

Measuring and monitoring the sustainability of tourism at the regional level: Catalonia's tourism sustainability indicators project

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Abstract

In 2023, the Catalan tourism sector launched the National Commitment for Responsible Tourism, signed by all tourism stakeholders in Catalonia. Through a strategy of responsible growth, the Commitment wishes to promote a more sustainable level of prosperity in the tourism sector. To achieve this vision, the strategy proposes to put sustainability at the core of all tourism activities, projects, and plans and to establish a balance of interests between tourists, entrepreneurs and investors, the local population, and the natural and cultural environment. Monitoring the sustainability of tourism policies poses major challenges for subnational territories due to the limited availability of indicators that measure the economic, social, and environmental impact of tourism activities. A particular challenge has been the adoption of consistent methodologies across regions and linking data to the national statistical system, as well as the international frameworks. Since 2022, the OECD and the EU have been supporting four Spanish Autonomous Communities, Andalusia, Catalonia, Navarra, and Valencia, in developing a common set of indicators to measure and monitor the sustainability of tourism in each territory. Based on several technical workshops and through a participatory and iterative process with experts, the participants have agreed on a common set of indicators that have been evaluated in a pilot phase. The project has reviewed existing international and national frameworks to measure the sustainability of tourism including those developed by the European Commission and the UNWTO. This poster introduces the common framework of indicators and the key phases and considerations that have led to their inclusion in the proposal. The piloting phase has allowed to test the relevance and feasibility of the proposed set of indicators, it identifies the potential data and implementation challenges, and it may lead to revisions and adjustments in the selection of indicators, their specification and the metrics used to measure them.

Keywords: sustainable tourism indicators, experimental statistics, regional statistics, cooperation

1. Introduction

The fallout from the COVID-19 pandemic has provoked greater understanding among the public and, consequently, among policymakers of the necessity of incorporating sustainability standards into economic plans to encourage a more robust and sustainable resurgence of the economy. The tourist sector is no stranger to these trends, in part because there is enough opportunity for the sector to become more sustainable and because the effects of climate change may hurt the sector's operations. This paper aims to present the work being elaborated in Catalonia and other Spanish regions to identify tourism sustainability indicators so that these can provide measurement guidelines, and to aid the assessment of future policies regarding each territories tourism sector. The guiding principles, rationale and key considerations that

led to the identification of the common set of such indicators are also described. It presents the indicator framework and provides preliminary results obtained from the pilot phase of the project.

2. Catalonia's own tourism strategy

In recent years, Catalonia's tourist sector has grown significantly, emerging as a major employer, revenue generator, and source of business in the nation. But this rapid growth also brought about some negative impacts and social unrest about the role that tourism played at particular places and times. Finally, in 2020, the coronavirus crisis crippled the industry and brought attention to how important tourism is both socially and economically.

Currently, the policies put in place by the Catalan government and the European authorities made it apparent that the road to follow should be based on resilience and sustainability standards, which, in the case of the tourism industry, include two areas of action. On the one hand, the effects of climate change, such as increasing sea levels, harsh weather, degraded environments, and a decline in biodiversity, are especially felt in the tourism industry. On the other hand, there is still much that can be done to make the tourism industry more sustainable because it is an industry that uses a lot of natural resources and contributes significantly to waste and air pollution.

2.1 Sustainable tourism

Sustainable tourism is an activity that considers its economic, social and environmental impacts and that, at the same time, addresses the needs of visitors, the industry, the environment and host communities. It involves: (i) making optimal use of environmental resources, contributing to their maintenance and the conservation of biodiversity; (ii) respecting the cultural heritage of host communities, preserving their traditional values and contributing to intercultural understanding and tolerance; and (iii) ensuring that socioeconomic benefits are fairly distributed, fostering stable employment and that the income and social services generated go to host communities.

2.2 National Commitment for Responsible Tourism (2023)

A broad framework for tourist development goals is provided by Catalonia's own tourism policy. One major goal for 2025 is to use a responsible growth plan to achieve a more sustainable level of prosperity in Catalonia's tourism sector. The strategy suggests putting sustainability at the center of all tourism-related initiatives, programs, and actions to realize this vision. It also suggests establishing a balance between the interests of visitors, locals, investors, businesses,

and the natural and cultural environments. Many stakeholders involved in Catalan tourism signed the National Commitment for Responsible Tourism (2023). It establishes goals for combating climate change, protecting biodiversity, providing equal access to travel destinations, raising the standard of work, and decarbonizing the tourism sector. The Table 1 provides the main goals of this strategy.

Table 1: Catalonia’s National Commitment for Responsible Tourism, goals and objectives

Environmentally sustainable tourism: targets for 2040	reduce the average water consumption of tourists, halve food waste and other waste
	reduce emissions from tourism by 1/3 by increasing the use of renewables
	increase the use of public transport (bus, train) and the use of sustainable aviation fuel
Socially just tourism	full level of accessibility. by 2035 in cities and by 2040 in all natural areas of special protection
	reduction of communication barriers
	having an equality plan in place by 2030 to facilitate the employment of women in terms of access, professional promotion, presence, permanence and working conditions
Territorially balanced tourism:	to increase the average length of stay and increase domestic tourism.
	to increase by 20% the occupancy of non-tourist activities in coastal municipalities
	to reduce seasonality and tourist concentration

Finally, a new system of indicators must be developed to serve this commitment to responsible tourism so that stakeholders can use the information in decision-making.

3. Supporting Spain's Tourism Ecosystem: towards a more sustainable, resilient and digital tourism

3.1 Challenges for subnational territories

Monitoring the sustainability of tourism policies poses major challenges for subnational territories due to the limited availability of indicators that measure the economic, social, and environmental impact of tourism activities. A particular challenge has been the adoption of consistent methodologies across regions and linking data to the national statistical system, as well as the international frameworks. Regions need clearly defined, common sustainability indicators that are comparable and coherent with traditional tourism statistics. These can help regions to benchmark across time and geographic locations, providing a sound evidence base for decision-making.

3.2 Framework for measuring and monitoring the sustainability of tourism in four Spanish autonomous communities.

In line with Spain's Recovery and Resilience Plan¹, since 2022, the OECD is assisting four Spanish autonomous communities, Andalusia, Catalonia, Navarra, Valencia, in creating a common set of metrics to assess and track the sustainability of tourism. The project 'Supporting Spain's Tourism Ecosystem: towards a more sustainable, resilient and digital tourism²' is carrying out this work in collaboration with the European Commission's DG Structural Reform Support, and it is funded by the European Union through the Technical Support Instrument.

The OECD provided an initial set of common indicators to measure tourism sustainability in the beneficiary regions. Recent and ongoing work to measure tourism sustainability at regional, national and international levels was reviewed to identify relevant good practices and innovative approaches. In particular, the project aims to: 1) develop a coherent system of common indicators for measuring and monitoring tourism sustainability at the regional level in Spain, to support destination management, 2) establish baseline data and build capacity through a pilot implementation of the proposed core set of indicators in selected destinations in Andalusia, Catalonia, Navarra and the Valencian Community and 3) help regions assess and benchmark progress in transforming regional destinations into data-driven organizations that contribute to achieving sustainable development.

Based on several technical workshops and through a participatory and iterative process with experts, the participants have agreed on a common set of indicators that have been evaluated in a pilot phase. The piloting phase has allowed to test the relevance and feasibility of the proposed set of indicators, it identifies the potential data and implementation challenges, and it may lead to revisions and adjustments in the selection of indicators, their specification and the metrics used to measure them.

3.3 Structuring the proposed indicator framework for the four Spanish autonomous communities.

¹ https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/country-pages/spains-recovery-and-resilience-plan_en

² Project Participants: OECD Technical assistance, European Commission (DG Reform), Andalusia: Ministry of tourism, culture and sports, Catalonia: General Directorate of Tourism, Stakeholder: Idescat, Navarra: Tourism Directorate, Valencian Community: Tourism Directorate

The following four dimensions are included in the indicator framework that is suggested to assess the sustainability of tourism in the four regions of Spain: governance, economic, social, and environmental.

Governance: a fundamental pillar, helps capture concerns of cross-cutting policy, including the availability of infrastructure or the satisfaction of tourists. This pillar highlights the necessity of using sustainable management techniques to enhance the tourism industry's social, economic, and environmental elements. This dimension assesses the degree of stakeholder participation in decision-making processes as well as the integration of tourist planning and management into regional strategies. It also considers the degree to which tourism management contributes to the diversification of tourism flows and the development of visitor satisfaction.

Economic pillar: understanding the economic aspects of tourism is crucial for developing policies that support sustainable economic growth. This dimension includes the economic variables associated with tourism such as visitor expenditure and the contribution of the tourism sector to the local economy. Together with potential economic vulnerabilities brought on by seasonal and market patterns brought about by tourism flows, this dimension also includes employment prospects in the tourism industry.

Social dimension: it refers to the range of social issues associated with tourism that exert an influence on the cultural heritage and local populations. It acknowledges that tourism can impact a destination's social and cultural characteristics in both positive and bad ways, and it works to make sure that tourism development respects and enhances local communities and their way of life.

Environmental dimension: it deals with how tourism affects ecosystems and how tourist-related activities consume natural resources. It is feasible to reduce adverse effects and create sustainable practices that preserve natural resources and safeguard the environment by being aware of how tourism affects the ecosystem. Reducing the environmental impact is crucial in and of itself, but it's also crucial for the tourism industry, which directly benefits from the preservation of natural areas like biodiversity, scenic landscapes, and clean water.

The set of indicators is organized along four aspects, as previously mentioned: governance, economic, sociocultural, and environmental. The framework tackles thirteen major policy concerns that the regions are facing in order to promote the sustainability of tourism under

these pillars. An overview of the policy concerns and related key indicators for each of the four aspects is given in Table 2.

Table 2. Core indicators to measure the sustainability of tourism in the regions

Dimension	Policy issue	Indicator
Governance	Sustainable tourism management	A.1 Sustainable tourism development strategy
	Benefits to the local economy	B.1 Tourism employment B.2 Tourism value-added B.3 Tourist expenditures B.4 Bed occupancy
Economic	Reduced seasonality	B.5 Tourism seasonality
	Attraction of tourists	B.6 Tourist satisfaction
	Reduced vulnerability	B.7 Market dependency
	Digitalisation	B.8 Access to online bookings and ICT training
Socio-cultural	Local community sentiment	C.1 Population under risk of tourism saturation
	Equal opportunities in tourism	C.2 Gender equality
		C.3 Youth employment
		C.4 Job security
	Accessibility in tourism	C.5 Accessibility in tourism
Environmental	Climate change mitigation	D.1 Air travel greenhouse gas emissions
		D.2 Green mobility infrastructure
		D.3 Use of renewable energies
	Sustainable business practices	D.4 Accommodation businesses with relevant and verified sustainability certification
	Water management	D.5 Tourism water use
		D.6 Bathing-water quality
	Protected areas management	D.7 Tourism pressure in protected areas
		D.8 Monitoring and information systems in natural parks

Source: Draft indicator framework and compilation guide for measuring and monitoring the sustainability of tourism at the regional level in Spain, OCDE.

4. Preliminary results

The following tables provide some provisional results regarding the evolution of Catalonia's tourism sustainability indicators that have been calculated in the pilot phase of the project. The rescaling of the indicator values has been made to facilitate each performance. The values are converted from their original units using the values for 2019 as a benchmark (2019 = 100). The rescaled indicators are then identified by the policy objective which could be up or down depending on the indicator. When it comes to certain indicators, like tourism expenditure, the greater the initial indicator value, the better the performance; however, for other indicators, such as tourism density, the converse is true.

Table 3. Economic dimension: metric description

	2023	Target
<i>Benefits to the local economy</i>		
Direct tourism employment as percentage of total employment.	96,2	Up
International tourism expenditure per tourist	106,3	Up
<i>Reduced seasonality</i>		
Gini coefficient of monthly international visitors	91,6	Down
<i>Reduced vulnerability</i>		
% of the nights spent from the top three inbound markets relative to the total nights spent (international tourists) in the destination	99,3	Down
% of the passengers from the top three airlines in relation to the total air travel passengers	107,0	Down
<i>Digitalisation</i>		
% of accommodation establishments providing ICT training	106,0	Up
Nota: Color legend		
	Improvement with respect to year 2019	
	Deterioration with respect to year 2019	

The contribution of tourism to each destination's economic sustainability is taken into account by the economic dimension indicators. In the table above, for example, four of the six indicators show a favourable tendency. International tourism expenditure has increased (in current prices) between 2019 and 2023 which implies larger benefits for the local economy. However, the vulnerability indicator regarding airline concentration has deteriorated.

Table 4. Social dimension: metric description

	2023	Target
<i>Local community sentiment</i>		
Tourism density	121,4	Down
Tourism intensity (2022)	106,1	Down
<i>Equal opportunities in tourism</i>		
% of women employed in tourism jobs with high qualification requirements	105,0	Up
Number of youth employment by total employment in tourism characteristic industries (2022)	91,6	Up
<i>Accessibility in tourism</i>		

% of accommodation establishments where the entire unit is wheelchair accessible (2022)	99,2	Up
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Five of the six social dimension indicators chosen present deterioration concerning 2019. Increased tourism density and intensity could imply further tensions between the residents who will experience further strain from tourism activities. Although the number of women employed with high qualification requirements has increased, this has not been the case for younger workers.

Table 5. Environmental dimension: metric description

	2023	Target
<i>Climate change mitigation</i>		
Air travel emissions intensity from departing flights (2022)	79,5	Down
Average domestic duration of stay	106,1	Up
Average international duration of stay	100,2	Up
% of tourist arrivals to destination by train	109,6	Up
<i>Water management</i>		
Expenditure on water by accommodation establishments (2021)	66,7	Down

Regarding the environment, all the indicators included have experienced improvements concerning 2019.

5. Conclusions

The tourism sustainability indicators will provide valuable information for stakeholders responsible for implementing sustainable tourism policies. For example, they will be of great value to aid policymakers in developing Catalonia's National Commitment for Responsible Tourism.

The methodological framework that will be available will certainly reduce the difficulties that subnational territories face when developing similar indicators. The project uses a bottom-up approach to obtain the indicators. The methodological document that will be published by the coordinators has already raised interest from other regions and communities who also wish to publish similar indicators. The framework developed will allow for comparable indicators between regions. The project is coherent with other frameworks such as the European Tourism Dashboard, UNWTO, etc.

Finally, it's important to emphasize that the project has been an excellent initiative for methodological cooperation and collaborative learning between subnational entities. Hopefully, the indicators obtained will inspire policy changes relating to sustainable tourism.

References

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