Towards the “greening” of the Tourism Satellite Account.
Mexico’s proposal

Presented by: Raúl Figueroa Díaz

CONTENT

1. Background
   - Experience in the construction of two satellite accounts in Mexico (tourism and environment)
   - Participation in working groups and international meetings
   - Collaboration with other countries and organisms in LA region

2. Towards the “greening of the TSA”
   - Objective: To generate statistics that allow analyze the links between the economic activity of tourism and the environmental boundary

3. Strategy
   - Linkage between the TSA and environment working groups
   - Incorporation of staff from Tourism and Environment National Offices
4. Work scheme

- Diagnosis of the links between tourism and the environment
- Economic and physical flows to the touristic activity derived from conservation, ecosystem services, landscape and culture
- Extent, condition, supply and use of ecosystem services
  - Protected Natural Areas, hunting ranches
- Ecosystem services valuation (cultural and leisure)
- Positive and negative externalities of tourism on environment
  - Depletion of natural resources
  - Degradation of the environment
  - Material flow
  - Environmental economic activities
- Environmental goods and services and green jobs associated to the tourism sector
- Sustainable Development Goals (SDG’s) and decoupling indicators
- Tables in physical, monetary units and hybrids

1. Background

- Satellite Accounts of Mexico
- Non-Profit Institutions
- Unpaid work of households
- Health
- Culture
- **Tourism**
- Environment
1. Background

Manuals and international recommendations

TOURISM SATELLITE ACCOUNT | ENVIRONMENTAL ACCOUNTS
--- | ---
UNWTO/INRouTe/OECD/ECLAC/APEC | UNCEEA/London Group/UBCG/ECLAC/OECD
Peru | Ecuador
El Salvador | Panama
Bolivia | Dominican Rep.
Guatemala | Guatemala
Peru
2. Towards the “greening of the TSA”

OBJECTIVE: “To generate statistics that allow analyze the links between the economic activity of tourism and the environmental boundary”

3. Strategy

✓ Linkage between the working groups of the tourism and environment satellite accounts

✓ Subsequent incorporation of staff from Tourism and Environment National Offices
### 4. Work scheme

#### Definitions

**AGEB**: Geo-statistical basic areas into which INEGI divides the national territory, beyond its division into states, municipalities and localities.

**AGEB with activities related to tourism**: Delimitation of geography and economic activities which provide elements that allow quantifying and analyzing the impact of tourism at national, state, municipality or locality level.

#### Criteria to determine Tourist Destinations

1. **To be considered as tourist destination, the geographical area integrated by one or more localities, must comply with one or more of the following conditions:**

   - Receiving periodically or permanently significant flows of tourists
   - Being part of UNESCO's World Heritage Sites
   - Having an Integrally Planned Tourist Center
   - Participating in SECTUR's touristic development programs
   - Being a north border city
   - Having more than 2,000 accommodation rooms

2. **For cities with a population greater than 600,000 inhabitants, delimitate punctually the areas, zones and streets in which touristic flows concentrate, under 16 conditions:**

   - Having more than 2 hotels with integrated services
   - There is at least one watering place or Spa
   - There is at least one golf course
   - Having at least 2 restaurants
   - There is at least one administration of airports and heliports.
   - Others
4. Work scheme

**Definitions**

**Protected Natural Areas (PNA):** Portions of land or water in the country representing various ecosystems, where the original environment has not been essentially altered and which produce environmental benefits increasingly recognized and valued.

4. Work scheme

**Ecosystem extent, condition, supply and use**

- Mapping of Protected Natural Areas
- Identification of touristic establishments within or surrounding PNA
- Mexico has 177 Protected Natural Areas. Three examples are included:
  - Biosphere Reserve “El Vizcaíno” in Baja California and Baja California Sur
  - Protected Flora and Fauna Area “North Portion and East Coast, Terrestrial and Marine Line of the Island of Cozumel”
  - National Park “Cozumel Reefs” in Quintana Roo.
Cozumel

Protected Natural Areas

El Vizcaíno

4. Work scheme

Protected Flora and Fauna Area
Protected Natural Resource Area
Natural Monument
National Park
Biosphere Reserve
Nature Sanctuary

INEGI. Land Cover and Vegetation Series III (2002)
INEGI. Land Cover and Vegetation Series V (2011)

“AGEBs” with economic activities related to tourism

Sparsely vegetated area

INEGI. Land Cover and Vegetation Series V (2011)
4. Work scheme

Cozumel

INEGI. Land Cover and Vegetation Series V (2011)

AGEBs with economic activities related to tourism

- Forest tree cover
- Coastal water bodies
- Permanent crops, agriculture plantations
- Open wetlands
- Natural vegetation associations and mosaics
- Pasture and natural grassland
- Barren land
- Sparsely vegetated areas
- Urban and associated developed areas

Protected Flora and Fauna Area
“North Portion and East Coast, Terrestrial and Marine Line of the Island of Cozumel”

National Park “Cozumel Reefs”

4. Work scheme

Identification of positive and negative externalities

Environmental Protection Expenditure (Positive externality)

Touristic establishments that allocate resources to:
- Wastewater treatment
- Recycling
- Cooking oil collection
- Energy saving

Garbage collection
- Beach cleaning
- Among others

Natural resources depletion and degradation (Negative externality)

Touristic establishments that use natural resources or that generate waste to water, air or soil:

Natural resources depletion
- Groundwater
- Forest resources

Environment degradation
- Air emissions
- Solid waste
- Waste water discharges
- Land degradation
4. Work scheme

**Economic activities related to tourism**

**Environmental goods and services**
* Touristic establishments that supply environment “friendly” goods and services or whose processes have been modify to conserve natural resources and the environment:
  - *Nature tourism*
  - *Water recycling*
  - *Generation of energy from renewable sources*

**Green jobs**
* Full time equivalent jobs in the tourism sector dependent on the Tax ID (with access to social security), that allow the production of environmental goods and services.

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4. Work scheme

**Statistic tables construction**

**Physical units**
- Negative externalities (Depletion and Degradation)
- Ecosystem extent, condition, supply and use (Protected Natural Areas); including maps
- Green jobs (job posts, hours)

**Monetary units**
- Positive externalities (Environmental Protection Expenditure)
- Economic valuation of ecosystem services
- Green jobs (average remmunerations)
- Touristic environmental goods and services

**Hybrids**
- Including physical and monetary data in a single reference structure, with which it is possible to derive specific indicators for topics such as:
  - Productivity, decoupling, i.a.
4. Work scheme

**Alignment with the Sustainable Development Goals (SDG’s)**

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

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

**Target 14.7**: By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and **tourism**.

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Environmental protection expenditure associated to the tourism sector

Environmental Protection Expenditure of the private sector by branch of touristic activity, according to expenditure type
Year 2008
(Thousands of current pesos)

<table>
<thead>
<tr>
<th>NAICS Branch</th>
<th>Name</th>
<th>Current</th>
<th>Investment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4811</td>
<td>Scheduled Air Transportation</td>
<td>1,981.0</td>
<td>6,650.0</td>
<td>8,631.0</td>
</tr>
<tr>
<td>4812</td>
<td>Nonscheduled Air Transportation</td>
<td>442.0</td>
<td>740.0</td>
<td>1,182.0</td>
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<tr>
<td>4821</td>
<td>Rail Transportation</td>
<td>4,935.0</td>
<td>15,290.0</td>
<td>20,225.0</td>
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<tr>
<td>4832</td>
<td>Inland Water Transportation</td>
<td>67.0</td>
<td></td>
<td>67.0</td>
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<tr>
<td>4852</td>
<td>Interurban and Rural Bus Transportation</td>
<td>9,995.0</td>
<td>7,546.0</td>
<td>17,541.0</td>
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<tr>
<td>4855</td>
<td>Charter Bus Industry</td>
<td>303.0</td>
<td>1,298.0</td>
<td>1,601.0</td>
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<tr>
<td>4871</td>
<td>Scenic and Sightseeing Transportation, Land</td>
<td>411.0</td>
<td>949.0</td>
<td>1,360.0</td>
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<tr>
<td>4872</td>
<td>Scenic and Sightseeing Transportation, Water</td>
<td>680.0</td>
<td>871.0</td>
<td>1,551.0</td>
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<tr>
<td>5312</td>
<td>Offices of Real Estate Agents and Brokers</td>
<td>8,236.0</td>
<td>402.0</td>
<td>8,638.0</td>
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<tr>
<td>5313</td>
<td>Activities Related to Real Estate</td>
<td>300.0</td>
<td>700.0</td>
<td>1,000.0</td>
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<tr>
<td>7212</td>
<td>RV (Recreational Vehicle) Parks and Recreational Camps</td>
<td>4.0</td>
<td>5.0</td>
<td>9.0</td>
</tr>
<tr>
<td>7213</td>
<td>Rooming and Boarding Houses</td>
<td>47.0</td>
<td>152.0</td>
<td>199.0</td>
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<tr>
<td>7221</td>
<td>Full-Service Restaurants</td>
<td>1,047.0</td>
<td>732.0</td>
<td>1,779.0</td>
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<tr>
<td>7224</td>
<td>Drinking Places (Alcoholic Beverages)</td>
<td>1,693.0</td>
<td>33.0</td>
<td>1,726.0</td>
</tr>
</tbody>
</table>

Source: INEGI. Economic Censuses 2009 / Environmental Module
## Environmental protection expenditure associated to the tourism sector

To complement with the disaggregation of data from the Environmental module/Economic Censuses 2014:

Environmental Protection Expenditure of the private sector by branch of touristic activity, according to expenditure type

**Year 2013**

(Thousands of current pesos)

<table>
<thead>
<tr>
<th>NAICS Branch</th>
<th>Name</th>
<th>Environmental Protection Expenditure</th>
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</thead>
<tbody>
<tr>
<td>4881</td>
<td>Support Activities for Air Transportation</td>
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<tr>
<td>4883</td>
<td>Support Activities for Water Transportation</td>
<td></td>
</tr>
<tr>
<td>5615</td>
<td>Travel Arrangement and Reservation Services</td>
<td></td>
</tr>
<tr>
<td>7211</td>
<td>Traveler Accommodation</td>
<td></td>
</tr>
<tr>
<td>4851</td>
<td>Urban Transit Systems</td>
<td></td>
</tr>
<tr>
<td>5324</td>
<td>Commercial and Industrial Machinery and Equipment Rental and Leasing</td>
<td></td>
</tr>
<tr>
<td>5419</td>
<td>Other Professional, Scientific, and Technical Services</td>
<td></td>
</tr>
<tr>
<td>5615</td>
<td>Travel Arrangement and Reservation Services</td>
<td></td>
</tr>
<tr>
<td>5619</td>
<td>Other Support Services</td>
<td></td>
</tr>
<tr>
<td>6211</td>
<td>Offices of Physicians</td>
<td></td>
</tr>
<tr>
<td>7121</td>
<td>Museums, Historical Sites, and Similar Institutions</td>
<td></td>
</tr>
<tr>
<td>7131</td>
<td>Amusement Parks and Arcades</td>
<td></td>
</tr>
<tr>
<td>7139</td>
<td>Other Amusement and Recreation Industries</td>
<td></td>
</tr>
<tr>
<td>7223</td>
<td>Food Services Contractors</td>
<td></td>
</tr>
<tr>
<td>8111</td>
<td>Automotive Repair and Maintenance</td>
<td></td>
</tr>
<tr>
<td>8129</td>
<td>Photofinishing and Other Personal Services</td>
<td></td>
</tr>
</tbody>
</table>

## Green jobs associated to the tourism sector

Green jobs of the private sector by branch of touristic activity

**Year 2008**

<table>
<thead>
<tr>
<th>NAICS Branch</th>
<th>Name</th>
<th>Occupied staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Exclusive</td>
</tr>
<tr>
<td>4811</td>
<td>Scheduled Air Transportation</td>
<td>9</td>
</tr>
<tr>
<td>4812</td>
<td>Nonscheduled Air Transportation</td>
<td>3</td>
</tr>
<tr>
<td>4821</td>
<td>Rail Transportation</td>
<td>13</td>
</tr>
<tr>
<td>4832</td>
<td>Inland Water Transportation</td>
<td>3</td>
</tr>
<tr>
<td>4852</td>
<td>Interurban and Rural Bus Transportation</td>
<td>17</td>
</tr>
<tr>
<td>4871</td>
<td>Scenic and Sightseeing Transportation, Land</td>
<td>14</td>
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<tr>
<td>4872</td>
<td>Scenic and Sightseeing Transportation, Water</td>
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<td>5312</td>
<td>Offices of Real Estate Agents and Brokers</td>
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<tr>
<td>5313</td>
<td>Activities Related to Real Estate</td>
<td>12</td>
</tr>
<tr>
<td>7212</td>
<td>RV (Recreational Vehicle) Parks and Recreational Camps</td>
<td>18</td>
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<tr>
<td>7213</td>
<td>Rooming and Boarding Houses</td>
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</tr>
<tr>
<td>7221</td>
<td>Full-Service Restaurants</td>
<td>19</td>
</tr>
<tr>
<td>7224</td>
<td>Drinking Places (Alcoholic Beverages)</td>
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</tbody>
</table>

Source: INEGI. Economic Censuses 2009 / Environmental Module
Green jobs associated to the tourism sector

To complement with the disaggregation of data from the Environmental module/Economic Censuses 2014:

Green jobs of the private sector by branch of touristic activity
Year 2013

<table>
<thead>
<tr>
<th>NAICS Branch</th>
<th>Name</th>
<th>People</th>
<th>Hours</th>
<th>Hrs / person</th>
</tr>
</thead>
<tbody>
<tr>
<td>4881</td>
<td>Support Activities for Air Transportation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8129</td>
<td>Photofinishing and Other Personal Services</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A sub VAUTr = Part. VACBT * VASubR / 100

- **A sub VAUTr**: Economic valuation of depletion of groundwater due to touristic activities
- **Part. VACBT**: Participation of Touristic Gross Census Aggregated Value of the region in the national total
- **VASubR**: Economic valuation of depletion of groundwater by region

### Participation of touristic activities in the depletion of groundwater

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>2003</td>
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<tr>
<td>2004</td>
<td>6.60</td>
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<tr>
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<td>2008</td>
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<tr>
<td>2011</td>
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<tr>
<td>2012</td>
<td>7.21</td>
</tr>
<tr>
<td>2013</td>
<td>6.94</td>
</tr>
</tbody>
</table>

** Degradation **
CMECfMo vT = Mitigation costs of polluting emissions to the atmosphere from mobile sources of the touristic activities.


CMECfMovT = Mitigation costs of polluting atmospheric emissions from mobile sources of sector 48-49. Transportation, couriers and warehousing.

CMECfMovsec48-49 = Mitigation costs of polluting emissions from mobile sources of the touristic activities.