

Introduction to the Methodological Model for Monitoring the Sustainable Development of Coastal and Maritime Tourism

- **Purpose:** introduction to the logic, structure and purpose of the methodological model for the observatory of coastal and maritime tourism in the Mediterranean.
- **Objective:** understanding the transformation of the theoretical framework of sustainability into a practical measurement and policy support system.
- **Methodology:** analysis of the structure of the standard, monitoring indicators and the role of the observatory in decision-making.



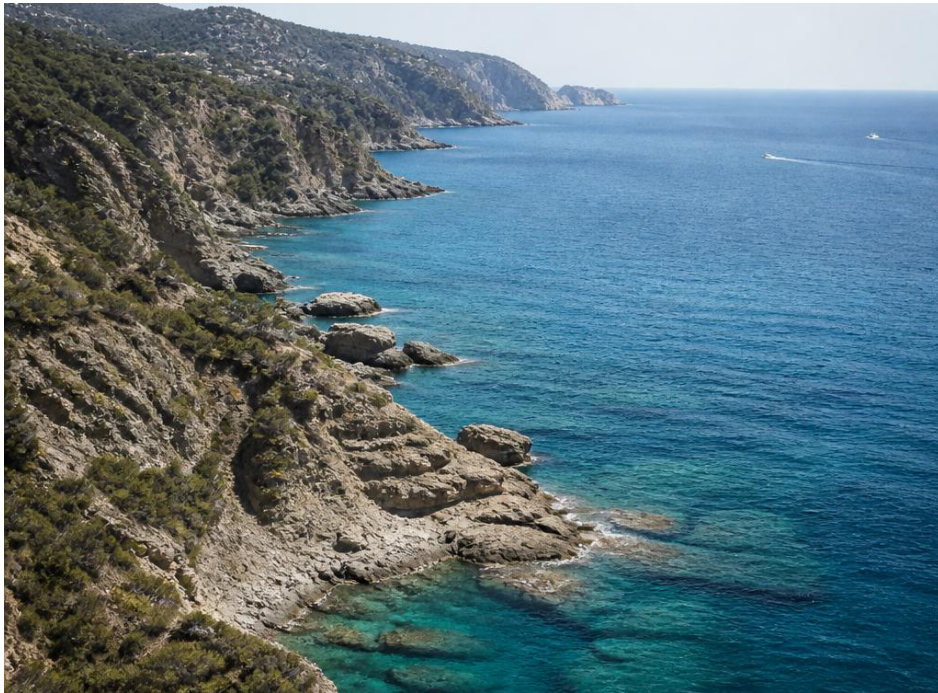
Unit 1: Introduction to the Methodological Model



The Project: Research and Monitoring Centre for Coastal and Maritime Tourism in the Eastern Mediterranean

Contracting Authority: Ministry of Tourism

The project is implemented by the Ministry of Tourism within the framework of the "Greece 2.0" program and aims to create an integrated monitoring system for the sustainable development of coastal and maritime tourism in the Mediterranean.



Strategic Necessity

- Need for reliable monitoring of coastal and maritime tourism
- Supporting informed decision-making
- Strengthening sustainable tourism development
- Alignment with international standards and European policies

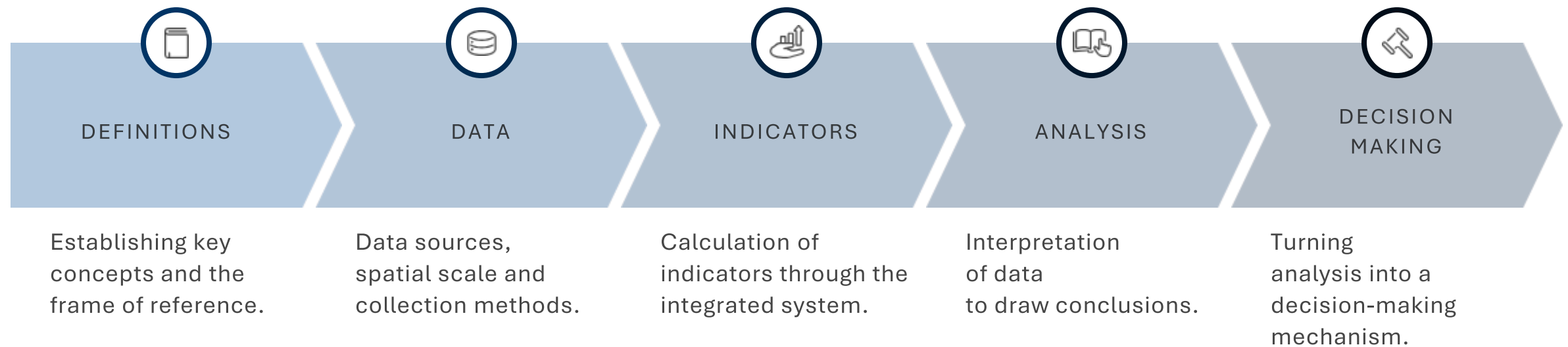
Basic Deliverables

- Methodological standard (system of sustainability indicators),
- Observatory digital platform and portal
- Data collection and processing manual
- User training and application support

The project creates the necessary methodological and digital infrastructures for the documented monitoring and sustainable management of coastal and marine destinations

What is the Methodological Model?

In modern tourism governance, decision-making cannot be based solely on experience or fragmented information. A systematic collection and analysis of data is required to allow an understanding of the trends, impacts and needs of each destination. The Methodological Model follows a logical sequence:



The methodological model acts as the bridge that transforms primary data into informed policy decisions.

What is the purpose of the Observatory?

Central pillar for the strategic management of tourism development



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Research & Monitoring Centre

Coastal & Maritime Tourism in the Eastern Mediterranean

About

Legal Framework

The Observatory for Coastal and Maritime Tourism in the Mediterranean has as its main purpose to support the systematic monitoring of tourism development.

Through the collection and processing of data, the Observatory can help the relevant bodies to understand:

- what is the intensity of tourist activity,
- what are the economic and social impacts,
- what environmental pressures are created,
- what governance and coordination issues arise;
- and what policy interventions are needed.

The Observatory does not only function as a recording mechanism. It functions as a documentation, evaluation and decision support tool.

International framework for monitoring sustainable tourism development

The development of the Methodological Model for the Coastal and Maritime Tourism Observatory was based on the systematic evaluation of international and European approaches to monitoring sustainable tourism development. The aim was to create a framework that is scientifically documented, operationally applicable and compatible with the standards used internationally to measure the economic, social and environmental impacts of tourism.



METHODOLOGICAL BASIS

Evaluation of international standards for the creation of an integrated measurement system.



PILLARS OF SUSTAINABILITY

Combination of economic, social, environmental and administrative data.



PRIMARY SOURCES & CONTEXT

Integration of MST (UN Tourism), ETIS (European Commission) standards and international observatories.

Objective: Ensuring comparability and harmonization at European and international level.



Measuring Sustainable Tourism (MST)

The MST is the international methodological framework developed by the United Nations World Tourism Organization (UN Tourism) with the aim of systematically measuring and monitoring the sustainability of tourism.

The core philosophy of MST is that tourism development should be assessed holistically, taking into account not only the economic benefits it produces, but also the social, cultural and environmental impacts it creates on destinations.

- **Innovative approach:** MST combines economic, social and environmental data into a single monitoring system, allowing the simultaneous assessment of different dimensions of sustainability and a better understanding of their interactions.
- **Emphasis on the spatial dimension:** MST recognizes that the impacts of tourism are not evenly distributed across a country or region. Instead, they manifest in specific geographic areas and destinations. For this reason MST seeks to analyze data at the level of destination, municipality, island, coastal zone or other spatial unit.
- **Emphasis on quality characteristics:** Traditionally, tourism was evaluated based on the number of visitors. MST shifts the emphasis to the quality of development, examining whether tourism activity creates long-term benefits without degrading natural resources, residents' quality of life, and the attractiveness of the destination itself.
- **Statistical reliability and comparability:** MST is based on internationally recognized statistical principles and methodologies. This means that the indicators are calculated in a clearly defined way, using common concepts, definitions and data collection procedures.

European Tourism Indicator System (ETIS)

ETIS is a tool for managing, monitoring and improving the sustainability of tourist destinations in Europe. It was developed by the European Commission with the aim of helping local, regional and national destination management bodies to measure, monitor and manage the performance of tourism in relation to the economic, social/cultural and environmental dimensions of sustainable development.

The system consists of 27 basic and 40 additional indicators, which are organized into four thematic pillars, according to the model of sustainable tourism development:



DESTINATION MANAGEMENT

It examines the strategy, the participation of residents and visitors in decision-making. It assesses the existence of tourism sustainability planning, consultation and certification mechanisms.



ECONOMIC VALUE

It includes indicators that capture tourism's contribution to the destination's sustainable economic development by monitoring visitor flows, business performance and employment quality.



SOCIAL IMPACTS

It examines the social and cultural consequences of tourism, focusing on community acceptance, accessibility, cultural protection and visitor safety.

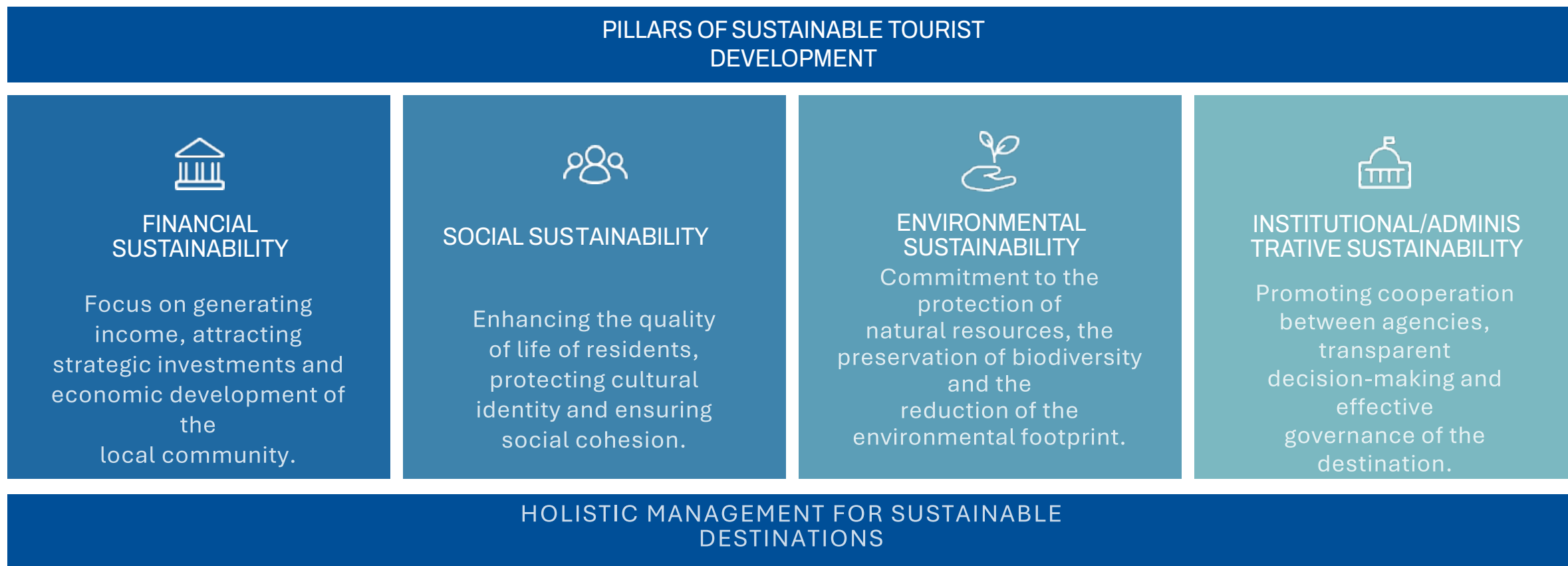


ENVIRONMENTAL PROTECTION

Assesses tourism's relationship with the natural environment, focusing on resource consumption, waste production and ecosystem protection

Sustainability and tourism: a multidimensional approach

The review of international standards and systems for monitoring sustainable tourism development revealed a common finding: the assessment of tourism cannot be based solely on economic figures or single indicators. Instead, a holistic approach is required that takes into account the economic, social, environmental and governance dimensions of development.



Definition of coastal areas and coastal zone

The precise demarcation of the coastal zone is a basic requirement for the measurement and monitoring of coastal and maritime tourism. However, in the international literature there is no single and universally accepted definition of the coastal zone.

Different scientific and institutional approaches define the coastal zone either as a natural space of land and sea interaction, or as a geomorphological unit, or as a functional space for the development of human activities.

Although these approaches are particularly useful for environmental and scientific analyses, they do not always provide a clear and comparable basis for statistical monitoring and data collection.



In order to be able to systematically measure tourism, a clear and operationally applicable spatial definition is required.

The spatial basis of the Methodological Model for coastal areas

For statistical analysis and policy-making purposes, the European Commission and EUROSTAT have adopted an administrative definition of coastal areas, based on local administrative units (LAU) and regions (NUTS).

According to this definition, as coastal areas are considered the municipalities that:

- directly bordering the coastline or
- have at least 50% of their area within 10 kilometers of the coastline.

Based on the evaluation of available international approaches, the Methodological Model adopts EUROSTAT's administrative definition as the official spatial basis of application. This choice was made because:

- supports comparability across countries and regions and
- facilitates connection to existing statistical databases.

A coastal municipality in Greece and a corresponding municipality in Croatia can be compared to each other because they use the same spatial typology.

Definition of coastal and maritime tourism

International literature and World Tourism Organization texts distinguish coastal from maritime tourism, as they refer to different types of activities and infrastructure.

Coastal Tourism*



Coastal tourism for the purposes of this project is defined as tourism that includes tourism activities that take place on land, such as swimming, surfing, sunbathing and other coastal leisure, entertainment and sports activities that take place on the shores of the sea.

Proximity to the coast is a prerequisite for services and facilities that support coastal tourism.

Sea Tourism**



The set of organized tourist services and leisure and entertainment activities provided in the marine area and the shores of the tourist destination.

Maritime tourism is distinguished in particular into cruise tourism, yachting tourism, marine and coastal leisure activities, diving leisure tourism

* Descriptive approach adopted in the WTO texts

**L.4582/2018 (Official Gazette A 208/11-12-2018)

Main forms of maritime tourism in the Methodological Model

According to the Greek institutional framework (L.4582/2018), maritime tourism includes a set of organized leisure and entertainment activities that take place at sea or are directly connected to it. For the needs of the Methodological Model, special importance is given to four basic forms of maritime tourism:

Cruise Tourism: Refers to organized sea pleasure trips with cruise ships and scheduled stops in ports of different destinations. Passengers are able to participate in excursions, cultural activities, culinary experiences and other forms of local consumption. Cruising generates significant economic benefits, but at the same time increases demands on port infrastructure and visitor services.

yachting Tourism: Includes recreation and tourist travel with sailing and motorized pleasure boats. This activity is directly linked to tourist ports, tourist shelters and port facilities. yachting contributes significantly to the local economy through berthing services, boat maintenance, catering and hospitality for crew and visitors.

Diving Tourism: Refers to organized recreational activities related to autonomous or free diving. These activities are linked to the exploration of the marine environment, underwater landscapes, shipwrecks and protected areas.

Beach Tourism: Includes activities that develop both in the sea and in the coastal area. Examples include swimming, water games, water skiing, windsurfing, parasailing, etc.



Classification of Coastal and Maritime Tourism Activities

Activity	Coastal	Maritime	Conservative estimate	Methodological Assumption
Accommodations (55)	✓		85%	Includes staff and long stays
Focus (56)	✓		50%	Part of the consumption comes from permanent residents and workers
Support ground transport (49.39)	✓		40%	It includes movements of residents and workers.
Travel agencies (79.11,79.12)	✓	✓	80%	The core of the activity is tourism
Sea transport of passengers (50.10,50.30)		✓	50%	It includes movements of residents and workers.
Tourist ports (52.22)		✓	80%	They mainly support tourism
Chartering of vessels (77.21)		✓	90%	Mainly tourist activity
Marine & coastal leisure activities (93.11,93.19,93.29)	✓	✓	70%	Both visitors and residents participate.

- The KAD are not fully identified with the tourism activity and may serve both visitors and permanent residents.
- Coastal Tourism: Includes activities related to accommodation, catering, travel and recreation in the coastal area.
- Maritime Tourism: Includes activities that require the use of marine means, infrastructure or services.
- Joint activities: Some NACE codes are included in both categories because they serve both coastal and maritime tourism (eg agencies, leisure activities).

The coefficients reflect a conservative estimate of the participation of each activity in the tourism economy. The aim is to avoid overestimating the contribution of tourism to sectors that simultaneously serve visitors, residents and other economic activities.

Structure of the indicator system

The indicator system is the basic mechanism through which the available data is transformed into useful information for decision-making. Through the systematic collection, processing and evaluation of data, it becomes possible to monitor developments, evaluate the impact of tourism and provide evidence-based support for policies and interventions.

The indicators are organized into four main thematic sections and individual sub-thematic categories, linked to the sustainable development of coastal and maritime destinations.



- **Economic** Dimension: Monitors tourist flows, employment, business activity and the contribution of tourism to the local economy.
- **Social & Cultural Dimension:** It evaluates the quality of life of the residents, social acceptance of tourism, cultural heritage and accessibility.
- **Environmental** Dimension: Measures consumption of natural resources, environmental pressures, ecosystem protection and resilience to climate change.
- **Governance:** Considers strategic planning, stakeholder engagement, agency collaboration and implementation of sustainable tourism policies.

The four themes are complementary and provide a comprehensive picture of the sustainability of a coastal or maritime destination

Corfu Consultation – Key Conclusions

Main Challenges

- Cruise: High flows of day visitors and need for better management.
- Carrying Capacity: Pressure on the Old Town and main points of interest.
- Cultural Identity: Protection of authenticity and cultural heritage.
- Quality of Life: Impacts on traffic, housing and public services.
- Governance: Need to enhance cooperation of the agencies involved.

Consultation Results: Emergence of new topics that were not sufficiently covered by the original framework such as:

- Enhance cruise tracking
- Introduction of indicators for maritime tourism (yachting)
- Traffic pressure and congestion monitoring
- Health infrastructure adequacy assessment
- Measuring the return of tourism to the local community



Participating Bodies: OLKE, Corfu Chamber, hotel and professional bodies, Region of the Ionian Islands, Port Authority and Police, Representatives of local society and businesses.

Rhodes Consultation – Key Conclusions

Main Challenges

- Seasonality: High concentration of tourist activity in the summer months
- Infrastructure: Water pressure, waste and transport
- Bearing Capacity: Increased pressures in popular areas and beaches
- Cruise & Maritime Tourism: Need to better monitor flows
- Governance: Need to enhance cooperation of the agencies involved.

Consultation Results:

- Monitoring destination carrying capacity
- Enhancement of natural resource management indicators
- Cruise and maritime tourism monitoring
- Indicators of seasonality and tourist intensity
- Indicators of quality of life of residents
- Improving data collection mechanisms

Participating Bodies: Municipality of Rhodes, South Aegean Region, Dodecanese Chamber, tourist agencies, businesses and representatives of the local community.

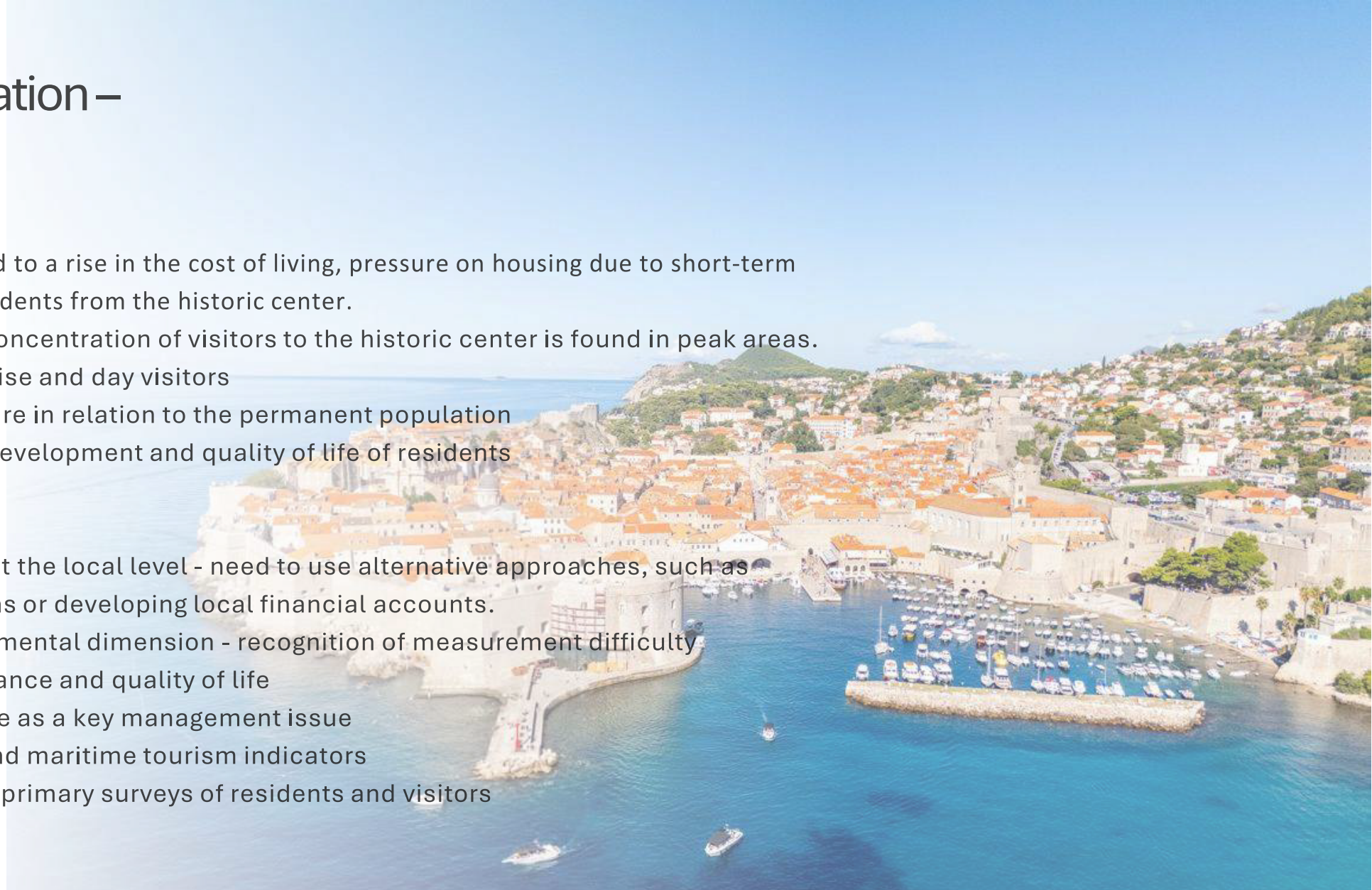
Dubrovnik Consultation – Key Conclusions

Main Challenges

- Tourism development has led to a rise in the cost of living, pressure on housing due to short-term rentals and an exodus of residents from the historic center.
- Strong seasonality - A high concentration of visitors to the historic center is found in peak areas.
- Managing the impact of cruise and day visitors
- Monitoring of tourist pressure in relation to the permanent population
- Balance between tourism development and quality of life of residents

Consultation Results:

- Difficulty calculating GDP at the local level - need to use alternative approaches, such as leveraging bank transactions or developing local financial accounts.
- High priority on the environmental dimension - recognition of measurement difficulty
- Emphasis on social acceptance and quality of life
- Highlighting tourist pressure as a key management issue
- Strong support for cruise and maritime tourism indicators
- Recognition of the need for primary surveys of residents and visitors



Participating Bodies: Public bodies, tourist and professional organizations, academic institutions, environmental organizations and representatives of local society.

Horizontal Conclusions of the Consultation

Main directions that emerged from the consultation process and influenced the formulation of the final indicator system:



DATA AVAILABILITY

Priority was given to indicators that can be supported by systematic, repeatable, ensuring longitudinal monitoring and comparability between destinations.



STRATEGIC INDICATORS

Integration of individual variables into fewer but more complex and operationally useful indicators, with the aim of more effectively supporting decision-making.



TOURIST FLOWS AND PRESSURES

Enhancing the ability to capture the intensity of tourism activity and the pressures exerted on destinations, through improved indicators of tourist flows.



SEA TOURISM

Development of a distinct monitoring framework for cruising, yachting and other forms of maritime tourism, taking into account their specific characteristics and impacts.



SOCIAL DIMENSION

Strengthening the role of primary research to monitor the social acceptance of tourism, the quality of life of residents and the experience of visitors.



CLASSIFICATION OF INDICATORS

Adopting a Tier 1–Tier 3 ranking system, which is based on the availability of data, and the operational readiness to implement the indicators.

Economic Dimension: Monitoring Subtopics

The economic dimension is not uniform for coastal and maritime tourism; it adapts to the type of activity, the available data sources and the different economic impacts of each form of tourism.



COASTAL
TOURISM

Tourist flows

It measures the intensity and seasonality of tourism demand.

Examples: dependence on tourist visitors, average length of stay, seasonality.

Local added value and employment

It examines the contribution of tourism to employment and the local economy.

Examples: tourism employment, average age of employees, % full time.

Tourism business performance

It evaluates the economic performance of businesses and basic tourism infrastructure.

Examples: economic performance of tourism, revenue per night.

Investments in sustainable infrastructure

Monitors the destination's investments and growth dynamics.

Examples: public and private investment, business dynamics.

SEA
TOURISM

Tourist flows

It focuses on streams related to cruising, yachting and water activities.

Examples: cruise passengers, charter guests

Local added value and employment

It measures the contribution of maritime tourism to employment and income.

Examples: employed in maritime tourism KAD, seasonality of employment.

Performance of cruise and tourist ports

It evaluates the financial performance of ports, cruise and tourist ports.

Examples: revenue per visitor, port revenue, tourist port occupancy.

Investments in sustainable infrastructure

It monitors investments that enhance the sustainable development of maritime tourism.

Examples: investments in ports and tourist ports, diving spots.

Social & Cultural Dimension – Monitoring Subtopics

The social and cultural dimension examines how tourism development affects the daily lives of residents, social cohesion, cultural identity and the visitor experience.



COASTAL
TOURISM

Social acceptance and quality of life

It evaluates the way in which tourism affects the daily life and the quality of life of the inhabitants.

Examples: Resident satisfaction, tourist pressure.

Cultural heritage and local identity

It examines the contribution of tourism to the protection and promotion of cultural heritage.

Examples: Cultural venues, local events.

Accessibility and social inclusion

It evaluates equal access to tourism infrastructure and services.

Examples: Accessibility of tourism businesses for people with disabilities.

Education and training of human resources

Monitors skill development and continuous training of employees.

Examples: Training programs, certifications, participation in trainings.

Safety and public health

It assesses the adequacy of infrastructure and services to protect residents and visitors.

Examples: Lifeguard cover.

SEA TOURISM

The sub-themes are common for Coastal and Maritime Tourism. The differences are mainly found in the individual indicators and in the data sources used for each form of tourism (e.g. Subthematic: Safety and public health, in maritime tourism the indicators are specialized in port and marina security, management of emergencies on boats and passengers.

Environmental Dimension: Monitoring Subthemes

In coastal tourism, the state of ecosystems and biodiversity is monitored separately, while in maritime tourism the emphasis is mainly on environmental pressures and the management of the impacts of tourism activities at sea.



COASTAL
TOURISM

Natural resource management

It assesses the consumption and efficient use of natural resources affected by tourism activity.

Examples: Water consumption, energy consumption, RES use.

Waste and pollution management

Monitors environmental pressures resulting from waste generation and pollution.

Examples: Municipal waste, recycling, sewage management.

Ecosystems and biodiversity

It assesses the status and protection of natural ecosystems and biodiversity.

Examples: Natura 2000 protected areas, coastal habitats.

Environmental responsibility of businesses and visitors

It examines the degree to which sustainable practices are implemented by businesses and visitors.

Examples: Environmental certifications, environmental awareness.

SEA TOURISM

Natural resource management

It assesses the use of natural resources in maritime tourism activities.

Examples: Water and energy consumption in tourist ports and port facilities.

Waste and pollution management

Monitors pressures arising from pleasure craft, cruising and port activities.

Examples: Ship waste, sewage, marine litter.

Environmental responsibility of businesses and visitors

It evaluates the application of sustainable management practices in maritime tourism.

Examples: Environmental certifications of marinas.

Governance: Monitoring Subtopics

The governance dimension examines how sustainable tourism development is planned, coordinated and monitored, as well as the degree of cooperation between the actors involved.



Institutional and strategic framework

It assesses the existence of policies, strategic plans and monitoring mechanisms that support the sustainable development of tourism.

Examples: Sustainable tourism strategy, spatial planning and land uses, implementation of sustainable development policies



Participation, communication, visibility and collaborations

It looks at the participation of stakeholders, information and awareness of visitors and businesses, as well as the promotion of the destination as a sustainable tourism destination.

Examples: Engaging stakeholders in consultations, informing visitors about sustainability actions

The sub-themes are common for Coastal and Maritime Tourism. The differences are found mainly in the agencies involved and the data sources used.

- Coastal Tourism: Municipalities, Regions, destination management agencies, tourism businesses.
- Maritime Tourism: Port authorities, tourist ports, cruise operators, managers of maritime activities.

From data to decision making

Indicators transform data into information that can be interpreted, compared and used to design policies and interventions.

Data (Measurements): Tracking a destination starts with collecting data, such as visitors, employees, businesses or resource consumption.

Indicators: Data is processed and converted into information that allows understanding trends, comparing and evaluating a destination's performance.

Decisions and Policies: Indicator results support action planning, priority setting and informed decision-making.

Example:

Indicator: Percentage of workers aged 18–29 in tourism

Result: 12%

Interpretation: Limited participation of young people in the industry and possible shortages in human resources.

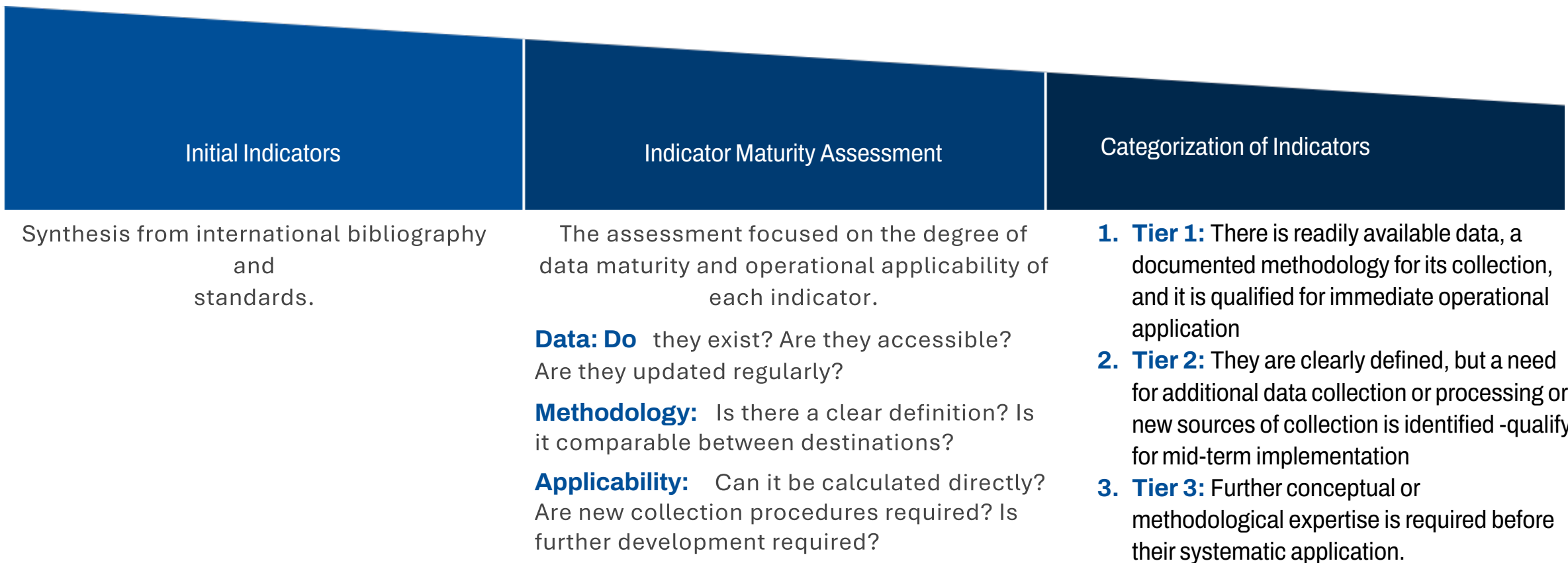
Opportunities for exploitation: Designing training programs, strengthening youth employment and connecting education with the needs of the tourism market.



Measurements record what is happening. Indicators help us understand what it means and how we can act.

Classification and Selection of Indicators

After gathering the initial indicators, a systematic evaluation and revision of their ranking system was carried out. The process highlighted the need to move from a categorization based primarily on the relative importance of indicators to a system that captures the degree of data maturity and operational readiness to apply it.



Tier 1, Tier 2 and Tier 3 classification supports the planning of data collection activities and the gradual development of the Observatory.