















XVII International WoodEMA 2024 Scientific Conference

GREEN DEAL INITIATIVES, SUSTAINABLE MANAGEMENT, MARKET DEMANDS, AND NEW PRODUCTION PERSPECTIVES IN THE FORESTRY-BASED SECTOR

Sofia, 15-17 May 2024

Title of the paper: DEVELOPMENT OF A COMPREHENSIVE INDICATOR SYSTEM FOR MONITORING SUSTAINABLE TOURISM IN FORESTRY-BASED ENVIRONMENTS Name of the author(s): Sonia Mileva, Mariana Assenova, Vasil Marinov, Radenka Mitova, Elena Petkova, Borislav Grigorov, Emil Petrov, Leonid Todorov Affiliation: Sofia University "St. Kliment Ohridski"















The Importance of Monitoring Sustainable Forest-Based Tourism

- Forests play a vital role in human well-being by providing essential ecosystem services, cultural significance, and recreational opportunities.
- Sustainable management of forests necessitates balancing multifunctional use with protection efforts.
- A scarcity of literature exists on indicators for monitoring sustainable forest tourism development.
- Existing systems often lack the capacity to assess environmental sustainability in this context.
- This research aims to develop a concept for a comprehensive indicator system for monitoring sustainable tourism in forestry-based environments.





Research Methods













Research Method

Defining the scope, specificities, impacts, and monitoring of tourism in forest-based - environments.

Identifying indicators to monitor sustainability aspects relevant to forest-based environments.

Developing a conceptual model for a comprehensive indicator system for monitoring sustainable tourism in forestrybased environments.

- Detailed Literature review on forest-based tourism, sustainability monitoring, and existing indicator systems is conducted.
- Two sets of keywords are used to identify relevant publications: "tourism development indicators monitoring" and "indicator monitoring sustainable forest tourism"

















Forest-Based Tourism – Scope, Specifics, Impacts, and Monitoring

- Forest-based tourism encompasses a wide range of recreational activities.
- Forests are fundamental for forest-based tourism as they serve as the primary resource and attraction.
- Forest-based tourism often occurs in rural, mountainous areas and protected zones.

















Indicators for Monitoring Sustainable Forest-Based Tourism

- Socio-economic indicators
- Environmental Indicators

















Socio-economic indicators

Reflect social needs and economic benefits for various stakeholders.

Examples include:

- Visitor and local population demographics and satisfaction
- Tourism supply (availability, quality of enterprises, services, etc.)
- Employment and qualifications of tourism staff
- Information provided to visitors
- Revenues, costs, and investments

















Environmental Indicators

Assess the impact of tourism on the natural environment.

- Examples include:
 - Air and noise pollution, energy consumption, and waste management
 - Terrain preservation and soil quality
 - Biodiversity conservation
 - Deforestation/reforestation caused by tourism development
 - Forest health and impact of tourism activities
 - Trail degradation and erosion

















Data Collection for Monitoring Indicators

- Various data sources are used to monitor indicators.
- Sources include:
 - Statistical data and studies
 - Online data and administrative data
 - Data collected at tourism sites
 - Primary data from surveys
 - Social media and GIS data
 - Unmanned aerial vehicles (UAVs)

















Information System for Monitoring

The information system considers

- Objectives of monitoring
- Selected indicators
- Cost

Data sources can include

- Secondary data
- Primary data
- Social media, GIS data, and UAVs
- Stakeholder information









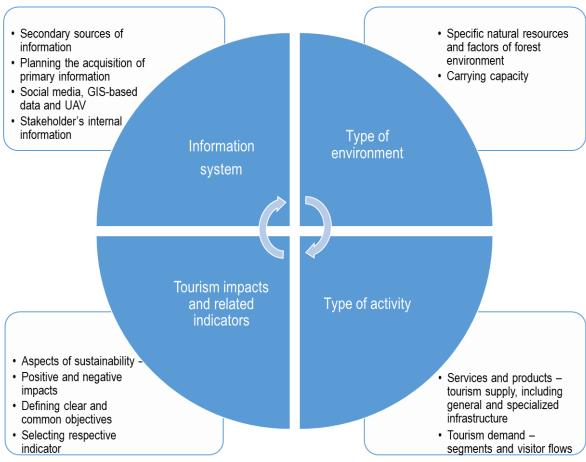






Concept for a comprehensive indicator system for monitoring sustainable tourism in forestry-based

environments



















Indicator system

- Integrates knowledge of forest-based tourism and indicator systems for sustainable tourism monitoring.
- A step-by-step, systematic process.
- Environmental specificities of each forest destination.
- Defining Objectives and Measurements
- Resident Involvement
- Selection of specific indicators
- Tailoring the System Customization for each destination.

















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Thank you for attention. Questions?

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