Comments on the environmental dimension of the MST (CH 3)

Nico Heerschap, December 2022, Madrid
Comments on the environmental perspective of the MST (CH 3)

• First of all, all the credit to the writer

• For whom?
• A little bit more introduction concerning the environmental landscape, measurement methods (at least where they fit) and sources used (lack). Rather quick start about environmental flows etc.

• Three measurement perspectives:
  1. The supply and use of (natural) resources, such as water and energy. This can be balanced with the available quantities (e.g., stocks and flows; new resources and depletion; in monetary and physical terms)
  2. GHG-emissions and waste production (residuals and output). Not easy to balance with a standard, rather a policy target
  3. Description of the state of the environment through ecosystem accounting, including changes in the extent, assets and quality/condition of the different ecosystem assets during the research period, as well as ecosystem services provided.

• These perspectives are based on a production approach (economic activity of industries). The first two approaches are clear. The third approach more open, less defined (although see examples of SEEA-EA)

• Good that the consumption approach is mentioned as an alternative. But it is not worked out. The consumption approach relates also more to visitors (domestic and outbound). See, for example, Paul Peeters. Leading to the ‘carbon footprint’ by means of transport, by duration and by accommodation of national tourism. The production approach more difficult to pin to visitors visiting a destination (ghost visitors). This could also be used for ‘the problem’ of international transportation.

• Other indicator: tourism pressure on the natural and built environment, through data on the number of visitors, tourists, day trippers or overnight stays per km² (excluding water) or per 1000 inhabitants (tourism intensity)

• A spatial area as the core starting point is important. A good statistical unit to link with other (tourism-related) data. Integrating frame
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Share of tourism sector environmental economic indicators in relation to total economic activities, 2010-2015 (Statistics Netherlands, 2017)

- Employment
- Value added
- Water use
- Energy use
- GHG-emissions
- Fine dust emissions
- Biomass consumption
- Heavy metal emissions to water
- Waste production

Development of value added and GHG-emissions in the tourism sector (Statistics Netherlands, 2017)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value added</th>
<th>GHG-emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>100</td>
<td></td>
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<tr>
<td>2011</td>
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<tr>
<td>2015</td>
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</table>
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GHG-emissions per holiday day by means of transport and destination, 2020 (Centre for Sustainability, Tourism and Transport)
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2.1.1 Ecosystem accounting model (UN et al., 2014 Figure 2.2)
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- It will be data intensive exercises. Which sources can be used and how detailed can it be?
- Sub-national and sub-annual levels are important, but not elaborated on. Is there any difference between spatial levels? National, regional and local?
- There is a main assumption that economic tourism ratio’s can be applied to environmental indicators (e.g., tourism share of water use)
- A third perspective concerns ecosystem accounting: a description of the relation between the (condition of) environment on the one side and society and the economy on the other

![Diagram]

| Assets          | Condition | Services | Benefits                              | Beneficiaries                  |
|-----------------|-----------|----------|---------------------------------------|--------------------------------|-------------------------------|
| Identifying     | Their     | Filtering| Clean water                           | Accrue to                      |
| assets          | condition |          | Reduced costs                        |                                |
| Forest,         | Soil depth| Water filtering | (SNA products and services)           | Businesses, households, government |
| cropland, etc.  |           |          |                                       | and non-residents              |
| Maps            |           |          |                                       |                                |

- Also here, the text (3.4.) goes rather quickly into the details related to tourism. Some more context would be helpful
Ecosystem accounting also provides possibilities to include the built environment. This has many advantages. Foremost, that tourism is placed in a wider context: tourism as one of the means for development; competing with other developments; planning policy (see city of Amsterdam). Land use table: more split up: e.g., industry; retail trade (Disneyfication); accommodation types

Ecosystem accounting speaks of ‘benefits’, but there can be positive and negative impacts (partly seen by increase and decrease of stocks and condition accounts, but not all). Relation to the social dimension (beneficiaries)

Ideal situation ecosystem accounting: combined (as a production – supply approach) with tourism flows, behaviour and financial transaction data (big data)

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Source: UN et al., 2017.
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Biophysical ecosystem service models

- Example: Nature tourism
- Accommodation locations
- Surrounding nature areas
- Statistics
  - Capacity
  - Occupancy