CROSTO:
Croatian Sustainable Tourism Observatory

Zrinka Marušić
Public scientific institute specialized in tourism research - founded in 1959

Research activities
- Economic impact and forecasting
- Visitor behavior and experiences
- Sustainable destination development and governance
- Transport, environment and tourism

Dissemination of research results

Transfer of knowledge to the economy and education

Publishing activities - Journal Tourism
Content and Aim

- CROSTO
- Indicators
- Data sources
- Challenges of the measurement process: national and international scope

Stemming from the first process of measurement of INSTO/CROSTO indicators, we discuss the methodological issues and challenges, and suggest a fine tuning of indicators.
CROSTO: Adriatic Croatia

- NUTS 2 (7 counties)
- 1.4 million residents
- 6.3 thousand km coastline
- 1,246 islands, islets, rocks
- Pristine environment
- Great variety of landscape
- UNESCO sites
- 4 National and 2 Nature Parks

- Proximity/accessibility to major tourist generating markets
- 13.6 million arrivals and 74.3 million overnights in commercial accommodation
- 28% overnights in hotels, 23% in camp sites, 48% in household accommodation
- 88% of overnights in June-September
- Majority of arrivals by car
## CROSTO: 14 core indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>UNWTO mandatory issue</th>
<th>ETIS section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of residents who are satisfied with tourism</td>
<td>Local satisfaction with tourism</td>
<td>C Social and cultural impact</td>
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<tr>
<td>Number of tourist nights per 100 residents</td>
<td></td>
<td></td>
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<tr>
<td>Percentage of tourists who are satisfied with overall experience</td>
<td></td>
<td></td>
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<tr>
<td>Percentage of repeat/return tourists</td>
<td></td>
<td>A Destination management</td>
</tr>
<tr>
<td>Percentage of tourism enterprises using voluntary certification/labelling for environmental CSR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of tourist nights</td>
<td>Destination economic benefits</td>
<td>B Economic value</td>
</tr>
<tr>
<td>Daily spending per tourist overnight</td>
<td></td>
<td></td>
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<tr>
<td>Direct tourism employment as percentage of total employment</td>
<td>Employment</td>
<td></td>
</tr>
<tr>
<td>Gross annual occupancy rate in commercial accommodation</td>
<td>Tourism seasonality</td>
<td></td>
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<tr>
<td>Energy consumption per tourist night compared to general population energy consumption per resident night</td>
<td>Energy management</td>
<td></td>
</tr>
<tr>
<td>Water consumption per tourist night compared to general population water consumption per resident night</td>
<td>Water management</td>
<td>D Environmental impact</td>
</tr>
<tr>
<td>Percentage of sewage from a destination treated to at least secondary level prior to discharge</td>
<td>Waste water (sewage) management</td>
<td></td>
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<tr>
<td>Waste production per tourist night compared to general population waste production per resident night</td>
<td>Solid waste management</td>
<td></td>
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<tr>
<td>Percentage of destination area out of the settlement’s boundaries built for tourist purposes</td>
<td>Governance</td>
<td></td>
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</tbody>
</table>

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Zrinka Marušić: CROSTO – Croatian Sustainable Tourism Observatory
2017 Global INSTO Meeting, Madrid, 13-14 December 2017
Main data sources


- Longitudinal TOMAS Summer Survey on attitudes and expenditures of tourists in Croatia
  - Since 1987, every three to four years (last available results for 2014)
  - Population: Tourists in commercial accommodation in Adriatic Croatia, June - September
  - Sample: Stratified quota sample, 5 to 6 thousand respondents
  - Survey instrument: Questionnaire
  - Data collection method: Personal interview (CAPI)
  - Content: Profile, motives, sources of information, means of transport, length of stay, repeat visits, activities in destination, satisfaction and expenditures

✓ STS in Croatia is enabling sufficient disaggregation and extraction of indicators, but....
Challenges of the measurement process: national scope

- **Availability** of needed up-to-date information, especially for tourists in different aspects of sharing economy (non-commercial accommodation, VFR, and same-day visitors);
- Secondary data often cannot be used directly, thus often requiring additional ad-hoc analysis - time and money consuming;
- Some of the indicators need to be slightly modified in their scope and/or estimation process;
- Longitudinal surveys on attitudes and expenditures of tourists in Croatia are always highly dependent on availability of financial resources;
Examples:

<table>
<thead>
<tr>
<th>CROSTO indicator</th>
<th>Percentage of sewage from a destination treated to at least secondary level prior to discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td>The official data on sewage treated to at least secondary level prior to discharge were corrected by rate of households/dwellings connected to a public sewer system on county level</td>
</tr>
<tr>
<td><strong>Data source/s</strong></td>
<td>CBS, First Release 6.1.3. PUBLIC SEWAGE SYSTEM, 2016, additional ad-hoc analysis; CBS, Census of Population, Households and Dwellings 2011, Dwellings by Occupancy Status, 2017</td>
</tr>
<tr>
<td><strong>Limitations/ issues</strong></td>
<td>The rate of households/dwellings connected to a public sewer system was applied to total waste water (from households and economic activities) at the county level</td>
</tr>
</tbody>
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<th>CROSTO indicator</th>
<th>Direct tourism employment as percentage of total employment</th>
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<td><strong>Approach</strong></td>
<td>Estimated based on secondary data available for March and corrected for total employment ratio in March and August, since the August is the peak month of tourist activity</td>
</tr>
<tr>
<td><strong>Data source/s</strong></td>
<td>CBS</td>
</tr>
<tr>
<td><strong>Limitations/ issues</strong></td>
<td>Limited to employment in NKD (2007) section I Accommodation and food service activities only</td>
</tr>
</tbody>
</table>

Employees in family housing/households not included in employment statistics; since the importance of household accommodation differs among the counties, it could have a significant impact on employment on a county level.
Challenges of the measurement process: international scope/comparability

- **Unified list of core indicators** applied by each of the observatories
- **Fine tuning of indicators** in order to, eventually, redefine the scope of some of the indicators (especially regarding the main tourism demand segments)
- **Region specific, internationally harmonized approach**, dependent on region’s development level (i.e. percentage of sewage treated to at least secondary level prior to discharge depends on the rate of households/dwellings connected to a public sewer system)
- Internationally harmonized approach is also highly dependent on **portfolio/structure of tourism products** so an aspect of tourism product in measurement process should be also considered (e.g. gross occupancy rate, tourists loyalty/return visits as well as other indicators that are highly dependent on type of destination tourism product)
- Development of some kind of **aggregate/compound indicator** based on a specific weighting procedure (at the section level)
- Inauguration of some **baseline values/intervals** in order to enable benchmarking and/or recognition of ‘good value practice’
THANK YOU FOR YOUR ATTENTION

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