Tourism Commercial Accommodation Services

8

Pilot 2
**Environmental Measures For Domestic
Tourism Land Transportation**

13

**Measuring the Sustainability of Tourism
in KSA**

20

MST in KSA

- In simple words, the general idea of investigating the sustainability of tourism is to provide indicators about the economic, social, environmental aspects of tourism.
- Through this previously mentioned method, KSA has managed to provide few environmental measure (Works is underway to provide such measures for other industries that serve visitors directly)
- Through the TSA and this pilot environmental measures, Saudi Arabia is already covering around 60% of the Key statistical domains of the MST

MST in KSA

key statistical domains	Description	Availability in KSA
1 Visitor movements	Visitors numbers	Available
2 Tourism activity and expenditure	Information on main products including output, consumption (including by type of consumer – domestic, international, household, business, type of event), exports, imports	Available
3 Tourism characteristic industries	- Business demographics such as size, ownership, location - Information on output, tourism share, value added, capital stock	Available
4 Tourism employment	Employment Volume and Characteristics	Available
5 Environmental flows	- Water and wastewater - Solid waste - Energy - GHG Emissions	Pilot Measures without SEEA2012
6 Environmental assets	Land use and land cover - Extent and condition of natural environments supporting tourism activities (e.g. beaches and coastal areas, marine areas, national parks, rivers and waterways, ski-fields). - Air quality, water quality - Ecosystem services supporting tourism activity - Visitor and tourism impact	NA
7 Expenditure on environmental protection	Expenditure on environmental protection and other environmentally related flows (taxes, subsidies, etc)	NA
8 Tourism infrastructure and TGFCF	Tourism infrastructure (including e.g. walking trails, etc) and capital formation in tourism industries	Partially Available TSA-table 8
9 Special measurement issues	- Treatment of transport, especially international/cross border - Seasonality - Attribution of environmental flows to visitors	Partially Available Tourism Flows seasonality

Conclusion and Recommendations

23

Conclusion and Recommendations

- The approach adopted in the KSA case allows to partially examine some environmental impacts of tourism, while environmental accounts are not available.
- We suggest that the UNWTO team assess this approach, adopt it as an analytical alternative in case of the absence of SEEA, and spread it among countries for empirical examinations.
- TSA is still the cornerstone on the comprehensive statistical measurement of tourism
Countries that have A TSA are already covering around 50% of the Key statistical domains of the MST (e.g. data on Visitor movements, Tourism activity and expenditure, Tourism characteristic industries, Tourism employment);



24

Thank You!

25