Tourism Environmental Footprint in Sweden

Global Forum on Tourism Statistics 2018

2018-11-29
Contents

🔗 Introduction
- Linking Tourism and Environmental Accounts

🔗 Methodology
- Use of Input-Output Analysis

🔗 Results
- Tables on tourism CO2 emissions

🔗 Conclusions
Introduction

Linking Tourism and Environmental Accounts
Tourism and the environment

Why and for whom

- Important to increase knowledge of tourism environmental effects, and to find right policy measures to support increased sustainable tourism

- A big advantage of linking TSA-SEEA is that it is based on already existing frameworks and on existing data sources

- This study measures environmental impact in terms of greenhouse gas emissions
Methodology
Use of Input-Output Analysis
So far - the primarily focus, has been on direct effects of tourism on the economy

This study uses the TSA-SEEA linking possibilities but is built on a more sophisticated method by using input-output analysis

Based on the National Accounts’ symmetrical input-output tables, which in turn, is based on yearly supply and use tables

A product’s final use, but all stages of production prior to consumption are included (the value chain). The intermediates need intermediates that also need intermediates, etc

The idea can be compared to a life-cycle analysis, where you can follow the environmental impact of a particular product, from the extraction of materials to waste treatment
Production and Final use
E.g. Hotel and Restaurant

- H&R sector employs 184,000 by using IOA. Of the sector 95% of the activities were H&R jobs, and 5% percent services for other sectors.

- On the other hand, other sectors also produced H&R services. Total 192,400 employed to produce H&R services.

- Among the employees 2/3 produced for final use – 157,000 employees.

- Of the H&R employees for final use, 77% are employed in the H&R sector, and 23% employed to produce intermediate goods for H&R.
3 126 Tourism employees in Food industry working in the production of Food...

...but, total tourism jobs in Food are 6 850, i.e. more than half of the tourism jobs in Food industry is doing other tourism production activities than food production.

In the same way, food production activities is performed in industries, other than the Food industry, e.g. restaurants.

This matrix is constructed to visualize the tourism value chain and complexity in tourism production.

<table>
<thead>
<tr>
<th>Industries</th>
<th>Food</th>
<th>Other products</th>
<th>Fuel</th>
<th>Rent &amp; acq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>3 126</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other products</td>
<td>152</td>
<td>1 943</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotels/Camping/Restaurant services</td>
<td>101</td>
<td>55</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Second home</td>
<td>87</td>
<td>47</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Food/Rail transport</td>
<td>170</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maritime traffic</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Air transportation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Car rental</td>
<td>22</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Package trips, etc</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>251</td>
</tr>
<tr>
<td>Film, Culture</td>
<td>21</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade fairs</td>
<td>176</td>
<td>119</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Passport/Visa</td>
<td>58</td>
<td>28</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Photo/Washing/Hairdresser</td>
<td>56</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating</td>
<td>53</td>
<td>35</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2 472</td>
<td>1 032</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Trade</td>
<td>333</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6 850</td>
<td>3 629</td>
<td>374</td>
<td>9</td>
</tr>
</tbody>
</table>
Results
Tables on tourism CO$_2$ emissions
Indirect tourism

By using input-output analysis

- The indirect effects adding about 50 percent extra employment to the tourism sector.
- The tourism multiplier is higher for tourism employment compared to the multiplier for tourism value added.
- The Swedish tourism to GDP ratio (direct) will increase from 2.7 to 3.7 if including indirect tourism effects.
Greenhouse gas emissions from tourism consumption have decreased over time (by 14% 2008–2015)

- Emissions by international visitors remain largely at the same level, due to increased international tourism.

- Travel and transport is the primary contributor to CO2 emissions. About two thirds of the emissions comes from travel and transport.
Greenhouse gas emissions in tourism

Ton CO2 per million SEK tourism expenditure 2015
Conclusions
Conclusions

- Indirect effects on tourism, by using input-output analysis, increasing the tourism sector in Sweden by 50 percent in terms of tourism employment.

- Greenhouse gas emissions due to tourism have decreased in Sweden over the period 2008–2015.

- This study shows that travel and transport is the primary contributor to CO2 emissions.

- For non-resident visitors the greenhouse gas emissions per consumption unit is twice as high as the reference group of Swedish households.
Conclusions (cont.)

- The important link between tourism and greenhouse gas emissions must not be neglected.

- Upcoming studies of tourism environmental footprint should consider analysis other environmental aspects.
Thank you for listening!

Martin Daniels
Swedish Agency for Economic and Regional Growth