Measuring the Sustainability of Tourism: The Philippine Experience

Vivian R. Ilarina
Assistant National Statistician
Philippine Statistics Authority

2nd Meeting of the Working Group Of Experts on Measuring Sustainable Tourism
UNWTO Headquarters, Madrid Spain
24-25 October 2018

The Philippines is celebrating this month of October the 29th National Statistics Month


(PSA Memorandum Circular No. 2018-01 dated 10 July 2018
enjoins all agencies of the government, local government units, academic institutions,
state universities and colleges, and private sector at the national and subnational levels
to actively participate in and support the 29th NSM celebration)
I. Background

MST is an emerging trends;

Declared in the Manila Call for Action on Sustainable Tourism during the 6th UNWTO International Conference on Tourism Statistics in June 2017

88 countries including Philippines are committed and gather technical expertise for the development and implementation of the Statistical Framework for Measuring Sustainable tourism
I. Background

SDGs – 3 targets are related to tourism

**Target 8.9** – by 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

**Target 12.b** – develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products.

**Target 14.7** – by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

I. Background

**Philippine Development Plan (PDP) for 2017-2022**

- outlines the strategies intended to propel the expansion of tourism industries as well as measuring sustainable tourism
I. Background

Philippine Statistical Development Plan (PSDP) 2018-2023 enumerates the statistical programs related to tourism (Chapter 18) particularly on:
- Thrusts and strategies
- New development programs
- Building-up current efforts

II. Philippine Tourism Satellite Accounts (PTSA)

The Philippines’ TSA was started in 1988...
II. Philippine Tourism Satellite Accounts (PTSA)

- Tourism is a key driver of economic growth for the Philippines

Tourism contributed 12.2% to the Philippine economy in 2017.

Tourism was valued at PhP 1.93 trillion in 2017, up by 24.2% from 2016.
Inbound tourism expenditure contributed 9.2% to the total exports* in 2017.

*Note: Total exports of goods and services were sourced from the National Accounts.

Expenditures of inbound visitors to the Philippines reached PhP 448.6 billion in 2017.

Inbound tourism ranked 3rd among the biggest export items in 2017.

*Note: Exports of goods and services were sourced from the National Accounts while Inbound tourism came from PTSA.
II. Philippine Tourism Satellite Accounts (PTSA)

**Distribution of Tourism Characteristic Industries, Philippines, 2017**

Accommodation services, Shopping, Miscellaneous and Transport had the highest shares among tourism characteristic industries in 2017.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>30%</td>
</tr>
<tr>
<td>Food and beverage</td>
<td>6%</td>
</tr>
<tr>
<td>Transport</td>
<td>14%</td>
</tr>
<tr>
<td>Travel agencies</td>
<td>9%</td>
</tr>
<tr>
<td>Entertainment</td>
<td>13%</td>
</tr>
<tr>
<td>Shopping</td>
<td>14%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>14%</td>
</tr>
</tbody>
</table>

Inbound tourism expenditure contributed **9.2%** to the total exports* in 2017.

- Expenditures of inbound visitors to the Philippines reached PhP **448.6** in 2017.
- This represents **43.9%** growth from 2016 level.

*Note: Total exports of goods and services were sourced from the National Accounts.*
Inbound tourism ranked 3rd among the biggest export items in 2017.

<table>
<thead>
<tr>
<th>Service</th>
<th>Billion Pesos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous</td>
<td>1,569</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>1,071</td>
</tr>
<tr>
<td>Inbound tourism</td>
<td>449</td>
</tr>
<tr>
<td>Electronic Data Processing</td>
<td>194</td>
</tr>
<tr>
<td>Transportation</td>
<td>115</td>
</tr>
</tbody>
</table>

*Note: Exports of goods and services were sourced from the National Accounts while Inbound tourism came from PTSA.

Domestic tourism expenditure contributed 22.8% to the total HFCE*

- Expenditures of domestic visitors reached PhP 2.64 trillion in 2017.
- It grew by 25.5% from 2016 level.

*HFCE was sourced from the National Accounts.
II. Philippine Tourism Satellite Accounts (PTSA)

Internal tourism expenditure contributed **18.7%** to the total HFCE and exports in 2017

- Expenditures of all visitors (inbound and domestic) within the Philippines amounted to **PhP 3.09 trillion** in 2017.
- It grew by **27.8%** from 2016 level.

---

II. Philippine Tourism Satellite Accounts (PTSA)

Employment in tourism industries shared **13.1%** to the total employment in 2017

- About **5.3 million** people are employed in tourism industries.
- About **131 for every 1000** employment are in tourism industries.
II. Philippine Tourism Satellite Accounts (PTSA)

Distribution of employment by tourism industries, 2017

Passenger transport (38%) and Accommodation and food and beverage serving services (33%) had the biggest share in employment among tourism industries.

III. Measuring Sustainable Tourism

While tourism as an economic activity contributes to the growth of an economy, it also contributes “to irreversible damage to the environment” (IRTS, 2008)

“Benefits do not come without costs”
III. Measuring Sustainable Tourism

• There is a need to develop indicators that would keep track the pressures being exerted by tourism activities on the environment.

Measuring Sustainable Tourism

Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industries, the environment and host communities.

Focus on the linkages between tourism and the environment

Environmental pressures include:

- Energy use (petroleum & electricity)
- Water use
- Carbon dioxide Emission
III. Measuring Sustainable Tourism Framework

Current measurement:

- Statistical domains
  - Economy
  - Environment
  - Society
  - Tourism

New generation measurement:

- Social
- Environment

Linking TSA and SEEA

- Inbound, domestic, outbound tourism consumption
- Production by tourism industries
- Direct tourism GVA, GDP
- Employment in tourism industries

- Physical flows: water, energy, emissions, waste
- Stock of resources: water, land, fish, timber
- Expenditures on the environment
- Ecosystems condition & services (spatial data)
III. Measuring Sustainable Tourism

Data and Data Sources

**Philippine Statistics Authority**

- Philippine Tourism Satellite Accounts
- Input-Output Tables
- Gross Value Added from the National Accounts

**Department of Tourism**

- Administrative data – number of tourists, expenditures, destinations, etc.

---

III. Measuring Sustainable Tourism

Estimation Procedures

**Energy Consumption**

- To derive the energy expenditures of tourism industries
- Total Expenditures of Industry A * Technical Coefficient of Electricity & Petroleum in the IO Table
- Convert to physical terms (GWh, Liters) using appropriate prices

**Water Consumption**

- To derive the water use of tourism industries
- Total Expenditures of Industry A * Technical Coefficient of Water Supply in the IO Table
- Convert to physical terms (cubic meters) using appropriate prices
III. Measuring Sustainable Tourism

Estimation Procedures

**CO₂ Emission from the use of Petroleum and other Fuels**

1. Convert the per thousand barrels (MB) consumption to per barrels (bbl). Based on Kyle’s Converter online, 1 MB is equivalent to 1,000 bbl.
2. Multiply this to the average heat content of crude oil, which is 5.80 mmbtu per barrel, (EPA, 2017).
3. Multiply the product with the carbon coefficient and fraction oxidized, which is 20.31 kg of Carbon per mmbtu and the fraction oxidized is 100 percent. After this, multiply with the ratio of molecular weight of carbon dioxide to that of carbon (44/12).

**CO₂ Emission from the use of Electricity**

1. Convert electricity consumption to kWh (1 GWh is equivalent to 1,000,000 kWh)
2. Multiply the electricity consumption in kWh by the carbon dioxide (CO₂) emission rate (per unit of electricity delivered), which is computed as

   \[
   \text{Average CO₂ output rate for electricity generated} = \frac{1,122.9 \text{ lbs CO₂/MWh}}{1/(1-0.073)} \times 7.3\% \times \text{conversion factor to MWh} \times \text{conversion factor to metric tons} \times \frac{2,204.6 \text{ lbs}}{1 \text{ metric ton}}
   \]

   *Assumption: the electricity use of tourism industries is the same as the electricity use of households/home.*
III. Measuring Sustainable Tourism

Electricity Consumption

- Total Economy Consumption
- Tourism Consumption
- Share to Total Consumption

III. Measuring Sustainable Tourism

Petroleum and Other Fuel Products Consumption
III. Measuring Sustainable Tourism

Energy Consumption

- Total Economy Consumption
- Tourism Consumption
- Share to Total Consumption

Water Consumption

- Total Economy Consumption
- Tourism Consumption
- Share to Total Consumption
III. Measuring Sustainable Tourism

Petroleum and Other Fuel Products Consumption CO2 Emissions

- Entertainment and other recreation services
- Travel Agencies and other reservation services
- Transport Services
- Accommodation services for visitors and food and beverage serving services
- Tourism Industries

Electricity Consumption CO2 Emissions

- Entertainment and recreation services
- Travel agencies and other reservation services
- Transport services
- Accommodation services for visitors and food and beverage serving services
- Tourism Industries
IV. Ways Forward

a. To strengthen the technical capacity of compilers and producers of data on measuring sustainable tourism as well as to be able to institutionalize the provision of quality data on a regular basis;

b. To enhance the existing surveys on tourism to ensure that data requirements on MST are taken into account;

c. To link the MST with the environmental accounts, both physical and monetary accounts; and

d. To prepare a practical guide on step-by-step procedures how measuring of sustainable tourism are compiled following the international guide.
Thank You!

http://www.psa.gov.ph
/PhilStatAuthority
@PSAgovph