

Measuring the Climate and Environmental Impacts of Sustainable Tourism Development: The Case of Latvia

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Abstract – Climate and environmental change is a growing theme in the post-Covid-19 era of continued tourism growth. Tourism is a serious polluter of the environment and a rapid response to climate change is needed. Latvia, like the EU, is looking for ways to balance the economic, social and environmental impacts of the SDGs of the 2030 Agenda, which is not possible without scientific research. The selection of methods for assessing the climate and environmental impacts of sustainable tourism development is the basis for this. The study adopts a mixed methods approach, combining qualitative methods (content analysis, review of existing research) with quantitative methods. A multi-criteria decision-making method, the Analytic Hierarchy Process (AHP) with empirical analysis of the resulting weights, was used to select the evaluation methods. The bibliographic and citation database Scopus, a multidisciplinary database of scientific publications, was used to find the most popular methods for assessing the climate and environmental impacts of sustainable tourism development (ISTD), and to select and identify methods for assessing the climate and environmental impacts of tourism development in the interests of tourists, local residents, regions and the country. In real circumstances, the choice of method should be based on geographical typology, territorial dimension and sufficient indicators of tourism sustainability. The authors recommend that the choice of methods for assessing the climate and environmental impacts of sustainable tourism development should be tested with a larger number of experts and that the Sustainable Tourism Development Indicators methodology (SusTour-Index) should be used.

Keywords – AHP method; choice of method for assessing.

1. INTRODUCTION

The United Nations World Tourism Organization (UNWTO) defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” [1].

According to the data and the scientific insights of the World Travel and Tourism Council [2], tourism contributes to economy, resulting in increased gross domestic product

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(GDP), employment opportunities and living standards. It may boost the balance of trade and tax revenues, and it encourages entrepreneurship [3]–[5].

Domestic and international tourism emissions account for 8–11 % of global carbon emissions. In addition to these direct emissions, tourism development can cause indirect CO₂ emissions by degrading the ecosystems that act as carbon sinks [6], [7]. The tourism sector is experiencing a recovery from the impacts of the Covid-19 pandemic. For example, the number of nights spent in tourist accommodation in the EU in the first half of 2023 reached its highest level in a decade, indicating a significant recovery in the sector's performance in many countries. Compared to 2020, 718 million more overnight stays were recorded in 2023, while compared to 2021, even 786 million more overnight stays were recorded [8]. The COVID-19 pandemic has led to temporary improvements in environmental parameters such as global warming and pollution, due to reduced travel and tourism activity [9].

The recovery process of the Covid-19 pandemic has led the tourism industry to rethink and respond to the urgent needs of the climate crisis. The The United Nations (UN) Sustainable Development Goals (SDGs) were set. Within the 2030 Agenda for Sustainable Development UN the need to rethink current economic growth in the context of social and environmental needs was pointed out [10]. Sustainable development has three fundamental pillars known as the triple bottom line (TBL) with their respective roles. The triple bottom line approach (TBL) is a comprehensive approach to achieving sustainability. Many scholars have pointed to the shortcomings and limitations of tourism sustainability and growth, which raise many questions about balancing economic, social and environmental impacts. From a sustainability point of view, three types of tourism should be distinguished: traditional tourism, sustainable tourism and sustainable impact tourism [11]. Unfortunately, methods for assessing the climate and environmental impacts of tourism development are difficult to apply in different contexts, especially in the absence of assessment indicators [12]–[20]. Although several sustainability indicator frameworks, systems and mechanisms have been developed at international level, e.g., the UNWTO indicators for destinations [21], European Tourism Indicators System (ETIS) [22], the Organisation for Economic Co-operation and Development (ESAO) indicators for competitiveness [23], the Global Sustainable Tourism Council (GSTC) criteria for hotels and tour operators [24].

Moreover, the economic, social and environmental situation is located in a specific spatial scale and territorial dimension (geographical context (coast, mountain, cities, rural areas)), while geospatial diversity makes analysis across different areas a complex task. Eurostat extended the range of statistics in territorial typologies: grid, local and regional typologies. Grid typologies are a powerful tool for describing the spatial distribution of populations in order to analyse socio-economic phenomena that are independent of administrative boundaries. The local typologies were based on local administrative unit statistics, which usually include local administrative units (LAUs). Regional typologies: statistics grouped according to the classification of statistical territorial units (NUTS); they provide information at a relatively aggregated level of detail, giving data for NUTS level 1, 2 and 3 regions. NUTS level 3 statistics are used as building blocks to create an urban-rural typology or coastal typology (coastal and non-coastal regions) [25].

The development and application of tourism sustainability indicators has focused on the supranational, national, regional, but less on the NUTS 3 and local scales [26]–[28]. Unfortunately, it is in the latter that there is a paucity of data, including standardised data, which hinders the measurement of the climate and environmental impacts of sustainable tourism development (ISTD) [29]. The authors add that there is a lack of both data and research in this area in Latvia.

Latvia, which belongs to the NUTS 3 classification [25], similarly to the European Union (EU), is experiencing an increase in the number of tourists. This is evidenced by data from the Central Statistical Bureau of the Republic of Latvia: in 2023, total overnight stays were 7.029 million, which is 17.6 % more than in 2019 before the pandemic, although the 2017 level has not yet been reached [30].

This means that Latvia, like the EU, must seek ways to achieve the SDGs of the 2030 Agenda by balancing economic, social and environmental impacts, as set out by the UN. Sustainable tourism has several key benefits: it promotes the involvement and development of local communities, creating economic opportunities and preserving cultural identity; it contributes to environmental preservation by promoting, the protection of valuable ecosystems [31]–[33].

This awareness makes it necessary to appreciate the opportunities for local people, tourists and businesses to engage in sustainable tourism and, consequently, in reducing climate impacts, for their own, regional and national benefit. Therefore, assessing the ISTD on the climate and environment is crucial for promoting global sustainability and mitigating climate change [34]–[37]. The aim of this paper is to select methods for assessing the ISTD on climate and environment in Latvia for the benefit of local residents, tourists, businesses, regions and the country.

This study may have some limitations, such as the number of experts, also methodologies of sustainable tourism composite indicators (SusTour-Index) are not addressed.

2. METHODOLOGY

To achieve the objectives, this research adopts a mixed methods approach, combining qualitative methods (content analysis, review of existing research) with quantitative methods (Fig. 1). A mixed methods approach has many advantages, including richer, more consistent results and a holistic integration of findings to capture the phenomenon under study. Combining methods facilitates the integration of different types of data into a single discussion of results and a more holistic understanding of their impact [37]–[39].

The authors follow Koseoglu *et al.* authors' prescription stating that through a systematic literature review one can synthesize the broad views of the issue under discussion, i.e., summarize the available empirical evidence that meets predefined eligibility criteria for a given research question, and then conduct a transparent assessment of these publications to draw reliable conclusions [40].

The number of the most popular ISTD evaluation methods was found in the bibliographic and citation database of multidisciplinary scientific publications Scopus. Evaluation methods for “carbon footprint,” “value chains,” “environmental impact assessment,” “input-output” were selected and the number of studies was queried in the Scopus database with these and the keywords “impact” AND “sustainable” AND “development” AND “tourism.” The search was limited to document types “article” and “conference paper.”

In the literature review, the authors first selected and analysed the most popular methods for assessing ISTDs on climate and the environment, which were carried out according to the sequence in Fig. 1 Phase 1. In Phase 2, the literature review was carried out to select from the multi-criteria decision-making methods (MCDM) the method that could be a valid decision-making method for assessing ISTDs impact on climate and the environment. In Phase 3, with the participation of experts, the most appropriate assessment methods for evaluating the

climate and environmental impacts of ISTD in Latvia were identified for the benefit of local residents, tourists, businesses, regions and the country.

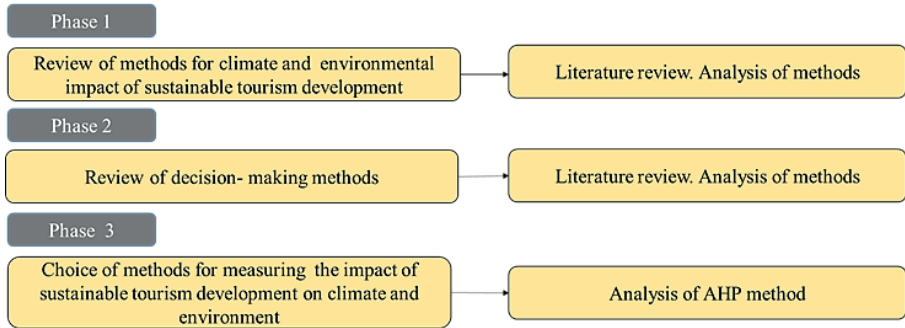


Fig. 1. Methodology.

Analytic Hierarchy Process (AHP), a multi-criteria decision-making method, was selected based on data from the Scopus database. The frequencies of application of AHP and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) methods for sustainable tourism related articles and conference proceedings were investigated using the keywords “impact” AND “sustainable” AND “development” AND “tourism.”

Five experts from higher education institutions were selected on the basis of experience and scientific qualifications (i.e., Scopus h-index, Web h-index). The experts using the AHP, compare the problem parts in pairs and assess the degree of intensity of interaction of their elements in the hierarchy.

Users determine the relative importance of the criteria using a relationship importance classifier, which is based on a nine-point scale of relative importance and contains a transcript of each point on the scale. The higher the weight, the more important the corresponding criterion [41].

Pairwise matrix has been measured in nine point judiciary scale as; 1 = equal, 3 = moderate, 5 = strong, 7 = very strong and 9 = extreme strong relation. Intermediate values are lies as 2, 4, 6 and 8. The reversal scale has been valued from 1 to 1/9. The consistency ratio is defined [42] as:

$$SA = \frac{SI}{RI}, \tag{1}$$

where

SA is consistency ratio;

RI represent random number;

SI represent consistency ratio is expressed by

$$SI = \frac{(\lambda_{\max} - n)}{(n - 1)}, \tag{2}$$

where

λ_{\max} is Eigen value;

n is element of alternative.

The authors use a four-level hierarchy scheme (Fig. 2) [42]–[44], where level 1 (M), is the objective of the work - to find the most suitable alternative (A), which can be done by pairwise evaluation, level 2 (criteria groups KG), level 3 (criteria within criteria groups KKgr) and level 4 elements.

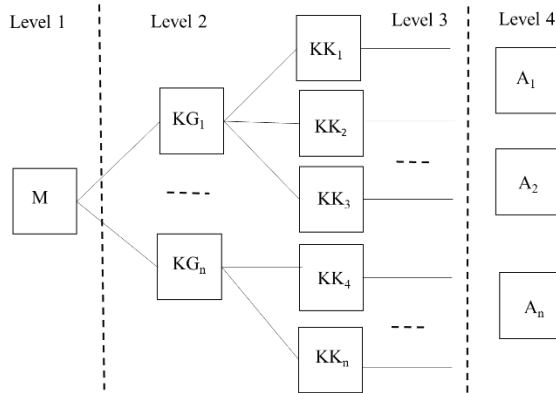


Fig. 2. Hierarchy of the 4-level criteria for the evaluation of alternatives in a general way according to the principles of the AHP method [42], [43].

The selection of the KGs and alternatives was based on the theoretical part of the study, identifying groups of criteria relevant to the aim of the study. KK is the interest of the related groups in the use of the method. Alternatives (A) were selected by conducting research on evaluation modules used in tourism, while they were selected by assessing the theoretical basis and the views of the experts interviewed on what should be a more appropriate evaluation method. After completing the hierarchy matrices, the weight of the criteria is calculated for each element of the hierarchy, indicating their importance in relation to each of the higher-level criteria [43], [44].

Based on the Random Index matrices, compiled by the author of the AHP, T. Saaty, where the table gives the mean consistency scores (MS) for different probability matrices of different sizes, from which the mean of the consistency index (SI) can be calculated to obtain the consistency ratio (SA). The SA should be less than 10 % or 0.10, in very limited cases it could be 0.20. If the SA falls outside these limits, then the experts should either revise their judgements or revise the task [42], [44]. Finally, the weighted averaging operator is used to calculate the final priorities of all alternatives to the overall objective, and the alternative with the highest final priority is determined as the best alternative.

3. RESULTS

3.1. Review of Methods for Assessing the Impact of Sustainable Tourism Development on Climate and Environment

A total of 682 (1989–2024) of the studies with the keywords “impact” AND “sustainable” AND “tourism” AND “development” document type as article and conference paper were found in Scopus. Adding method keywords to these: “carbon footprint” – 13 (2011–2024); “value chains” – 3 (2007–2024); “environmental impact assessment” – 87 (1989–2024); “input-output” – 2

(2020) and “risk and vulnerability assessment” only one (2017). The number of studies found with the AHP method is 3 (2022–2023), while the TOPSIS method found no studies using the key word “impact,” while omitting it yielded 19 studies (2012–2024).

Thus, the following methods were used to measure ISTD on climate and environment: *carbon footprint*; *value chains*; *environmental impact assessment*; *input-output analysis method*.

- *Carbon footprint (CF)*: a method used to measure and offset carbon emissions from tourism activities through sustainable practices or carbon credits. CF footprinting is a process to assess the environmental impact of different activities, such as transport, industries and events, by measuring their CO₂ emissions. Carbon offsetting, on the other hand, involves taking actions to reduce or offset these emissions, often through the use of renewable energy sources or carbon capture technologies. Various standards are available for calculating CF, such as the Green House Gas Protocol and ISO 14064. These guidelines help organisations and individuals to measure and report the environmental impact of their activities in terms of greenhouse gas emissions [35]–[36]. Some EU countries have introduced carbon taxes to reduce carbon emissions [45], while 19 EU countries have introduced carbon offsets [offsetting] [46]. Scientists highlight that CF in tourism is the topic that has received the most attention in the field of tourism footprint research [47].
- *Value chains (VC)*: the method is a form of CF. A low carbon supply chain is practically implemented to achieve carbon reduction and neutralisation, i.e., it transforms supply chain management into a green economy with the aim of reducing energy consumption, reducing pollution and achieving sustainable development in all parts of the supply chain. To calculate the CO₂ footprint of tourism products, a Life Cycle Analysis (LCA) should be carried out, calculating emissions at all stages according to the Greenhouse Gas Protocol. GHG emissions are calculated on the basis of the total sum of GHG emissions generated directly or indirectly by the company throughout its activities. In the context of sustainability, it is increasingly emphasised that one cannot measure only a company's own impacts or direct emissions. Indirect emissions resulting from downstream processes outside the company's operations or product manufacturing processes must also be taken into account. Suppliers of raw materials, e.g., those involved in the extraction, production and transport of raw materials, should be considered accordingly. Emissions from services received by the company, such as electricity, heat and transport services, should also be considered. Finally, the emissions from the product or service during its use and at the end of the product's life cycle, i.e., the waste management stage, should also be considered. By introducing low-carbon supply chains in tourism, carbon standards can be met, market competitiveness can be achieved [48], environmental friendliness can be achieved [49] and social well-being can be enhanced [50]. Supply chain network design mainly includes four policies: carbon capping, carbon offsetting, cap-and-trade and carbon tax [51]. LCA is an international standardised methodology (ISO 14040:2006; ISO 14044:2006), which is the best tool for assessing circular cycle impact on environment and products assessed by the European Commission (EC) (2003) [52].
- *Environmental impact assessment (EIA)*. EIA has become an important tool for sustainable environmental development and has been widely used in different fields especially in the field of environmental impacts of tourism activities, as well as the social, economic and environmental impacts of tourism [53]–[55]. EIA is necessary for the tourism sector: 1) for the construction of ski slopes, ski lifts and related activities; 2) for the construction of marinas for yachts and other small craft, if more than 5 small craft are to be accommodated at the same time; 3) construction of hotels, guest houses or hotel complexes outside settlements and related buildings, if they can accommodate more than 25 persons at a time

or if they are located in a specially protected nature area; 4) construction of permanent campsites, if they can accommodate more than 25 persons at a time or if they are located in a specially protected nature area; 5) creation of theme parks [56]. The EIA is a systematic process that examines the environmental impacts of development activities (on people, fauna and flora, soil, water, air, climate, landscape, physical assets and cultural heritage, and the interactions between these factors). Compared to other environmental protection mechanisms, EIA is a preventive action. Traditionally, environmental impact assessment has been required in planning, but not always in the systematic, holistic and multi-disciplinary way that EIA requires. EIA extends the scope from projects to policies, plans and programmes. The assessment of the environmental impact of programmes is called strategic assessment, which is broader and more general in nature than the environmental impact assessment of an individual project [57]. The EIA includes an administrative procedure, to be carried out in accordance with the procedures laid down by law, for assessing the likely environmental effects of the implementation of a project or programme and for making proposals for avoiding or minimising adverse effects. The purpose of an EIA is to provide the final decision-maker with information, so that a decision on acceptance may be taken only after an EIA has been carried out. The project implementation may only start after positive decision [58].

- *The input-output (IO) analysis method* was first introduced by Leontief [59] and is a quantitative method that represents the relationship between different sectors of an economy or regional economies. The model consists of creating a matrix between producers and consumers, as well as the interdependencies between sectors over a given time period (year), thus representing the technical relationship between the level of output and the amount of investment required, as well as the balancing of supply and demand for each good or service. The relatively simple matrix calculations provide so-called multipliers to show the intensity of the interaction by assessing how demand, labour income and employment change. The input-output model thus allows the direct, indirect and induced effects of tourism activity in a given region to be estimated. It should be noted here that the model is based on assumptions of linearity between the inputs and outputs of different sectors, and between outputs and final demand. Moreover, all firms in a given sector are assumed to use the same production technology [60], [61]. Environmentally extended input-output (EEIO) models have emerged as a new macro-level approach to compiling tourism carbon footprint inventories. EEIO models can help to address several aspects of tourism carbon management, e.g., to identify data differences due to subjective boundaries of carbon footprint systems when measuring the climate impacts of tourism has produced conflicting results compared to other methods [58].
- *Risk and vulnerability assessment (RVA)*: vulnerability indicates the extent to which a system is susceptible to, and unable to cope with, the adverse effects of a short or long-term disturbance. It refers to the characteristics that cause negative impacts on individuals, communities, infrastructure and systems, to disturbances that vary in time and space. There are two main approaches to resilience: 1) system resilience and 2) resilience “what to what”, i.e., particular elements of a system to a particular type of hazard [62]. Hazard occurrence, resilience after. The resilience of a tourism destination is also determined by the system’s capacity for absorption (ability to “bounce back”), adaptation (ability to make significant changes) and transformation [62], [63].

3.2. Review of Decision-Making Methods

With the increasing complexity and uncertainty of the socio-economic environment, the growing amount of knowledge and information, decision-making problems cannot be solved effectively by a single decision-maker, due to the limitations of human knowledge and experience. It is therefore necessary to bring together several decision-makers (experts), with different knowledge structures and backgrounds. Two processes are used to solve problems: the consensus process and the selection process, which aims to achieve maximum agreement between the views of the decision-makers. First, individual opinions are aggregated into a collective opinion using an information fusion technique and the collective opinion is used to rank the alternatives. Due to the complexity of the socio-economic system, most decision-making problems involve multiple indicators used to capture the characteristics or performance of alternatives, called multi-attribute decision making (MADM).

The assessment values of the MADM alternatives are synthesised from the different attributes into an overall value. The alternatives are then ranked by comparing the total values with a weighted sum model [64]. Two methods can be distinguished from the range of MADM methods: 1) the analytical hierarchy process AHP method; 2) the TOPSIS method. The number of studies with the keywords “impact” AND “sustainable” AND “development” AND “tourism” AND “decision-making” in the Scopus database was 33 (2003–2024). The AHP method found three studies (2022–2023), while the TOPSIS method found no studies using the keyword “impact,” and omitting it found 15 studies (2012–2024). These are classical methods for solving expert decision-making problems:

- TOPSIS is a method that solves real decision-making problems by analysing, comparing and ranking alternatives in order to choose the best and most appropriate option. The TOPSIS approach is based on finding the ideal and the anti-ideal solution, which is then used to determine the distances between the alternatives and the ideal solution. Alternatives are ranked according to their proximity to the ideal solution. TOPSIS is able to handle both quantitative and qualitative criteria, however the method can be sensitive to the weight of the criteria, and the ranking results can be influenced by the choice of the reference alternatives [64], [65].
- The AHP method combines quantitative and qualitative analysis and is suitable for solving complex decision problems [66]. The AHP method of choice in foreign experience is “opportunity ranking” [67], [68]. Strengths of the AHP method: AHP is a widespread scientific tool and has been applied in fields and industries as diverse as engineering, medicine, and also in the tourism industry [69], [70]. The structure of AHP provides a simple way for a scientist to address complex issues.

AHP guarantees quality because it has a strong mathematical basis and can be used in the process of evaluating and selecting alternatives [70]. Many researchers use AHP methods, as evidenced by the number of publications related to the AHP method, e.g., ISI WoS academic database has more than 800 published papers in 2013–2015 [71] and 15 452 in 2020–2021, including 2211 in environmental sciences [72]. AHP weaknesses: human emotions can affect the numerical properties of test judgements. AHP cannot be used in non-uniform models, e.g., not suitable for weather assessment [72], [73].

In this analysis and comparing the frequency of application of AHP and TOPSIS methods in sustainable tourism related articles and conference proceedings in the Scopus database, especially using the keyword “impact”, authors favoured the use of AHP for selecting methods for assessing the climate and environmental ISTD.

3.3. Choice of Methods for Assessing the Impact of Sustainable Tourism Development on Climate and Environment

In the aggregated assessment of all criteria groups (KG), the criterion with the highest score is Region interests with a weight of W (0.31), therefore, according to the experts' assessment, it can be considered as an important point in the choice of the assessment method. The second highest score is given to the criterion State interests with a W criteria weight (0.28), given that it plays an important role in the impact of sustainable tourism development on climate and environment. The range of the SA of the KG experts in the criteria group is between 0.02–0.06, which means a good coherence ratio as it is less than 10 %.

Considering each criterion separately (see Table 1), the authors conclude that the highest score is given to the Interest of Local Inhabitants (0.23), while the Interest of Business (0.21) In the experts' assessment, the Interest of Regions criterion (0.31) is higher than the Interest of Tourists and the Interest of Business, as indicated by the lower weight W of the criteria. Considering each criterion separately (see Table 1), the authors conclude that Interests of local inhabitants reach high score (0.23), while Business Interests (0.21). The experts' assessment indicates that, the criterion Regional Interests (0.31) is higher than Tourist Interests and Business Interests, as indicated by the lower weight W of the criteria.

TABLE 1. CRITERIA GROUPS (KG) COMPARISON

Criteria groups	Criteria weight (W)				
	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
Interests of Local Inhabitants	0.20	0.20	0.21	0.16	0.23
Interests of Tourists	0.13	0.13	0.21	0.19	0.17
Interests of Business	0.16	0.16	0.21	0.19	0.17
Interests of Region	0.31	0.31	0.18	0.17	0.17
Interests of State	0.20	0.20	0.21	0.28	0.26

At the third level of the hierarchy, the criteria were evaluated in terms of the criteria groups (KK) (see Table 2), which were assessed as the most appropriate methods for assessing the climate and environmental impacts of sustainable tourism development:

- In the Local Inhabitants Interest Group, 24 % of the experts selected CF calculation, Environmental impact assessment and Input-output analysis method;
- In the Tourist Interest Group, 23 % of the experts selected CF calculation, Environmental impact assessment and Input-output analysis method;
- In the Business Interest Group, 26 % selected Risk and vulnerability assessment method;
- In the Regional Interest Group, 23 % selected CF calculation, Environmental impact assessment and Risk and vulnerability assessment method;
- In the National Interest Group, Risk and vulnerability assessment method and Input-output analysis method. Tourism value chains for low-carbon and resource-efficient method was ranked by the experts as the least recommended assessment method.

Summarising the overall results of the evaluations, the coherence of the experts' evaluations in the KK comparison from a regional perspective is less than 0.10, indicating good coherence of the experts' opinions. The authors believe that the results are in line with the purpose of the choice of method for assessing the climate and environmental ISTD, hence sustainable tourism development will benefit.

TABLE 2. CRITERIA IN CRITERIA GROUPS (KK) COMPARISON AT A REGIONAL VIEWPOINT

Criteria in criteria groups	Criteria weights, W				
	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
Carbon footprint	0.23	0.22	0.24	0.22	0.23
Environmental impact assessment	0.18	0.22	0.24	0.22	0.23
Input-output analysis method	0.18	0.22	0.24	0.22	0.19
Value chains method	0.23	0.11	0.11	0.10	0.11
Risk and vulnerability assessment	0.18	0.22	0.17	0.22	0.23

4. DISCUSSION AND CONCLUSION

In order for the tourism sector to actively move towards net zero emissions before 2050, researchers need to measure and monitor tourism emissions more and more accurately in order to actively contribute to climate action. In selecting methods for assessing ISTD on climate and environment, it is important to take into account the spatial scale or territorial dimension of the economic, social and environmental situation of the study site.

The most commonly used methods are “environmental impact assessment,” and “carbon footprint;” but less frequently “value chains,” “input-output” and “risk and vulnerability assessment” in Scopus database. Considering the total number of studies on ISTDs in the Scopus database over 35 years, these methods have been used in only 15.4 % of cases, which indicates a serious problem in the evaluation of ISTDs. A positive trend is the increase in the number of studies using the methods in the last 20 years.

The Review of decision-making methods and Scopus-based studies showed the advantages of using AHP, which was also referred to by Emrouznejad and Marra [71] and Taherdoost and Madackhian [72].

Taking into account the geographical typology and territorial dimension of Latvia, the insufficient development of sustainability indicators for sustainable tourism, it is recommended to select the following methods for assessing the climate and environmental impacts of tourism development in the interest of local residents, tourists, businesses, regions and the country: for the local interest group, Carbon footprint, Environmental impact assessment and Input-output analysis method; for the tourist interest group, Carbon footprint, Environmental impact assessment and Input-output analysis method; for the business interest group, Risk and vulnerability assessment method; for the regional interest group, Carbon footprint, Environmental impact assessment and Risk and vulnerability assessment method; for the national interest group, Risk and vulnerability assessment method and Input-output analysis method. In terms of climate and environmental impacts of sustainable tourism development, the Tourism value chains method was ranked by experts as the least recommended assessment method, which is in line with the Scopus findings by the authors of this study.

This article can be considered as a guide to the choice technique. In real-life situations, the result of the choice is particularly related to the scale used. The authors assume that increasing the number of experts would probably lead to a different result, which is recommended for future testing. However, despite some drawbacks, this strategy (the choice of the AHP method) cannot be ruled out in view of the fact that this procedure provides a simple, justifiable, appropriate, efficient and relevant method for a group of scientists to make better choices.

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